



Technical Assistance Directory

Office of Research and Development



Technical Assistance Directory

Office of Research and Development

Center for Environmental Research Information
Office of Research and Development
U.S. Environmental Protection Agency
Cincinnati, Ohio 45268



Printed on Recycled Paper

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Office of Research and Development

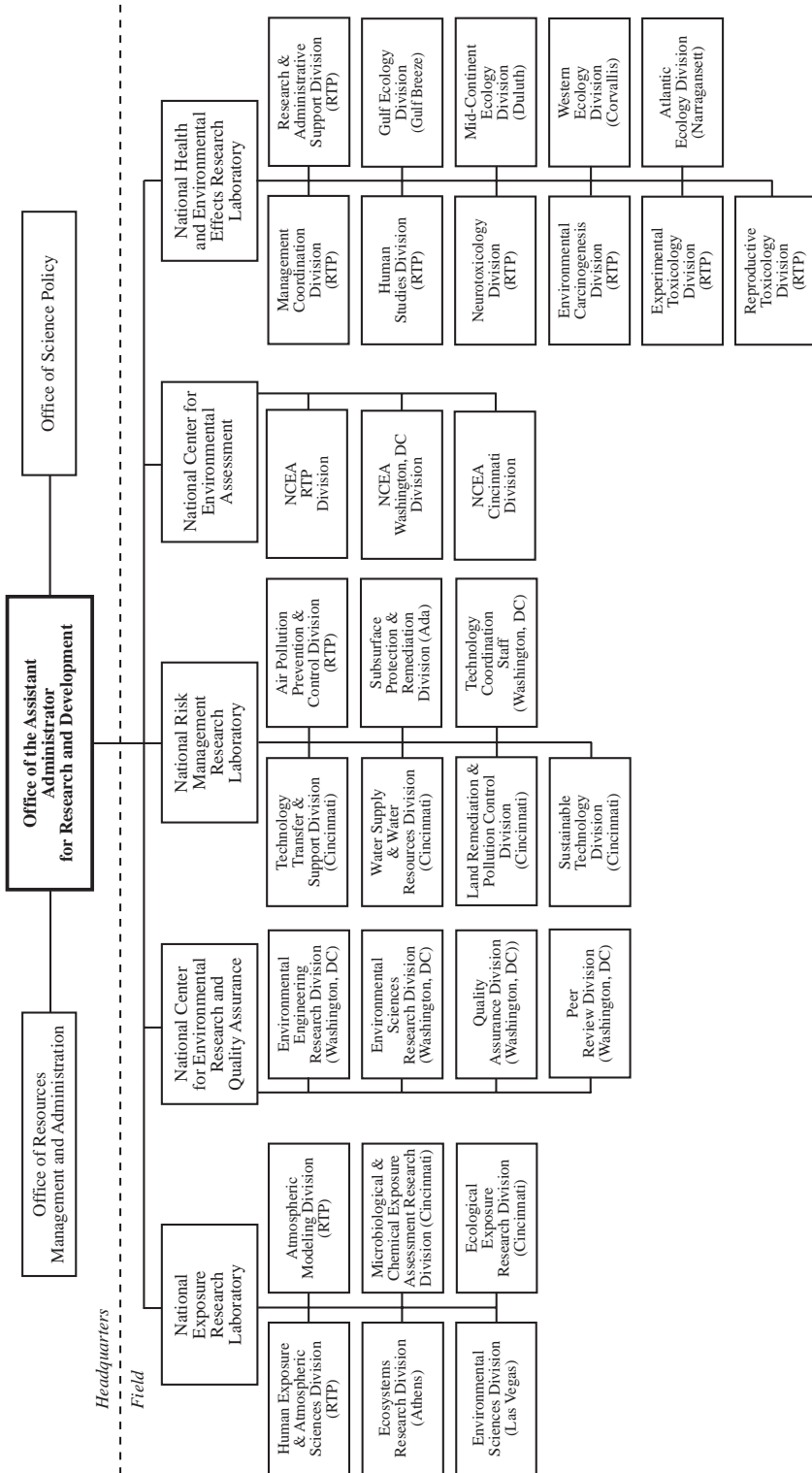
The Office of Research and Development (ORD) conducts an Agency-wide integrated program of research and development relevant to pollution sources and control, transport and fate processes, health and ecological effects, measurement and monitoring, and risk assessment. The office rigorously disseminates its scientific and technical knowledge and, upon request, provides technical reviews, expert consultations, technical assistance, and advice to environmental decision makers in federal, state, local, and international governments. ORD implements its activities through its offices in EPA Headquarters, Washington D.C., and its national centers and

laboratories (see organizational chart on page 2). The programs, areas of expertise, and primary contacts in each of the major ORD operations are conveyed in the rest of this directory. To facilitate searches, an expertise index is provided on pages 83-97. This information is made available in an effort to improve communication and technology transfer with our clients.

ORD publications may be requested 24 hours per day from the Center for Environmental Research Information (CERI) in Cincinnati, Ohio (telephone 513-569-7562; FAX 513-569-7566). CERI's address is USEPA-CERI, G-72, Cincinnati OH 45268.

Component	Telephone
Office of Assistant Administrator	202-564-6620
Office of Resources Management and Administration	202-564-6700
Office of Science Policy	202-564-6705
National Center for Environmental Assessment	202-260-7316
National Center for Environmental Research and Quality Assurance	202-564-6825
National Exposure Research Laboratory	919-541-2106
National Health and Environmental Effects Research Laboratory	919-541-2281
National Risk Management Research Laboratory	513-569-7418

This publication can be downloaded from the Office of Research and Development's Home Page on the Internet at
<http://www.epa.gov/ORD/>



Office of Research and Development

Office of the Assistant Administrator

Henry L. Longest II

Acting Assistant Administrator

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Henry L. Longest II joined the U.S. Environmental Protection Agency (EPA) in July 1970. He is Acting Assistant Administrator for the Office of Research and Development (ORD), participating fully in the planning, policy development, and implementation of research and development programs. Previously, he served ORD as Deputy Assistant Administrator for Management. Prior to this assignment, he was the Director, Office of Emergency and Remedial Response, responsible for implementing federally funded emergency and long-term remedial cleanup activities at hazardous waste sites under the Superfund program. He also served as Deputy Assistant Administrator, Office of Water, and was responsible for administering EPA's major water programs: water quality standards, permits, construction of municipal wastewater treatment facilities, drinking water and oceans.

Other experiences with EPA include a variety of assignments in EPA Headquarters and regional offices. He served as the Director, Office of Water Program Operations, in EPA headquarters. Prior to his headquarters assignment, he served as the Acting Deputy Regional Administrator, Region VI, Dallas; Director, Water Division, Region V, Chicago; and Chief, Environmental Planning and Standards Branch, Region III, Philadelphia. These assignments included implementation of the Clean Water Act as it related to water quality management planning and construction grants program for wastewater treatment facilities.

Following graduation from the University of Maryland, he entered the U.S. Air Force as a civil engineering officer serving tours of duty in Florida, Alabama, and Vietnam, responsible for various base construction and maintenance projects. Upon completion of military obligations, he worked for the E.D. du Pont Company as a construction engineer responsible for various phases of plant construction related to chemical process facilities. He then became involved in the field of water resources as a hydraulic engineer with the U.S. Army Corps of Engineers.

He is a member of the National Society of Professional Engineers, Virginia Society of Professional Engineers, American Society of Civil Engineers, and Water Environment Federation.

His major awards include Presidential Meritorious Award; Presidential Distinguished Executive Award; EPA Engineer of the Year Award; Gold Medal for Exceptional Service; and Gordon Maskew Fair Award from the American Academy of Environmental Engineers.

Office of the Assistant Administrator

Joseph K. Alexander, Jr.

Deputy Assistant Administrator for Science

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Joseph K. Alexander, Jr., was appointed Deputy Assistant Administrator for Science in EPA's Office of Research and Development in October 1994. In this position, he coordinates and provides oversight to a broad spectrum of environmental science issues involving human health and ecology. He leads efforts on designing and implementing a research planning process to meet the needs of the EPA program offices, Congress, and the public.

Mr. Alexander served as Associate Director of Space Sciences at the NASA Goddard Space Flight Center (GSFC) from April 1993 to October 1994. There, he handled issues related to GSFC's program responsibilities in science management and in space science, spacecraft operations and data analysis. He also led the Space Science Directorate's efforts in community outreach and education. From March to October 1994, he served concurrently as Acting Chief of the Laboratory for Extraterrestrial Physics.

Mr. Alexander served as Assistant Associate Administrator for Space Science and Applications in the NASA Office of Space Science and Applications (OSSA) from September 1987 to March 1993. In this position, he coordinated planning and provided oversight of research programs in earth science, space physics, astrophysics, solar system exploration, life science, and microgravity science. From April 1992 through March 1993, he served concurrently as Acting Director of Life Sciences in OSSA.

Mr. Alexander was Deputy NASA Chief Scientist from November 1985 until September 1987. From January 1984 until March 1985, he was a Senior Policy Analyst at the White House Office of Science and Technology Policy where he specialized in issues related to space science and technology in the civil service program.

Mr. Alexander joined the GSFC staff in 1962. He worked as a scientist and leader of research teams conducting basic research in astronomy, planetary exploration, and space physics. He was awarded the NASA Exceptional Scientific Achievement Medal in 1981 and the Presidential rank of Meritorious Executive in the Senior Executive Service in 1991. He holds memberships in the American Geophysical Union, the American Astronomical Society, and the International Astronomical Union.

Mr. Alexander was born in Staunton, VA, on January 9, 1940. Upon completion of high school in Staunton, he entered the College of William and Mary in Williamsburg, VA, where he received a Bachelor's degree in physics in 1960, and a Master's degree in physics in 1962. He also completed the Advanced Management Program at the Harvard Business School in 1991.

Office of Resources Management and Administration

Deborah Y. Dietrich, Director

Mailcode: 8102R

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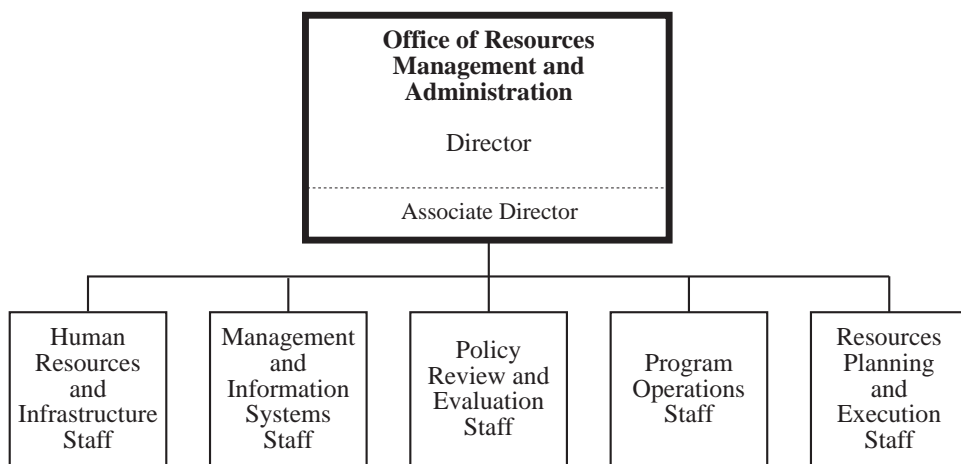
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Deborah Y. Dietrich has been the Director of the Office of Resources Management and Administration since July 1995. From 1986 to 1995, she was with EPA's Office of Emergency and Remedial Response, which had responsibility for the Superfund program. She held a variety of positions with that organization, including Acting Deputy Director, Director of the Emergency Response programs, and Chief of the Contract Operations Review and Assessment Staff. Earlier in her career, she spent ten years at the Department of Energy, where she held several positions in the management and budget fields. Ms. Dietrich has received four Bronze Medals and the 1991 Agency Award for Outstanding Contract Management. She holds two Bachelor degrees, one from the University of Maryland in business administration and one from Salisbury State University in education.



Office of Resources Management and Administration

Functions

The Office of Resources Management and Administration (ORMA) ensures that ORD's laboratories and centers have the financial resources, facilities, and people necessary to conduct world-class environmental research. ORMA provides management and administrative services needed to integrate the activities of ORD staff at field sites across the country into a cohesive, effective research and development program.

To accomplish this, ORMA provides support services and leadership to ORD's laboratories and centers in many areas: budgeting, finance, human resources, training, information systems and technology, administrative procedures, health and safety, facility operations, and ORD's equipment and laboratory infrastructure.

Budget Formulation and Execution

ORMA develops and manages ORD's overall budget of more than \$550 million. Working closely with the Agency, the Office of Management and Budget, and Congressional committees, ORMA ensures that budget proposals are consistent with ORD's *Strategic Plan* and respond to the top priority regulatory and program needs of EPA.

Overseeing the implementation of ORD's research budget is also an ORMA responsibility, including the following: directing operating plan development; tracking, monitoring, and analyzing changes and expenditures; and financial management and analysis functions.

A sound research program must be dynamic, modifying plans to include emerging issues and responding to environmental crises, such as the oil fires of Kuwait or the Exxon Valdez oil spill. As ORD's financial manager, ORMA ensures that resources are available to assess and address the highest areas of environmental risk.

Extramural Management, Management Reviews, and Internal Controls

ORMA is the principal staff office to ORD's Senior Resource Official. In this capacity, ORMA oversees all of ORD's contracting and assistance activities and conducts independent reviews of ORD laboratory and center operations in support of sound science.

ORMA develops and administers ORD-wide policies and procedures to promote more effective administrative practices. An office-wide program of management reviews, jointly administered by laboratories, centers, and ORMA, helps evaluate the effectiveness of operations and compliance with federal and EPA rules. Each year, ORD staff develops and implements strategies to promote integrity, effectiveness, and efficiency in ORD's business management practices.

ORD-wide accountability is maintained through initiatives such as the Government Performance and Results Act, special analyses, the review of the Government Accounting Office and Inspector General audits, and the activities of ORD's Management Council, chaired by ORD's Senior Resource Official and comprised of senior management officials from each laboratory, center, and office.

Human Resources and Infrastructure

ORD's researchers are recognized worldwide for their accomplishments. ORMA ensures that career programs are in place for them, that resources are available for scientific and managerial training, and that sound performance is rewarded. In this effort, ORMA works in partnership with the ORD Human Resources Council, which is comprised of staff representatives from all ORD sites across the country.

Office of Resources Management and Administration

ORMA keeps ORD's infrastructure strong to ensure that ORD's science can be performed. In this area, ORMA provides administrative direction and coordinates decision making with regard to procurement of scientific equipment, new construction projects, the working capital fund, and maintenance projects for facilities. ORMA ensures that laboratories comply with environmental regulations and sees that employees are not exposed to harmful working conditions.

Information Management

Keeping up with rapidly evolving information technology is a challenge for most large organizations, and is especially important in the field of research and development. ORMA coordinates information resources management for ORD. It improves information access for researchers and ensures

that activities carried out by ORD comply with federal and EPA policies and regulations concerning the maintenance, acquisition, and management of all hardware and software required for data processing. This responsibility includes the formulation of information systems policy, development and oversight of ORD-wide ADP contracts, and the ORD Management Information System.

Administrative Management and Analysis

ORMA manages the Assistant Administrator's correspondence, all international travel requests and Freedom of Information Act requests, and records management. ORMA develops and executes the budget for the Office of the Assistant Administrator and headquarters staff offices.

Office of Resources Management and Administration

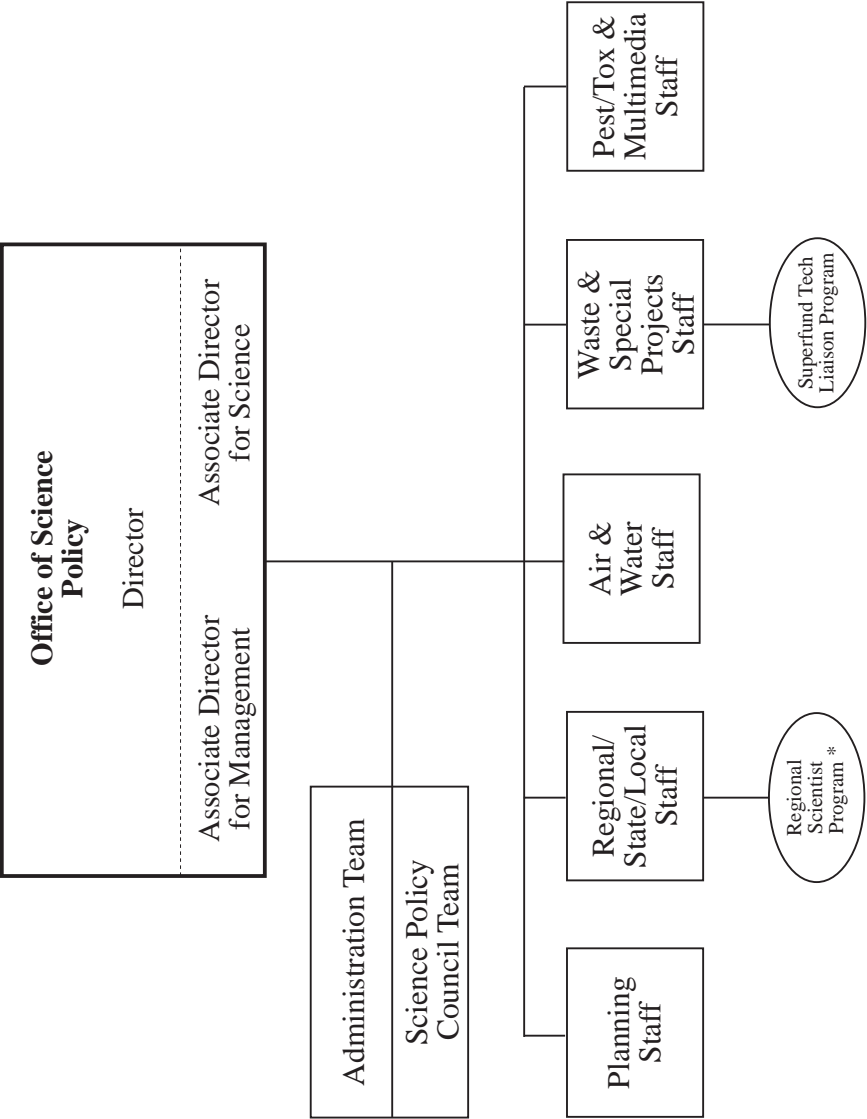
Areas of Expertise

	Telephone	Areas of Expertise
<i>Human Resources and Infrastructure Staff</i>		
Mike Moore, Chief	202-564-6722	
Steve Smith	202-564-6738	Human resources
Kay Waters	202-564-6728	Infrastructure
Sandi Wells	202-564-6727	Management and organization
<i>Management and Information Systems Staff</i>		
Cliff Moore, Chief	202-564-6513	
Charissa Smith	202-564-6519	Information systems
John Sykes	919-541-4529	ADP contract management
<i>Policy Review and Evaluation Staff</i>		
Jim Morant, Chief	202-564-6681	
Colleen Lentini	202-564-6686	Management integrity and accountability/ management council support
Vince Martin	202-564-6689	Policies and procedures
Linda Ross	202-564-6683	Extramural management
<i>Program Operations Staff</i>		
Virginia Kahn, Chief	202-564-6794	
Kennetta Calloway	202-564-6802	Correspondence
Cynthia Holley	202-564-6803	International travel
Elenora Karicher	202-564-6798	Headquarters budget
Verla Sutton-Busby	202-564-6808	ORMA support/new building
<i>Resources Planning and Execution Staff</i>		
Lek Kadeli, Chief	202-564-6696	
Amy Battaglia	202-564-6701	Budget formulation
Linda Jones	202-564-6711	Budget execution

Office of Science Policy
Dorothy E. Patton, Director
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Dorothy E. Patton directs the Office of Science Policy. She also serves as the Executive Director of EPA's Science Policy Council, an Agency organization established to address significant science policy issues that go beyond program and regional boundaries. From 1985 through July 1994, Dr. Patton was the Executive Director of EPA's Risk Assessment Forum, a standing committee of senior EPA scientists charged with developing Agency-wide guidance on selected risk assessment issues. She also chaired that group from 1989-1995. Dr. Patton began her EPA career in 1976 as an attorney in the Office of General Counsel, where she worked on legal and scientific issues arising under the laws relating to pesticides, toxic substances, and the air program.

