SPEAKER BIOGRAPHIES

PRAVEEN K. AMAR

Dr. Praveen Amar is Director of Science and Policy at Northeast States for Coordinated Air Use Management (NESCAUM). NESCAUM is an interagency association of eight northeastern states (New York, New Jersey, Connecticut, Maine, Massachusetts, Vermont, Rhode Island, and New Hampshire). NESCAUM provides high-level scientific and policy-relevant input to its member states on regional air pollution issues.

His key area of expertise is to "translate" the implications of findings of science and developments in technology into workable and cost-effective air-quality policy options for the states in the Northeast. These policy options have involved cost-effective strategies and technologies to reduce emissions of NO_X, SO_2, and mercury from large industrial sources including utility boilers and the design of market-based as well as performance-based approaches to address regional emissions. His current areas of interest are to evaluate the optimum mix of local, regional, and national control strategies for cost-effective attainment of national ambient standards for fine particles and ozone, and to investigate the effect of global climate change on the efficacy of current regional control strategies for ozone and fine particulate matter.

Dr. Amar has served as a member of the Synthesis Team (1996–2000) for the North American Research Strategy on Tropospheric Ozone (NARSTO) that produced the July 2000 report, "An Assessment of Tropospheric Ozone Pollution," and in February 2003 published "Particulate Matter Science for Policy Makers: A NARSTO Assessment." He is currently serving as a member of the Science Advisory Committee (SAC) for NYSERDA's Environmental Monitoring, Evaluation, and Protection (EMEP) Program. He recently served on the National Ambient Air Monitoring Strategy (NAAMS) Subcommittee of the Clean Air Scientific Advisory Committee (CASAC) of the U.S. Environmental Protection Agency (EPA). He has testified before the U.S. House Science Committee on strategies to reduce particulate air pollution and before the U.S. Senate Democratic Policy Committee on the U.S. EPA's proposed Clean Air Mercury Rule (CAMR) for coal-fired utility boilers.

Dr. Amar received his Ph.D. in Engineering from the University of California, Los Angeles (UCLA) in 1977. He is a licensed mechanical engineer in the state of California.

CHARLES W. BOYLEN

Dr. Boylen is Professor of Biology at Rensselaer Polytechnic Institute (RPI) in Troy, NY and Associate Director of RPI's Darrin Fresh Water Institute at Bolton Landing, Lake George. Dr. Boylen received his Ph.D. from the University of Wisconsin-Madison in 1969 and came to RPI in 1972. He has served on the executive boards of the Invasive Plant Council of New York, the Hudson River Environmental Society, and the Adirondack Research Council. Dr. Boylen began an extensive research program on aquatic vegetation in Adirondack lakes in 1973 and became involved in exotic, non-native aquatic vegetation in the Adirondacks in 1987, when Eurasian watermilfoil was discovered in Lake George. His research interests at Lake George, involving long-term research monitoring of the limnology of Lake George, have brought him into the arena of applying scientific studies to community and policy issues relating to the

impact of human activities on water quality in Lake George and other regional water bodies. Since 1981, Dr. Boylen has been active in numerous aspects of biotic responses to lake acidification in the Adirondacks, most recently as co–Principal Investigator of the multi-institutional grant, the Adirondack Effects Assessment Program (AEAP), from the U.S. Environmental Protection Agency.

GARRY BOYNTON

Mr. Garry Boynton is currently employed by the NYS Department of Environmental Conservation (DEC) as an Environmental Chemist III. Mr. Boynton's work has focused on air monitoring for the last 22 years. His early analytical training with the NYS Department of Agriculture and Markets was in pesticide residue analysis of food and environmental samples. His first environmental monitoring was at Love Canal conducting air monitoring. He has been the lead designer and implementer on three major air studies around the Fresh Kills landfill on Staten Island and on the New York volatile organic compound (VOC) monitoring network. He is now the Air Monitoring Laboratory Manager, with responsibilities for the analysis and Quality Assurance of rainwater samples for the NYS Acid Deposition Network, repair and maintenance of the "Criteria" pollutant network, sampling and analysis of canister samples for the Air Toxics monitoring program, the Photochemical Assessment Monitoring (PAMS) program in New York City, including the carbonyls sampling and analysis for both the PAMS and National Air Toxics Trends (NATTS) programs. He has been the Air Monitoring Emergency Response Coordinator since the task was created in 2003. This task has been advisory within the NYS DEC response capabilities and entails the coordination of staff and support with the Scientific Advisory Group that is activated during specific environmental emergency responses. Mr. Boynton has a bachelor of science degree in Chemistry (1973) from Worcester Polytechnic Institute, Worcester, MA.

