



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON D.C. 20460

OFFICE OF THE ADMINISTRATOR
SCIENCE ADVISORY BOARD

February 21, 2007

EPA-SAB-07-005

The Honorable Stephen L. Johnson
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Subject: SAB Report of FY2006 Recommended Scientific and Technological
Achievement Awards (STAA)

Dear Administrator Johnson:

We are pleased to recommend papers published by EPA scientists in the peer-reviewed literature for the 2006 Scientific and Technological Achievement Awards. Of 94 nominations, the Committee found 45 worthy of awards and another 26 deserving honorable mention. Of the papers recommended for awards, five were recommended for the highest award -- Level I, eleven for Level II awards, and twenty-nine for Level III awards.

The SAB recommends the Agency evaluate the current administrative procedures for the STAA program to: a) incorporate directly into STAA submission instructions ethical guidelines on the equity of authorship for nominated papers; b) increase the number of topical categories into which papers may be classified and c) consider an increase in monetary awards at all levels.

Thank you for providing us with the opportunity to assist the Agency with this important program.

Sincerely,

/Signed/

/Signed/

Dr. Granger Morgan, Chair
EPA Science Advisory Board

Dr. Thomas L. Theis, Chair
Scientific and Technological Achievement
Awards Committee (FY2006-2009)
EPA Science Advisory Board

NOTICE

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1. EXECUTIVE SUMMARY

EPA's Scientific and Technological Achievement Awards (STAA) Program was established in 1980 to recognize Agency scientists and engineers who published their work in the peer-reviewed literature. 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 STAA program is administered and managed by EPA's Office of Research and Development (ORD). Each year the EPA Science Advisory Board (SAB) has been asked to review EPA's nominated scientific papers and make recommendations to the Administrator for awards. This report represents the conclusions and recommendations of the U.S. Environmental Protection Agency's Science Advisory Board regarding the FY 2005 EPA Scientific and Technological Achievement.

At a closed meeting on August 21-23, 2006, the SAB STAA Awards Committee reviewed and evaluated 94 papers nominated for FY2006. The Committee reduced the total number eligible for awards to 90 because some papers were deemed to be of a very similar nature (these papers are combined and identified in Table 2 and Appendix A). The topical categories were: Control Systems & Technology (CS), Ecology, Ecosystem Risk Assessment & Protection (ER), Environmental Statistics (ES), Health Effects Research and Human Health Risk Assessment (HE), Integrated Risk Assessment (IR), Monitoring & Measurement Methods (MM), Review Articles (RA), Risk Management and Ecosystem Restoration (RM), Social Sciences (SS), Transport and Fate (TF), and Environmental Futures. The Committee recommended 45 nominations for awards (50 percent of the nominations), and also identified an additional 26 nominations worthy of Honorable Mention. These recommendations appear in Appendix A.

In 2004 and 2005, the Agency honored those EPA authors receiving the highest level of awards at the annual EPA Science Forum. The Committee supports the Agency's public recognition of the STAA program to encourage employees to participate, add luster to the awards, and make the general public more aware of the quality and depth of EPA science. Publication of Agency science in the peer reviewed literature improves the credibility of Agency decisions on important scientific issues of specific importance to EPA.

This Committee identified two issues that warrant a careful review of the current administrative procedure to ensure the scientific equity and thoroughness of the award process. First, the Committee suggests that the requirement for written agreements among authors for certification of authorship be rescinded, and that the Agency provide ethical guidelines on authorship as part of the application process. Second, it is recommended that the number of topical categories into which papers may be classified be increased to reflect the changing nature of environmental research and to make the classification process simpler. In addition, consideration should be given to an increase in monetary

awards at all levels to reflect the value the Agency places on publication of its scientists' work and also to maintain parity with awards available through other professional associations.

The Committee commends the Agency for initiating an electronic submission and review process for the 2007 STAA Program, in accord with previous recommendations from STAA committees.

Overall, the Committee encourages 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 Committee also strongly encourages that EPA broadly acknowledge and disseminate the results of the award competition.

2. PROCEDURE

In 2006, the EPA Science Advisory Board convened a Committee to review and evaluate scientific and technological papers published in peer-reviewed journals by EPA authors and nominated for the FY 2006 Scientific and Technological Achievement Awards (STAA) program. The Committee was formed in accordance with the SAB's *Committee Formation Process: Immediate Steps to Improve Policies and Procedures* (EPA-SAB-EC-COM-02-003).

On behalf of the Agency, the Office of Research and Development (ORD) submitted 94 nominations to the STAA Program. ORD grouped the papers into eleven science and technology categories and screened the papers for conformance with the nomination guidelines. The Committee used the *2006 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 requested the SAB consider whether the nominations qualified for each level of award. As defined by the Agency, these are:

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

Copies of all nominations, the award program guidelines, and nomination evaluation criteria were provided to the Committee in advance of the review meeting.

The Committee met on August 21-23, 2006, in Washington, DC. This meeting was closed to the public to protect the personal privacy of the authors. All Committee Members were present at the meeting. Each Committee Member was asked to review a set of papers suited to his or her expertise. Before the meeting, the Committee Members provided their individual initial ratings of the papers which were subsequently organized onto a summary table and distributed to the Committee. At least two reviewers considered each nomination.

The Committee discussed the individual rankings and nominations to develop a preliminary consensus rating for each nomination. The Committee first discussed the rankings on a nomination-by-nomination basis. In some cases, additional readers reviewed the papers to provide further insights in their evaluation.

After the Committee Members achieved consensus on each individual nomination, the Committee considered whether the papers were correctly rated in comparison with one another. The Committee compared various rankings and made adjustments, where warranted, until it was comfortable that the nominations were rated consistently in relationship to one another. Papers being recommended for awards received particular attention. Nominations that were not initially recommended for an award were reconsidered to determine whether they might merit either an Honorable Mention or an award.

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

When the Board considered the Committee's report for approval prior to transmittal to the Agency, it reviewed the Committee report without Appendix A which identifies the award recommendations.

3. RECOMMENDATIONS

3.1 Review Recommendations

Table I summarizes the Level I and Level II awards by year since 1998, including the recommendations for 2006. The awards criteria for 2006 remained the same as the previous year.

TABLE I
Comparison of Number of Level I & II Award Recommendations over Time

Award Level	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006
Level I	3	1	0	2	4	7	6	3	5
Level II	11	7	5	11	7	18	13	6	11
Total Level I & II	14	8	5	13	11	25	19	9	16

The full list of award recommendations is contained in Appendix A.

Table II summarizes the distribution of award recommendations for 2006 among categories. Of 94 initial nominations, the Committee recommended 45 for an award and 26 for honorable mention.

TABLE II
Summary Number of Award Recommendations By Category For FY2006

Nomination Categories	Total Nom.	Award Levels				Award %	Hon. Men.
		I	II	III	Tot		
Control Systems & Technology (CS)	5	0	2	2	4	80	0
Ecology, Ecosystem Risk Assessment & Protection (ER)	13	1	2	3	6	46	5
Environmental Statistics (ES)	4	0	1	2	3	75	1
Health Effects Research and Human Health Risk Assessment (HE)	20*	4	3	7	14	70	5
Integrated Risk Assessment (IR)	1	0	0	1	1	100	0
Monitoring and Measurement Methods (MM)	10**	0	1	3	4	40	5
Review Articles (RA)	17***	0	1	5	6	35	3
Risk Management & Ecosystem Restoration (RM)	5	0	0	2	2	60	2
Social Sciences (SS)	2	0	0	0	0	0	1
Transport and Fate (TF)	11	0	1	3	4	36	4
Environmental Futures (EF)	2***	0	0	1	1	50	0
TOTALS:	90	5	11	29	45	50	26

* S6HE0015, S6HE0017, and S6HE0020 were combined by the Committee for one Level III award.

**S6MM0094 and S6MM0095 were combined by the Committee for one Level III award

*** S6RA0063 and S6EF0073 were combined by the Committee for one Level III award

3.2 Administrative Recommendations

The Committee has three administrative recommendations regarding the STAA process.

1. The issue of EPA vs. non-EPA authorship continues to be a source of difficulty for the Committee. The SAB has previously recommended that when non-Agency scientists were included as authors, certifiable agreements among all authors were to be provided with each publication. This Committee recognized the practical difficulties involved in acquiring such documentation in a timely manner and is concerned that such a requirement presents an unnecessary hurdle in the nomination process. Rather, the Committee recommends that the Agency make available appropriate information on the ethical conduct for the publication process, and require that these standards be adhered to with the caveat that awards can and may be revoked should violations come to light in the future. The Committee suggests that the EPA develop an appropriate ethics guidance to be added to existing program requirements for STAA eligibility.
2. The Committee notes that the topical categories for STAA papers have remained unchanged for several years. This has resulted in many papers “stretching” to fit into categorical definitions. In addition it is feared that some authors do not submit their work because of the perception that it does not align with award criteria. The Committee recognizes that environmental research can be subdivided into many categories and does not suggest that research and scholarly categories should be “author-defined” or that an unbounded list be compiled. However the Committee does recommend that certain major categories should be added, among them:
 - Sustainability/Life Cycle Analysis/Industrial Ecology/Green Chemistry
 - Economics and Decision Sciences
 - Transportation/The Urban Environment/Land-Use Planning
 - Environmental Justice
 - Homeland Security
 - Environmental Policy
 - Energy and the Environment
3. The Committee recommends that the Agency conduct a review of the monetary award levels and degree of recognition of STAA, taking into consideration a) the need to provide a meaningful incentive for Agency scientists to participate, and b) awards associated with other professional societies for which Agency scientists are eligible to compete. This is consistent with previous SAB recommendations which urged the Agency to

“to publicize the names of the award winning scientists and engineers and their papers both within the Agency and outside the Agency.”