Before coming to EPA, Dr. Patton was an Assistant Professor of biology in the City University of New York (York College), and she did post-doctoral research in cellular and developmental biology at the Albert Einstein College of Medicine in New York. Dr. Patton earned a J.D. from Columbia University School of Law, a Ph.D. in developmental biology from the University of Chicago, and a Bachelor's degree in chemistry from the University of Wisconsin.



* Scientists are detailed from ORD Laboratories and Centers

Office of Science Policy

Overview

The Office of Science Policy (OSP) is responsible for establishing and maintaining strong working relationships among science programs in the Office of Research and Development and science and regulatory programs in EPA program and regional offices. A primary objective is to assure effective and timely interactions among scientific experts in the ORD laboratory system and other EPA programs to enable ORD to provide scientific information, counsel, and assistance in policy formulation and other regulatory development activities. A second, equally important objective is to use these interactions to help assure strategic planning of ORD's research program.

Functions

The Office of Science Policy has two primary functions: **(1) Guide the use of scientific analyses in current EPA decisions by participating in ongoing regulatory and science policy activities of EPA laboratories, program and regional offices, and the Science Policy Council (SPC).** Teams provide media-specific regulatory and science policy support to the EPA program offices and regions, and the Science Policy Council on current science issues facing the Agency. These Teams formulate coordinated ORD and Agency positions on science/policy issues, including proposed legislation. **(2) Assist in determining the kind and quality of information available for future environmental decisions by leading ORD and Agency research planning activities.** Teams manage future science needs, through the strategic planning process for the ORD research program, to ensure that it both meets the needs of EPA's laboratories, program offices and regions, and draws upon and enhances ORD's unique expertise. Teams work with each of the EPA program offices and regional offices to manage this effort through EPA's

Research Coordination Council and Research Coordination Teams. These groups develop EPA's overall program of human health and ecological research for use in Agency decision-making.

Other Office of Science Policy responsibilities include science communication, planning accountability, special issues analysis, and office administrative activities.

The **Administration Team** serves as the principal staff on all matters relating to financial and administrative management support to the Office. This includes coordination with appropriate ORD and Agency offices in activities supporting budget formulation and execution, human resources management, management integrity activities, funds controls, information and records management, meeting facilitation and organization, and extramural management of the OSP.

The **Science Policy Council Team** serves as the principal staff supporting the multi-office senior level Science Policy Council, chaired by the Deputy Administrator. The staff supports the SPC, its Steering Committee, panels and workgroups in work or activities that address selected science policy issues. These include cross-program, cross-media, and cross-cutting scientific/technical issues of importance to the Agency.

The **Planning Staff** is responsible for managing and supporting the strategic planning process for ORD's research program to ensure that it meets the needs of EPA's program offices and regions, and draws upon ORD's unique scientific expertise. This requires coordination with the media Research Coordination Teams and ORD's Office of Resources Management and Administration, to assure effective program, regional and laboratory participation in ORD research planning efforts. The Planning Staff manages and supports the multi-

Office of Science Policy (continued)

office Research Coordination Committee, which serves as the forum for discussion and recommendations supporting decisions regarding the Agency's research program.

The **Regional/State/Local Staff** is responsible for managing the Regional Scientist Program and supporting efforts to identify and incorporate regional, state and local needs into the research planning process. The staff also promotes the use of science tools in regional, state and local priority setting and program implementation, and enhances understanding of the Agency's science and technical activities through regional outreach and technical assistance.

The **Regional Scientist Program** is designed to promote information exchange between ORD and the Regions and foster greater consideration of science and technology in Regional decision-making. Scientists are detailed from ORD laboratories and centers to the EPA Regional offices and serve as liaisons to provide continuity on science research activities.

The **Air and Water Staff** consists of two teams: the Air Team and the Water Team. Each team is responsible, in its respective area of expertise, for assuring effective ORD participation in and assistance to EPA regulatory and policy development activities, assuring effective program office participation in the planning of ORD research and facilitating client access to ORD scientific expertise. This includes supporting program offices by staffing Agency workgroups, coordinating document development and review among ORD's laboratories and centers, and developing coordinated ORD positions. Other duties include informing ORD senior management of relevant major issues in their respective media area, performing legislative analysis and review, and assisting the AA/ORD in related special programs and communications.

The **Waste and Special Projects Staff** consists of two teams: the Waste Team and

the Special Projects Team. The **Waste Team** is responsible for assuring effective ORD involvement in EPA regulatory and policy development activities, assuring effective program office participation in the planning of ORD research, and facilitating client access to ORD scientific expertise. This includes supporting program offices by staffing Agency workgroups and coordinating document development and review among ORD's laboratories and centers. Other duties include informing ORD senior management of relevant major issues in the waste area, performing legislative analysis and review, and assisting the AA/ORD in related special programs and communications.

In addition to regulatory support activities, the Waste Team manages the Superfund Technical Liaison Program (STLP). Major activities of the STLP are 1) facilitating the incorporation of sound science and technology into regional environmental management decisions, 2) facilitating the planning and implementation of ORD's research and technical support programs for Regional Superfund and RCRA activities, 3) providing feedback to ORD laboratories on how to improve Regional products and services, and 4) building ORD-supported technical capacity in Regional hazardous waste programs.

The **Special Projects Team** is responsible for outreach activities on key selected issues within ORD to the rest of EPA, other Agencies, and state/local entities. Responsibilities include preparation of internal publications, such as information brochures and newsletters. In addition, the Team is responsible for the development and coordination of documents through the Immediate Office of the Assistant Administrator for external audiences, such as reports to congress and other Federal agencies. The team provides general communication support and coordination with all existing Office teams and staffs.

Office of Science Policy (continued)

The **Pesticide-Toxics and Multi-Media Staff** consists of two teams: the Pesticide-Toxics Team and the Multi-Media Team. The **Pesticide-Toxics Team** is responsible for assuring effective ORD participation in and assistance to EPA regulatory and policy development activities, assuring effective program office participation in the planning of ORD research and facilitating client access to ORD scientific expertise. This includes supporting program offices by staffing Agency workgroups and coordinating document development and review among ORD's laboratories and centers. Other duties include informing ORD senior management of relevant major issues in the pesticides-toxic areas, performing legislative analysis and review, and assisting the

AA/ORD in related special programs and communications.

The **Multi-Media Team** is responsible for assuring effective ORD participation in and assistance to EPA for multi-media policy development activities, assuring effective program office participation in the planning of ORD research and facilitating client access to ORD scientific expertise. This includes staffing Agency workgroups and coordinating document development and review among ORD's laboratories and centers. Other duties include informing ORD senior management of relevant major issues in the multi-media area, performing legislative analysis and review, and assisting the AA/ORD in related special projects and communications.

Office of Science Policy

Areas of Expertise

	Telephone	Areas of Expertise
<i>Office of the Director</i>		
Dorothy E. Patton, Director	202-564-6705	Risk assessment; science policy
Kevin Y. Teichman, Associate Director, Science	202-564-6705	Air pollution research; indoor air; criteria air pollutants
Larry Fradkin	513-569-7960	Federal Technology Transfer Act
<i>Science Policy Council Team</i>		
Ed Bender	202-564-6483	Ecological risk assessment
Kerry Dearfield	202-564-6486	Health risk assessment
Mary McCarthy-O'Reilly	202-564-6487	Communications
<i>Air and Water Staff</i>		
Courtney Riordan, Acting Director	202-564-6764	Air issues
Stan Durkee	202-564-6784	Mobile sources; municipal waste
Bob Fegley	202-564-6786	Air toxics; criteria air pollutants; benefit analysis
Cynthia Nolt	202-564-6763	Ecological risk assessment; contaminated sediments
Bruce Peirano	513-569-7540	Water research planning; arsenic
Burnell Vincent	202-564-6768	Nonpoint sources; waste water
<i>Waste and Special Projects Staff</i>		
Becki Madison, Director	202-564-6773	Risk assessment; Superfund
Charlotte Cotrill	202-564-6771	Social sciences
Steve Mangion	202-564-6774	Geology
<i>Superfund Technical Liaison Program</i>		
Jon Josephs	212-637-4317	Region II
Norman Kulujian	215-566-3130	Region III
Felicia Barnett	404-562-8659	Region IV
Robert Mournighan	913-551-7913	Region VII
Robert Stone	303-312-6777	Region VIII
Sean Hogan	415-744-2334	Region IX
John Barich	206-553-8562	Region X

(continued)

Office of Science Policy (continued)

Areas of Expertise

	Telephone	Areas of Expertise
<i>Regional/State/Local Staff</i>		
David Klauder, Director	202-564-6496	Toxicology; risk assessment
Lawrence Martin	202-564-6497	State and local coordinator
<i>Regional Scientist Program</i>		
Robert Hillger	617-565-3397	Region I
Ron Landy	410-573-2742	Region III
Joseph Dlugosz	312-886-2967	Region V
J. Kaye Whitfield	913-551-7367	Region VII
Joellen Lewtas	206-553-1605	Region X
<i>Pesticides/Toxics and Multi-Media Staff</i>		
Elaine Francis, Director	202-564-6789	Toxics and pesticides risk assessment; food safety; non-cancer health effects; endocrine disruptors; US-Mexico Border
Rose Lew	202-564-6787	Ecosystem and watershed restoration; pollution prevention; regulatory support
Clare Stine	202-564-6792	Toxics and pesticides research; risk assessment
Michael Troyer	513-569-7399	Ecological risk assessment; endangered species; wetlands; migratory birds
Vivian Turner	202-564-6793	Human health effects; toxicology

National Center for Environmental Assessment

William H. Farland, Director

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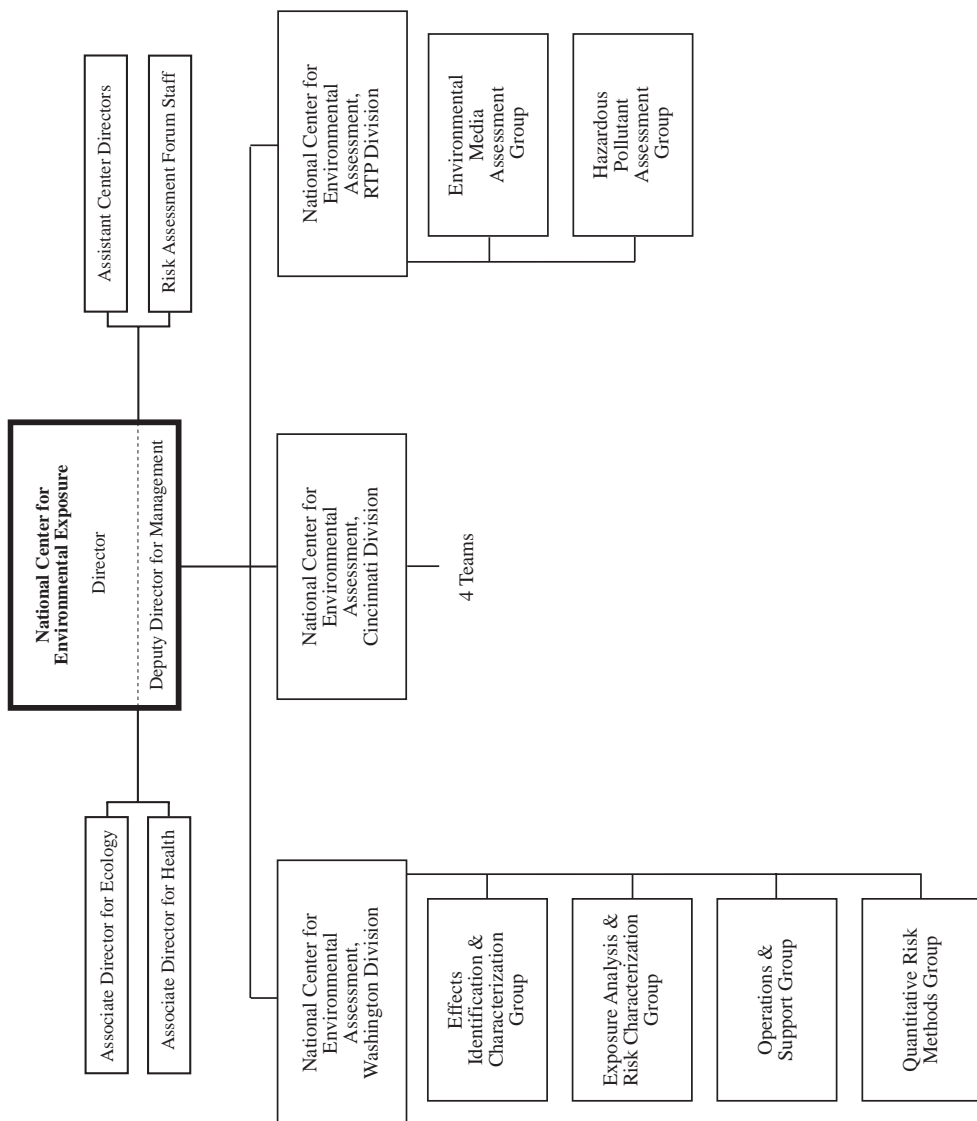
Dr. William H. Farland has been the Director of the U.S. EPA's National Center for Environmental Assessment (NCEA) since its establishment in May 1995. Prior to this Dr. Farland was Director, Office of Health and Environmental Assessment, starting in 1988. Before his appointment as office director, Dr. Farland served as the Director, Carcinogen Assessment Group, and Acting Director, Reproductive Effects Assessment Group. Dr. Farland began his EPA career in 1979 as a health scientist in the Office of Toxic Substances. Dr. Farland's career has been characterized by a commitment to the development of national and international approaches to the testing and assessment of the fate and effects of environmental agents. Dr. Farland received his Ph.D. degree in 1976 from UCLA in cell biology and biochemistry, an M.A. degree in 1972 in zoology from UCLA, and a B.S. degree in 1970 from Loyola University, Los Angeles. He was awarded an Individual National Research Service Award from the National Cancer Institute to pursue postdoctoral training in DNA damage and repair at the University of California, Irvine, and at Brookhaven National Laboratory.

Dr. Farland serves on a number of committees and advisory boards including

- the executive committee of the National Toxicology Program,
- EPA Liaison to the Public Health Service Environmental Health Policy Committee,
- Risk Assessment Subcommittee of the Committee on Environment and Natural Resources of the Office of Science and Technology,
- Science Advisory Panel of the Chemical Industry Institute of Toxicology,
- Science Advisory Panel of EMF Research at the Electric Power Research Institute, and
- Council of the Society for Risk Analysis.

Since 1987, he has been a member of the Editorial Board for *Risk Analysis* and is an active participant in annual meetings and the annual risk assessment course.

(Note: Phone and fax numbers for NCEA staff based in Washington, D.C. will change in early 1998.)



National Center for Environmental Assessment

ORD's National Center for Environmental Assessment (NCEA) is the national resource center for the overall process of human health and ecological risk assessments; and the integration of hazard, dose-response, and exposure data and models to produce risk characterizations. NCEA occupies a critical position in ORD between (1) the researchers in other ORD components who are generating new findings and data, and (2) the regulators in the EPA program offices and regions who must make regulatory, enforcement, and remedial action decisions. Thus, NCEA is uniquely positioned to influence ORD's future research agenda to assure that it addresses research needs identified by risk assessments and to serve as consultants to the programs and regions on the use of science in environmental decision making. In support of these functions, NCEA focuses its work in three major areas:

- Develop methodologies that reduce uncertainties in current approaches
 - dose-response models and factors
 - exposure models and factors
 - probabilistic models
 - community-based risk assessment
- Conduct assessments of contaminants and sites of national significance
- Provide guidance and support to risk assessors
 - data bases
 - risk assessment guidelines
 - expert tools
 - expert consultation and program support
 - risk assessment training

Other important goals of NCEA are to:

- Advance the integration of ecological risk assessment with human health assessment as a fundamental approach in risk assessment activities
- Act as a catalyst for advances in the science of risk assessment brought about by cooperation and an exchange of ideas among environmental health professionals in the federal, state, industrial, academic, environmental, public interest, and international communities
- Characterize the impacts on ecological and human systems whether they result from exposure(s) to single, complex, or multiple physical, chemical, biological, or radiological stressors

NCEA is a multi-disciplinary team of over 150 scientists and support staff in three Divisions and the Risk Assessment Forum staff. Figure 1 illustrates the overall make-up of the NCEA staff. Each NCEA Division has assessment responsibilities, programmatic focuses, and areas of specialized technical expertise.

- The NCEA Division in Cincinnati, Ohio, is a focal point for water and waste programmatic issues. The Cincinnati office also maintains the following areas of special technical emphasis:
 - chemical mixtures
 - federal facility chemical assessment
 - microbiological risks
- The NCEA Division in Research Triangle Park, North Carolina, is a focal point for air programmatic issues. The RTP office also maintains the

National Center for Environmental Assessment (continued)

following areas of special technical emphasis:

- pulmonary toxicology
 - lead
 - fuel and fuel additives
- The NCEA Division in Washington, DC, is a focal point for pesticides, toxics, and Superfund programmatic issues. The Washington office also maintains the following areas of special technical emphasis:
 - ecological assessment
 - exposure assessment
 - cancer risk assessment
 - developmental toxicity and reproductive effects assessment

- The Risk Assessment Forum staff is responsible for coordinating and implementing the health and ecological assessment activities of EPA's Risk Assessment Forum. The Forum is responsible for scientific and science policy analysis of selected precedent-setting or controversial risk assessment issues of Agency-wide interest. Some Forum activities include

- risk assessment guidance and guidelines development
- risk assessment methodology development
- development of cross-Agency consensus positions on important risk assessment issues

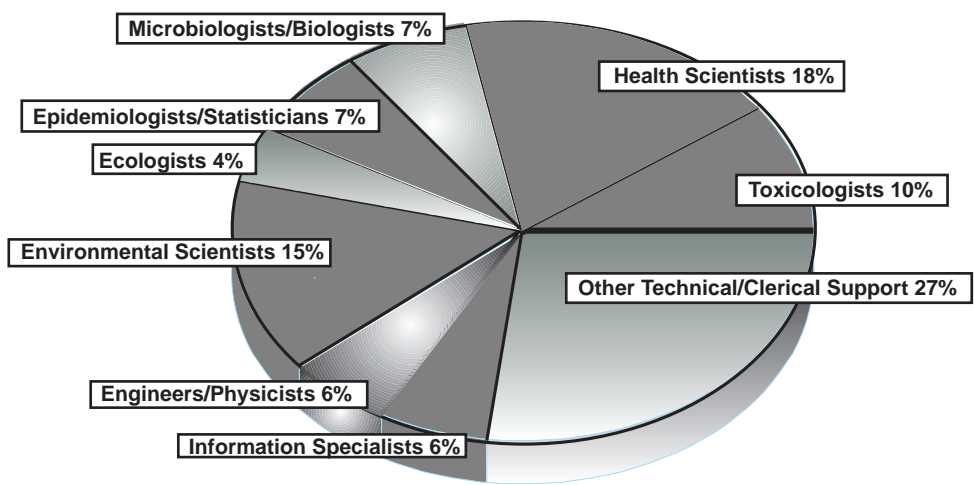


Figure 1. NCEA staff disciplines.

