



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

EPA-SAB-EC-89-015

July 5, 1989

OFFICE OF
THE ADMINISTRATOR

Honorable William K. Reilly
Administrator
U. S. Environmental Protection Agency
401 M Street, S.W.
Washington, D.C. 20460

Dear Mr. Reilly:

The Science Advisory Board's 1988 Scientific and Technological Achievement Awards Subcommittee has responded to the request of the Assistant Administrator for Research and Development by reviewing 106 papers nominated by the Agency for Awards. The request for review, specific awards recommendations and Subcommittee roster are enclosed.

The Subcommittee believes that the Scientific and Technological Achievement Awards Program has contributed to increasing the quality of science performed by the Environmental Protection Agency to the point where the science conducted by the Agency, as represented in the nominating process, is equivalent to some of the best in the nation. The Board is pleased to have participated in this process and believes it is appropriate for the Board to continue this annual review function.

The quality of papers submitted this year is generally higher than in earlier years and the nominators are to be commended for an outstanding job in selecting papers. Further evidence of the increasing quality of scientific reporting by the Environmental Protection Agency is the increasing number of papers published in the more prestigious journals known for their strict adherence to peer review. The Subcommittee would like the Agency to continue to stress the importance of publication in the most rigorous peer reviewed journals in science and technology.

The Subcommittee identified three papers of notable quality characterized by careful, thorough, extensive work which don't fit the current definitions for this awards program. They are:

The Chemistry and Mass Spectrometry of Brominated Dibenzo-p-dioxins and Dibenzofurans in Analytical Chemistry for which Sovocool and Mitchum are the EPA authors

Fate of Dyes in Aquatic Systems: I. Solubility and Partitioning of some Hydrophobic Dyes and Related Compounds in Environmental Toxicology and Chemistry for which Baughman is the EPA author

Acrylamide: Its Metabolism, Developmental and Reproductive Effects, Genotoxicity, and Carcinogenicity in Mutation Research by Dearfield, Abernathy, Ottley, Branter, and Hays of EPA

The Subcommittee hopes that these authors will be recognized for their high quality work.

It would be of interest to know how many papers EPA publishes annually in the peer reviewed literature. The Subcommittee encourages the Agency to develop a mechanism for accurate accounting of this accomplishment.

Last year the Subcommittee recommended that non-EPA authors of award winning papers be sent letters of recognition. Such recognition of non-EPA authors should be a standard practice of the awards program.

The Subcommittee recognizes the Agency's efforts to respond to its recommendations for revising the nominations cover sheet. These efforts were clearly evident and much appreciated. The Subcommittee only recommends that the nominators refrain from paraphrasing the paper, stating instead why the paper is important and worthy of recognitions.

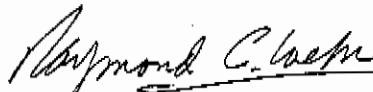
To ensure the credibility of the review process and broaden the base of expertise brought to bear on the review, the Subcommittee obtained--and would like to recognize--the assistance of the following experts in the field:

Dr. Philip Bedient	Rice University
Capt. James Bohne	University of Michigan
Dr. Bruce Chin	University of Michigan
Dr. Yoram Cohen	UCLA
Dr. Charles Gerba	University of Arizona
Dr. Stephen Levine	University of Michigan
Dr. Philip Meyers	University of Michigan
Dr. Theodore Mill	SRI, International
Dr. Timothy Vogel	University of Michigan

No attempt was made to ensure equality of numbers or proportion of awards across the categories or laboratories. Rather, good science was the sole criterion for recommending awards.

The Subcommittee is also pleased with the greater prominence given the awards, as evidenced by the EPA Times articles of September 1988 and January 1989. The Subcommittee would like to know when the awards have been made and looks forward to serving the Agency again.

Sincerely,



Raymond C. Loehr, Chairman
Executive Committee
Science Advisory Board



Calvin H. Ward, Chairman
1988 Scientific and Technological
Achievement Awards Subcommittee

cc: Erich W. Bretthauer
Roger Cortesi
Clyde Bishop

RECOMMENDATIONS OF THE SCIENCE ADVISORY'S
1988 SCIENTIFIC AND TECHNOLOGICAL ACHIEVEMENT AWARDS SUBCOMMITTEE

CONTROL SYSTEMS AND TECHNOLOGY

Air and Energy Engineering Research Laboratory
Research Triangle Park, North Carolina
Frank T. Princiotta, Director