Appendix A - Nominations Recommended for Awards

FY2006 Scientific and Technological Achievement Awards (STAA)

Nominations Recommended for Awards

**Note: The percentages given after each name represent the current percent of the total level of effort as documented by EPA*

Nominations Recommended for a Level I Award -- Total of Five			
Nom.	Titles and Citations of Submitted Papers	Authors* and Nominating Organization	Suggested Citation from Nominating Organization
S6ER0006	Evaluation and Energy Analysis of the Cobscook Bay Ecosystem	Dr. Campbell, Daniel E. (100%) NHEERL	Evaluating the Energy and Energy Basis for Biological Productivity in the Cobscook Bay Ecosystem, a Macrotidal Estuary
S6HE0018	The Effect of Arsenicals on Ultraviolet-Radiation-Induced Growth Arrest and Related Signaling Events in Human Keratinocytes	Dr. Mudipalli, Anuradha (65%) Dr. Preston, R. Julian (20%) Dr. Owen, Russell D. (15%) NHEERL	Arsenic, UV Confounding Interactions: Possible Mode of Action in Skin Carcinogenesis
S6HE0019	Momentary Brain Concentration of Trichloroethylene Predicts the Effects on Rat Visual Function--- Duration Adjustment of Acute Exposure Guideline Level Values for Trichloroethylene using a Physiologically-Based Pharmacokinetic Model	Dr. Boyes, William K. (20%) Dr. Simmons, Jane Ellen (20%) Dr. Evans, Marina (20%) Dr. Bercegeay, Mark (8%) Dr. Krantz, Todd (8%) Dr. Benignus, Vernon (8%) Dr. Eklund, Christopher (8%) Dr. Janssen, Paul (8% Non-EPA) NHEERL	Work Developing and Demonstrating Application of Target-Tissue Based Duration Adjustments
S6HE0023	Rapidly Measured Indicators of Recreational Water Quality Are Predictive of Swimming-Associated Gastrointestinal Illness--- Comparison of Enterococcus Measurements	Dr. Wade, Timothy J. (14%) Dr. Haugland, Rich (14%) Dr. Brenner, Kristen P. (12%) Dr. Dufour, Alfred P. (12%) Dr. Sams, Elizabeth (11%) Dr. Calderon, Rebecca L. (9%) Dr. Siefiring, Shawn C. (9%) Dr. Wymer, Larry J. (9%) Dr. Williams, Ann H. (5%) Dr. Beach, Michael (5% Non-EPA) NHEERL; NCER	Protecting Swimmers' Health with Faster Ways of Measuring Water Quality

Nominations Recommended for a Level I Award (Cont'd) -- Total of Five			
Nom.	Titles and Citations of Submitted Papers	Authors* and Nominating Organization	Suggested Citation from Nominating Organization
S6HE0 026	Consistent Pulmonary and Systemic Responses from Inhalation of Fine Concentrated Ambient Particles: Roles of Rat Strains used and Physicochemical Properties	Dr. Kodavanti, Urmila P. (25%) Dr. Schladweiler, Mette C. (15%) Dr. Ledbetter, Allen D. (15%) Dr. McGee, John K. (15%) Dr. Walsh, Leon (5%) Dr. Highfill, Jerry W. (5%) Dr. Richards, Judy (5%) Dr. Costa, Daniel L. (5%) Dr. Davies, David (2%) Dr. Crissman, Kay (2%) Dr. Andrews, Debora (2%) Dr. Gilmour, Peter S. (2% Non- EPA) Dr. Pinkerton, Kent E. (2% Non-EPA)	Novel Insights from Ambient Particles Concentrator Studies: Physicochemistry vs. Susceptibility
		NHEERL	

Nominations Recommended for a Level II Award -- Total of Eleven			
Nom.	Titles and Citations of Submitted Papers	Authors* and Nominating Organization	Suggested Citation from Nominating Organization
S6CS0001	Preliminary Estimates of Performance and Cost of Mercury Emission Control Technology Applications on Electric Utility Boilers: An Update	Dr. Srivastava, Ravi K. (70%) Dr. Staudt, James E. (20% Non-EPA) Dr. Jozewicz, Wojciech (10% Non-EPA) NRMRL	A Comprehensive Analysis of Performance and Cost Characteristics of Mercury Control Technologies for Utility Boilers
S6CS0002	Emissions of Chromium, Copper, Arsenic, and PCDDs/Fs from Open Burning of CCA-Treated Wood	Dr. Wasson, Shirley J. (25%) Dr. Linak, William P. (25%) Dr. Gullett, Brian K. (25%) Dr. Huggins, Frank E. (10% Non-EPA) Dr. King, Charles J. (5% Non-EPA) Dr. Touati, Abderrahmane (5% Non-EPA) Dr. Shah, Naresh (2% Non-EPA) Dr. Chen, Yuanzhi (2% Non-EPA) Dr. Huffman Gerald (1% Non-EPA) NRMRL	Characterizing Toxic Metal and Organic Emissions From the Open Burning of CCA-Treated Lumber
S6ER0092	Regional Dynamics of Wetland-Breeding Frogs and Toads: Turnover and Synchrony	Dr. Trenham, Peter C. (75%) Dr. Koenig, Walter D. (10% Non-EPA) Dr. Mossman, Michael J. (5% Non-EPA) Dr. Stark, Stacey L. (5% Non-EPA) Dr. Jagger, Leslie A. (5% Non-EPA) NHEERL	Innovative Work on Addressing the Dynamic Nature of Amphibian Populations and the Factors Responsible

Nominations Recommended for a Level II Award (Cont'd) -- Total of Eleven			
S6MM 0034	Comparison of Integrated Samplers for Mass and Composition during the 1999 Atlanta Supersites Project	Dr. Solomon, Paul A. (86%) Dr. Norris, Gary (1%) Dr. Baumann, Karsten (2% Non-EPA) Dr. Tanner, Roger (2% Non-EPA) Dr. Eatough, Delbert (2% Non-EPA) Dr. Natarajan, Sanjay (2% Non-EPA) Dr. Edgerton, Eric (1% Non-EPA) Dr. Modey, William (1% Non-EPA) Dr. Maring, Hal (1% Non-EPA) Dr. Savoie, Dennis (1% Non-EPA) Dr. Meyer, Michael B (1% Non-EPA) NERL	Scientific Methods Support to Enhance Use of Data from EPA's PM 2.5 National Chemical Speciation Monitoring Network
S6RA0 057	Ecological Consequences of Nutrient Addition for Salmon Restoration	Dr. Compton, Jana E. (45%) Dr. Andersen, Christian P. (10%) Dr. Phillips, Donald L. (5%) Dr. Brooks, J. Renee (5%) Dr. Johnson, Mark G. (5%) Dr. Church, M. Robbins (5%) Dr. Cairns, Michael A. (5%) Dr. Rygiewicz, Paul T. (5%) Dr. McComb, Brenda C. (5%) Dr. Hogsett, William E. (5%) Dr. Shaff, Courtney Drake (5% Non-EPA) NHEERL	Ecological Consequences of Salmon Carcass Placement in Streams
S6TF00 47	Photochemical Mineralization of Dissolved Organic Nitrogen to Ammonium in the Baltic Sea	Dr. Zepp, Richard G. (50%) Dr. Vahatalo, Anssi (50% Non-EPA) NERL	Innovative Experimental and Modeling Techniques for Assessing Photoammonification of Dissolved Organic Nitrogen