National Center for Environmental Assessment

Areas of Expertise

	Telephone	Areas of Expertise
<i>Office of the Director</i>		
William Farland, Director	202-260-7316	Risk assessment; mechanisms of toxicity; DNA damage and repair; dioxin
Michael Slimak, Associate Director, Ecology	202-260-5950	Ecological assessment; climate change; nuisance species
Vacant Associate Director, Health	202-260-7316	Human health risk assessment; health risk guidelines; chemical-specific assessment
Vicki Dellarco	202-260-7336	Human genetics; genetic risk assessment
Robert Frederick	202-260-0689	Biotechnology/biosafety; ecological risk assessment; microbiology
Kevin Garrahan	202-260-2588	Superfund/waste program issues; research planning; environmental and civil engineering; risk communication
Herman Gibb	202-260-7313	Multimedia program issues; research planning; risk assessment; arsenic; chromium; nickel
Karen Hammerstrom	202-260-8919	Pesticides and toxic chemical program issues; research planning; exposure assessment
Peter Jutro	202-260-5937	Environmental security; global change; biological diversity; ecological risk assessment; remote sensing
Suzanne Marcy	907-271-6322	Ecological risk assessment; watershed ecology
Lynn Papa	513-569-7587	Water program issues; research planning; drinking water disinfectants; cyanide; beryllium
Chon Shoaf	919-541-4155	Air program issues; research planning; risk assessment; inhalation toxicology
<i>Risk Assessment Forum Staff</i>		
William Wood, Director	202-260-1095	Risk assessment; exposure assessment; environmental transport and fate
Steve Knott	202-260-2231	Exposure assessment; risk assessment; pesticides; occupational and residential exposures
NCEA-Washington Division		
<i>Office of the Director</i>		
Michael Callahan, Director	202-260-8909	Exposure assessment; chemistry

(continued)

National Center for Environmental Assessment

Areas of Expertise (continued)

	Telephone	Areas of Expertise
Charles Ris	202-260-7338	Risk assessment methods; cancer risk assessment; risk assessment management/policy
<i>Exposure Analysis and Risk Characterization Group</i>		
John Schaum, Chief	202-260-5988	Environmental engineering; exposure assessment; dermal exposure; dioxin
David Cleverly	202-260-8915	Environmental assessments; exposure assessment; dioxin source issues
Michael Dellarco	202-260-7238	Dermal and inhalation exposure
Aparna Koppikar	202-260-6765	Cancer risk assessment; medicine
Matthew Lorber	202-260-8924	Environmental engineering; dioxin fate and modeling
Robert McGaughy	202-260-5889	Chemical carcinogenicity; risk assessment; toxicology; electromagnetic fields; radiation
Jacqueline Moya	202-260-2385	Chemical engineering; fish ingestion; exposure scenarios; showering exposures; exposure factors
Susan Norton	202-260-6955	Environmental science; ecological risk assessment; wildlife factors
Jean Parker	703-308-8597	Cancer risk assessment; chlorinated solvents
Susan Perlin	202-260-5877	GIS; National Health and Nutrition Examination Survey; environmental justice issues; risk characterization
Anne Sergeant	202-260-9376	Ecological risk assessment; EPA Guidelines for Ecological Risk Assessment training
Vic Serveiss	202-260-5794	Ecological risk assessment; area-based assessments
William Van der Schalie	202-260-4191	Ecological risk assessment; aquatic toxicology
Amina Wilkins	202-260-8918	Environmental science; highly exposed populations; risk-based modeling
Chieh Wu	202-260-5977	US/China environmental research activities; water treatment

(continued)

National Center for Environmental Assessment

Areas of Expertise (continued)

	Telephone	Areas of Expertise
<i>Quantitative Risk Methods Group</i>		
V. James Cogliano, Chief	202-260-2575	Quantitative risk methods and models; cancer assessment; risk training; PCBs
Steven Bayard	202-260-8909	Cancer risk assessment and modeling; environmental tobacco smoke (ETS)
Robert Beliles	202-260-3018	Teratology; physiologically based pharmacokinetics (PBPK) modeling; metals
Chao Chen	202-260-5719	Cancer risk assessment; biologically based models
Margaret Chu	202-260-5740	Comparative risk assessment; physical- biochemical determinants of susceptibility and exposure
Malcolm Field	202-260-8921	Hydrogeology; Karst geology; tracer hydrology; ground water investigation and remediation
Kim Chi Hoang	202-260-8911	Chemical engineering; pharmacokinetics; dermal exposure; regional support
Jennifer Jinot	202-260-8913	Pharmacokinetic modeling; environmental tobacco smoke (ETS)
Kate Mahaffey	513-569-7957	Toxicity of heavy metals and essential elements; highly susceptible populations to metal toxicity; food as source of toxic chemical exposure
Amy Mills	202-260-0569	IRIS; evaluation of subsurface barriers
Paul Pinsky	202-260-1079	Biostatistics; mathematical modeling
Cheryl Scott	202-260-5720	Epidemiology; cancer risk assessment; solvents
Dennis Trout	202-260-5991	Global change
Paul White	202-260-2589	Statistics; food ingestion; soil ingestion; uncertainty analysis; lead
<i>Effects Identification and Characterization Group</i>		
Babasaheb Sonawane, Chief	202-260-1495	Pediatric toxicology; reproductive and developmental toxicology
James Andreasen	202-260-5259	Ecological risk assessment; general aquatic ecology
Kay Austin	202-260-5789	Ecotoxicology; ecological risk assessment

(continued)

National Center for Environmental Assessment

Areas of Expertise (continued)

	Telephone	Areas of Expertise
David Bayliss	202-260-5726	Cancer risk assessment; epidemiology
Arthur Chiu	202-260-6764	Cancer pathology; toxicology
Eric Clegg	202-260-8914	Reproductive toxicology; reproductive risk assessment
Thomas Crisp	202-260-3860	Endocrinology; cell biology; electron microscopy; female reproductive biology; breast cancer
Charalingayya Hiremath	202-260-5725	Metabolism of carcinogenic substances; cancer toxicology
James Holder	202-260-5721	Cancer toxicology—mechanisms
Carole Kimmel	202-260-7331	Reproductive and developmental toxicology; neurotoxicity and other noncancer health effects; risk assessment
Gary Kimmel	202-260-5978	Reproductive and developmental toxicology; risk assessment; risk training; international health risk assessment issues
William Pepelko	202-260-5904	Inhalation toxicology; engine emission toxicology and carcinogenesis
Sherry Selevan	202-260-2604	Epidemiology
Dharm Singh	202-260-5958	Cancer toxicology
Larry Valcovic	202-260-7308	Genetic toxicology
James Walker	202-260-5723	Radiation biology; organ/tissue growth models; radiation/chemical dosimetry
NCEA-RTP Division		
<i>Office of the Director</i>		
Lester D. Grant, Director	919-541-4173	Health effects of criteria air pollutants; heavy metals; global climate change; risk assessment
Michael A. Berry	919-541-4172	Environmental management; indoor environments; business and environment
Si Duk Lee	919-541-4477	Health risk assessment; international collaboration
William E. Wilson	919-541-2551	Aerosol (particulate matter) science; visibility; atmospheric chemistry; exposure assessment

(continued)

National Center for Environmental Assessment

Areas of Expertise (continued)

	Telephone	Areas of Expertise
<i>Environmental Media Assessment Group</i>		
Larry J. Folinsbee, Chief	919-541-2229	Environmental and health effects of criteria air pollutants; cardio-respiratory physiology
Robert S. Chapman	919-541-4492	Epidemiology; respiratory physiology; Asian languages
Beverly M. Comfort	919-541-4165	Pesticides; indoor air pollution
Robert W. Elias	919-541-4167	Heavy metals; exposure modeling
William G. Ewald	919-541-4164	Toxicology; radiobiology
Jasper H.B. Garner	919-541-4153	Ecosystem and vegetation effects
D. Eric Hyatt	919-541-0673	Ecological assessment and policy decision theory
Dennis J. Kotchmar	919-541-4158	Epidemiology; respiratory effects; NO _x ; PM health effects
Allan H. Marcus	919-541-0636	Statistics; epidemiology; pharmacokinetics
Joseph P. Pinto	919-541-2183	Atmospheric chemistry and climate change
James A. Raub	919-541-4157	Respiratory physiology/toxicology; carbon monoxide and ozone health effects
<i>Hazardous Pollutant Assessment Group</i>		
J. Michael Davis, Acting Chief	919-541-4162	Developmental neurotoxicology; lead; manganese; oxyfuels; fuels and fuel additives; U-shaped dose response
Gary J. Foureman	919-541-1183	General metabolism; biological chemistry; general toxicology
Jeffrey S. Gift	919-541-4828	Health risk assessment; benchmark dose analysis; silica; glycol ethers; acrylates
Mark M. Greenberg	919-541-4156	Organic chemicals; physiologically based pharmacokinetics (PBPK) modeling; RfC methodology; isocyanates; asthma; benchmark dose analysis
Daniel J. Guth	919-541-4930	Pulmonary toxicology; inhalation risk assessment
Annie M. Jarabek	919-541-4847	Inhalation toxicology; risk assessment; dosimetry; PBPK modeling
Marsha L. Marsh	919-541-1314	Environmental health risk assessment; risk communication; urban toxics

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National Center for Environmental Assessment

Areas of Expertise (continued)

	Telephone	Areas of Expertise
NCEA-Cincinnati Division		
<i>Office of the Director</i>		
Terry Harvey, Director	513-569-7531	Risk assessment; comparative risk assessment; veterinary medicine; pharmacodynamics
Steve Lutkenhoff	513-569-7615	Resource planning and management; information management; environmental education; team building
<i>Human and Ecological Effects Team</i>		
Linda Teuschler, Team Leader	513-569-7573	Statistics; mathematical modeling; hypothesis testing
Randy Bruins	513-569-7531	Ecological risk assessment
Chris Cubbison	513-569-7599	Less-than-lifetime risk assessment; risk assessment; toxicology; biostatistics; reportable quantities for chronic systemic toxicity; phenolic compounds
Rick Hertzberg	404-562-8663	Biomathematical modeling; chemical mixtures
Patricia Murphy	513-569-7226	Epidemiology; biostatistical techniques; design analysis; fluoride; ionizing/nonionizing radiation; indoor air; drinking water disinfectants; waterborne disease microbes
Carolyn Smallwood	513-569-7425	Risk assessment; endrin; chloramines
Harold Williams	513-569-7361	Environmental quality assurance; pollution prevention
<i>Assessment and Characterization Team</i>		
Eletha Brady-Roberts, Team Leader	513-569-7662	Municipal solid waste recycling; indirect exposure to combustors; stable strontium
Debdas Mukerjee	513-569-7572	Cancer risk assessment; dioxin; dibenzofurans; PCBs
David Reisman	513-569-7588	Hexachlorocyclopentadiene; copper; acetone; database development
Glenn Rice	513-569-7813	Cancer risk assessment; incineration; fish ingestion
Jeffrey Swartout	513-569-7811	Toxicology; RfD methodology; LAN technology

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National Center for Environmental Assessment

Areas of Expertise (continued)

	Telephone	Areas of Expertise
<i>Risk Assessment Services Team</i>		
Patricia Daunt, Team Leader	513-569-7596	IRIS data base; Strategic Environmental Research Development Program (SERDP)
Robert Bruce	513-569-7569	PAHs; nickel; chromium; Superfund reportable quantities (RQs)
Harlal Choudhury	513-569-7536	Reproductive and developmental toxicology; lead; heavy metals
Adib Tabri	513-569-7505	Organic chemistry; pesticides; chlorinated hydrocarbons; carbamates; organophosphates; quality assurance
<i>Information Management Team</i>		
Nancy Bauer, Team Leader	513-569-7144	Strategic Environmental Research Development Program (SERDP)

National Center for Environmental Research and Quality Assurance

Peter W. Preuss, Director

Mailcode: 8701R

401 M Street, S.W. Washington, D.C. 20460

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Peter W. Preuss has been the Director of the National Center for Environmental Research and Quality Assurance since November 1995. He directed ORD's Office of Science, Planning and Regulatory Evaluation from 1988 to 1995. From 1985 to 1988, he was the Director of the Office of Health and Environmental Assessment. Prior to joining EPA, Dr. Preuss was Associate Executive Director for Health Sciences for the U.S. Consumer Product Safety Commission. Dr. Preuss began his career with the Boyce-Thompson Institute for Plant Research. He received Ph.D. and Master's degrees in plant physiology and biochemistry from Columbia University and a Bachelor's degree in chemistry and mathematics from Brooklyn College.



National Center for Environmental Research and Quality Assurance

Overview

NCERQA, located in Washington, DC, has primary responsibility to issue and manage research grant and fellowship programs. The center's programs are designed to expand the Environmental Protection Agency's science and technology base and the pool of qualified environmental professionals. The center also serves as EPA's focal point for issues on quality assurance, and peer review. NCERQA is comprised of four divisions: the Environmental Engineering Research Division; the Environmental Sciences Research Division; the Quality Assurance Division; and the Peer Review Division.

NCERQA is one of five field components of EPA's Office of Research and Development. NCERQA manages the components of the Science To Achieve Results (STAR) Program (grants and fellowships); the Environmental Research Centers Program; other centers, such as the Hazardous Substance Research Centers mandated by CERCLA; other Congressionally targeted centers; Early Career Awards; the Small Business Innovative Research Program and other assistance programs, including the American Association for the Advancement of Science — Environmental Science and Engineering Fellows Program; the Resident Research Associateship and Postdoctoral and Senior Research Awards Program; EPSCOR; the Culturally Diverse Institution Undergraduate Fellowship Program; the Culturally Diverse Institution Summer Internship Program; and the Cultural Diversity Academics Institution Program.

Mission

NCERQA was established to conduct (through grant, fellowship, center and other assistance programs) a high quality environmental research program focused on the Agency's critical science needs. The research program is designed to engage the

nation's best scientists from universities and non-profit centers to solve our environmental problems. The results from this research will provide a scientific foundation for the Agency to make sound environmental decisions and policies.

Environmental Engineering Research

The Environmental Engineering Research Division is responsible for planning, administering, and managing the following programs: grants for research projects and special topic research centers in the engineering disciplines relevant to public health and/or ecosystem protection; the Small Business Innovation Research (SBIR) Program; and coordination of ORD efforts in support of the EPA-wide Common Sense Initiative.

Environmental Sciences Research

The Environmental Sciences Research Division is responsible for planning, administering, and managing the following programs: grants for research projects and special topic research centers in the biological, physical and social sciences relevant to public health and/or ecosystem protection; undergraduate, graduate, and postdoctoral fellowships; the ORD-wide visiting scientists program; and the Hazardous Substance Research Centers.

Peer Review

The Peer Review Division is responsible for two functions: (1) the conduct of peer review for the Center's investigator-initiated research grants; applications for graduate fellowships; and applications for assistance to establish environmental research centers. (2) on a case by case basis conduct in-depth peer reviews of specific ORD and Agency projects.

National Center for Environmental Research and Quality Assurance (continued)

Quality Assurance

The Quality Assurance Division is responsible for policy and training development and oversight of implementation of the Agency-wide mandatory quality assurance (QA) program, applicable to all environmental measurement operations. The Division is also responsible for overseeing implementation of the Agency-wide policy for peer review of scientific and technical products. The Division develops Agency policies and procedures for planning, implementing, and assessing the effectiveness of the Agency-wide quality system, reviews quality management plans from all Agency organizations, performs periodic management assessments of the implementation of the quality management plans, and develops generic quality-related training programs. In addition, the Division conducts periodic management assessments of the implementation of peer review in programs, Regions, laboratories and centers, makes recommendations regarding improvements to the Agency's peer review policies, and develops generic training on the peer review policies and processes.

Science to Achieve Results

One of NCERQA's primary new research programs is the Science to Achieve Results (STAR) Program. The STAR Program was developed in response to several blue ribbon panel reviews to improve the quality of science used in EPA's decision making process. ORD developed STAR as a major component of its new risk-based Strategic Plan. STAR is designed to recruit and engage the participation of the nation's best scientists in the implementation of the Office of Research and Development's new research program. STAR is a three-part program:

1. Focused Requests for Applications (RFAs), targeting research topics that address the specific science needs of EPA;

2. Exploratory Research Grants Program, providing support for investigator-initiated grants in broad topical areas such as ecological effects of pollution;

3. Graduate Fellowships Program, supporting the development of the nation's scientific base dealing with environmental concerns into the next century.

4. Environmental Research Centers Program, includes competitively selected universities that focus on long-term, multi disciplinary issues of concern to EPA.

Relationship of the STAR Program to the ORD Strategic Plan

The ORD Strategic Plan defines new directions and goals for the Office of Research and Development's research by using a risk-based process to determine future research priorities. The STAR program is an important component of the new directions described in the Strategic Plan. It is a mechanism for accomplishing the research objectives in the plan. The STAR program is derived from the topic-specific research plans that are currently being developed from the ORD Strategic Plan. Each topic specific research plan, such as for particulates in air or for disinfection by-products in drinking water, describes the research that must be performed to provide the information that EPA policy makers need to make decisions. These research plans are written by EPA-wide work groups and undergo independent peer review. When the research plans are final, ORD then decides which work can best be accomplished with the skills and expertise of the intramural staff, and which research is best accomplished through grants or other mechanisms. The specific funding announcements known as Requests for Applications (RFAs) in the STAR Program are thus written to be consistent with the ORD Strategic Plan and topic specific research plans and to comple-

National Center for Environmental Research and Quality Assurance (continued)

ment the work done intramurally. The ORD Strategic Plan lists as high priority areas for research for the next few years:

- Drinking water disinfection
- Particulate matter in air
- Endocrine disrupters
- Ecosystem risk assessment
- Health risk assessment
- Pollution Prevention and new technologies

Other areas of high importance that will continue to be a major part of ORD's research program include:

- Air pollutants
- Indoor air
- Global change
- Drinking water (in addition to disinfection issues)
- Waste site risk characterization
- Waste management and site remediation

In each of these areas ORD is developing an extensive intramural research program and a complementary extramural program.