RUSS BULLOCK

Russ Bullock is a Meteorologist at NOAA's Air Resources Laboratory, working in partnership with the U. S. Environmental Protection Agency (EPA) to develop numerical models for atmospheric mercury transport and deposition. This partnership arrangement between NOAA and EPA (and their precedent organizations) has been in place for 50 years, and Russ has been working at the EPA's environmental research facilities in Research Triangle Park, NC for half of that time. Russ has B.S. and M.S. degrees in Meteorology from North Carolina State University and first began air-quality modeling at EPA as a student research assistant in 1980 and continued as a computer specialist for an EPA contractor in 1983. In 1987, he joined NOAA as a computer programmer/analyst still working at the EPA, and by 1989 his continued involvement in atmospheric modeling landed him a position as a meteorologist. Russ began working on atmospheric mercury model development in 1994 to support the development of EPA's Mercury Study Report to Congress. That Report was finally submitted in 1997, leaving more questions than answers in most scientific minds. Russ has since been involved in EPA mercury research strategy development, environmental mercury field study design and implementation, and continued atmospheric mercury model development based on EPA's Community Multi-scale Air Quality (CMAQ) model.

ELLEN BURKHARD

Dr. Burkhard is a Project Manager in NYSERDA's Environmental Research and Development Program, where she manages air quality, health, and product development projects. Ellen received her Ph.D. from the State University of New York's School of Public Health, where her research focused on long-range transport and chemical reactions of atmospheric pollutants.

DOUGLAS BURNS

Douglas Burns' professional interests are in the fields of biogeochemistry and hydrology. Specifically, he is interested in the effects of human activities and natural disturbances on water quality and the cycling of nutrients and water through catchments. Dr. Burns holds a Ph.D. in Water Resources Management from the SUNY College of Environmental Science and Forestry and has worked as a hydrologist with the U.S. Geological Survey in Troy, New York since 1987. He has authored more than 50 scientific papers and reports.

MARIA G. COSTANTINI

Maria G. Costantini holds a Ph.D. in Biological Sciences from the University of Milano, Italy. After graduating she conducted laboratory research at the University of Milano as a teaching assistant and subsequently continued her work in research at the National Cancer Institute and at the Massachusetts Institute of Technology. Her research focused on mechanisms of cell proliferation and hormone-receptor binding.

She is currently a Principal Scientist at the Health Effects Institute, a nonprofit organization designed to support the conduct of research on the health effects of mobile-source pollutants. In this role she has been responsible for developing and monitoring research programs in the areas of air toxics, oxygenated fuel additives, diesel exhaust, and particulate matter. She has also been involved in the critical evaluation of the literature in these areas.

ANDREW DARRELL

In addition to serving as Director of the New York Region at Environmental Defense, a leading national nonprofit organization that represents more than 300,000 members, Andrew Darrell is co-Director of the LIVING CITIES^{SM} program for the urban environment. He was previously Executive Director of the Waterfront Park Coalition, an alliance of environmental and community groups dedicated to revitalization of waterfront neighborhoods in New York City's five boroughs. He has also served as Executive Director of the Hudson River Park Alliance, which played a leading role in creating a new five-mile waterfront park in Manhattan. Dr. Darrell received a B.S. degree from Georgetown University, a master's degree from the Fletcher School of Law and Diplomacy, and a J.D. from the University of Virginia. After law school, he worked as an associate at Davis Polk and Wardwell and consulted on energy-efficiency projects in China and Europe. He is a trustee of the Van Alen Institute, which fosters quality design for urban public spaces, and of Columbia University's International House, as well as serving on EMEP's Program Advisory Group.

KENNETH L. DEMERJIAN

Dr. Demerjian is Director of the Atmospheric Sciences Research Center and Leading Professor in the Department of Earth and Atmospheric Sciences, University at Albany, State University of New York. (SUNY). He also holds an appointment in the department of Environmental Health and Toxicology in the School of Public Health at SUNY and is a Visiting Scholar in the Division of Engineering and Applied Sciences at Harvard University. He has served on and chaired professional committees and advisory panels including state and federal legislative advisory boards, National Academy of Science committees, editorial boards, and national and international research programs. He co-chaired the NARSTO Ozone Assessment and serves on the Board on Oceans and Atmosphere of the National Association of State Universities and Land-Grant Colleges, the Research Committee of the Health Effects Institute, and the U.S. Environmental Protection Agency Clean Air Scientific Advisory Committee (CASAC) National Ambient Air Monitoring Strategy (NAAMS) Subcommittee.