LEVEL 3 AWARD "Volatile Organic Compound Emissions from 46 In-Use Passenger Cars," Environmental Science and Technology, Vol. 21, No. 5, pp. 466-475, May 1987.
EPA Authors: John E. Sigsby, Jr., Silvestre Tejada and William Ray
Non-EPA Authors: John M. Lang and John W. Duncan

LEVEL 3 AWARD "On the Occurrence of Transient Puffs in a Rotary Kiln Incinerator Simulator II. Contained Liquid Wastes on Sorbents," Journal of the Air Pollution Control Association, 37(8), pp. 934-942, August 1987.
EPA Authors: William P. Linak and Joseph A. McSorley
Non-EPA Authors: Jost O. Wendt and James E. Dunn

Robert S. Kerr Environmental Research Laboratory
Ada, Oklahoma
Clinton W. Hall, Director

LEVEL 3 AWARD "Removal of Volatile Aliphatic Hydrocarbons in a Soil Bioreactor," Journal of the Air Pollution Control Association, 37(10), pp. 1236-1240, 1987.
EPA Authors: Don H. Kampbell and John T. Wilson
Non-EPA Authors: Harvey W. Read and Thomas T. Stocksedale

ECOLOGY

Environmental Research Laboratory
Athens, Georgia
Rosemarie C. Russo, Director

LEVEL 3
AWARD "Modeling Bioconcentration of Nonpolar Organic
Pollutants by Fish," Environmental Toxicology
and Chemistry, Vol. 7 pp. 545-558, 1988
EPA Authors: M. Craig Barber, Luis A. Suarez,
and Ray R. Lassiter

Environmental Research Laboratory
Gulf Breeze, Florida
Raymond Wilhour, Acting Director

LEVEL 2
AWARD "Adaptation of Aquatic Microbial Communities to Hg²⁺
Stress," Applied and Environmental Microbiology,
pp. 2725-2732, 1987
EPA Author: Tamar Barkay

Environmental Research Laboratory
Duluth, Minnesota
Gilman D. Veith

COMBINED PAPERS

LEVEL 2
AWARD "Use of Respiratory-Cardiovascular Responses of Rainbow
Trout (Salmo gairdneri) in Identifying Acute Toxicity
Syndromes in Fish: Part 1. Pentachlorophenol, 2,4-
Dinitrophenol, Tricaine Methanesulfonate and 1-
Octanol," and "Part 2. Malathion, Carbaryl, Acrolein
and Benzaldehyde" Environmental Toxicology and Chemistry,
Vol. 6, pp. 295-328, 1987
EPA Authors: James M. McKim, Patricia K. Schmieder,
Richard W. Carlson, and Evelyn P. Hunt
Non-EPA Authors: Gerald J. Niemi

Environmental Research Laboratory
Corvallis, Oregon
Thomas A. Murphy, Director

LEVEL 3
AWARD "Ecoregions of the Coterminous United States," Annals
of the Association of American Geographers, 77(1),
pp. 118-125, 1987
EPA Authors: James M. Omernik.

MONITORING AND MEASUREMENT METHODS

Environmental Monitoring Systems Laboratory
Las Vegas, Nevada
Robert N. Snelling, Acting Director

LEVEL 3 "Geostatistical Analysis of Palmerton Soil Survey
AWARD Data," Environmental Monitoring and Assessment, 9,
pp. 239-261, 1987
EPA Authors: Kenneth W. Brown
Non-EPA Authors: Thomas H. Starks (First Listed
Author) and Allen R. Sparks

Atmospheric Research and Exposure Assessment Laboratory
Research Triangle Park, North Carolina
Gary J. Foley, Acting Director

LEVEL 3 "A Study of Ammonia Source at a Portland Cement
AWARD Production Plant," Journal of the Air Pollution
Control Association, 37, pp. 1298-1302, 1987
EPA Authors: James L. Cheney and Kenneth T. Knapp

LEVEL 2 "Indoor Particle Concentrations Associated with Use of
AWARD Tap Water in Portable Humidifiers," Environmental
Science and Technology, Vol. 22, pp. 1109-1112,
September 1988
EPA Authors: V. Ross Highsmith
Non-EPA Authors: Richard J. Hardy and Charles E. Rodes