National Center for Environmental Research and Quality Assurance

Areas of Expertise

	Telephone	Areas of Expertise
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Office of the Director

Peter Preuss, Director	202-564-6825	
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Jack Puzak, Deputy Director	202-564-6825	
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Melinda McClanahan, Associate Director for Science	202-564-6851	
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Roger Cortesi, Peer Review Compliance Executive	202-564-6852	
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Robert Menzer, Senior Science Advisor	202-564-6849	
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Environmental Engineering Research Division

Stephen Lingle, Director	202-564-6820	
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Environmental Sciences Research Division

David Kleffman, Director	202-564-6840	
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Peer Review Division

Elizabeth Bryan, Director	202-564-6835	
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Quality Assurance Division

Nancy Wentworth, Director	202-564-6830	
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NCERQA Program Contacts

Gladys Anderson	202-564-6924	Resident Research Associateship Program
Clyde Bishop	202-564-6914	Exploratory research
Virginia Broadway	202-564-6923	Graduate fellowships
Roger Cortesi	202-564-6852	Peer review; protection of human research subjects; research misconduct
Jim Gallup	202-564-6823	SBIR
Deborah Hanlon	202-564-6836	Decision-making and valuation for environmental policy

(continued)

National Center for Environmental Research and Quality Assurance

Areas of Expertise

	Telephone	Areas of Expertise
Barbara Levinson	202-564-6911	Ecosystem restoration; ecosystem indicators; water and watersheds
Stephen A. Lingle	202-564-6820	Technology for a sustainable environment
Dale Manty	202-564-6922	Hazardous Substance Research Centers
Robert E. Menzer	202-564-6849	Bioremediation
Charles Mitchell	202-564-6921	EPSCOR
Karen Morehouse	202-564-6918	Environmental Research Centers and Special Topic Centers
Deran Pashayan	202-564-6913	Ambient air quality; health effects and exposures to particulate matter and associated air pollutants
David Reese	202-564-6919	Contaminated sediments; endocrine disruptors
Sheila Rosenthal	202-564-6916	Drinking water
Chris Saint	202-564-6909	Issues in human health risk assessment

INTERNET ADDRESS	www.epa.gov/ncerqa for online information regarding: Research Grant Opportunities Research Fellowship Opportunities Quality Assurance Documents Quality Assurance Training
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National Exposure Research Laboratory

Gary J. Foley, Director

Mailcode: MD-75

Research Triangle Park, NC 27711

Telephone: 919-541-2106

FAX: 919-541-0445

E-Mail: foley.gary@epamail.epa.gov

Gary J. Foley has been the director of the National Exposure Research Laboratory since April 1995. Dr. Foley was the Acting Assistant Administrator, Office of Research and Development, and has held other managerial positions in EPA in the Atmospheric Research and Exposure Assessment Laboratory, Environmental Monitoring Systems Laboratory, the Acid Deposition Research Program, and the Energy and Air Division of the Office of Environmental Processes and Effects Research. Dr. Foley has also held positions in the Office of Energy, Minerals, and Industry, the Organization for Economic Cooperation and Development, the Office of Energy Research, the Control Systems Laboratory, all within EPA, and the American Oil Company, Whiting, IN. Dr. Foley is the recipient of the Meritorious Executive Presidential Rank Award, four EPA Bronze Medals, four Special Achievement Awards, and the Medal for General Engineering Excellence, Manhattan College, New York. He received Doctoral and Master of Science degrees in chemical engineering from the University of Wisconsin. He received a Bachelor of Science degree from Manhattan College in New York.



National Exposure Research Laboratory

Mission

The National Exposure Research Laboratory (NERL) performs research to reduce causes of human and ecosystem exposures to harmful components in air, water, food, soil, sediment, and waste. The laboratory's goal is to provide exposure methods that represent state-of-the-art science. NERL scientists and engineers develop methods to predict human and ecosystem exposures to microbes, chemicals, and effects of physical disturbances. NERL characterizes mechanisms by which contaminants are transformed in the environment and develops mathematical expressions that describe these mechanisms to predict environmental concentrations. Included are models to predict and evaluate causes of exposures; methods to characterize stressors to sensitive ecoregions and atmospheric contaminant sources, transport, and flux; procedures to assess regional vulnerabilities resulting in human and ecosystem exposures; and high performance computing technology and algorithms to enhance visualization and modeling.

Research

With headquarters in Research Triangle Park, NC, NERL has six divisions in four locations: Athens, GA, Cincinnati, OH, Las Vegas, NV, and Research Triangle Park, NC. Personnel have expertise in biology, chemistry, computer science, ecology, engineering, environmental science, hydrology, mathematics, microbiology, physics, soil science, and statistics.

Researchers develop information to determine human and ecosystem exposure to detrimental environmental conditions. NERL concerns range from determining exposure of individuals to air contaminants to using computing algorithms to predict exposure of animals and plants to stressors. NERL scientists and engineers develop and apply technologies to enhance understanding of

the exposures resulting from interactions of natural and anthropogenic activities.

Human Exposure

NERL conducts research on which drinking water disinfection processes affect formation of harmful chemicals. Biotechnologists generate methods based on DNA hybridization probes and polymerase chain reaction (PCR) technology. Other scientists identify hazardous microorganisms. Research improves our understanding of how behavior and lifestyle affect human exposure to contaminants.

NERL scientists develop methods to quantify exposure to pesticides, toxic substances, and pathogenic microbes. Characterization of children's exposure is a concern because exposure may do more harm to a child than to an adult. Researchers evaluate exposures of farm families to pesticides. NERL participates in programs to study human exposure to pollutants.

NERL scientists develop procedures to determine the concentrations of particulate matter. NERL develops models to improve understanding of variability in particle characteristics and resulting exposures. Scientists study to develop methods to characterize airborne fine particles to which people are exposed, develop models to provide scientific knowledge required to determine the impacts of current regulations, and assess potential future environmental management needs.

Ecosystem Exposure

NERL conducts research to determine sources of stress to ecological resources. NERL engineers develop models to relate landscape composition and spatial relationships to ecological condition and resource sustainability. The goal is to develop an approach to maintaining the health and sustainability of ecological resources. NERL efforts address questions such as the fol-

National Exposure Research Laboratory (continued)

lowing: How are our land-use patterns affecting continued habitation? What plant or animal characteristics are indicative of current or future problems? How do natural weather patterns distribute pollutants and affect exposure? How do we determine which exposures are most important? Which chemical, physical, and biological measurements are most useful to define the condition of an ecological resource and predict and prevent harmful exposures? At what sites is monitoring needed and how often? What are the biological and chemical processes that affect toxic substances? What visualization techniques do we need to convey measurement and modeling results to broad audiences in understandable ways?

NERL conducts assessments of climate impacts on a region to rank various stressors in relative importance. For example, in the mid-Atlantic region of the U.S., NERL uses technologies to assess effects of climatic factors on ecological areas and the impacts on issues such as water quality. NERL engineers develop models to characterize landscape exposures at watershed scales, which is required to prevent impairment of ecological processes.

Other research addresses community problems. NERL develops models to study sources contributing to mercury exposure and bioaccumulation in the Florida Everglades and to predict the impacts of management and restoration strategies.

Human and Ecosystem Exposure

Endocrine Disruptors—NERL develops methods to measure contaminants that interfere with the endocrine system. These contaminants are called endocrine disrupting chemicals (EDCs). NERL characterizes their distribution in ecosystems and identifies the major environmental compartments in which they accumulate. Scientists use models to predict which chemicals are most likely to be of concern for endocrine dis-

ruption. NERL develops methods to improve approaches for predicting exposure.

Waste Site Characterization—NERL develops approaches to monitor pollutants and to determine soil and aquifer properties that may increase exposure to hazardous waste. Scientists use studies to determine the efficacy of processes to remediate land. NERL investigates enzyme systems in vegetation for their abilities to clean up sites. Engineers develop models to describe processes of chemical contaminants of concern. NERL uses geophysical techniques to detect waste discharges, locate waste disposal sites, identify erosion, assess air particulate problems, and monitor pollutants in soils and ground water.

Urban Toxics and Mobile Sources—NERL conducts research to assess the extent of exposures caused by toxic air pollutants in urban environments. Scientists measure emissions from motor vehicles and examine prototype vehicles and fuels to assess the potential exposure of emerging vehicle and alternative fuel technologies. Engineers develop tools to respond to legislation requiring characterization of residual exposure risks.

Chemical Characterization Research—NERL scientists provide data about chemical pollutant concentrations. The scientists develop screening methods to detect and measure chemical pollutants. Other characterization problems require NERL scientists to develop exposure assessment approaches.

Site Characterization Research in Support of Hazardous Waste—Characterizing contaminants and contaminant plumes in the subsurface/ground-water environment continues to be a complex aspect of Superfund site characterization. NERL research focuses on the development of surface-based, non-invasive geophysical technologies that quantify pollutants and provide information about subsurface hydrogeological and geochemical structures and properties that control pollutant distribution. Research in-

National Exposure Research Laboratory (continued)

cludes models that provide exposure and risk analysis, enable evaluation of the impact of stressors from multiple sources, and consider habitat loss and ecological and human demographics. NERL researchers study processes that affect organic pollutants in the subsurface.

High Performance Computing and Communications—Because most exposure assessment capabilities pertain to only one environmental medium, NERL researchers develop exposure assessment capabilities for local communities and regional planners to use when considering a range of local control options. The goal is to develop flexible environmental modeling and decision-making tools to support regional-scale multimedia risk assessment and risk management efforts. NERL systems analysts develop databases and computer graphics for visualization of information and computer output.

Superfund Innovative Technology Evaluation (SITE) Program—The SITE program demonstrates and gathers information on new, innovative technologies monitoring subsurface pollutants under real field conditions. SITE has demonstrated technologies that are used at Superfund sites today and have contributed to faster and cheaper cleanup.

Technical Support for Regulatory Programs—NERL scientists provide the information to implement environmental legislation and support statutorily mandated research programs and partnerships. NERL supports EPA's commitment to (1) multi-agency research efforts coordinated through the Committee on Earth and Natural Resources, (2) an international cooperative effort to ensure comparability of data gathered by federal agencies to monitor UV flux and stratospheric ozone concentrations, and (3) the development of international standards for UV monitoring. NERL measures fluxes of UV-B radiation at the earth's

surface and publishes a public information index of potential exposure to UV-B. Other global change studies include investigation of farm production management systems that hold carbon in the soil, thus reducing the buildup of greenhouse gases, and characterization of boreal forest and atmosphere interactions that affect global buildup of greenhouse gases. NERL scientists develop analytical methods to determine compliance with environmental regulations. To support promulgated regulations, they provide quality assurance manuals and guidelines, quality control and performance evaluation samples, and calibration standards and conduct audits of state certified radiochemistry laboratories. To ensure that laboratories using Agency methods are providing data of acceptable quality, NERL designs and conducts laboratory performance evaluation studies. Researchers study the precision and bias of the Agency's selected analytical methods and evaluate the acceptability of methods proposed for use in lieu of Agency-approved methods.

NERL scientists and engineers provide regional office personnel with monitoring and site assessment expertise. NERL provides help in sampling and monitoring design; remote sensing, mapping, and geostatistics; borehole and surface geophysics; field portable X-ray fluorescence field determinations; and mixed waste and radiological analyses. NERL aids in monitoring and provides environmental assistance to the Regions and Program Offices through several support activities. The Center for Exposure Assessment Modeling distributes and supports a variety of exposure and fate models for users throughout the world. The Environmental Photographic Interpretation Center provides remote sensing technical support. The Technical Support Center provides analytical methods, quality assurance, survey design and geostatistics, surface and subsurface characterization, and sampling.

National Exposure Research Laboratory

Areas of Expertise

	Telephone	Areas of Expertise
<i>Office of the Director</i>		
Gary Foley, Director	919-541-2106	
Tom Clark, Deputy Director	919-541-2107	
<i>Associate Laboratory Directors</i>		
Judy Graham	919-541-0349	Human exposure
Rick Linthurst	919-541-4909	Ecosystem exposure
<i>Assistant Laboratory Directors</i>		
Tom Barnwell	706-355-8441	Research crossing traditional media (Athens, GA) boundaries
Bruce Mintz	919-541-0272	Water research (RTP, NC))
Dale Pahl	919-541-1851	Research crossing traditional media (RTP, NC) boundaries
Gareth Pearson	702-798-2101	Hazardous waste research (Las Vegas, NV)
Chuck Steen	706-355-8442	Pesticides/toxic substances research (Athens, GA)
Jim Vickery	919-541-2184	Air research (RTP, NC)
Atmospheric Modeling Division		
Mail Drop 80 Research Triangle Park, NC 27711		
Frank Schiermeier, Director	919-541-4542	Air quality modeling; air pollution meteorology
<i>Applied Modeling Branch</i>		
Bill Petersen, Chief	919-541-1376	Human exposure modeling; fluid modeling simulations; criteria pollutant modeling; pesticides spray drift modeling; endocrine disruptor modeling
<i>Atmospheric Model Development Branch</i>		
Jason Ching, Chief	919-541-4801	Regional transport and fate; ozone and particulate modeling; ecosystem exposure modeling; toxics transport/deposition modeling; boundary layer flux measurements
<i>Fluid Modeling Branch</i>		
Vacant Chief	919-541-1199	Fluid modeling of pollutant dispersion under all atmospheric conditions and over and around all types of complex rural and urban terrains and surfaces; dispersion and exposure in microenvironments; pollutant deposition and resuspension

National Exposure Research Laboratory

Areas of Expertise (continued)

	Telephone	Areas of Expertise
<i>Modeling Systems Analysis Branch</i>		
Joan Novak, Chief	919-541-4545	High performance computing; scientific visualization; multimedia model development; pollutant emission methods
Environmental Sciences Division		
PO Box 93478 Las Vegas, NV 89193-3478		
John Moore, Acting Director	702-798-2525	Systems engineering; systems analysis
<i>Characterization and Monitoring Branch</i>		
Jane Denne, Acting Chief	702-798-2655	Subsurface characterization and monitoring methods, hydrogeology and water quality
<i>Environmental Chemistry Branch</i>		
Christian Daughton, Acting Chief	702-798-2207	Analytical chemistry; human exposure; earth sciences
<i>Landscape Characterization Branch - RTP</i>		
Miriam Rodon-Naveira, Acting Chief	919-541-3075	Human and ecosystem exposure study design, implementation, and interpretation
<i>Landscape Ecology Branch</i>		
Bob Schonbrod, Acting Chief	702-798-2229	Ecosystem monitoring; landscape science; remote sensing
Human Exposure and Atmospheric Sciences Division		
Mail Drop 77 Research Triangle Park, NC 27711		
Larry Cupitt, Director	919-541-2454	Atmospheric chemistry
Deborah Mangis, Acting Deputy Director	919-541-3086	Air pollution lifetimes and fate; physics of particulate pollutants; particle-bound pollutants chemistry and fate; chemical reactions and products; pollutant deposition
<i>Atmospheric Chemistry and Physics Branch</i>		
Jack H. Shreffler Acting Chief	919-541-2194	Interpretation and statistical analysis of air pollution and meteorological data, including PAMS, hydrocarbon particulate matter and ozone data
<i>Atmospheric Methods and Monitoring Branch</i>		
Russel W. Wiener, Acting Chief	919-541-1404	Aerosol technology; air pollution occupational and community hygiene

(continued)

National Exposure Research Laboratory

Areas of Expertise (continued)

Telephone	Areas of Expertise
<i>Exposure Methods and Monitoring Branch</i> Andrew E. Bond, 919-541-4329 Chief	Standards and systems to control and assure air monitoring data quality; Federal Reference Methods equivalency testing; National Performance Audit Program; Stationary Source Compliance Audit Program; data audits
<i>Human Exposure Analysis Branch</i> Ross V. Highsmith, 919-541-7828 Chief	Methods and protocols to measure toxic and hazardous air pollutants, ozone, volatile organic compounds, nitrogen oxides, automobile and stationary source emissions; removal/passive/microenvironmental methods
<i>Human Exposure Research Branch</i> Jerry N. Blancato, 702-798-2456 Acting Chief	Physiologically-based pharmacokinetic modeling as used in Exposure, Dose and Risk Assessments; risk assessment; exposure assessment; pathophysiology; biomarkers of human exposure
<i>Source Apportionment and Characterization Branch</i> Barry Martin, 919-541-4386 Chief	Air monitoring research; air sampling and implementation; acid deposition sampling design; aerosol exposure research
Ecological Exposure Research Division Mail Drop 591 Cincinnati, OH 45268	
Kate Smith, 513-569-7577 Director	Aquatic indicators
<i>Ecosystem Research Branch</i> Susan Cormier, Chief 513-569-7995	Stream ecology; macroinvertebrate ecology and taxonomy; fish ecology and taxonomy; field methods; source and stressor diagnostics; aquatic botany; diatoms in plankton and periphyton
<i>Molecular Ecology Research Branch</i> Greg Toth, Chief 513-569-7242	Indicators and biomarkers of exposure to fish and wildlife; molecular and cellular indicators; genetic indicators; biochemical indicators; toxicity indicators

(continued)

National Exposure Research Laboratory

Areas of Expertise (continued)

	Telephone	Areas of Expertise
<i>National Water Quality Assurance Programs Branch</i>		
Ray Wesselman, Acting Chief	513-569-7197	Laboratory performance evaluation studies for chemical and microbial contaminants in water; pesticide repository activities; alternative test procedures for water; drinking water laboratory certification; interlaboratory method validation studies
Ecosystems Research Division		
960 College Station Road Athens, GA 30605-2700		
Rosemarie Russo, Director	706-355-8001	Ammonia and nitrite pollution; environmental chemistry of metals; ecological risk assessment; aquatic toxicology; inorganic chemistry
<i>Ecosystems Assessment Branch</i>		
Harvey Holm, Chief	706-355-8100	Global climate change; microbial ecology; chemical bioaccumulation modeling; pesticide spray drift modeling; aquatic biology; aquatic exposure-effects modeling; microbial biotransformation processes; pesticide field sampling; biological pharmacokinetics; environmental photochemistry; watershed/ regional ecoassessment methods
<i>Processes and Modeling Branch</i>		
Dave Brown, Chief	706-355-8200	Metals speciation; metal-humic interactions; metal-organics sorption modeling; soil chemistry; molecular spectroscopy; pollutant fate pathway analysis; anaerobic microbiology; sediment transport; hydrodynamics; phytotransformation of organics
<i>Regulatory Support Branch</i>		
Bob Carsel, Chief	706-355-8300	Multimedia pollutant modeling; contaminated sediment processes; endocrine disruptors; computational chemistry; drinking water disinfection byproduct formation/ identification; partition coefficients and abiotic reaction rates
Microbiological and Chemical Exposure Assessment Research Division		
Mail Drop 592 Cincinnati, OH 45268		
Al Dufour, Director	513-569-7303	Microbial risk assessment

(continued)

National Exposure Research Laboratory

Areas of Expertise (continued)

Telephone		Areas of Expertise
<i>Biohazard Assessment Research Branch</i>		
Bob Safferman, Chief	513-569-7334	Waterborne viral and protozoan pathogens
<i>Chemical Exposure Research Branch</i>		
Tom Behymer, Chief	513-569-7392	Drinking water chemistry; dietary exposures
<i>Microbial Exposure Research Branch</i>		
Gerry Stelma, Chief	513-569-7384	Microbial water quality; waterborne bacterial pathogens