CHARLES T. DRISCOLL

Dr. Driscoll received his Ph.D. from Cornell University in Environmental Engineering in 1979. His research interests are biogeochemical processes of watershed and lake ecosystems. His current research activities include the evaluation of the response of soils and surface waters to changes in atmospheric deposition, the transport and transformations of mercury in the environment, and the effects of land use on water quality.

DIRK FELTON

Mr. Felton is currently employed by the NYS Department of Environmental Conservation (DEC) as a Research Scientist III in the Division of Air Resources. Mr. Felton received his bachelor of arts degree in Physics from Kenyon College in 1987 and his master of science degree in Environmental Engineering in 1993 from Stevens Institute of Technology. He is also a civil engineer licensed in the state of New York. Mr. Felton's professional work has focused on ambient air monitoring. He has worked for the NYS DEC's Air Division in the monitoring bureau for nine years and for the SUNY's Atmospheric Science Research Center for a year and a half. He implemented the $PM_{2.5}$ monitoring program in New York, collaborated on the U.S. Environmental Protection Agency (EPA) Supersite program, and serves on two national committees, the U.S. EPA Clean Air Scientific Advisory Committee (CASAC) Ambient Air Monitoring & Methods (AAMM) subcommittee and the State and Territorial Air Pollution Program Administrators (STAPPA) and Association of Local Air Pollution Control Officials (ALAPCO) Monitoring Steering Committee, as well as serving as the Chair of the Regional NESCAUM Monitoring and Assessment Committee.

STUART E. G. FINDLAY

Dr. Findlay is a Scientist at the Institute of Ecosystem Studies. His research interests can be broadly grouped into three areas: characterization and microbial assimilation of dissolved organic carbon in aquatic ecosystems, importance of hyporheic metabolism in stream ecosystems, and approaches to generalizing studies of function in vegetated aquatic habitats. He has been conducting research on the Hudson River ecosystem for over 15 years and is interested in watershed restoration issues. Dr. Findlay received a B.A. in Environmental Science from the University of Virginia, an M.S. in Marine Science from the University of South Carolina, and a Ph.D. in Zoology from the University of Georgia.

EDWARD F. FITZGERALD

Edward F. Fitzgerald holds a Ph.D. in Epidemiology from Yale University and has 25 years of experience in environmental epidemiology. Dr. Fitzgerald spent most of his career as a Research Scientist with the NYS Department of Health and is currently a faculty member at the School of Public Health, University at Albany. He has research interests in PCBs, dioxins, and related chemicals, and well as in environmental health surveillance. He was very active in helping to establish New York's Environmental Public Health Tracking Program, serving as co–Principal Investigator. He also helped design and implement both of New York's demonstration projects, one of which links air pollution data to asthma hospitalizations in children, while the other links drinking water disinfection byproducts to birth outcomes, and continues to collaborate closely with the NYS Department of Health.

WILLIAM F. FITZGERALD

Dr. William F. Fitzgerald is a Board of Trustees Distinguished Professor in the Department of Marine Sciences at the University of Connecticut. He has been pursuing the subject of mercury in the environment for more than 30 years. He established the internationally recognized Mercury Laboratory at the University of Connecticut and has published more than 75 papers related to Hg cycling in nature. Dr. Fitzgerald is the recipient of the University of Connecticut Chancellor's Award for Research Excellence. In 2003, he received the Patterson Award and Medal from the Geochemical Society. This award recognizes his "outstanding contributions to environmental geochemistry."

JAMES T. GALLAGHER

James T. Gallagher is Director of the Office of Electricity and Environment (OEE) for the NYS Public Service Commission. This office has responsibility for New York's electric system operations and pricing, including the siting and reliability of the state's generation, transmission, and power distribution systems; the design of appropriate rates and tariffs; and the oversight of ratepayer-funded energy efficiency, renewable energy, and environmental programs. Before joining the Department of Public Service, Mr. Gallagher held senior energy policy positions at Northeast Utilities, The Pennsylvania Governor's Energy Council, and during the late 1970's, the Tennessee Valley Authority (TVA), where he was Manager of Renewable Energy Programs.

Mr. Gallagher is Chairman of the National Association of Regulatory Utility Commissioners (NARUC) Staff Subcommittee for International Relations and a member of NARUC's Ad-Hoc Committee on Climate Change. He was previously Chairman of NARUC's Staff Subcommittee on Energy Resources and the Environment. He received a B.S. in Economics from Lehigh University and an M.S. in Energy Management and Policy from the University of Pennsylvania.