Nominations Recommended for a Level III Award -- Total of 29

Nom.	Titles and Citations of Submitted Papers	Eligible Authors* and Nominating Organization	Suggested Citation from Nominating Organization
S6CS0004	Repeated Reductive and Oxidative Treatments of Granular Activated Carbon--- Fenton-Driven Chemical Regeneration of MTBE-Spent GAC	Dr. Huling, Scott G. (65%) Dr. Jones, P. Kyle (25%) Dr. Arnold, Robert G. (5% Non-EPA) Dr. Ela, Wendell P. (5% Non-EPA) NRMRL	Process Fundamentals and Development of the Adsorption/Oxidation Treatment Process
S6CS0005	High Temperature Interaction between Residual Oil Ash and Dispersed Kaolinite Powders--- High-Temperature Sorption of Cesium and Strontium on Dispersed Kaolinite Powders	Dr. Linak, William P. (40%) Dr. Miller, C. Andrew (10%) Dr. Wood, Joseph P. (10%) Yoo, Jong-Ik (15% Non-EPA) Dr. Santoianni, Dawn A. (8% Non-EPA) Dr. Shinagawa, Takuya (5% Non-EPA) Dr. King, Charles J. (5% Non-EPA) Dr. Wendt, Jost O.L. (5% Non-EPA) Dr. Seo, Yong-Chil (2% Non-EPA) NRMRL	Developing New Approaches to Toxic Metal Emissions Control From High Temperature Industrial Processes
S6EF0073 & S6RA0063	IH-NMR-Based Metabonomics Analysis of Sera Differentiates between Mammary Tumor-Bearing Mice and Healthy Controls Applications of InVitro NMR Spect and IH-NMR Metabonomicsin Breast Characterization & Detection	Dr. Whitehead, Tracy L. (90%) Dr. Monzavi-Karbassi, Behjatolah (5% Non-EPA) Dr. Kieber-Emmons, Thomas (5% Non-EPA) Dr. Whitehead, Tracy L. (90%) Dr. Kieber-Emmons, Thomas (10% Non-EPA) NERL	Demonstrating the Application of NMR Metabolomics to Non-Invasive Early Detection of Cancer in Rodents Providing a Comprehensive Survey of the Applicability of NMR Spectroscopy for studying Carcinogenesis
S6EF0075	Scenario Analysis for the San Pedro River, Analyzing Hydrological consequences of a Future Environment	Dr. Kepner, William G. (45%) Dr. Semmens, Darius J. (45%) Dr. Goodrich, David C. (4% Non-EPA) Dr. Bassett, Scott D. (3% Non-EPA) Dr. Mouat, David A. (3% Non-EPA) NERL	Developing a Methodology to Evaluate Landscape Change and Determine Environmental Vulnerability
S6ER0009	Relationships of Nitrogen Loadings, Residential Development, and Physical Characteristics with Plant Structure in New England Salt Marshes	Dr. Wigand, Cathleen (40%) Dr. McKinney, Richard A. (35%) Dr. Chintala, Marnita M. (10%) Dr. Thursby, Glen B. (5%) Dr. Charpentier, Michael A. (10% Non-EPA) NHEERL	Outstanding Research Supporting the Ecological Assessment of the Condition of Coastal Wetlands

Nominations Recommended for a Level III Award (Cont'd)-- Total of 29			
Nom.	Titles and Citations of Submitted Papers	Eligible Authors* and Nominating Organization	Suggested Citation from Nominating Organization
S6ER0010	Projected Population-Level Effects of Thiobencarb Exposure on the Mysid, <i>Americamysis Bahía</i> , and Extinction Probability in a Concentration-Decay Exposure System	Dr. Raimondo, Sandy (60%) Dr. McKenny, Jr., Charles L. (40%) NHEERL	Advancing the State of Science Regarding Population-Level Environmental Risk Assessments
S6ER0012	Denitrification Enzyme Activity of Fringe Salt Marshes in New England --- Response of <i>Spartina patens</i> to Dissolved Inorganic Nutrient Additions in the Field	Dr. Wigand, Cathleen (50%) Dr. McKinney, Richard (30%) Dr. Thursby, Glen (10%) Dr. Chintala, Marnita (3%) Dr. Santos, Antelmo (2%) Dr. Groffman, Peter (3% Non-EPA) Dr. Charpentier, Michael (2% Non-EPA) NHEERL	A Significant Contribution to Research on the Effects of Nitrogen Enrichment on Coastal Wetland Functions
S6ES0076	Development of a Ct Equation Taking Into Consideration the Effect of Lot Variability on the Inactivation of <i>Cryptosporidium Parvum</i> Oocysts With Ozone	Dr. Sivaganesan, Mano (80%) Dr. Marinas, Benito (20% Non-EPA) NRMRL	Recognition of this Outstanding Research Intended to Protect the Public Health of Drinking Water Consumers
S6HE0015 & S6HE0017 & S6HE0020	Neurochemical Effects of Chronic Dietary and Repeated High-Level Acute Exposure to Chlorpyrifos in Rats--- Repeated Spike Exposure to the Insecticide Chlorpyrifos Interferes with the Recovery of Sensitivity in Rats Effects of Chlorpyrifos on Blood Pressure and Temperature Regulation Neurobehavioral Effects of Chronic Dietary and Repeated High Level Spike Exposure to Chlorpyrifos	Dr. Geller, Andrew M. (15%) Dr. Sutton, Laura D. (15%) Dr. Marshall, Renee S. (15%) Dr. Hunter, Deborah L. (15%) Dr. Padilla, Stephanie (15%) Dr. Moser, Virginia C. (3%) Dr. Oxendine, Sharon (6% Non-EPA) Dr. Madden, Victoria (5% Non-EPA) Dr. Southerland, Stanley B. (5% Non EPA) Dr. Peiffer, Robert L. (3% Non-EPA) Dr. Mailman, Richard B. (3% Non-EPA) Dr. Gordon, Christopher J. (50%) Dr. Smith, Edward G. (50% Non-EPA) Dr. Samsan, Tracey (30%) Dr. Moser, Virginia (20%) Dr. Phillips, Pamela (10%) Dr. Hunter, Deborah (10%) Dr. Bushnell, Philip J. (10%) Dr. McDaniel, Kathy (5%) Dr. Padilla, Stephanie (5%) Dr. Marshall, Renee (10%) NHEERL	Experimental Analysis of the Chronic Biochemical and Retinal Neurotoxicity of an Organophosphorus Pesticide Hypertension Increases Sensitivity to an Organophosphate Insecticide Experimental Analysis of the Chronic Behavioral Neurotoxicants in a Variety of In Vitro Models

Nominations Recommended for a Level III Award (Cont'd)-- Total of 29			
Nom.	Titles and Citations of Submitted Papers	Authors* and Nominating Organization	Suggested Citation from Nominating Organization
S6ES0079	On-Road Testing and Characterization of Fuel Economy of Light-Duty Vehicles	Dr. Rykowski, Richard A. (45%) Dr. Nam, Edward (40%) Dr. Hoffman, George (15% Non-EPA) OTAQ	Exceptional Technical Achievement in the Development of a New Methodology for Quantifying Real-World Fuel Economy
S6HE0022	Total Lung Deposition of Ultrafine Particles in Elderly Subjects during Controlled Breathing - Analysis of Total Respiratory Deposition of Inhaled Ultrafine Particles in Adult Breathing Patterns	Dr. Kim, Chong S. (60%) Dr. Jaques, Peter A. (40% Non-EPA) NHEERL	Comparative Ultrafine Particle Dosimetry Studies for Young and Elderly Subjects
S6HE0024	Transcriptomic Analysis of F344 Rat Nasal Epithelium Suggests that the Lack of Carcinogenic Response to Glutaraldehyde is Due to its Greater Toxicity Compared to Formaldehyde Formaldehyde-Induced Gene Expression in F344 Rat Nasal Respiratory Epithelium	Dr. Hester, Susan D. (40%) Dr. Wolf, Douglas C. (35%) Dr. Zou, Fei (8% Non-EPA) Dr. Barry, William (8% Non-EPA) Dr. Benavides, Gina B. (3% Non-EPA) Dr. Yoon, Lawrence (3% Non-EPA) Dr. Morgan, Kevin T. (3% Non-EPA) NHEERL	The Use of Transcriptional Profiling to Determine Carcinogenicity of Air Toxics
S6HE0025	Neurotoxicological and Statistical Analyses of a Mixture of Five Organophosphorus Pesticides using a Ray Design Thermoregulatory Response to a Organophosphate and Carbamate Insecticide Mixture: Testing the Assumption of Dose-Additivity D-Optimal Experimental Designs to Test for Departure from the Additivity in a Fixed-Ratio Mixture Ray	Dr. Herr, David W. (18%) Dr. Moser, Virginia C. (18%) Dr. Gordon, Christopher J. (18%) Dr. Mack, Cina M. (18%) Dr. Graff, Jaime E. (18%) Dr. Simmons, Jane Ellen (10%) NHEERL	Development of Methods and Data to Assess Dose-Additivity for Mixtures of Cholinesterase-Inhibiting Pesticides