National Health and Environmental Effects Research Laboratory

Lawrence W. Reiter, Director

Mailcode: MD-51

Research Triangle Park, NC 27711

Telephone: 919-541-2281

FAX: 919-541-4324

E-Mail: REITER.LARRY@epamail.epa.gov

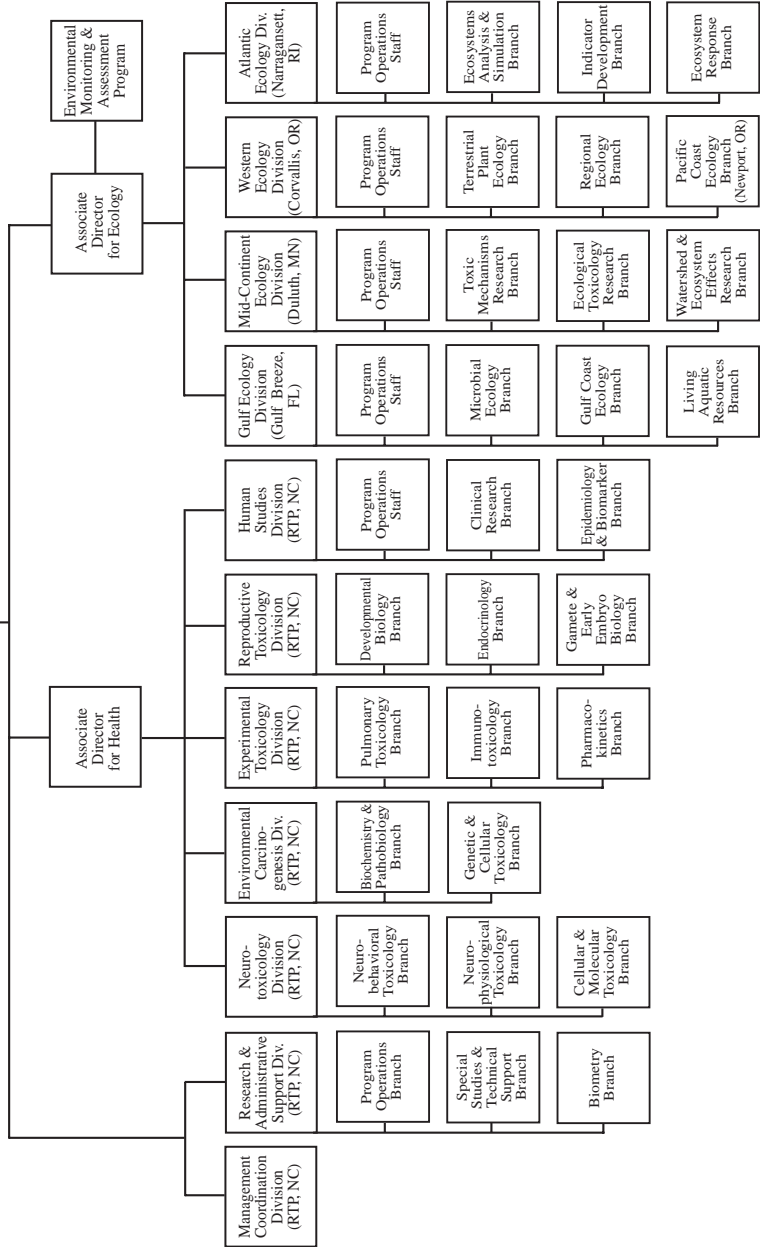
Lawrence W. Reiter has been the Director of the National Health and Environmental Effects Research Laboratory since 1995. Dr. Reiter joined the EPA Health Effects Research Laboratory (HERL) in 1973. He served as the Director of the Neurotoxicology Division from 1978 through 1988 and Director of HERL from 1988-1995. Dr. Reiter is the recipient of a number of awards including the Presidential Meritorious Rank Award for Sustained Superior Accomplishment and the EPA Bronze Medal for his efforts in centralizing the neurotoxicology research program for the Agency. He has served on the editorial boards for a number of toxicology journals, held adjunct appointments in toxicology at several universities, served on numerous advisory panels, both within EPA as well as in the scientific community, and has held elected positions in national scientific organizations. He earned his Ph.D. degree in neuropharmacology from the University of Kansas Medical Center in Kansas City. Before joining EPA as research pharmacologist, Dr. Reiter was a post-doctoral fellow and lecturer in environmental toxicology at the University of California-Davis.

National Health and
Environmental Effects
Research Laboratory

Director

Deputy Director for Management

Assistant Laboratory Directors



National Health and Environmental Effects Research Laboratory

The National Health and Environmental Effects Research Laboratory (NHEERL) is the Agency's focal point for scientific research on the effects of contaminants and environmental stressors on human health and ecosystem integrity. Its research helps the Agency understand the processes that cause pollution and evaluate the risks that pollution poses to humans and ecosystems. The impact of its efforts is felt beyond the Agency as well, enabling state and local governments to implement more effective environmental programs, assisting the industrial sector in setting and achieving environmental goals, and informing international governments and organizations in issues of environmental importance.

NHEERL's primary function is to conduct research that supports the Agency's mandate, which includes statutory obligations. Its more singular role is to improve the Agency's ability to assess health and ecological risk by strengthening the scientific basis for risk assessment. To fulfill its responsibilities, NHEERL maintains a focused, yet diversified, research program that works to reduce the uncertainties inherent in regulatory risk assessment. These uncertainties range from fundamental scientific questions, requiring the discipline of a sustained research strategy, to Congressionally mandated investigations, demanding immediate response.

Accordingly, NHEERL addresses both long-term and short term studies, combining elements of both basic and applied sciences to provide many research capabilities. NHEERL's long-term studies confront persistent and difficult issues, such as global climate change, or the relationship between airborne particles and increased rates of respiratory illness. Its short-term projects are shaped by more pressing imperative; for example, when complaints of illness coincided with the use of oxygenated gasoline in certain regions of the country,

NHEERL quickly initiated studies of a fuel additive suspected of causing the adverse effects. Coordination of these capabilities enables NHEERL to respond in a timely and comprehensive manner to divergent Agency needs. NHEERL sustains a program that offers skills in many areas while retaining flexibility to adapt to changing priorities.

NHEERL has organized a cadre of nationally and internationally recognized scientific experts who pioneer solutions to environmental problems, provide leadership and guidance to the scientific community, and lend technical advice in national and international settings, often in crisis situations. On issues ranging from disaster response, e.g., the Exxon Valdez oil spill, to evaluations of health and ecological effects, e.g., the toxicity of endocrine disruptors, to risk assessment, e.g., the dioxin reassessment, NHEERL scientists provide information essential to decision making. To augment its in-house efforts, NHEERL administers an extramural program through cooperative agreements, contracts, and interagency agreements that draws on the expertise of researchers in academia, industry, and government organizations. These efforts produce objective, reliable data that provide the scientific foundation for the Agency's risk assessments and assist in resolving the most complex environmental issues.

NHEERL's commitment to advance knowledge surrounding the effects of contaminants and other stressors on human health and ecosystem vitality stems from a clear mission. The mission statement, described below, embraces three goals. Pursuit of these goals enables NHEERL to secure and expand its position as a premier environmental research institution.

NHEERL's mission is to perform high quality, peer reviewed, effects-based research that improves the Agency's ability

National Health and Environmental Effects Research Laboratory (continued)

to make decisions about health and ecological risk; to improve leadership in the area of environmental science; and to provide scientific and technical assistance at local, state, regional, national, and international levels.

NHEERL accomplishes its mission through the integrated activity of nine research divisions, five of which focus on human health issues and four of which focus on ecological issues. The health divisions are centrally located in Research Triangle Park, NC, while the ecology divisions are strategically situated in ecologically distinct geographic regions across the U.S. In addition to the nine research divisions, NHEERL also directs the Environmental Monitoring and Assessment Program (EMAP). EMAP activities cut across the ecology divisions and include designing a comprehensive environmental research and monitoring program.

The following are examples of NHEERL research:

- *Ecosystem Health and Integrity*: Developed an innovative device for characterizing and predicting the entrainment of sediments. Demonstrated nutrient inputs and cycling with respect to nitrogen and phosphorus in the Chesapeake Bay and selected tributaries.
- *Microbial Ecology*: Developed method to estimate level of expression of *merA* gene in environments. Developed monoclonal antibody technique to help track organisms that degrade trichloroethylene. Advanced knowledge of effects of mixtures of hazardous chemicals.
- *Chemical Mixtures and Multiple Stressors*: Developed and evaluated methods for measuring contaminants in sediment interstitial water. Evaluated the role of acid volatile sulfide (AVS) in binding with metals in sediments.
- *Risk Assessment*: Developed method for characterizing risk of tropospheric ozone to regional vegetation in the U.S. Characterized risk of global climate change to forests and forest production.
- *Hazard Assessment*: Quantified and related PAY-DNA adducts (biomarkers) in rodent tissue to tumorigenic potential in terms of time course and dose relationships. Synthesized and chemically characterized DNA adduct standards for alachlor herbicide. Performed research to advance understanding and interpretation of structure-activity relationship-based approaches, bacterial mutation assays, *in vitro* mammalian assays, and cytogenetic assays.
- *Dose Response Relationships*: Developed method using ^{18}O to derive data to assess species-dependent dosimetry of ozone and trace the product of its oxidant interaction with biological material. Demonstrated through mechanistic studies that the difference in rat and human sensitivity is due to clinical conditions (exercise during sampling) and that under similar conditions remarkable homology of response exists between humans and animals over a range of concentrations and durations.
- *Biologically Based Dose Response Models*: Developed model that predicts the proportion of individuals responding adversely to ozone exposure as a function of ozone concentration and exposure duration. Validated the immortalized human airway epithelial cell line BEAS23 for use in studies of air pollutants.

National Health and Environmental Effects Research Laboratory (continued)

- *Hazard Identification:* Developed animal models to evaluate chemicals for their effects on cognitive function. Developed procedures for assessing sensory function in studies involving humans exposed to environmental chemicals.
- *Endocrine Disruption:* Developed surgically induced model of endometriosis in mice. Demonstrated that metabolites of vinclozolin inhibit binding of androgen to DNA response elements. Characterized expression patterns for Ah receptor and ARNT in human embryonic palate shelves.

National Health and Environmental Effects Research Laboratory

Areas of Expertise

	Telephone	Areas of Expertise
<i>Office of the Director</i>		
Lawrence W. Reiter, Director	919-541-2281	Environmental health and neurotoxicology
<i>Research Planning and Coordination Team</i>		
Robert S. Dyer	919-541-2760	Strategic planning
John J. Vandenberg	919-541-4527	Health and ecological effects of air pollutants
Fred S. Hauch	919-541-3893	Health and ecological effects of water pollutants
Virginia Houk	919-541-2815	Automation of mutagenicity assays
Sue R. McMaster	919-541-3844	Health and ecological effects of pesticides and toxics
Jennifer Orme Zavaleta	919-541-3558	Risk assessments/risk characterization
John J. Vandenberg	919-541-4527	Health and ecological effects of air pollutants
Michael D. Waters	919-541-2537	International research activities
<i>Office of the Associate Director for Health</i>		
Harold Zenick, Associate Director	919-541-2283	Noncancer risk assessment with special emphasis on reproductive risk assessment; environmental justice; U.S.-Mexico border environmental health
Joe A. Elder	919-541-2542	Radio frequency (RF) radiation; electric and magnetic fields
Environmental Carcinogenesis Division		
Larry D. Claxton, Director	919-541-2329	Cancer research; complex mixtures
<i>Biochemistry and Pathology Branch</i>		
Stephen Nesnow, Chief	919-541-3847	Carcinogenicity mechanisms
Carl Blackman	919-541-2543	Cellular communication
Anthony DeAngelo	919-541-2568	Whole animal carcinogenicity
Leon King	919-541-0720	DNA adducts; nitroarene metabolism
Kirk Kitchin	919-541-7502	Biochemistry
Marc Mass	919-541-3514	Oncogenes
James Rabinowitz	919-541-5714	Computational chemistry
Ann Richard	919-541-3934	Structure activity relationships (SAR) and carcinogenicity
Jeffery Ross	919-541-2974	DNA adducts and polycyclic aromatic hydrocarbons (PAHs)

(continued)

National Health and Environmental Effects Research Laboratory

Areas of Expertise (continued)

	Telephone	Areas of Expertise
<i>Genetic and Cellular Toxicology Branch</i>		
Martha Moore, Chief	919-541-3933	Genotoxicity
James Allen	919-541-4778	Cytogenetics
Karen Brock	919-541-3080	Genotoxicity
David DeMarini	919-541-1510	Mutation spectra
James Fuscoe	919-541-3918	Molecular mechanism of carcinogenicity
Susan George	919-541-5036	Gastrointestinal and pulmonary tract toxicology
Andrew Kligerman	919-541-4254	Cytogenetics
Experimental Toxicology Division		
Linda S. Birnbaum, Director	919-541-2655	Pharmacokinetics; toxicology
<i>Pulmonary Toxicology Branch</i>		
Daniel L. Costa, Chief	919-541-2655	Pulmonary toxicology; physiology
Kevin L. Dreher	919-541-3691	Molecular and cellular biology; pulmonary inflammation and fibrosis; pulmonary adaptation to environmental injury; transgenic animal models
Jan A. Dye	919-541-0678	Pulmonary cell biology; pulmonary medicine and infectious disease syndromes; pulmonary function testing
Stephen H. Gavett	919-541-2555	Assessment of airway reactivity; cytokine regulation of inflammatory responses and influence on physiology; allergy and asthma; inhalation exposure systems and technology
Gary E. Hatch	919-541-2658	Age/diet susceptibility; oxidative injury; antioxidant defenses; biochemical toxicology
Urmila P. Kodavanti	919-541-4963	Nucleic acid isolation; polymerase chain reaction (PCR); western blotting; immunohistochemistry
Ted B. Martonen	919-541-7875	Aerosol science
John H. Overton	919-541-5715	Mathematical/computer modeling
William P. Watkinson	919-541-4018	Rodent electrocardiography; mammalian thermoregulation; radiotelemetry methodology
Jean M. Wiester	919-541-7738	Pulmonary toxicology; physiology (continued)

National Health and Environmental Effects Research Laboratory

Areas of Expertise (continued)

	Telephone	Areas of Expertise
<i>Pharmacokinetics Branch</i>		
James D. McKinney, Chief	919-541-1498	Molecular toxicology
John W. Allis	919-541-2632	Chemistry; biochemical toxicology
Mike J. DeVito	919-541-0061	Toxicology; pharmacokinetics; halogenated aromatic hydrocarbons
Janet J. Diliberto	919-541-7921	Toxicology; pharmacokinetics; dioxins and related compounds
Marina V. Evans	919-541-0838	Pharmacokinetics modeling; sensitivity analysis
Larry L. Hall	919-541-2774	Pharmacology; toxicology
Mike F. Hughes	919-541-2160	Toxicology; drug metabolism
Elaina M. Kenyon	919-541-0043	Toxicology and benzene
Rex A. Pegram	919-541-0410	Toxicology; pharmacokinetics; drinking water; disinfection byproducts
Jane Ellen Simmons	919-541-7829	Mixtures/interaction toxicology
David J. Thomas	919-541-4974	Metals/biochemical toxicology
<i>Immunotoxicology Branch</i>		
MaryJane Selgrade, Chief	919-541-2657	Immunotoxicology
Robert W. Luebke	919-541-3672	Immunotoxicology; parasitology
Lisa K. Ryan	919-541-2592	Endotoxin; air pollutant particulates; UV light; cytokines; macrophage; biology; influenza; host defense mechanisms; pulmonary immunology
Denise M. Sailstad	919-541-2545	Contact hypersensitivity; ultraviolet radiation effects; enzyme-linked immunosorbent assay (ELISA) development; immunotoxicology
Ralph J. Smialowicz	919-541-5776	Immunotoxicology; immunology; bacteriology
Human Studies Division		
<i>Office of the Director</i> Hillel Koren, Director	919-966-6200	Respiratory human disease; controlled exposure studies
George Goldstein	919-966-6204	Measurement of eye irritation

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National Health and Environmental Effects Research Laboratory

Areas of Expertise (continued)

	Telephone	Areas of Expertise
John Kinsey	919-966-6209	Engineering related to environmental pollutant exposure in both ambient and clinical settings; particle physics, deposition and concentration
Elston Seal	919-966-6217	Environmental medicine; response of sensitive populations to air pollutants; human research subjects; human right ethics
<i>Clinical Research Branch</i>		
Robert Devlin, Acting Chief	919-966-6255	Molecular biology; pulmonary injury
Vernon Benignus	919-966-6242	Neurotoxicology; human exposures; modeling
Howard Kehrl	919-966-6208	Pulmonary medicine; asthma; airway reactivity; sensitive subpopulations; inhalation toxicology; multiple chemical sensitivity
Chong Kim	919-966-5049	Deposition of gases and particles in human lung; clearance of gases and particles from human lung
Bill McDonnell	919-966-6220	Ozone exposure health effects
Mike Madden	919-966-6257	Cell biology related to reactive oxygen species generation; lipid metabolism; DNA damage; human physiology related to air pollution toxicology, primarily ozone, air toxics, and PM ₁₀
David Otto	919-966-6226	Neurotoxicity testing of children and adults; lead exposure health assessment; indoor air pollutant health assessment
<i>Epidemiology and Biomarkers Branch</i>		
Rebecca Calderon, Acting Chief	919-966-0617	Epidemiology; drinking water; infectious disease
Dina Schreinemachers	919-966-5875	Statistical analysis of data from epidemiological studies
Neurotoxicology Division		
Hugh A. Tilson, Director	919-541-2671	Developmental neurotoxicology; polychlorinated biphenyls (PCBs)
<i>Neurobehavioral Toxicology Branch</i>		
Robert MacPhail, Chief	919-541-7833	Behavioral toxicology; pesticides
Philip Bushnell	919-541-7747	Attention; cognition; solvents
Kevin Crofton	919-541-2672	Auditory function; solvents; PCBs

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National Health and Environmental Effects Research Laboratory

Areas of Expertise (continued)

	Telephone	Areas of Expertise
Chris Gordon	919-541-1509	Thermoregulation; pesticides
Virginia Moser	919-541-5075	Behavioral screening; pesticides
Mark Stanton	919-541-7783	Developmental neurotoxicology
<i>Neurophysiological Toxicology Branch</i>		
William Boyes, Chief	919-541-7538	Sensory function; solvents, pesticides
David Herr	919-541-0380	Vision; solvents
Kenneth Hudnell	919-541-7866	Sensory function, humans
Tim Shafer	919-541-0647	Channel function; metals
<i>Cellular and Molecular Toxicology Branch</i>		
Hugh Tilson, Acting Chief	919-541-2671	Developmental neurotoxicology; PCBs
Stanley Barone	919-541-3916	Developmental neuroanatomy; CH ₃ Hg
Karl Jensen	919-541-1560	Neuroanatomy; pesticides
William Mundy	919-541-7725	Neurochemistry; metals
Stephanie Padilla	919-541-3956	Neurochemistry; cholinesterase inhibitors
Prasada Kodavanti	919-541-7584	Neurochemistry; calcium; PCBs
Bellina Veronesi	919-541-5780	Neuroimmunology
Research and Administrative Support Division		
Barry Howard, Acting Director	919-541-2729	
<i>Biometry Branch</i>		
John Creason	919-541-2598	Biostatistics
Don Doerfler	919-541-7741	Biostatistics
Dennis House	919-541-2389	Biostatistics
Jerry Highfill	919-541-4068	Biostatistics
Judith Schmid	919-541-0486	Biostatistics
Woodrow Setzer	919-541-0128	Biostatistics
<i>Special Studies and Technical Support Branch</i>		
Richard Linko	919-541-4279	Laboratory animal resources
Michael Ray	919-966-0625	Quality assurance (QA) for clinical research; environmental pollutant exposures
<i>Federal Technology Transfer Act / National Technology Transfer and Advancement Act Agreements</i>		
Ron Rogers	919-541-2370	Technology transfer coordinator