TRANSPORT AND FATE

Environmental Research Laboratory
Athens, Georgia
Rosemarie C. Russo, Director

- LEVEL 2
AWARD "Nitrate-Induced Photooxidation of Trace Organic Chemicals in Water," Environmental Science and Technology, Vol. 21, No. 5, pp. 443-450, May 1987
EPA Authors: Richard G. Zepp
Non-EPA Authors: Jurg Hoigne and Heinz Bader
- LEVEL 3 "Kinetic Studies of the Reduction of Aromatic Azo Compounds in Anaerobic Sediment/Water Systems," Environmental Toxicology and Chemistry, Vol. 6, pp. 911-919, 1987
EPA Authors: N. Lee Wolfe
Non-EPA Authors: Eric J. Weber (First Listed Author)
- LEVEL 3
AWARD "Developing Joint Probability Distributions of Soil Water Retention Characteristics," Water Resources Research, Vol. 24, No. 5, pp. 755-769, May 1988
EPA Authors: Robert F. Carsel
Non-EPA Authors: Rudolph F. Parrish

Robert S. Kerr Environmental Research Laboratory
Ada, Oklahoma
Clinton W. Hall, Director

- LEVEL 3
AWARD "Sorption Nonequilibrium During Solute Transport," Journal of Contaminant Hydrology, Vol. 2, No. 3, pp. 209-223, July 1988
EPA Authors: Dermont C. Bouchard and Alvin L. Wood
Non-EPA Authors: M. L. Campbell, Nkedi-Kizza, and P. S. C. Rao

Environmental Research Laboratory
Corvallis, Oregon
Thomas A. Murphy, Director

- LEVEL 3
AWARD "Plant Exposure Chambers for Study of Toxic Chemical-Plant Interactions," Journal of Environmental Quality, Vol. 16, No. 4, pp. 361-371, October-December 1987
EPA Authors: J. Craig McFarlane and Thomas Pfleeger

HEALTH EFFECTS

Health Effects Research Laboratory
Research Triangle Park, North Carolina
Lawrence W. Reiter, Director

- LEVEL 3
AWARD "Detection of CCl_4 -Induced Oxidation of Hepatic Tissue
In Vivo by Oxygen-18 Tracing," Toxicology and Applied
Pharmacology, 93, pp. 81-88, 1988
EPA Authors: Gary E. Hatch and Ralph Slade
Non-EPA Authors: Jeffrey Santrock and J. M. Hayes
- LEVEL 3
AWARD "Evaluation of Effects of Ozone Exposure on Influenza
Infection in Mice Using Several Indicators of
Susceptibility," Fundamental and Applied Toxicology,
11, pp. 169-180, 1988
EPA Authors: MaryJane K. Selgrade, Joseph W. Illing,
Diane M. Starnes, and Andrew G. Stead
Non-EPA Authors: Margaret G. Menache and Michael A.
Stevens
- LEVEL 3
AWARD "Methoxychlor Affects the Decidual Cell Response of the
Uterus but not Other Progestational Parameters in
Female Rats," Toxicology and Applied Pharmacology, 90
pp. 330-336, 1987
EPA Authors: A. M. Cummings and L. Earl Gray, Jr.
- LEVEL 3
AWARD "Co-Culture of Rat Embryos and Hepatocytes: In Vitro
Detection of a Proteratogen," Teratogenesis,
Carcinogenesis, and Mutagenesis, 6, pp. 129-139, 1986
EPA Authors: Marian T. Ebron, Brenda D. Carver, and
Robert J. Kavlock
Non-EPA Authors: Linda A. Oglesby (First Listed
Author) and Patricia E. Beyer
- LEVEL 3
AWARD "Quantitative Changes in the Synaptic Vesicle Proteins
Synapsin I and p38 and the Astrocyte-Specific Protein
Glial Fibrillary Acidic Protein Are Associated with
Chemical-Induced Injury to the Rat Central Nervous
System," The Journal of Neuroscience, 7(4),
pp. 931-942, April 1987
EPA Authors: James P. O'Callaghan
Non-EPA Authors: Thomas O. Brock (First Listed Author)
- LEVEL 2
AWARD "Blood Lead, Hearing Thresholds, and Neurobehavioral
Development in Children and Youth," Archives of
Environmental Health, Vol. 42, No. 2, May/June 1987
EPA Authors: Joel Schwartz (Office of Policy Analysis)
and David Otto (Health Effects Research
Laboratory)

1988 Scientific and Technological Achievement Awards Subcommittee

Recommendations for Awards	Number of Recommendations	Level 3	Level 2	Level 1	Total Awards (Percent)
CONTROL TECH	11	3	0	0	3 (27%)
ECOLOGY	16	2	2	0	4 (25%)
MONITORING AND MEASUREMENT	27*	2	1	0	3 (14%)
TRANSPORT AND FATE	21*	4	1	0	5 (30%)
HEALTH	32	5	1	0	6 (22%)
	106*	16	5	0	21 (22%)

* Monitoring and Measurements Paper #4
Is the same as Transport and Fate Paper #21.

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