Nominations Recommended for a Level III Award (Cont'd)-- Total of 29			
Nom.	Titles and Citations of Submitted Papers	Authors* and Nominating Organization	Suggested Citation from Nominating Organization
S6HE0027	Accumulation and Metabolism of Arsenic in Mice After Repeated Oral Administration of Arsenate in Mice--- Tissue Distribution and Urinary Excretion of Inorganic Arsenic and its Methylated Metabolites in Mice Following Acute Oral Administration of Arsenate An Integrated Pharmacokinetic & Pharmacodynamic Study	Dr. Kenyon, Elaina M. (20%) Dr. Hughes, Michael F. (20%) Dr. Edwards, Brenda (15%) Dr. Mitchell, Carol T. (15%) Dr. Kitchin, Kirk T. (5%) Dr. Thomas, David J. (5%) Dr. Del Razo, Luz Maria (20% Non-EPA) NHEERL	Development of Data for PBPK Modeling on the in vivo Fate of Inorganic Arsenic
S6HE0029	Mechanisms of Zn ²⁺ -Induced Signal Initiation through the Epidermal Growth Factor Receptor--- Zn ²⁺ -Induced IL-8 Expression Involves AP-1, JNK and P38 Activities in Human Airway Epithelial Cells --- Inhibition of Protein Tyrosine Phosphatase Activity Mediates Epidermal Growth	Dr. Samet, James M. (50%) Dr. Silbajoris, Robert (10%) Dr. Kim, YuMee (17% Non-EPA) Dr. Tal, Tamara (17% Non-EPA) Dr. Graves, Lee M. (2% Non-EPA) Dr. Dewar, Brian (2% Non-EPA) Dr. Bromberg, Philip (1% Non-EPA) Dr. Wu, Weidong (1% Non-EPA) NHEERL	Elucidation of the Molecular Mechanism of Toxicity of Zinc in Human Lung Cells
S6HE0082	In Vivo and In Vitro Anti-Androgenic Effects of DE-71, a Commercial Polybrominated Diphenyl Ether (PBDE) Mixture-- - Assessment of DE-71, a Commercial Polybrominated Diphenyl Ether (PBDE) Mixture, in the EDSP Male and Female Pubertal Protocols	Dr. Stoker, Tammy E. (25%) Dr. Cooper, Ralph L. (15%) Dr. Lambright, Christy (11%) Dr. Crofton, Kevin M. (10%) Dr. Gray, L. Earl (10%) Dr. Wilson, Vickie (10%) Dr. Laws, Susan (10%) Dr. Furr, Jonathan (3%) Dr. Hedge, Joan (3%) Dr. Ferrell, Janet (3%) NHEERL	The Effects of the Flame Retardant Mixture, DE-71, on Thyroid Homeostasis and Demonstration of Anti-Androgenic Activity
S6IR0070	Investigating Uncertainty and Sensitivity in Integrated Multimedia Environmental Models: Tools for FRAMES-3MRA	Dr. Babendreier, Justin E. (90%) Dr. Castleton, Karl J. (10% Non-EPA) NERL	Pioneering Development of Hardware and Supporting Software Systems for the Evaluation of Complex, Integrated Models
S6MM0035	Air Levels of Carcinogenic Polycyclic Aromatic Hydrocarbons After the World Trade Center Disaster	Dr. Pleil, Joachim D. (70%) Dr. Vette, Alan F. (15%) Dr. Rappaport, Stephen M. (10% Non-EPA) Dr. Johnson, Brent A. (5% Non-EPA) NERL	Innovative Research and Measurements of Airborne Carcinogenic Risk After the World Trade Center Disaster

Nominations Recommended for a Level III Award (Cont'd)-- Total of 29			
Nom.	Titles and Citations of Submitted Papers	Authors* and Nominating Organization	Suggested Citation from Nominating Organization
S6MM0080	Polar Organic Chemical Integrative Sampling and Liquid Chromatography-Electrospray/Ion-Trap Mass Spectrometry for Assessing Selected Prescription and Illicit Drugs in Treated Sewage Effluents	Dr. Jones-Lepp, Tammy L. (70%) Dr. Alvarez, David A. (20% Non-EPA) Dr. Petty, Jim D. (5% Non-EPA) Dr. Huckins, Jim N. (5% Non-EPA) NERL	Development and Application of New Methodologies for Discovering Emerging Contaminants in the Nation's Water Supply
S6MM0093 & S6MM0095	Relationship of Stream Flow Regime in the Western Lake Superior Basin to Watershed Type Characteristics Watershed-based Survey Designs-- How Probability Survey Data Can Help Integrate 305(b) and 303(d) Monitoring and Assessment of State Waters	Dr. Detenbeck, Naomi (20%) Dr. Taylor, Debra (20%) Dr. Snarski, Virginia (20%) Dr. Batterman, Sharon (20%) Dr. Brady, Valerie (20% Non-EPA) Dr. Detenbeck, Naomi (25%) Dr. Brown, Barbara (25%) Dr. Olsen, Anthony R. (10%) Dr. Pitchford, Ann (10%) Denver, Judy (10% Non-EPA) Greenlee, Susan K. (10% Non-EPA) Cincotta, Dan (5% Non-EPA) Eskin, Richard (5% Non-EPA) NHEERL	Characterization of Hydrology Regimes by Watershed Type Survey Designs Supporting Integrated Reporting of Condition and Listing of Impaired Water Bodies
S6RA0055	Review of Evidence: Are Endocrine-Disrupting Chemicals in the Aquatic Environment Impacting Fish Populations?	Dr. Mills, Lesley J. (90%) Dr. Chichester, Clinton O. (10% Non-EPA) NHEERL	A Significant Contribution to Research on the Effects of Endocrine-Disrupting Chemicals in the Aquatic Environment
S6RA0059	Scientific Authorship, Part 1: A Window into Scientific Fraud? Scientific Authorship, Part 2: History, Recurring Issues, Practices and Guidelines	Dr. Claxton, Larry D. (100%) NHEERL	Providing a Comprehensive, Scholarly Review of Scientific Authorship Issues
S6RA0086	Genotoxicity of Tobacco Smoke and Tobacco Smoke Condensate: A Review	Dr. DeMarini, David M. (100%) NHEERL	Review of the Genotoxicity of Tobacco Smoke

Nominations Recommended for a Level III Award (Cont'd)-- Total of 29			
Nom.	Titles and Citations of Submitted Papers	Authors* and Nominating Organization	Suggested Citation from Nominating Organization
S6RA0091	Application of Frog Embryo Teratogenesis Assay-Xenopus to Ecological Risk Assessment	Dr. Ankley, Gerald (50%) Dr. Hoke, Robert (50% Non-EPA) NHEERL	Review of Application of FETAX to Ecological Risk Assessments
S6RM0064	Predicting Sustainable Ground Water to Constructed Riparian Wetlands: Shaker Tracee, Ohio, USA	Dr. Sidle, William (100%) NRMRL	A New Method to Predict the Sustainability of Wetland Ponds for Successful Ecological Restoration
S6RM0065	Chromium-Removal Processes During Groundwater Remediation by a Zerovalent Iron Permeable Reactive Barrier--- High-Level Arsenite Removal from Groundwater by Zerovalent Iron	Dr. Wilkin, Richard T. (60%) Dr. Su, Chunming (5%) Dr. Ford, Robert G. (5%) Dr. Paul, Cynthia J. (5%) Dr. Lien, Hsing-Lung (25% Non-EPA) NRMRL	Providing a Scientific Foundation for Understanding Chromium and Arsenic Remediation Processes
S6TF0040	Quantitative Structure Property Relationships for Enhancing Predictions of Synthetic Organic Chemical Removal from Drinking Water by Granular Activated Carbon	Dr. Magnuson, Matthew L. (50%) Dr. Speth, Thomas F. (50%) NHSRC	Developing a Valuable Modeling Tool for Evaluating Granular Activated Carbon Treatment of Specific Contaminants
S6TF0041	Modeling Mercury Fluxes and Concentrations in a Georgia Watershed Receiving Atmospheric Deposition Load from Direct and Indirect Sources	Dr. Ambrose, Jr., Robert B. (50%) Dr. Wool, Timothy A. (30%) Dr. Tsiros, Ioannis X. (20% Non-EPA) NERL	Developing and Demonstrating Watershed and Water Body Modeling Tools to Determine Allowable Hg Emissions
S6TF0043	Purification and Partial Characterization of an Acid Phosphatase from Spirodela Oligorrhiza and its Affinity for Selected Organophosphate Pesticides	Dr. Mazur, Christopher S. (80%) Dr. Wolfe, Nelson L. (10% EPA) Dr. Hoehamer, Christopher F. (10% Non-EPA) NERL	Developing an Enzyme Isolation Procedure from an Aquatic Plant Responsible for the Hydrolysis of OP Chemicals

Nominations Recommended for Honorable Mention (No Monetary Award) -- Total of 26

Nom.	Titles and Citations of Submitted Papers	Authors* and Nominating Organization	Suggested Citation from Nominating Organization
S6ER0007	Sorption of 2,4'- Dichlorobiphenyl and Fluoranthene to a Marine Sediment Amended with Different Types of Black Carbon--- Letter to the Editor - Role of Black Carbon in the Partitioning and Bioavailability of Organic Pollutants	Dr. Burgess, Robert M. (60%) Dr. Cantwell, Mark G. (10%) Dr. Ryba, Stephan A. (10%) Dr. Lohmann, Rainer (10% Non-EPA) Dr. Perron, Monique M. (5% Non-EPA) Dr. Tien, Rex (3% Non-EPA) Dr. Thibodeau, Laura M. (2% Non-EPA) NHEERL	Research Exploring the Importance of Black Carbon on the Effects of Organic Contaminants to Aquatic Organisms
S6ER0008	Predicting the Toxicity of Chromium in Sediments	Dr. Berry, Walter J. (40%) Dr. Boothman, Warren S. (40%) Dr. Serbst, Jonathan R. (15%) Dr. Edwards, Philip A. (5%) NHEERL	Demonstrating Use of the Equilibrium Partitioning Approach to Predict Toxicity of Chromium in Marine Sediments
S6ER0011	Role of the Seagrass Thalassia testudinum as a Source of Chromosphoric Dissolved Organic Matter in Coastal South Florida	Dr. Zepp, Richard G. (50%) Dr. Stabenau, Erik R. (30% Non-EPA) Dr. Bartels, Erich (15% Non-EPA) Dr. Zika, Rod G. (5% Non-EPA) NERL	Creative Development of Experimental Techniques for Assessing the Impact of Seagrasses on Coastal Optical Properties
S6ER0088	Habitat Fingerprints for Lake Superior Coastal Wetlands Derived from Elemental Analysis of Yellow Perch Otoliths--- Reconstructing Habitat use and Wetland Nursery Origin of Yellow Perch from Lake Superior using Otolith Elemental	Dr. Brazner, John (80%) Dr. Tanner, Danny (5%) Dr. Campana, Steven (10% Non-EPA) Dr. Schram, Stephen (5% Non-EPA) NHEERL	Reconstructing Yellow Perch Habitat Use and Nursery Area Origin using Otolith Elemental Analysis