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National Health and Environmental Effects Research Laboratory

Areas of Expertise (continued)

	Telephone	Areas of Expertise
MaryJane Selgrade	919-541-2657	Development of polyclonal antibodies to rat cytokines
Ralph Cooper	919-541-4084	Development of methods to evaluate herbicide effects on endocrine and reproductive function
Reproductive Toxicology Division		
<i>Office of the Director</i>		
Robert J. Kavlock, Director	919-541-2326	Developmental biology; endocrine disruptors
<i>Development Biology Branch</i>		
John M. Rogers, Chief	919-541-5177	Developmental toxicity
Barbara Abbott	919-541-2753	Developmental toxicity of dioxin
James Andrews	919-541-2487	<i>In vitro</i> teratology
Neil Chernoff	919-541-2651	Teratology
Frank Copeland	919-541-2678	Metabolism
Phil Hartig	919-541-0492	Molecular biology
Sid Hunter	919-541-3490	Mechanism of teratogenicity
Clint Kawanishi	919-541-7965	Molecular biology
Ed Massaro	919-541-3177	Mechanisms of cytotoxicity
Leonard Mole	919-541-2680	Analytical chemistry
<i>Endocrinology Branch</i>		
Ralph Cooper, Chief	919-541-4084	Neuroendocrinology
Audrey Cummings	919-541-5194	Pregnancy and uterine function
Jerome Goldman	919-541-2320	Hormonal control of ovulation
Earl L. Gray	919-541-7750	Developmental reproductive toxicity
William Kelce	919-541-1580	Steroid receptor biochemistry
Chris Lau	919-541-5097	Mechanisms of developmental toxicity
Susan Laws	919-541-0173	Receptor biochemistry
Mike Narotsky	919-541-0591	Developmental toxicology; hormonal control of pregnancy
<i>Gamete and Early Embryo Biology Branch</i>		
Sally Darney, Chief	919-541-3826	Gamete biology
David Dix	919-541-2701	Stress proteins
Ken Elstein	919-541-3581	Flow cytometry

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National Health and Environmental Effects Research Laboratory

Areas of Expertise (continued)

	Telephone	Areas of Expertise
Gary Held	919-541-0286	Molecular biology
Gary Klinefelter	919-541-5779	Reproductive biology/toxicology
Jeff Welch	919-541-0513	Reproductive biology; spermatogenesis
Robert Zucker	919-541-1585	Flow cytometry
<i>Office of the Associate Director for Ecology</i>		
Gilman Veith, Associate Director	919-541-4130	Structure-activity relationships
Shabeg Sandhu	919-541-3850	Ecogenetic toxicology; population genetics
Laura Jackson	919-541-3088	Ecological indicators; landscape analyses; EMAP
Atlantic Ecology Division		
Norman Rubinstein, Acting Director	401-782-3001	Ecological risk assessments; EMAP; dredge material disposal assessment; bioavailability, bioaccumulation, biomagnification, and fate and transport of contaminants
<i>Ecosystem Response Branch</i>		
Barbara Brown, Acting Chief	401-782-3088	Ecological risk assessments; EMAP; mid- Atlantic integrated assessment (MAIA)
Sandra Baksi	401-782-3076	Indicators of reproductive effects; biological effects of contaminants
Dan Campbell	401-782-3195	Risk assessments/risk characterization
George Gardner	401-782-3036	Marine histopathology; biological effects of contaminants
Romona Haebler	401-782-3095	Biomonitoring: marine mammals
Steve Hale	401-782-3048	Biomonitoring: Near Coastal Environmental Monitoring and Assessment Program
Darryl Keith	401-782-3135	Design and implementation of marine and estuarine monitoring programs; dredge materials disposal assessment; biomonitoring; Near Coastal EMAP
Suzanne Lussier	401-782-3157	Marine water quality criteria; biological effects of contaminants; water quality toxicity based methods
Wayne Munns	401-782-3017	Risk assessments/risk characterization
Diane Nacci	401-782-3143	Indicators of reproductive effects; biological effects of contaminants

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National Health and Environmental Effects Research Laboratory

Areas of Expertise (continued)

	Telephone	Areas of Expertise
John Paul	401-782-3037	Ecological risk assessments; EMAP; mid-Atlantic integrated assessment (MAIA); risk assessments/risk characterization; design and implementation of marine and estuarine monitoring programs
Charles Strobel	401-782-3180	Design and implementation of marine and estuarine monitoring programs
Mark Tagliabue	401-782-3181	Biomonitoring: marine organism culture
<i>Ecosystems Analysis and Simulation Branch</i>		
Steve Schimmel, Acting Chief	401-782-3078	Biomonitoring: Near Coastal Environmental Monitoring and Assessment Program
Mohamed Abdelrhman	401-782-3182	Marine/estuarine modeling
Ed Dettmann	401-782-3039	Marine/estuarine modeling
William Nelson	401-782-3053	Marine Superfund site assessments; biomonitoring, e.g., National Pollutant Discharge Elimination System (NPDES)
Ken Perez	401-782-3052	Near coastal and estuarine resiliency/recovery
Rich Pruell	401-782-3091	Marine analytical chemistry methods; bioavailability, bioaccumulation, biomagnification, and fate and transport of contaminants
Glen Thursby	401-782-3178	Marine water quality criteria; biological effects of contaminants; biomonitoring: marine algae/plants
Hal Walker	401-782-3134	Ecological effects of global warming
<i>Indicator Development Branch</i>		
Jonathan Garber, Acting Chief	401-782-3154	Biomonitoring: eutrophication
Walter Berry	401-782-3101	Marine sediment quality criteria; biological effects of contaminants; dredge materials disposal assessment
Warren Boothman	401-782-3161	Marine analytical chemistry methods
Don Cobb	401-782-9616	Marine analytical chemistry methods
Kay Ho	401-782-3196	Water quality toxicity based methods; biological effects of contaminants; sediment toxicity identification and evaluation (TIE)

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National Health and Environmental Effects Research Laboratory

Areas of Expertise (continued)

	Telephone	Areas of Expertise
Jim Lake	401-782-3173	Bioavailability, bioaccumulation, biomagnification, and fate and transport of contaminants
<i>Program Operations Staff</i>		
Brian Melzian	401-782-3188	Design and implementation of marine and estuarine monitoring programs; dredge materials disposal assessment; biomonitoring: Near Coastal Environmental Monitoring and Assessment Program
Gulf Ecology Division		
<i>Office of the Director</i>		
Foster L. Mayer, Acting Director	850-934-9208	Aquatic toxicology/biomarkers
Raymond G. Wilhour	850-934-9213	Plant pathology/ecology
James C. Moore	850-934-9236	Environmental chemistry
I.C. Gunsalus	850-934-9389	Biochemistry/oxygenases
<i>Gulf Coastal Ecology Branch</i>		
J. Kevin Summers, Chief	850-934-9244	Systems ecology/estuarine ecology; statistics
William P. Davis	850-934-9312	Tropical ecosystems/systematics; global climate
David A. Flemer	850-934-9253	Estuarine ecology/nutrient and contaminant effects
Larry R. Goodman	850-934-9205	Aquatic toxicology/dissolved oxygen criteria
Michael J. Hemmer	850-934-9243	Environmental toxicology/biomarker development
Emile M. Lores	850-934-9238	Marine ecology/bioavailability and effects of chemicals
John M. Macauley	850-934-9353	Estuarine ecology/wetlands and submerged aquatic vegetation
<i>Living Aquatic Resources Branch</i>		
Michael A. Lewis, Chief	850-934-9382	Environmental toxicology/hazard assessment
Geraldine Cripe	850-934-9233	Marine/estuarine toxicology
Carol B. Daniels	850-934-9329	Ecotoxicology/molecular toxicology; cytogenetics
William S. Fisher	850-934-9394	Marine and estuarine organisms; bioindicators of environmental stress

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National Health and Environmental Effects Research Laboratory

Areas of Expertise (continued)

	Telephone	Areas of Expertise
Leroy C. Folmar	850-934-9207	Environmental toxicology/molecular biomarker development
John W. Fournie	850-934-9272	Toxicologic pathology and development of histopathological endpoints of fish health
Charles L. McKenney	850-934-9311	Environmental physiology; environmental toxicology
Wilhelm P. Schoor	850-934-9276	Environmental chemistry/molecular interactions between pesticides and enzyme systems
David E. Weber	850-934-9245	Environmental biology/plant toxicology
<i>Microbial Ecology Branch</i>		
John E. Rogers, Acting Chief	850-934-9326	Anaerobic microbial ecology
Peter J. Chapman	850-934-9261	Environmental biochemistry; environmental microbiology
C. Richard Cripe	850-934-9340	Aquatic toxicology
Richard Devereux	850-934-9346	Microbial phylogenetics/ecology
Richard W. Eaton	850-934-9345	Biochemistry/ bacterial genetics
Fred J. Genthner	850-934-9342	Pathobiology of microbial pest control agents on aquatic species
Janis C. Kurtz	850-934-9212	Microbial ecology; sediments; bioindicators
Deborah Santavy	850-934-9358	Marine microbiology; coral reef ecology
Mid-Continent Ecology Division		
<i>Office of the Director</i>		
Steven F. Hedtke, Acting Director	218-720-5550	Ecosystem response to stress
Steven P. Bradbury	218-720-5610	Mechanisms of toxic action; metabolism; quantitative structure activity relationships (QSAR)
<i>Ecological Toxicology Branch</i>		
Philip M. Cook Acting Chief	218-720-5553	Bioaccumulation; ecological risk of dioxin
Gerald T. Ankley	218-720-5603	Endocrine disruptors; reproductive toxicology; sediments;
Lawrence P. Burkhard	218-720-5554	Bioaccumulation; organic analytical chemistry

(continued)

National Health and Environmental Effects Research Laboratory

Areas of Expertise (continued)

	Telephone	Areas of Expertise
Russell J. Erickson	218-720-5534	Factors affecting toxicity; metals toxicity
David R. Mount	218-720-5616	Sediments; effluents; toxicity identification
Teresa J. Norberg-King	218-720-5529	Effluent toxicity; toxicity identification
Mumtaz S. Pasha	218-720-5612	Analytical bio-organic chemistry
Robert L. Spehar	218-720-5564	Water quality criteria; early life-stage toxicity
Charles E. Stephan	218-720-5510	Water quality criteria guidelines
Joseph E. Tietge	218-720-5635	Developmental biology; amphibian deformities
<i>Toxic Mechanisms Branch</i>		
Steven J. Broderius, Acting Chief	218-720-5574	Mixture toxicity; toxic mechanisms
Rodney D. Johnson	218-720-5731	Cell biology; pathology
Douglas W. Kuehl	218-720-5511	Ultra-trace analysis; molecular dosimetry
James M. McKim	218-720-5567	Toxicokinetics; physiology
John W. Nichols	218-720-5524	Toxicokinetics; physiologically based toxicokinetic (PB-TK) modeling
Christine L. Russom	218-720-5709	Toxicity databases (AQUIRE, ECOTOX); quantitative structure activity relationships (QSAR)
Patricia K. Schmieder	218-720-5537	Biochemical mechanisms of action; metabolism
Jose A. Serrano	218-720-5714	Biochemistry; molecular dosimetry
<i>Watershed and Ecosystem Effects Branch</i>		
Anthony R. Carlson, Acting Chief	218-720-5523	Watershed diagnostics; Regional EMAP
John G. Eaton	218-720-5557	Global climate change; lake ecology
Richard L. Anderson	218-720-5552	Invertebrate ecology/toxicology
John W. Arthur	218-720-5565	Stream ecology; watersheds; ecosystem effects
John C. Brazner	218-720-5725	Great Lakes wetlands; fish ecology
Naomi E. Detenbeck	218-720-5617	Wetland ecology; landscape ecology
Gary E. Glass	218-720-5526	Inorganic analytical chemistry; mercury
Stephen J. Lozano	218-720-5594	Great Lakes ecology; monitoring methods

(continued)

National Health and Environmental Effects Research Laboratory

Areas of Expertise (continued)

	Telephone	Areas of Expertise
Mary F. Moffett	218-720-5763	Freshwater ecology; algal responses
Jill V. Scharold	218-720-5783	Great Lakes ecology; oceanography
Michael E. Sierszen	218-720-5607	Community ecology; trophic relationships
Frank S. Stay	218-720-5542	Experimental ecosystems; models
Anett S. Trebitz	218-720-5535	Freshwater ecology; population model development
David J. Yount	218-720-5752	Ecological carrying capacity
<i>Community-based Science Support Staff</i>		
Douglas D. Endicott	313-692-7613	Ecological modeling; Great Lakes
Russell G. Kreis	313-692-7615	Great Lakes; ecological effects; diatoms
William L. Richardson	313-692-7611	Great Lakes; ecosystem modeling; eutrophication
Ronald Rossmann	313-692-7612	Trace inorganic chemical analysis; mercury
Western Ecology Division		
<i>Office of the Director</i>		
Thomas A. Murphy, Director	541-754-4601	Biology
Robert T. Lackey	541-754-4601	Ecosystem management; risk assessment
James C. McFarlane	541-754-4670	Plant physiology; toxic chemical effects
Daniel H. McKenzie	503-326-6250	Quantitative ecology; environmental monitoring
Steven G. Paulsen	541-754-4428	Regional aquatic ecology; aquatic nutrients
Allen M. Solomon	541-754-4772	Plant ecology; paleoecology
<i>Pacific Coast Ecology Branch</i>		
Walter G. Nelson, Chief	541-867-4041	Marine ecology; benthic ecology; estuarine ecosystem structure and function
Bruce L. Boese	541-867-5019	Toxic chemical effects on aquatic organisms
Steven P. Ferraro	541-867-4048	Marine and estuarine ecology; pollution; statistics
Robert J. Ozretich	541-754-4036	Sediment geochemistry; analytical methods
Anne C. Sigleo	541-867-5022	Biogeochemical cycles in coastal ecosystems
David R. Young	541-867-4038	Environmental chemistry
<i>Regional Ecology Branch</i>		
Roger L. Blair, Chief	541-754-4662	Forest ecology; air pollution

(continued)

National Health and Environmental Effects Research Laboratory

Areas of Expertise (continued)

	Telephone	Areas of Expertise
Joan P. Baker	541-754-4517	Aquatic ecology
M. Robbins Church	541-754-4424	Chemical limnology; environmental chemistry
Charles W. Hendricks	541-754-4606	Microbial ecology; biotechnology
Mary E. Kentula	541-754-4478	Botany; wetland ecology
Dixon H. Landers	541-754-4427	Limnology; freshwater/landscape interaction
David P. Larsen	541-754-4362	Stream/regional ecology; environmental statistics
Scott G. Leibowitz	541-754-4508	Wetland science; landscape ecology
Alan V. Nebeker	541-754-4884	Fisheries science; entomology; pesticide effects
Anthony R. Olsen	541-754-4790	Environmental statistics; monitoring design
Spencer A. Peterson	541-754-4457	Aquatic ecology; ecotoxicology
Paul L. Ringold	541-754-4565	Regional ecology; risk assessment
Nathan H. Schumaker	541-754-4658	Landscape ecology
Mostafa A. Shirazi	541-754-4656	Soils; modeling; ecotoxicology
Parker J. Wigington	541-754-4341	Hydrology; watershed effects
<i>Terrestrial Plant Ecology Branch</i>		
Peter A. Beedlow, Chief	541-754-4634	Landscape ecology; global change
Christian P. Anderson	541-754-4791	Plant physiology; air pollution
John Fletcher	541-754-4604	Plant physiology; nitrogen metabolism; toxicants
William E. Hogsett	541-754-4632	Plant physiology; air pollution
Bruce Lighthart	541-754-4879	Microbiology; insect pathology
David M. Olszyk	541-754-4397	Plant physiology; global change; air pollution
Donald L. Phillips	541-754-4485	Climate change; statistical ecology
Paul T. Rygielwicz	541-754-4702	Soil microbiology; molecular ecology
Ramon J. Seidler	541-754-4708	Environmental microbiology; biotechnology
David T. Tingey	541-754-4621	Plant physiology; air pollution
Lidia S. Watrud	541-754-4874	Plant and microbial biotechnology
James A. Weber	541-754-4503	Plant physiology and modeling; air pollution
Carlos Wickliff	541-754-4841	Plant physiology

National Risk Management Research Laboratory

E. Timothy Oppelt, Director

Mailcode: MD-235

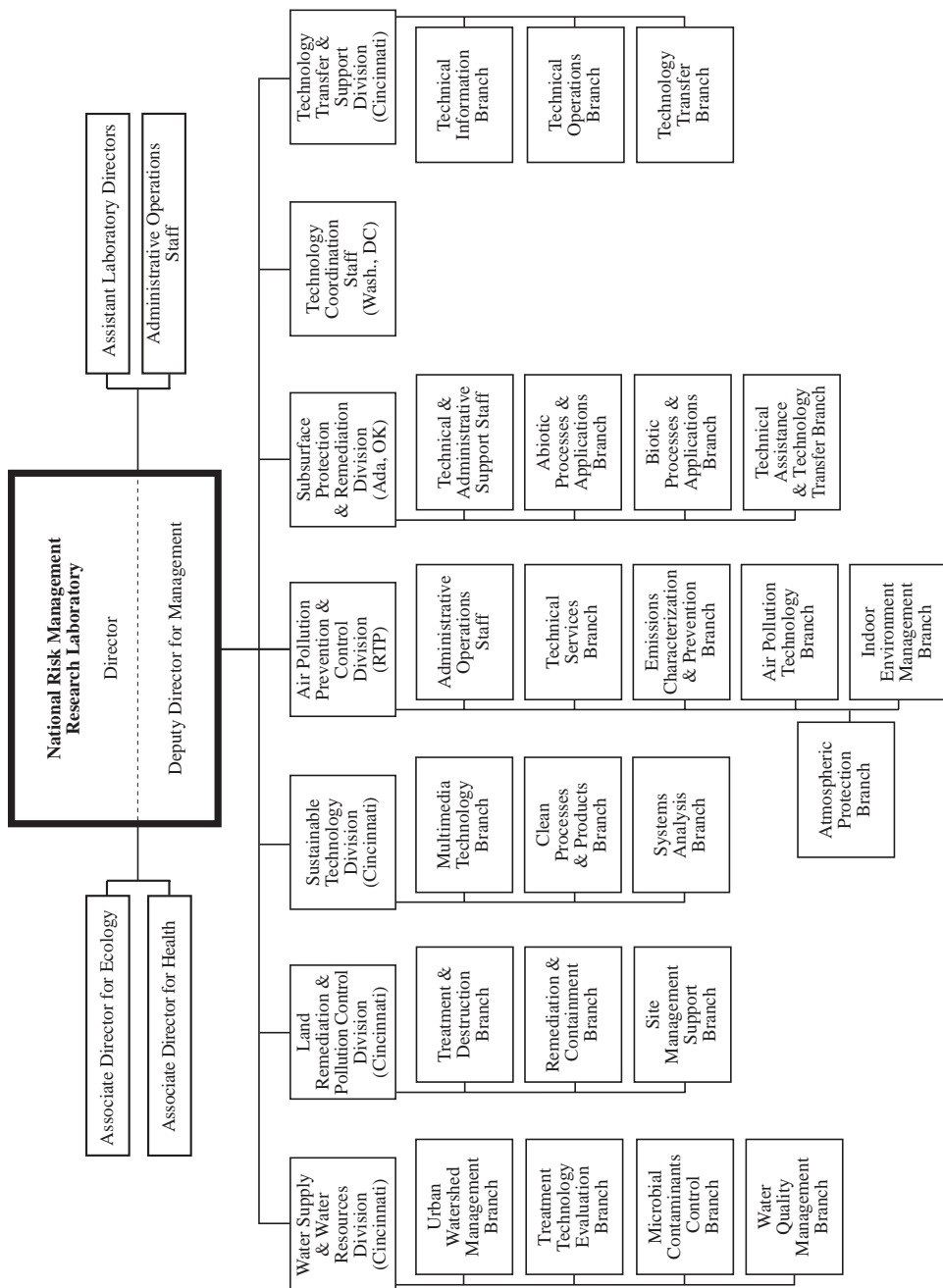
Cincinnati, OH 45268

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FAX: 513-569-7680

E-Mail: oppelt.tim@epamail.epa.gov

E. Timothy Oppelt has been the Director of the National Risk Management Research Laboratory since April 1995. Mr. Oppelt has held managerial positions in EPA in such diverse components as the Risk Reduction Engineering Laboratory, the Hazardous Waste Engineering Research Laboratory, the Waste Management Division of Region V, the Municipal Environmental Research Laboratory, and the Wastewater Treatment Pilot Plant of the National Environmental Research Center. Mr. Oppelt's academic degrees include a Bachelor's degree in civil engineering, a Master's degree in sanitary engineering, both from Cornell University; and an MBA from Xavier University, Cincinnati, Ohio. He holds EPA's Bronze and Silver Medals.