Nominations Recommended for Honorable Mention (No Monetary Award) -- Total of 26			
S6ER0089	Regional, Watershed, and Site-Specific Environmental Influences on Fish Assemblage Structure and Function in Western Lake Superior Tributaries--- Landscape Character and Fish Assemblage Structure and Function in Western Lake Superior Streams: General Relationships	Dr. Brazner, John (45%) Dr. Tanner, Danny (25%) Dr. Detenbeck, Naomi (10%) Dr. Batterman, Sharon (5%) Dr. Snarski, Virginia (5%) Dr. Stark, Stacey (5% Non-EPA) Dr. Jagger, Leslie (5% Non-EPA) NHEERL	Identifying Land-Use Thresholds and Landscape Influences on Stream Fish Assemblages
S6ES0077	Effect of Lot Variability on Ultraviolet Radiation Inactivation Kinetics	Dr. Sivaganesan, Mano (90%) Dr. Sivaganesan, Siva (10% Non-EPA) NRMRL	Recognition of this Outstanding Research Intended to Protect the Public Health
S6HE0021	Accumulation of PBDE-47 in Primary Cultures of Rat Neocortical Cells--- Accumulation of Methylmercury or Polychlorinated Biphenyls in Vitro Models of Neuronal Tissue-- Time and Concentration Dependent Accumulation of [3H]-Deltamethrin in Xenopus Oocytes	Dr. Mundy, William R. (20%) Dr. Shafer, Timothy J. (15%) Dr. Crofton, Kevin M. (15%) Dr. DeVito, Michael J. (10%) Dr. Gilbert, Mary E. (10%) Dr. Barone, Jr., Stan (10%) Dr. Freudenrich, Theresa M. (5%) Dr. Meacham, Connie A. (5%) Dr. Hughes, Michael F. (2%) Dr. Anderson, Willard L. (2%) Dr. Lyons-Darden, Tara (2%) Dr. Harrill, Joshua A. (2% Non-EPA) Dr. Sui, Li (2% Non-EPA) NHEERL	Evaluating the Appropriate Dose Metric for Neurotoxicants in a Variety of In Vitro Models
S6HE0083	Abnormal Fertilization is Responsible for Reduced Fecundity Following Thiram-Induced Ovulatory Delay in the Rat (2003)--- Acute Exposure to Molinate Alters Neuroendocrine Control of Ovulation in the Rat (2004)	Dr. Stoker, Tammy E. (45%) Dr. Cooper, Ralph L. (15%) Dr. Perrault, Sally D. (10%) Dr. Zucker, Robert (10%) Dr. Jeffay, Susan (5%) Dr. Murr, Ashley (5%) Dr. Marshall, Renee (5%) Bremser, Katrina (5% Non EPA) NHEERL	The Effect of Environmental Edocrine Disruptors on Delayed Ovulation and Oocyte Functioning in the Rat

Nominations Recommended for Honorable Mention (No Monetary Award) -- Total of 26

S6HE0 084	Exposure to Perfluorooctane Sulfonate During Pregnancy in Rat and Mouse. I. Maternal and Prenatal Evaluations--- Exposure to Perfluorooctane Sulfonate During Pregnancy in Rat and Mouse. II. Postnatal Evaluation--- The Developmental Toxicity of Perfluoroalkyl Acids	Dr. Lau, Christopher S. (35%) Dr. Thibodeaux, Julie R. (20%) Dr. Rogers, John M. (15%) Dr. Grey, Brian E. (15%) Dr. Richards, Judy (5%) Dr. Butenhoff, John L. (5% Non-EPA) Dr. Hanson, Roger (5% Non-EPA) NHEERL	Studies to Elucidate the Developmental Toxicity of Perfluorooctane Sulfonate
S6HE0 085	Chemically Induced Supernumerary Lumbar Ribs in CD-1 Mice: Size Distribution and Dose Response--- Supernumerary Ribs in Developmental Toxicity Bioassays and in Human Populations: Incidence and Biological Significance	Dr. Rogers, John M. (40%) Dr. Chernoff, Neil (40%) Dr. Setzer, R. Woodrow (15%) Dr. Branch, Stacy (5% Non-EPA) NHEERL	Defining Different Populations of Supernumerary Ribs and Assessing their Biological and Regulatory Significance
S6HE0 087	Acute Ozone-induced Differential Gene Expression Profiles in Rat Lung	Dr. Nadadur, Srikanth S. (50%) Dr. Costa, Daniel L. (20%) Dr. Slade, Ralph (15%) Dr. Silbajoris, Robert A. (10%) Dr. Hatch, Gary E. (5%) NCEA	Efforts in the Development of Biomarkers of Acute Ozone Toxicity using Gene Expression Profiling

Nominations Recommended for Honorable Mention (No Monetary Award) -- Total of 26

S6MM 0032	Long-Term Recovery of PCB-Contaminated Surface Sediments at the Sangamo-Weston/Twelve Mile Creek/Lake Hartwell Superfund Site	Dr. Brenner, Richard C. (60%) Dr. Magar, Victor S. (15% Non-EPA) Dr. Ickes, Jennifer A. (5% Non-EPA) Dr. Foote, Eric A. (5% Non-EPA) Dr. Abbott, James A. (5% Non-EPA) Dr. Bingler, Linda S. (5% Non-EPA) Dr. Crecelius, Eric A. (5% Non-EPA) NRMRL	Developing a Paradigm for Evaluating Natural Recovery Processes at PCB-Impacted Sediment Sites
S6MM 0033	Application of Capillary Electrophoresis to Study the Enantioselective Transformation of Five Chiral Pesticides in Aerobic Soil Slurries	Dr. Garrison, A. Wayne (40%) Dr. Jones, W. Jack (20%) Dr. Jarman, Jessica L. (30% Non-EPA) Dr. Howell, Lorrie A. (10% Non-EPA) NERL	Demonstrating That Capillary Electrophoresis is a Valid Tool for Studying the Fate of Chiral Pesticides
S6MM 0036	The Condition of Coral Reefs in South Florida (2000). Using Coral Disease and Bleaching as Indicators	Dr. Santavy, Deborah L. (60%) Dr. Harwell, Linda C. (20%) Dr. Summers, J. Kevin (10%) Dr. Engle, Virginia D. (10%) NHEERL	Contributions to the Assessment and Evaluation of the Ecological and Disease Condition of Coral Reefs
S6MM 0066	Nitrate Variability Along the Oregon Coast: Estuarine-Coastal Exchange	Dr. Frick, Walter E. (25%) Dr. Sigleo, Anne C. (25%) Dr. Mordy, Calvin W. (25% Non-EPA) Dr. Stabeno, Phyllis (25% Non-EPA) NERL	An Innovative Application of Monitoring and Modeling to Estimate Estuarine-Ocean Nutrient Exchange in a Tidal Region

Nominations Recommended for Honorable Mention (No Monetary Award) -- Total of 26

S6MM 0090	Estimated Ultraviolet Radiation Doses in Wetlands in Six National Parks	<p>Dr. Diamond, Stephen A. (36%) Dr. Trenham, Peter C. (16%) Dr. Detenbeck, Naomi E. (6%) Dr. Bradford, David (4%) Dr. Adams, Michael J. (6% Non-EPA) Dr. Hossack, Blake R. (6% Non-EPA) Dr. Knapp, Roland A. (6% Non-EPA) Dr. Stark, Stacey L. (4% Non-EPA) Dr. Breen, Bob (4%) Dr. Tonnessen, Kathy (4% Non-EPA) Dr. Corn, P. Stephen (2% Non-EPA) Dr. Czarnowski, Ken (2% Non-EPA) Dr. Brooks, Paul D. (2% Non-EPA) Dr. Fagre, Dan (2% Non-EPA)</p> <p>NHEERL</p>	Research Contributing Significantly to the Development of Methods for Estimating Ultraviolet Radiation Doses in Nature.
S6RA0 050	Solar UVR and Aquatic Carbon, Nitrogen, Sulfur & Metals Cycles	<p>Dr. Zepp, Richard G. (100%)</p> <p>NERL</p>	An Innovative Review of the Influence of Solar Ultraviolet Radiation on Biogeochemical Cycles in Aquatic Environments
S6RA0 054	Development of Empirical, Geographically Specific Water Quality Criteria: a Conditional Probability Analysis Approach	<p>Dr. Paul, John F. (70%) Dr. McDonald, Michael E. (30%)</p> <p>NHEERL</p>	Introduction of Conditional Probability Analysis for Support of Clean Water Act Programs