National Risk Management Research Laboratory

Mission

The National Risk Management Research Laboratory (NRMRL) conducts research into ways to prevent and reduce risks from pollution that threaten human health and the environment. The laboratory investigates methods and their cost-effectiveness for preventing and controlling pollution to air, land, water, and subsurface resources; protection of water quality in public water systems; remediation of contaminated sites, sediments and ground water; prevention and control of indoor air pollution; and restoration of ecosystems. The goal of this research is to promote the development of environmental technologies; develop scientific and engineering information to support regulatory and policy decisions; and provide the technical support and information transfer to ensure implementation of environmental regulations and strategies at the national and community levels. In addition, NRMRL collaborates with private sector partners to foster technologies to reduce the cost of compliance and to anticipate emerging problems.

Research

NRMRL headquarters are in Cincinnati, Ohio. NRMRL research facilities are in Cincinnati, Ohio; Research Triangle Park, North Carolina; Ada, Oklahoma; and Edison, New Jersey. A Technology Coordination Office for NRMRL is in Washington, D.C. NRMRL has a staff of 386. Of these, 251 are scientists and engineers. The base fiscal year 1997 research budget totals \$52 million. The research program is focused in six key areas:

- Protection of drinking water
- Control of air pollution
- Pollution prevention and economic analysis
- Remediation of contaminated media

- Ecosystem protection and restoration
- Technology transfer

Information follows about the focus of NRMRL's research programs, ongoing and planned research activities, and the organization of NRMRL within EPA's Office of Research and Development.

Protection of Drinking Water

There are nearly 200,000 community water systems in the U.S. Over 40% of these communities use ground water as their source of drinking water. NRMRL research evaluates technology to meet the requirements of the Safe Drinking Water Act and to provide methods for predicting the movement and fate of contaminants in ground water.

Current research highlights methods to control risks in treatment and distribution systems. Treatment studies assess removal of contaminants by techniques such as membrane filtration. Studies assess controls for disease-causing microbes. NRMRL has also developed a computer model to predict water quality in complex distribution systems.

Control of Air Pollution

Air pollution is a high risk to human health and the environment. NRMRL researchers evaluate technologies to control sources of criteria air pollutants, to reduce emissions of contaminants, to control indoor air pollutants, and to control industrial emissions of toxic air pollutants.

Researchers predict the formation of chlorinated dioxins from combustion sources. These findings have led to a patented sorbent injection process that limits dioxin formation.

Working with industrial partners, NRMRL researchers have found chemicals to replace ozone-depleting chemicals. Two replace-

National Risk Management Research Laboratory (continued)

ments tested in EPA laboratories are being considered for use by the Navy in ship-board chillers.

Pollution Prevention and Economic Analysis

Pollution prevention research at NRMRL helps establish methods and tools to use in pollution prevention technologies. NRMRL scientists have produced over 24 industry-specific and generic technology guides. NRMRL engineers design software to allow other engineers to make process changes that improve environmental performance.

NRMRL researchers have completed case study evaluations of innovative prevention technologies for over 75 manufacturing operations. Research is underway now to evaluate other innovative approaches, and develop and apply cost effectiveness methods and data.

Remediation of Contaminated Media

NRMRL conducts research to demonstrate methods for remediating contaminated hazardous waste sites and leaking underground storage tanks. Scientists are developing models to assess fate, transport and transformation rates, and mechanisms in unsaturated soil profiles and saturated zones.

In situ remediation technologies potentially represent the most cost-effective, lowest risk options for many sites. Scientists use field studies in bioremediation to examine remediation of nonaqueous phase liquids, reductive dechlorination of PCBs and other chlorinated organics, soil bioventing of fuel spills, and bioreduction of hexavalent chromium in ground water. EPA holds many of these demonstrations in collaboration with Department of Defense installations.

NRMRL cooperates with Monsanto, General Electric, and DuPont in "lasagna technology." With this technology, the scientists create layered zones for treatment of contaminants *in situ*. The process promises to be more cost effective than traditional methods and may enhance other *in situ* methods. Field trials are underway.

The largest component of the remediation research program is the Superfund Innovative Technology Evaluation Program (SITE). In this program, technology developers provide and operate their technologies at field sites, and EPA pays for an intensive performance evaluation and reports the results widely. Since the program began in 1986, innovative technologies at remediation sites have increased from 25% to over 50% of the technologies selected. A recent study of remediation costs at 17 sites where innovative technologies are being used has shown that the use of SITE-evaluated technologies has saved nearly \$360 million over conventional remediation approaches.

NRMRL also conducts research on methods and technologies to treat contaminated sediments. Dredged sediments are often treated as hazardous waste materials; in-place sediments are treated as part of ecosystem restoration technologies.

Ecosystem Protection and Restoration

NRMRL conducts research to develop and demonstrate approaches and technologies to protect and, as appropriate, restore damaged ecosystems. Watersheds are the geographical units chosen for study and priority risk problems include contaminated sediments, nonpoint source pollution from wet weather flows in urban and mixed land use watersheds, and regional impacts from cumulative stressors including climate change.

National Risk Management Research Laboratory (continued)

NRMRL scientists and engineers are developing watershed best management practices, *in situ* sediment remediation technologies, urban storm water management approaches, and combined sewer overflow treatment and control systems. New research has been initiated to develop methods to restore damaged ecosystems with emphases on riparian zones and constructed wetlands. Computer models and decision support systems will be developed to assist watershed managers and communities with ecosystem management and restoration projects.

Technology Transfer

A final NRMRL component is the dissemination of technical information. Informing the regulated industry, regulatory and permitting officials, and environmental consultants about the latest advancements in

risk management approaches is vital to the success of all of EPA's programs.

NRMRL produces technical and nontechnical publications, software products, and technical meetings. Recent projects have included brochures on bioremediation and stratospheric ozone depletion; manuals on water and wastewater treatment for small communities and on recycling and reuse of materials found on Superfund sites; and technical meetings on combined and sanitary sewer overflows. These publications can be ordered by phone (513-569-7562), fax (513-569-7566), or modem (dial in 513-569-7610). Additionally, the ORD Internet Home Page (<http://www.epa.gov/ORD/>) and the Technology Transfer Home Page (<http://www.epa.gov/ttnrmrl/ceri.htm>) linked to the U.S. EPA Home Page (<http://www.epa.gov/>) can now be accessed to get the latest information about ORD and NRMRL research products.

National Risk Management Research Laboratory

Areas of Expertise

	Telephone	Areas of Expertise
<i>Office of the Director</i>		
E. Timothy Oppelt, Director	513-569-7418	
Calvin O. Lawrence, Deputy Director	513-569-7391	
<i>Associate Laboratory Directors</i>		
Hugh McKinnon	513-569-7689	Environmental medicine; environmental public health
Lee Mulkey	513-569-7689	Ecosystem protection; ecosystem restoration
<i>Senior Scientist</i>		
Carl Enfield	513-569-7489	Contaminant transport; aquifer/soil restoration
<i>Assistant Laboratory Directors</i>		
Ben Blaney	513-569-7852	Hazardous waste research planning
Clyde Dempsey	513-569-7842	Water research planning
Jon Herrmann	513-569-7839	Multimedia research planning
Doug McKinney	919-541-3006	Air research planning
<i>Technology Coordination Staff</i>		
Penny Hansen, Director	202-260-2600	Environmental Technology Verification (ETV)
Sarah Bauer	202-260-1819	Environmental Technology Verification (ETV)
Tina Maragousis	202-260-2579	Environmental Technology Verification (ETV)
Air Pollution Prevention and Control Division		
<i>Office of the Director</i>		
Frank T. Princiotta, Director	919-541-2821	Air and energy environmental assessment and control technology
G. Blair Martin	919-541-7504	Combustion, incineration; furnace injection for SO _x control
Michael Maxwell	919-541-3091	International control technology
<i>Technical Services Branch</i>		
Wade Ponder, Chief	919-541-2818	Flue gas desulfurization; control technology; pollution prevention; conventional combustion environmental assessment
Nancy Adams	919-541-5510	Quality assurance/quality control audits; environmental toxicology; pesticide effects
Jeff Ryan	919-541-1437	Dioxin/organics measurement; source/stack sampling methodology

(continued)

National Risk Management Research Laboratory

Areas of Expertise (continued)

	Telephone	Areas of Expertise
Richard Shores	919-541-4983	Environmental engineering; instrumentation for ambient air monitoring; QA/QC field audit programs
Shirley Wasson	919-541-1439	X-ray fluorescence; x-ray diffraction; scanning electron microscopy; QA/QC auditor; metals analysis
<i>Air Pollution Technology Branch</i>		
Robert E. Hall, Chief	919-541-2477	Combustion modification control technology; fundamental hazardous waste incineration research
Theodore Brna	919-541-2684	Flue gas cleaning; chlorofluorocarbons alternatives; power plant cooling systems; property evaluation of refrigerants and lubricants
Brian Gullett	919-541-1534	Formation and prevention of chlorinated organics from incineration processes; sorption of mercury from industrial processes
Norm Kaplan	919-541-2556	Integrated air pollution control system cost model; economic evaluations of SO ₂ , NO _x , particulate matter control
Jim Kilgroe	919-541-2854	Municipal solid waste combustion; hazardous waste combustion; formation and destruction of polychlorinated dibenzo-dioxin/polychlorinated dibenzo-furan
David Lachapelle	919-541-3444	Combustion modification control technology; NO _x /SO _x control
C. W. Lee	919-541-7663	Chlorofluorocarbons and electrical industrial waste incineration; biomass combustion
Paul Lemieux	919-541-0962	Products of incomplete combustion from incineration; artificial intelligence for combustion control; tire burning; emergency safety vents
Bill Linak	919-541-5792	Toxic metal transformation/aerosol formation during hazardous and municipal waste incineration
Andy Miller	919-541-2920	NO _x , air toxics, use of artificial intelligence for combustion applications
Charles Sedman	919-541-7700	Flue gas cleaning technology

(continued)

National Risk Management Research Laboratory

Areas of Expertise (continued)

	Telephone	Areas of Expertise
Jack Wasser	919-541-2476	NO _x and particulates from stationary diesel engines and gas turbines, industrial boilers, woodstoves and industrial furnaces and processes; hazardous waste incineration in fluidized bed combustors
<i>Atmospheric Protection Branch</i>		
William J. Rhodes, Chief	919 541-2853	Emissions and mitigation for global climate change, e.g., biomass, greenhouse gases, ozone depleting substances
Evelyn Baskin	919-541-2429	Refrigeration/heat transfer/thermosciences (ozone depleting substances and biomass research)
Lee L. Beck	919-541-0617	Emissions and mitigation software related to global climate change
Robert H Borgwardt	919-541-2336	Mitigation technology for greenhouse gas emissions
Cynthia L. Gage	919-541-0590	Emissions and mitigation for global climate change (particularly ozone depleting substances)
Robert V. Hendriks	919-541-3928	Refrigeration technologies and biomass utilization
James Jetter	919-541-4830	Emissions and mitigation for global climate change; refrigeration systems; automotive air conditioning
David A. Kirchgessner	919 541-4021	Methane emissions, especially coal mines; natural gas processing; petroleum
Carol Purvis	919-541-7519	Small biomass-to-electricity technologies
N. Dean Smith	919-541-2708	Alternative chemicals for pollution prevention, alternatives for greenhouse gases and ozone depleting substances
Ronald J. Spiegel	919-541-7542	Mitigation for global climate change, e.g., fuel cells; advanced control systems; photovoltaic systems
Susan Thorneloe	919-541-2709	Emissions and mitigation for waste management; small-scale combustion devices; large area sources; evaluation of integrated waste management strategies using life-cycle assessment principles

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National Risk Management Research Laboratory

Areas of Expertise (continued)

	Telephone	Areas of Expertise
<i>Emissions Characterization and Prevention Branch</i>		
Larry Jones, Chief	919-541-7716	Emission characterization methodologies; projection models; field validation of improved methods
Chuck Darwin	919-541-7633	Pollution prevention methodologies (spraybooths, cleaning)
Chris Geron	919-541-4639	Biogenic emissions characterization
Bruce Harris	919-541-7907	Particulate heavy duty mobile emissions characterization
Julian Jones	919-541-2489	Toxic air emissions characterization
Sue Kimbrough	919-541-2612	Emissions modeling
Mike Kosusko	919-541-2734	Pollution prevention methodologies (general)
Robert McCrillis	919-541-2733	Particulate and pollution prevention methodologies (coatings)
Chuck Mann	919-541-4593	Stationary area source emissions characterization
Chuck Masser	919-541-7586	Particulate and volatile organic carbon emissions characterization
Carlos Nuñez	919-541-1156	Pollution prevention methodologies (general)
Geddes Ramsey	919-541-7963	Particulate and pollution prevention (coatings)
Ted Ripberger	919-541-2924	Light duty mobile emissions characterization
Chester Vogel	919-541-2827	Pollution prevention methodologies (adhesives)
Kaye Whitfield	919-541-2509	Pollution prevention methodologies (paint stripping)
<i>Indoor Environment Management Branch</i>		
Michael Osborne, Chief	919-541-4113	Indoor air pollutant source/emissions characterization; indoor air quality mitigation; radon mitigation
John C. S. Chang	919-541-3747	Biocontaminants; volatile organic carbon source/sink characterization; volatile organic carbon emissions modeling
D. Bruce Henschel	919-541-4112	Cost analysis of indoor air quality control techniques; building energy modeling; radon reduction in existing houses

(continued)

National Risk Management Research Laboratory

Areas of Expertise (continued)

	Telephone	Areas of Expertise
Betsy M. Howard	919-541-7915	Pollution prevention; particle board; large chamber testing; conversion varnishes
Russell N. Kulp	919-541-7980	Ventilation systems (large building studies; air duct cleaning; heating; ventilation and air conditioning pollution sources; gas indoor air phase filtration; energy and indoor air quality studies)
Kelly W. Leovic	919-541-7717	Pollution prevention (office equipment, aerosol consumer products, engineered wood products); technology transfer
Mark A. Mason	919-541-4835	Bioresponse methods development; chemical source characterization; large chamber testing
Marc Y. Menetrez	919-541-7981	Large building measurements (indoor air quality), ventilation, building dynamics; heating, ventilation and air conditioning, diagnostic strategy
Ronald B. Mosley	919-541-7865	Indoor air pollutants originating in soil; mathematical modeling, indoor particles; soil contaminants
Richard B. Perry	919-541-2721	Radon diffusion measurement; test method development; ventilation systems research
David C. Sanchez	919-541-2979	Radon research (measurement, transport modeling, building dynamics, new construction standards); indoor air quality; diffusion barrier testing; radon-free schools
Leslie E. Sparks	919-541-245	Indoor air quality and exposure modeling; air cleaners; indoor particles
W. Gene Tucker	919-541-2746	Control of indoor air quality; ASHRAE Standard 62; bioresponse methods; source emissions; indoor/outdoor particles
James B. White	919-541-1189	Low-emitting/low-impact sources; indoor air quality emission source database; indoor air quality and life cycle assessment; environmental resources guide; facilities design and operation; CADD-based life cycle analysis for indoor air quality; textiles

Land Remediation and Pollution Control Division

Office of the Director

Robert Olexsey, Director 513-569-7861 Treatment technologies

Annette Gatchett 513-569-7697 Physical/chemical treatment technology

(continued)

National Risk Management Research Laboratory

Areas of Expertise (continued)

	Telephone	Areas of Expertise
Fran Kremer	513-569-7346	Bioremediation; hazardous waste
Donald Sanning	513-569-7875	International remediation technologies
<i>Remediation and Containment Branch</i>		
John F. Martin, Chief	513-569-7758	SITE demonstration and evaluation
Taras Bryndzia	513-569-7857	Geochemistry; soil chemistry; dechlorination
David Carson	513-569-7527	Landfills; geosynthetics; containment systems
Brunilda Davila	513-569-7849	Chemical engineering; unit treatment processes
Vicente Gallardo	513-569-7176	Chemical engineering; separation technologies
Richard Griffiths	513-569-7832	Separation technologies; metal removal; adsorption and desorption phenomena
Wendy Davis-Hoover	513-569-7206	Microbiology; bioremediation
S. Jackson Hubbard	513-569-7507	Mining; mine reclamation; solidification/stabilization
Valdis Kukainis	513-569-7955	Biology; bioremediation
Randy Parker	513-569-7271	Electrokinetics; <i>in situ</i> remediation; metal removal
Michael Roulier	513-569-7796	Hydraulic fracturing; soil science; <i>in situ</i> remediation
James Ryan	513-569-7653	Soil sciences; soil chemistry; risk assessment
<i>Treatment and Destruction Branch</i>		
Laurel Staley, Chief	513-569-7863	Innovative thermal treatment
Carolyn Acheson	513-569-7190	Bioremediation of soils; treatment of acid mine drainage; biochemical engineering
Barry Austern	513-569-7638	Chromatography; organic analysis; mass spectrometry
Dolloff F. Bishop	513-569-7629	Natural attenuation; toxicity reduction bioremediation; air biofilter treatment
Richard C. Brenner	513-569-7657	Bioremediation, pilot- and field-scale
Paul DePercin	513-569-7797	Vacuum extraction; soil vapor extraction; thermal desorption; air pollution stabilization

(continued)

National Risk Management Research Laboratory

Areas of Expertise (continued)