Nominations Recommended for Honorable Mention (No Monetary Award) -- Total of 26			
S6RA0 058	The Ecological Effects of Trichloroacetic Acid in the Environment	Dr. Lewis, Timothy E. (70%) Dr. Wolfinger, Thomas F. (15% Non-EPA) Dr. Barta, Michael L. (15% Non-EPA) NCEA	A Thoroughly Outstanding Review, Data Synthesis, and Ecological Risk Assessment of the Effects of Trichloroacetic Acid in Aquatic and Terrestrial Environments
S6RM0 068	Laboratory Evaluation of Oil Spill Bioremediation Products in Salt and Freshwater Systems	Dr. Haines, John R. (49%) Dr. Kleiner, Eric J. (10%) Dr. Venosa, Albert D. (10%) Dr. McClellan, Kim A. (5%) Dr. King, Dennis W. (10% Non-EPA) Dr. Koran, Karen M. (8% Non-EPA) Dr. Holder, Edith L. (8% Non-EPA) NRMRL	Providing a Salt and Freshwater Oil Spill Bioremediation Product Test
S6TF00 45	Effects of pH and Phosphate on Metal Distribution with Emphasis on As Speciation and Mobilization in Soils from a Lead Smelting Site	Dr. Impellitteri, Christopher A. (100%) NRMRL	Research Helping to Protect Water and Land from Mine Waste Contamination
S6RM0 069	Modeling Stream-Aquifer Interactions with Linear Response Functions	Dr. Hantush, Mohamed M. (100%) NRMRL	For contributing mathematical solutions to ground water - surface water interactions and baseflow generation in stream/river environments
S6SS00 71	Implementing and Auditing Electronic Recordkeeping Systems Used in Scientific Research and Development	Dr. Brills, George M. (55%) Dr. Lyon, John G. (20%) Dr. Worthington, Jeffrey (20%) Dr. Lysakowski, Richard (5% Non-EPA) OEI	Developing Quality Assurance Parameters for Electronic Recordkeeping in Research and Development
S6TF00 38	Determining Speciation of Pb in Phosphate-Amended Soils: Method Limitations	Dr. Scheckel, Kirk G. (50%) Dr. Allen, Derrick (20%) Dr. Ryan, James A. (10%) Dr. Lescano, Ninnia (20% Non-EPA) NRMRL	Improving Metal Speciation Methods in Amended Soils

Nominations Recommended for Honorable Mention (No Monetary Award) -- Total of 26			
S6TF00 42	Gene Expression Changes in Arabidopsis Thaliana Seedling Roots Exposed to the Munition Hexahydro-1,3,5-Trinitro-1,3,5-Triazine	Dr. Ekman, Drew R. (85%) Dr. Wolfe, Nelson L. (5%) Dr. Dean, Jeffrey F.D. (10% Non-EPA) NERL	The Determination of Plant Genes of Potential Utility in the Remediation of Explosives Contaminated Sites
S6TF00 44	Treatment of Hexavalent Chromium in Chromite Ore Processing Solid Waste using a Mixed Reductant Solution of Ferrous Sulfate and Sodium Dithionite	Dr. Su, Chunming (50%) Dr. Ludwig, Ralph D. (50%) NRMRL	Break-Through Research on Remediation of Hexavalent Chromium in Ground Water using In Situ Chemical Reduction

Key to Acronyms used in the above Tables

NERL National Exposure Research Laboratory
 NHEERL National Health and Environmental Effects Laboratory
 NRMRL National Risk Management Research Laboratory
 OAQPS Office of Air Quality Planning and Standards
 OPP Office of Pesticide Programs
 ORIA Office of Radiation and Indoor Air
 OSCP Office of Science Coordination and Policy
 OSW Office of Solid Waste

Appendix B - Biosketches (in alphabetical order)

Dr. G. Allen Burton

Dr. G. Allen Burton is Professor & Chair, Department of Earth and Environmental Sciences, at Wright State University. He holds a B.S. in biology and chemistry from Ouachita Baptist University, an M.S. in microbiology from Auburn University, and a Ph.D. in environmental science from the University of Texas at Dallas. His areas of expertise and research interests include: methods to identify significant effects and stressors in contaminated aquatic systems; ecosystem risk assessments evaluating multiple levels of biological organization; and integrating laboratory and in situ toxicity tests with habitat characterizations and physicochemical profiles to determine the role of chemical contaminants among multiple stressors. Dr. Burton was the Brage Golding Distinguished Professor of Research. He has served on numerous national and international scientific committees, review panels and editorial boards and will serve as President of the World Council of the Society of Environmental Toxicology and Chemistry. Currently, his funding is from the U.S. Environmental Protection Agency STAR Program research PCB flux from sediments, and the copper industry to investigate the flux and benthic effects of bioavailable copper from sediments in relation to acid volatile sulfide concentrations.

Dr. James S. Bus

Dr. James S. Bus is currently Director of External Technology and a member of the Leadership Team in the Toxicology and Environmental Research and Consulting group at the Dow Chemical Company, Midland, Michigan. Prior to joining Dow Chemical in 1989, he held positions of Associate Director of Toxicology and Director of Drug Metabolism at the Upjohn Company (1986-1989), Research Scientist at the Chemical Industry Institute of Toxicology (1977-1986), and Assistant Professor of Toxicology at the University of Cincinnati (1975-1977). He currently is Adjunct Professor of Pharmacology and Toxicology (Michigan State University) and previously Adjunct Associate Professor of Toxicology (University of North Carolina). Dr. Bus received a Ph.D. in Pharmacology (Michigan State University) and a B.S. in Medicinal Chemistry (University of Michigan). He has served on a variety of external professional and science advisory groups including: President of both the Society of Toxicology and the American Board of Toxicology; US Environmental Protection Agency Office of Research and Development Board of Scientific Counselors (BOSC); National Academy of Sciences Committee on Emerging Issues and Data on Environmental Contaminants; National Toxicology Program Board of Scientific Counselors (Bioassay Review Subcommittee); ACGIH Chemical Substances TLV Committee; Director of the International Union of Toxicology; Board of Trustees and Emerging Issues Committee of the International Life Sciences Institute, Health and Environmental Sciences Institute (ILSI-HESI); Board of Directors and Co-Chair of the Science Program Committee of the CIIT Centers for Health Research; and Co-Chair of the American Chemistry Council Long-Range Research Initiative. His research interests have focused on mechanisms of chemical toxicity for pesticides and industrial chemicals, and applications of mechanistic information to improving human health risk evaluations. Dr. Bus'

research is funded either directly by The Dow Chemical Company or through chemical industry consortia, and he receives no additional external research funding.

Dr. Stanley Grant

Dr. Stanley Grant is Professor of Environmental Engineering, and Chair of the Department of Chemical Engineering & Materials Science at the University of California, Irvine (UCI). Dr. Grant received a B.S. (with distinction) in Geology from Stanford University (1985) and a M.S. and Ph.D. in Environmental Engineering Science from the California Institute of Technology (1990 and 1992, respectively). Dr. Grant studies the sources, fate, and transport of pathogens and indicator organisms in drinking water, urban runoff, and the coastal ocean. He is a member of the US Environmental Protection Agency's Science Advisory Board (Drinking Water Panel), and is the lead on several multidisciplinary research projects, including one on the influence of tidal wetlands on coastal pollution (joint with researchers from UCI, Scripps Institution of Oceanography, and UCLA, funded by the University of California Marine Council); another on the association of pathogens and particles in storm runoff (joint with researchers from UCI and UCSB, funded by the US Geological Survey and the National Water Research Institute); and a third on the contribution of marinas to fecal indicator bacteria impairment in tidal embayments (in support of the Newport Bay Fecal Coliform TMDL, funded by the California State Water Quality Control Board). Dr. Grant is recipient of the prestigious Career Award from the National Science Foundation (1985-2000), and a number of local awards including Conservator of the Year (2002) from the Bolsa Chica Wetlands Conservancy, and the Distinguished Assistant Professor Award for Teaching from the UCI Academic Senate (1999).

Dr. Dale Hattis

Dr. Dale Hattis is Research Professor with the Center for Technology Environment and Development (CENTED) of the George Perkins Marsh Institute at Clark University. He holds a Ph.D. in Genetics from Stanford University and a B.A. in biochemistry from the University of California at Berkeley. For the past thirty years he has been engaged in the development and application of methodology to assess the health, ecological and economic impacts of regulatory actions. His work has focused on the development of methodology to incorporate interindividual variability data and quantitative mechanistic information into risk assessments for both cancer and non-cancer endpoints. An important focus in recent years has been on age-related differences in pharmacokinetic processes and susceptibility for carcinogenesis. Specific quantitative risk assessment studies have included hearing disability in relation to noise exposure, renal effects of cadmium, reproductive effects of ethoxyethanol, neurological effects of methyl mercury and acrylamide, chronic lung function impairment from coal dust, four pharmacokinetic-based risk assessments for carcinogens (for perchloroethylene ethylene oxide, butadiene and diesel particulates), an analysis of uncertainties in pharmacokinetic modeling for perchloroethylene and an analysis of differences among species in processes related to carcinogenesis. He has recently been reappointed as a member of the Environmental Health Committee of the EPA Science Advisory Board and for several years he has served as a member of the Food Quality Protection Act Science Review Board. In the recent past he has served as a member of the National Research Council Committee on Estimating the Health-Risk-Reduction Benefits of Proposed Air Pollution Regulations. Recent major sources of research support include the Department of Energy and the U.S. Environmental Protection

Agency. He has been a councilor and is a Fellow of the Society for Risk Analysis and serves on the editorial board of its journal Risk Analysis.

Dr. Byung R. Kim

Dr. Byung R. Kim is Technical Leader in the Physical and Environmental Sciences Department of Ford Research and Advanced Engineering, Dearborn, MI and is a professional engineer. He received the B.S. degree in Civil Engineering from Seoul National University in Korea in 1971 and M.S. and Ph.D. degrees in Environmental Engineering from the University of Illinois, Urbana, IL in 1974 and 1977. His current research interest is in understanding various manufacturing emission issues (physical/chemical/biological waste treatment processes and the overall environmental impact of manufacturing processes). He also has worked on the adsorption of organics on activated carbon and water quality modeling. He has served on EPA SAB Environmental Engineering Committee (1999-2005) and was Editor-in-Chief of the Journal of Environmental Engineering, American Society of Civil Engineers (ASCE) (1996-1998). He served on the advisory board for the National Institute of Environmental Health Superfund Basic Research Program at the University of Cincinnati (1991-1996). He is an ASCE Fellow and received a Richard R. Torrens Award (1998) for editorial leadership from ASCE, two Willem Rudolfs Medals (1990 and 1998) from Water Environment Federation on his publications in industrial wastes, and a Distinguished Alumnus Award (2005) from the Department of Civil and Environmental Engineering, University of Illinois, Urbana. His research activities are entirely funded by Ford Motor Company, and he has no external sources of funding.

Dr. Michael T. Kleinman

Dr. Michael T. Kleinman has been studying the health effects of exposures to environmental contaminants found in ambient air for more than 30 years. He holds a MS in Chemistry from the Polytechnic Institute of Brooklyn and a Ph.D. in Environmental Health Sciences from New York University. He is a Professor and Co-Director of the Air Pollution Health Effects Laboratory in the Department of Community and Environmental Medicine at University of California, Irvine. Prior to joining the faculty at U.C.I. in 1982, he directed the Aerosol Exposure and Analytical Laboratory at Rancho Los Amigos Hospital in Downey, CA. He has published more than 85 articles in peer-reviewed journals dealing with the uptake and dosimetry of inhaled pollutants in humans and laboratory animals, and effects on cardiopulmonary and immunological systems after controlled exposures to ozone and other photochemical oxidants, carbon monoxide and ambient or laboratory-generated aerosols. He recently chaired a National Academy committee to examine issues in protecting deployed US Forces from the effects of chemical and biological weapons. Dr. Kleinman's current studies focus on cardiopulmonary effects of concentrated ambient ultrafine, fine and coarse particles. Specifically, Dr. Kleinman is currently the co-principal investigator of an NIH-funded investigation of the effects of environmental PM on children with asthma. Dr. Kleinman's also uses animal models (mice that are genetically predisposed to cardiopulmonary disease, aged rats as a model of aging human populations and a mouse model of allergic airways disease) to examine biological mechanisms of effects of inhaled air contaminants on the lungs and heart of normal and diseased individuals. Recent studies of the offspring of animals that were exposed to inhaled metal-containing particles demonstrate that in utero exposures may have important effects on the developing organism. Dr. Kleinman is a consultant to the U.S. EPA Science Advisory Board and currently

serves as the Chair of the California Air Quality Advisory Committee, which reviews California's air quality criteria documents. His sources of recent grant or contract support are the NIH, EPA, CARB and HUD.

Dr. Joseph R. Landolph

Dr. Joseph R. Landolph is currently Associate Professor of Molecular Microbiology and Immunology and Pathology in the Keck School of Medicine, and Associate Professor of Molecular Pharmacology and Pharmaceutical Sciences, in the School of Pharmacy, with tenure, and a Member of the USC/Norris Comprehensive Cancer Center, at the University of Southern California (USC) in Los Angeles, California. Dr. Landolph received a B. S. degree in Chemistry from Drexel University in 1971 and a Ph. D. in Chemistry from the University of California at Berkeley in 1976. Dr. Landolph was appointed Assistant Professor of Pathology in 1980, Assistant Professor of Microbiology and Pathology in 1982, and was promoted to Associate Professor of Microbiology, Pathology, and Toxicology at USC in 1987. Dr. Landolph has served as a grant reviewer for the U. S. EPA. Health Effects Panel, for special RFAs for the NIEHS, and as an ad hoc member for the Chemical Pathology Study Section and the AI-Tox-4 Study Section of the NIH. Dr. Landolph has also been a member of the Carcinogen Identification Committee reporting to the Scientific Advisory Committee of the Office of Environmental Health Hazard Assessment of the California Environmental Protection Agency from 1994-Present, and a member of the Scientific Review Panel for Toxic Air Contaminants (SRP) of the State of California (2003-Present). He has also served on the Drinking Water Committee (2003-Present) and on the Human Health Research Review Committee (2003) and on the STAA Review Committee (2003-Present) of the Science Advisory Board of the U. S. E. P. A. He also served as a member of the Human Health Research Review Sub-Committee of the Board of Scientific Counselors of the U. S. E. P. A. (2005-2006). Dr. Landolph's research interests and activities include studies of the genetic toxicology and carcinogenicity of carcinogenic insoluble nickel compounds, carcinogenic chromium compounds, carcinogenic arsenic compounds, and carcinogenic polycyclic aromatic hydrocarbons. His laboratory is focused on studying the ability of these carcinogens to induce morphological and neoplastic transformation of C3H/10T1/2 mouse embryo cells and the cellular and molecular biology of the transformation process. Dr. Landolph is an expert in chemically induced morphological and neoplastic transformation and chemically induced mutation in murine and human fibroblasts. He is the author of 35 peer-reviewed scientific publications, 21 book chapters/review articles, and has held peer-reviewed research grant support from the U. S. EPA, the U. S. National Cancer Institute, and the U. S. Institute of Environmental Health Sciences.

Dr. Igor Linkov

Dr. Igor Linkov is a Managing Scientist with Intertox Inc. in Brookline, MA, and Adjunct Professor of Engineering and Public Policy at Carnegie Mellon University in Pittsburgh, PA. Dr. Linkov has a BS and MSc in Physics and Mathematics (Polytechnic Institute, Russia) and a Ph.D. in Environmental, Occupational and Radiation Health (University of Pittsburgh). He completed his postdoctoral training in Biostatistics and Toxicology and Risk Assessment at Harvard University. Dr. Linkov's skills include human health and ecological risk assessment, decision analysis, environmental security, risk assessment for emerging threats, radiation health and safety, guidance development, risk communication, policy analysis, and biostatistics. Dr. Linkov has managed ecological and human health risk assessments at several Superfund sites.

He has developed guidance documents, models and software to support risk assessment, and his recently completed modeling efforts include several modules for the Army Risk Assessment Modeling System (ARAMS) and Risk-trace model for spatially explicit ecological risk assessment for the American Chemistry Council (ACC). He was instrumental in developing FISHRAND and TrophicTrace models for PCB bioaccumulation in fish, used by the EPA for Hudson River Superfund site risk assessment. One of the focuses of his current research is integrating risk assessment and multi-criteria decision analysis tools in military and environmental management. He is currently developing decision support tools to prioritize resource allocation and technology gaps in several military programs as well as in other areas (such as algal bloom management and nanotechnology). He is currently developing the Questions and Decision (QnD) model for environmental management at contaminated and disturbed sites for the US Army Corps of Engineers. He has published widely on environmental policy, environmental modeling, and risk analysis, including eight books and over 80 peer-reviewed papers and book chapters.

Dr. Linkov has organized more than dozen national and international conferences and continuing education workshops on risk assessment, decision analysis, risk communication and modeling and participated in organizing many others. . Dr. Linkov serves as a Scientific Advisor to the Toxic Use Reduction Institute, a position that requires nomination by the Governor of Massachusetts. Dr. Linkov is the Founding Chair of the SRA Decision Analysis and Risk Specialty Group. Dr. Linkov is Past President for the Society for Risk Analysis-New England. He is also Past Chair of the SRA Ecological Risk Assessment Specialty Group and participates in several SRA and Society of Environmental Toxicology and Chemistry (SETAC) Committees. Dr. Linkov is the recipient of the prestigious 2005 SRA Chauncey Starr Award for exceptional contribution to Risk Analysis. Dr. Linkov has served on many review and advisory panels for U.S. and international agencies, including US EPA. Over the last two years, Dr. Linkov's research has been supported by the US Army, Army Corps of Engineers, EPA, DOT, DOC, DOJ, NOAA, North Atlantic Treaty Organization, US Chamber of Commerce, Dow Chemical, and various private clients.