	Telephone	Areas of Expertise
John Glaser	513-569-7568	Bioremediation of soils; fungal treatment; bioslurry treatment; composting; biopiles
John Haines	513-569-7446	Microbiology; oil spills; soil science
Ronald Lewis	513-569-7856	Bioremediation; soil washing; thermal desorption
Paul McCauley	513-569-7444	Bioslurry; bioventing; field work
Carl Potter	513-569-7231	Biochemical toxicology; microbiology
Teri Richardson	513-569-7949	Vitrification
Steven Rock	513-569-7149	Phytoremediation
Gregory Sayles	513-569-7607	Bioventing; natural attenuation of soils; land treatment; risk management of endocrine disrupting chemicals
Henry Tabak	513-569-7681	Bioremediation kinetics; respirometric biodegradation; biotreatability; environmentally acceptable bioremediation endpoints; mine drainage biotreatment; bioavailability of contaminants in soil
Albert Venosa	513-569-7668	Oil spills; bioremediation; hydrocarbon biodegradation
<i>Site Management Support Branch</i>		
Trish Erickson, Chief	513-569-7406	Solidification/stabilization; mining sites; minewater treatment; metals contamination; waste characterization; aqueous geochemical modeling
Edward Bates	513-569-7774	Solidification/stabilization; remedial design; mining sites; wood treating sites; materials handling; field testing and remedial activity (RA) oversight
Edwin Barth	513-569-7669	Brownfields coordinator; solidification/stabilization; radioactive waste; explosive waste; battery breaker sites; leaching tests; firing range
Eugene Harris	513-569-7862	Engineering forum contact; mining sites; computers; biotreatment; carbon treatment; sedimentation; indoor air pollution
Thomas Holdsworth	513-569-7675	Solidification/stabilization; biotreatment; carbon treatment; industrial wastewater

(continued)

National Risk Management Research Laboratory

Areas of Expertise (continued)

	Telephone	Areas of Expertise
Terry Lyons	513-569-7589	Base catalyzed decomposition (BCD); solidification/stabilization; solvent extraction; wood preserver sites; water treatment; negotiations
Joan Mattox	513-569-7624	Technical assistance for Superfund; emerging technologies for remediation of radioactive/mixed waste
Marta Richards	513-569-7692	Technical assistance for Resource Conservation and Recovery Act (RCRA); incineration; thermal desorption; wood-treating sites; manufactured-gas plant sites
Michelle Simon	513-569-7469	Soil vapor extraction; air sparging; solvent sites; dense nonaqueous phase liquid (DNAPL); light nonaqueous phase liquid (LNAPL)
Dennis Timberlake	513-569-7547	Contaminated sediments; solvent extraction; soil washing; dechlorination
Subsurface Protection and Remediation Division		
<i>Office of the Director</i>		
Clinton W. Hall, Director	405-436-8510	Ground-water hydrology/geology
Stephen G. Schmelling	405-436-8540	Contaminant transport modeling; fractured media
<i>Abiotic Processes and Applications Branch</i>		
Candida C. West, Chief	405-436-8551	Subsurface abiotic processes; nonaqueous phase liquid transport surfactants
Frank P. Beck	405-436-8546	Soil science; subsurface sampling
Jong Soo Cho	405-436-8547	Contaminant transport modeling; vapor transport
Eva L. Davis	405-436-8548	Nonaqueous phase liquid transport
Mohamed Hantush	405-436-8541	Hydrology; modeling
Stephen R. Kraemer	405-436-8549	Hydrology; fractured media
Bob K. Lien	405-436-8555	Soil science; geophysics
Susan C. Mravik	405-436-8577	Soil science
Robert W. Puls	405-436-8543	Geochemistry; metals transport; reactive barriers
Thomas E. Short	405-436-8544	Contaminant transport modeling
David M. Walters	405-436-8550	Soils; computer networking

(continued)

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Areas of Expertise (continued)

	Telephone	Areas of Expertise
A. Lynn Wood	405-436-8552	Subsurface abiotic processes; aquifer restoration
<i>Biotic Processes and Applications Branch</i>		
Joseph R. Williams Chief	405-436-8608	Soil science; modeling
Timothy J. Canfield	405-436-8534	Contaminated sediments; benthic ecology
Stephen R. Hutchins	405-436-8563	Subsurface biotransformations
Eric Jorgensen	405-436-8545	Community ecology; habitat modeling
Donald H. Kampbell	405-436-8564	Natural attenuation
Dennis E. Miller	405-436-8567	Subsurface remediation
Guy W. Sewell	405-436-8566	Subsurface biotransformations; subsurface ecology
John T. Wilson	405-436-8532	Bioremediation; natural attenuation
<i>Technical and Administrative Support Staff</i>		
Roger L. Cosby, Chief	405-436-8512	Organic analytical chemistry
Garmon B. Smith	405-436-8565	Organic analytical chemistry
<i>Technical Assistance and Technology Transfer Branch</i>		
Jerry N. Jones, Chief	405-436-8593	Analytical chemistry; aquifer restoration
Steven D. Acree	405-436-8609	Hydrogeology; geophysics
David Burden	405-436-8606	Hydrology; ground-water protection
Dominic C. DiGiulio	405-436-8607	Hydrology; modeling; soil venting
Don C. Draper	405-436-8603	Hydrogeology; underground injection
Scott G. Huling	405-436-8610	Land treatment; RCRA; modeling; nonaqueous phase liquid transport
Mary E. Randolph	405-436-8616	Microbiology; bioremediation
Randall R. Ross	405-436-8611	Hydrogeology; modeling; nonaqueous phase liquid transport
Sustainable Technology Division		
<i>Office of the Director</i>		
Subhas K. Sikdar, Director	513-569-7528	Separations technology; sustainable technology
Gordon M. Evans	513-569-7684	Cost benefit analysis; cost engineering; cost of remediation technologies; hydrogen reduction technologies; innovative remediation technologies; economics

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Areas of Expertise (continued)

	Telephone	Areas of Expertise
<i>Clean Processes and Products Branch</i>		
Teresa M. Harten, Chief	513-569-7565	Pollution prevention technology, metal finishing industry; clean processes and products
Franklin R. Alvarez	513-569-7631	Pervaporation for VOCs - removal/recovery
Diana R. Bless	513-569-7674	Pollution prevention - packaging industry; metal adsorption/lead and copper
Hugh B. Durham	513-569-7636	Industrial wastewater treatment - inorganics treatment; pollution prevention - metal finishing industry; environmental engineering
Lynnann Hitchens	513-569-7672	Municipal solid waste management; pervaporation for VOCs - removal/recovery
Paul M. Randall	513-569-7673	Automotive coolant (antifreeze recycling technology); cleaner production technologies; electronic manufacturing wastes; electroplating technologies; low and no-VOC coating technology
Endalkachew Sahle-Demessie	513-569-7739	Supercritical CO ₂ ; green chemical synthesis and engineering; alternative oxidation processes for chemical synthesis
Johnny Springer, Jr.	513-569-7542	Pollution prevention technology alternatives to solvent: cleaners, strippers, and coatings; pervaporation technology for VOC recovery
David Szlag	513-569-7180	Metals adsorption; electroplating; ground-water modeling; heavy metals; ion exchange
Lee Vane	513-569-7799	Electrokinetic soil remediation; membrane separation processes; pervaporation for VOCs - removal/recovery
Brian Westfall	513-569-7511	Pollution prevention technology - recycling/resource recovery from hazardous wastes; technology transfer
<i>Multimedia Technology Branch</i>		
Roger C. Wilmoth, Chief	513-569-7509	Electroplating and metals treatment; asbestos; mining; toxics control
Alden Christianson	513-569-7997	Pollution control

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Areas of Expertise (continued)

	Telephone	Areas of Expertise
Alva Edwards	513-569-7693	Asbestos; lead paint abatement; petroleum Common Sense Initiative (CSI) support; Environmental Technology Verification (ETV) Program
T. David Ferguson	513-569-7518	Metal finishing; Common Sense Initiative support; pesticide treatment; industrial wastewater treatment
Samuel G. Howell	513-569-7756	Pollution prevention technology - chemical and plastics industry
George Huffman	513-569-7431	Chemical detoxification; mine waste program/Montana Tech; thermal treatment; incineration/pyrolysis; mixed waste; medical waste
Fred K. Kawahara	513-569-7313	Base catalyzed decomposition (BCD); toxic and hazardous chemicals treatment including pesticides, PCBs, nitrogen-containing, sulfur-containing gases and ammunitions; petroleum chemistry; phthalate analysis; infrared spectrophotometry
Richard P. Lauch	513-569-7237	Soil contaminants removal; thermal desorption; biodegradation in soil; oxidation of organics in liquids
C.C. Lee	513-569-7520	Mixed waste; medical waste; chemical detoxification; plasma/vitrification/molten metal; incineration
Norma Lewis	513-569-7665	Remediation technologies; Environmental Technology Verification Program; advanced oxidation technologies; emerging technologies
Ivars J. Licis	513-569-7718	Clean processes and products; full (true) cost assessment; industrial pollution prevention; general pollution prevention; life cycle assessment; recycling; sustainable development technologies; waste minimization
Philip C. Lin	513-569-7324	Incineration; sampling technology; mathematical modeling; statistics; geostatistics
Thomas J. Powers	513-569-7550	Asbestos; lead paint abatement; mine waste program/sulfate reducing bacteria

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National Risk Management Research Laboratory

Areas of Expertise (continued)

	Telephone	Areas of Expertise
Glenn M. Shaul	513-569-7408	Electronics Common Sense Initiative support
<i>Systems Analysis Branch</i>		
James S. Bridges, Chief	513-569-7683	Federal facilities pollution prevention; pollution prevention (general)
Jane C. Bare	513-569-7513	Impact assessment; refrigeration systems; stratospheric ozone
Heriberto Cabezas	513-569-7350	Solvent design and substitution; chemical process simulation for pollution reduction; computational chemistry for environmental problems; computer simulation; thermodynamics criteria for global impact, life cycle assessment, and separation
Greg Carroll	513-569-7948	Pollution prevention measurement; environmental technology verification; incineration (hazardous waste and PCBs); thermal treatment
Mary Ann Curran	513-569-7782	Life cycle assessment; eco labeling; environmental management; International Standard Operation (ISO) 14,000
Richard G. Eilers	513-569-7809	Cost engineering; cost estimating; mathematical modeling; oxidation treatment technologies
Haynes C. Goddard	513-569-7685	Economic incentives to promote pollution prevention and risk reduction; benefit cost analysis; cost effectiveness analysis; economic analysis; econometric analysis
Theresa Hoagland	513-569-7783	Federal facilities pollution prevention; P2 tools integration
Richard Scharp	513-569-7393	Cost engineering; cost estimating
Kenneth R. Stone	513-569-7474	Life cycle assessment; life cycle design; cost benefit analysis; federal facility pollution prevention

Technology Transfer and Support Division

Office of the Director

John Convery, Director	513-569-7896	Operations research; municipal wastewater treatment
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Technology Transfer Branch

Dan Murray, Chief	513-569-7522	Urban wet weather water pollution; water quality monitoring; water quality assessment; watershed management; watershed planning
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National Risk Management Research Laboratory

Areas of Expertise (continued)

	Telephone	Areas of Expertise
John Cicmanek	513-569-7481	Veterinary medicine; human toxicity; risk assessment; life cycle analysis; infectious disease; drinking water treatment
Joan Colson	513-569-7501	Hazardous waste treatment
Lauren Drees	513-569-7087	Quality assurance
Georgia Dunaway	513-569-7650	Customer-focused outreach; technical outreach; workshop, seminar, and conference coordination; satellite teleconferencing; special emphasis programs
Emma Lou George	513-569-7578	Pollution prevention; cleaner technologies; risk management; environmental impact assessment; International Standard Operation (ISO) 14,000; environmental toxicology; endocrine disruptors; respiratory biochemistry
Douglas Grosse	513-569-7844	Site remediation (RCRA, CERCLA); aqueous treatment, cyanide treatment, <i>in situ</i> treatment technologies; ground-water restoration; biotreatment; membrane separation; metals removal; permitting
Sam Hayes	513-569-7514	Quality assurance
Scott Hedges	513-569-7896	Air pollution control technologies; ambient air measurements; indoor air; hazardous waste incineration
Ann Kern	513-569-7635	Quality assurance
James Kreissl	513-569-7611	Wastewater treatment; wastewater collection systems; wastewater management (onsite); community-based environmental protection (CBEP); small communities programs
Kim A. McClellan	513-569-7214	Quality assurance; microbiology; virology; environmental science
Scott Minamyer	513-569-7175	Ecosystem protection and restoration
Susan Schock	513-569-7551	GIS; fate, transport and remediation of pollutants in groundwater

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National Risk Management Research Laboratory

Areas of Expertise (continued)

	Telephone	Areas of Expertise
James E. Smith, Jr.	513-569-7355	Surface water treatment; ground-water treatment; wastewater treatment; sludge/biosolids treatment; international activities (developing countries); pesticides
<i>Technical Information Branch</i>		
Carol Grove, Chief	513-569-7362	Technical publications
Patrick Burke	513-569-7525	Outreach products
<i>Technical Operations Branch</i>		
John Ireland, Chief	513-569-7413	Local area networks
Patrick Clark	513-569-7561	Electron microscopy; light microscopy; asbestos; refractory ceramic fibers; lead refractory; bioremediation of cyanide; drinking water
Bob Danner	513-569-7409	Safety; health; environmental compliance
Frank Evans	513-569-7051	RCRA hazardous waste management; RCRA research operations; Treatment Storage and Disposal Facility (TSDF) research operations; pilot plant management and operations
Angela Hadley	513-569-7789	Safety; health; environmental compliance
Kathy Lautenschlegar	513-569-7969	Safety; health; environmental compliance
Randy Revetta	513-569-7358	ORD electronic bulletin board systems
Tai Wu	513-569-7198	Database programming (ORACLE)
Water Supply and Water Resources Division		
<i>Office of the Director</i>		
Robert Clark, Director	513-569-7201	Drinking water treatment: small systems, disinfection byproducts, distribution systems and modeling, waterborne disease outbreaks, distribution water quality, watershed management and modeling
Walter Feige	513-569-7496	Strategic planning for Division activities
Frank Freestone	908-321-6632	Strategic planning for water research programs; technology development; decision support system
Lewis Rossman	513-569-7603	Drinking water treatment: distribution systems and modeling
Sandy Taylor	513-569-7228	Publications

(continued)

National Risk Management Research Laboratory

Areas of Expertise (continued)

	Telephone	Areas of Expertise
<i>Microbial Contaminants Control Branch</i>		
Donald Reasoner, Chief	513-569-7234	Drinking water treatment: waterborne disease outbreaks, coliform methodology, criteria and standards, species identification; pigmented organisms; microbiology treatment, home treatment devices, rapid bacteriological methods, raw and potable water quality, sample transit time, distribution water quality, microbial growth, assimilable and biodegradable organic carbon
Christon Hurst	513-569-7461	Drinking water treatment: disinfection treatment, concentration X time concept, viruses in water; virus methods
Mark Meckes	513-569-7348	Drinking water treatment: distribution systems modeling and water quality
Jim Owens	513-569-7235	Drinking water treatment: <i>Giardia/Cryptosporidium</i> research
Eugene Rice	513-569-7204	Drinking water treatment: biofiltration, waterborne disease outbreaks; microbiology treatment: coliform methodology, criteria and standards, concentration X time concept, <i>Giardia/Cryptosporidium</i> , sample transit time; microbial growth; assimilable and biodegradable organic carbon
<i>Treatment Technology Evaluation Branch</i>		
Robert Thurnau, Chief	513-569-7504	Drinking water treatment: disinfection byproducts; analytical chemistry
Nick Dugan	513-569-7239	Drinking water treatment: coagulation and filtration
Michael Elovitz	513-569-7642	Drinking water treatment: ozone chemistry; disinfection byproducts
Kim Fox	513-569-7820	Drinking water treatment: arsenic; radionuclides; coagulation and filtration; small systems inorganics; waterborne disease outbreaks; point of use/point of entry treatment of inorganics; <i>Giardia/Cryptosporidium</i> research
Matthew Magnuson	513-569-7321	Disinfection byproducts identification; GC/MS techniques; arsenic chemistry

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National Risk Management Research Laboratory

Areas of Expertise (continued)

	Telephone	Areas of Expertise
Richard Miltner	513-569-7403	Drinking water treatment: disinfection byproducts, biofiltration, ozone, chlorine dioxide, ozone/UV, other disinfectants, coagulation and filtration
Mike Schock	513-569-7412	Drinking water treatment: corrosion/lead/copper, corrosion/secondary impacts
Thomas Sorg	513-569-7370	Drinking water treatment: nitrate, fluoride, arsenic; radionuclides; corrosion/lead/copper; small systems inorganics; point of use/point of entry treatment of inorganics
Tom Speth	513-569-7208	Drinking water treatment: synthetic organic chemicals, membrane processes; granular activated carbon adsorption; air stripping
Edward Urbansky	513-569-7655	Disinfection byproducts analysis; GC capabilities; ion chromatography techniques
<i>Urban Watershed Management Branch</i>		
Daniel Sullivan, Chief	908-321-6677	Urban watershed management
Mike Borst	908-321-6631	Wet weather flows (WWF): modeling
Evan Fan	908-906-6924	Wet weather flows (WWF): design of drainage systems, best management practices
Richard Field	908-321-6674	Watershed management strategies including urban hydrology; wet weather flows (WWF): characterization of stormwater, treatment technologies, disinfection, modeling
Richard Koustas	908-906-6898	Wet weather flows (WWF): databases
Joyce Perdek	908-321-4380	Wet weather flows (WWF): characterization of stormwater, disinfection
Mary Stinson	908-321-6683	Wet weather flows (WWF): treatment technologies
Anthony Tafuri	908-321-6604	Water & wastewater infrastructure technologies, including USTs and ASTs
James Yezzi	908-321-6703	Water & wastewater infrastructure technologies, including USTs and ASTs

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National Risk Management Research Laboratory

Areas of Expertise (continued)

	Telephone	Areas of Expertise
<i>Water Quality Management Branch</i>		
Ben Lykins, Chief	513-569-7460	Drinking water treatment: disinfection byproducts, granular activated carbon adsorption, biofiltration, ozone, chlorine dioxide, other disinfectants, field evaluations, small systems organics, distribution systems and modeling; point of use/point of entry treatment, organics
Jeffrey Adams	513-569-7835	Drinking water treatment: membrane processes, air stripping, costs, small systems
Don Brown	513-569-7630	Drinking water treatment: constructed wetlands, ecosystems
Carol Ann Fronk	513-569-7592	Drinking water treatment: membrane processes
Lucille Garner	513-569-7417	Drinking water treatment: raw and potable water quality; assimilable and biodegradable organic carbon
James Goodrich	513-569-7605	Drinking water treatment: small systems organics; distribution systems and modeling; point of use/point of entry treatment of organics; Geographical Information Systems (GIS); <i>Giardia</i> / <i>Cryptosporidium</i> research
Lillian Jones	513-569-7417	Drinking water treatment: analytics research
Jill Neal	513-569-7277	Drinking water treatment: Geographical Information Systems (GIS)
Kathleen Patterson	513-569-7947	Drinking water treatment: mutagenicity
Bill Sidle	513-569-7212	Drinking water treatment: hydrology, ecosystems
Steve Waltrip	513-569-7386	Drinking water treatment: computer

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