Dr. Randy Maddalena

Dr. Randy Maddalena is a Scientist in the Environmental Chemistry, Exposure and Risk Analysis Group within the Environmental Energy Technologies Division at Lawrence Berkeley National Laboratory. He received his BS in Environmental Toxicology (1992) and Ph.D. in Agricultural and Environmental Chemistry (1998) from the University of California, Davis. The primary focus of his research is development, evaluation and application of models that predict chemical fate in multiple environmental media (air, water, soil, vegetation, sediment) and chemical exposures through multiple pathways (drinking water, food, feed, indoor air) for both human and ecological receptors. He also develops tools and methods for performing probabilistic risk assessment and sensitivity analysis applied to complex regulatory models. His most recent work combines the use of models and experimental data to investigate how vegetation influences the environmental fate and transport of semivolatile organic pollutants and how the uptake of these pollutants into ecological or agricultural food chains might contribute to dietary exposures. Dr. Maddalena is a Co-chair of the Society of Environmental Toxicology and Chemistry (SETAC) Advisory Group on Fate and Exposure Modeling where he serves as an Editor of the advisory group's column in the SETAC Globe. He is also a member

of the SAB's Integrated Human Exposure Committee. He has received funding from the EPA's Office of Emergency and Remedial Response developing methods to construct inputs for probabilistic risk assessment; the DOE's Fossil Energy Program for experimental work on plant uptake of petroleum related hydrocarbons; and from the EPA's Office of Air Quality Planning and Standards for his work on the TRIM.FaTE model. He currently receives funding from the EPA's National Exposure Research Lab for research on fate and exposure models; the FAA for research into pesticide exposure on airliners; and from the California Air Resources Board from research on pollutant emissions from office equipment.

Dr. Paulette Middleton

Dr. Paulette Middleton has 30 years experience leading air quality and related environmental programs that inform policy using integrated modeling, stakeholder consensus building and diverse communication strategies. For example, she developed and applied an number of urban aerosol dynamics models; was a leader on the modeling team that created the Regional Acid Deposition Model (RADM); extended RADM to include aerosol dynamics -- DAQM (Denver Air Quality Model) and applied DAQM to studies of visibility in the Front Range of Colorado; led the development and application of the integrated assessment of scenarios (i.e., linking air quality to economic, environmental and social impacts and driving forces using a variety of modeling approaches) for visibility protection in the Western US as the cornerstone of the Grand Canyon Visibility Transport Commission efforts; created and applied a Visibility Assessment Screening Technique to illustrate differences in visibility changes resulting from SO₂ and NO_x emission reductions in different areas of the US; modified and applied ICST and related models to explore the impacts of chemical by-products in the vicinity of point sources; led the design of integrated analysis systems applied to air quality and climate related problems; lead author of air quality modeling and application reviews; and has been serving as an expert advisor to a number of programs using integrated modeling systems as well as individual air quality models. Middleton's previous EPA Science Advisory Board service includes: Current Member of the REM Guidance Review Panel; Chair of the Air Quality Modeling Subcommittee (AQMS) evaluating EPA's assessment of the benefits and costs of the Clean Air Act; Member of the Environmental Modeling Committee responsible for the recent review of the National Air Toxics Assessment, which included an evaluation of mercury and toxic VOC risk assessment; Member of the Research Strategy Advisory Committee, which provided direction to EPA on critical research needs; Member of the Clean Air Science Advisory Committee during its review of the current ozone and fine particulate matter standards; and Member of the Environmental Futures Subcommittee developing guidelines for EPA foresight. Dr. Middleton has been director of the NSF and NASA funded Global Emissions Inventory Activity (GEIA) Center since GEIA's inception in 1990. In 2002, she created Panorama Pathways and since then has been a Special Advisor, providing advice on adequacy of air quality modeling and developing issue papers to help inform policy for several groups, including Environmental Defense, Western Resource Associates, Yellowstone Coalition, Northern Cheyenne Indian tribe, EPA Region 8, Colorado Department of Public Health & the Environment; U.S. Department of Justice; and State of New Jersey, Division of law. She also was lead author on assessments of the development of renewable hydrogen in the US and around the world and is an elected member of the Board of Directors for the American Solar Energy Society, representing the Sustainability Division of that society. She works with Aspen Hill Films on informational videos about energy and the environment and with Positive Pace on positive news about world

progress. Previously she held research, program development and leadership/executive positions at the National Center for Atmospheric Research, Atmospheric Sciences Research Center at the State University of New York at Albany, Science & Policy Associates, Inc, and RAND. Dr. Middleton's current source of funding is from the National Science Foundation, NASA, and the Northern Cheyenne Indian Tribe.

Dr. Michael Newman

Dr. Michael Newman is Professor of Marine Science at the College of William and Mary, Virginia Institute of Marine Science. He received degrees in zoology from the University of Connecticut (B.A., 1974; M.S., 1978) and environmental sciences from Rutgers University (M.S., 1980; Ph.D., 1981). After his postdoctoral studies, Dr. Newman was a research ecologist at the University of Georgia's Savannah River Ecology laboratory. He now holds a Professor of Marine Science position at the College of William and Mary's School of Marine Science after ending a three-year term as Dean of Graduate Studies of the School of Marine Science. Dr. Newman's research emphasizes quantitative methods in ecotoxicology with topics of interest ranging from chemical measurement statistics to QSAR-like models for predicting metal ion effects to contaminant effects on population genetics to methods of predicting community level effects. He has authored approximately 100 publications on these topics including four books, Quantitative Methods in Aquatic Ecotoxicology, Fundamentals of Ecotoxicology, Population Ecotoxicology, and Community Ecotoxicology. He also edited several books, Metal Ecotoxicology, Hierarchical Ecotoxicology, Risk Assessment: Logic and Measurement, Coastal and Estuarine Risk Assessment, and Risk Assessment with Time-to-Event Models. Dr. Newman is active in advisory service. He served on Organisation for Economic Co-operation and Development (OECD), U.S. Environmental Protection Agency (EPA), U.S. Department of Energy (DOE), National Academy of Sciences (NAS), and state environmental regulatory and risk assessment committees and panels. Dr. Newman was one of two U.S. members of an OECD team charged with assessing statistical methods for analyzing toxicity data. Work with DOE involved complex-wide consideration of data quality objectives for risk assessment activities, and various site-specific advisory services to the Savannah River and Hanford sites. He has been a member of numerous EPA teams including the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) ECOFRAM working group, two FIFRA science advisory panels, the Chesapeake Bay Office science advisory board, a Food Quality Protection Act (FQPA) scientific review board, and a joint U.S. EPA-Israeli Water Agency working group. Dr. Newman has reviewed numerous risk assessment documents for EPA and was a consultant to the NAS (Everglades Ecosystem Assessment). He continues to work actively with various Virginia Department of Environmental Quality (DEQ) teams and panels. Dr. Newman currently has funding from NSF for improving ocean science education, DuPont to examine mercury trophic transfer in South River, Virginia, and NOAA to model survival of invertebrates during oil spills. He also has minor contracts with Fish and Wildlife for statistical consulting and Monte Carlo simulation of wildlife exposure to toxicants.

Dr. Thomas L. Theis

Dr. Thomas L. Theis is the Director of the Institute for Environmental Science and Policy, a cross-disciplinary unit dedicated to promoting collaborative research on the environment, and Professor of Civil and Materials Engineering at the University of Illinois at Chicago. His areas of expertise include the mathematical modeling and systems analysis of environmental processes, the environmental chemistry of trace organic and inorganic substances, interfacial reactions, subsurface contaminant transport, hazardous waste management, industrial pollution prevention, and industrial ecology. He has been principal or co-principal investigator on over fifty funded research projects totaling in excess of ten million dollars, and has authored or co-authored over one hundred papers in peer reviewed research journals, books, and reports. He is a member of the USEPA Science Advisory Board, and is a former editor of the Journal of Environmental Engineering. From 1980-1985 he was the co-director of the Industrial Waste Elimination Research Center (a collaboration of Illinois Institute of Technology and University of Notre Dame), one of the first Centers of Excellence established by the USEPA. In 1989 he was an invited participant on the United Nations' Scientific Committee on Problems in the Environment (SCOPE) Workshop on Groundwater Contamination, and in 1998 he was invited to by the World Bank to assist in the development of the first environmental engineering program in Argentina. He is the founding Principal Investigator of the Environmental Manufacturing Management Program, one of the Integrative Graduate Education Research and Training (IGERT) grants of the National Science Foundation. Dr. Theis has received research funding from several sources. At present he has grants from the EPA, NSF, Alcoa, Inc., and the Illinois Board of Education.

Dr. Barbara Zielinska

Dr. Barbara Zielinska currently holds the position as Research Professor and Director of the Organic Analytical Laboratory at the Division of Atmospheric Sciences of the Desert Research Institute (DRI) in Reno, Nevada. The DRI is an autonomous research division of the University and Community College System of Nevada (UCCSN). DRI was created in 1959 by a special act of the Nevada State Legislature. Under the act and subsequent actions of the University Board of Regents, DRI is charged with conducting basic and applied research in environmental sciences. Dr. Zielinska has been active in the air pollution field for more than 20 years and specializes in the analysis of organic compounds in ambient air and in emission sources. Her list of publications includes over 100 papers concerning the sources, ambient concentrations and atmospheric transformations of gas- and particle-associated organic species, such as polycyclic aromatic hydrocarbons (PAH), nitro-PAH and other toxic air pollutants. Her research is funded by grants and contracts from federal and state agencies (such as Department of Energy, Health Effect Institute, and California Air Resource Board) and some private organizations (such as American Petroleum Institute and Coordinating Research Council). Dr. Zielinska received her M.Sc. degree from the Lodz University of Technology, Poland, and her Ph.D. degree from the Polish Academy of Sciences, both in Chemistry.