GEORGE M. HIDY

George M. Hidy is currently a Principal of Envair/Aerochem. He also serves as an advisor to the NYSERDA Environmental Monitoring, Evaluation, and Protection Program, as well as co-chair of the NARSTO Analysis and Assessment Team. Dr. Hidy is retired Alabama Professor of Environmental Engineering. From 1987 to 1994 he was Technical Vice-President of the Electric Power Research Institute (EPRI) Environment Division, where he oversaw the Institute's environmental science and emission control technology programs. From 1984 to 1987, he was President of the Desert Research Institute of the University of Nevada. He has held a variety of other scientific and advisory positions in universities, industry, and government, and has made significant contributions to research on the environmental impacts of energy production and use, including air quality management issues involving air chemistry and pollutant deposition. He is the author of more than a hundred articles and several books on environmental chemistry and atmospheric science. Dr. Hidy received his A.B. from Columbia College, his B.S. in Chemical Engineering from Columbia University, his M.S.E. in Chemical Engineering from Princeton University, and his D. Eng. in Chemical Engineering from Johns Hopkins University.

THOMAS M. HOLSEN

Thomas M. Holsen is currently a Professor in Civil and Environmental Engineering at Clarkson University and co-Director of the Clarkson Center for the Environment. He obtained a Ph.D. from the University of California at Berkeley in Civil and Environmental Engineering in 1988. His primary research interests include the transport, transformations, and fate of hydrophobic organic chemicals, mercury, metals, and ions in a wide array of environmental systems. Recently, he has been investigating atmospheric inputs of persistent organic chemicals and mercury to Lake Ontario, the atmospheric deposition and emission of mercury from forested ecosystems, and the transport, deposition and sources of pollutants in New York State. He is currently co–Principal Investigator of the Environmental Manufacturing Management program at Clarkson University, a National Science Foundation Integrative Graduate Education and Research Traineeship (IGERT). He was a reviewer of several congressionally mandated reports on the importance of atmospheric deposition to the Great Waters, a member of the EPA Science Advisory Board, and recently testified at a congressional briefing on the persistent organic pollutants (POPs) negotiations. He has published extensively on the absolute and relative importance of atmospheric deposition of toxic substances and their cycling in several large ecosystems. He regularly teaches a graduate course on the transport of pollutants in the environment. He has over 75 publications and has successfully supervised research projects from industrial sources and state and federal agencies.

PHILIP K. HOPKE

Dr. Philip K. Hopke is the Bayard D. Clarkson Distinguished Professor at Clarkson University and the Director of the Center for Air Resources Engineering and Science. He was appointed by the Administrator of the U.S. Environmental Protection Agency (EPA) as a member of the Clean Air Scientific Advisory Committee (CASAC). Dr. Hopke is the outgoing Chair of the CASAC, and he also chairs the CASAC Ambient Air Monitoring and Methods (AAMM) Subcommittee. In addition, he serves as a Science Advisory Board (SAB) Member. Professor Hopke is the current President of the American Association for Aerosol Research and is a member of the National Research Council's congressionally mandated Committee on Research Priorities for Airborne Particulate Matter and the Committee on Air Quality Management in the United States. He has previously served on five other NRC committees. Professor Hopke received his B.S. in Chemistry from Trinity College (Hartford) and his M.A. and Ph.D. degrees in Chemistry from Princeton University. After a post-doctoral appointment at M.I.T., he spent four years as an Assistant Professor at the State University College at Fredonia, NY. Dr. Hopke then joined the University of Illinois at Urbana-Champaign and subsequently came to Clarkson in 1989 as the Robert A. Plane Professor with a principal appointment in the Department of Chemistry. He served as Dean of the Graduate School, Chair of the Department of Chemistry, and Head of the Division of Chemical and Physical Sciences before moving his principal appointment to the Department of Chemical Engineering in 2000. In 2002, he became the Bayard D. Clarkson Distinguished Professor and Director of the Center for Air Resources Engineering and Science. Dr. Hopke's recent and current grant and other contract support includes consulting on scientific and technical matters related to: particulate matter, particle monitoring, semi-volatile pollutants, vapor nucleation, EPA Supersites, sources of PCBs, regional air quality monitoring, and computational fluid dynamic modeling in humans for the Federal government (EPA and the National Institute for Occupational Safety and Health [NIOSH]), state and regional agencies (LADCO, NYSERDA, NJDEP, Cal ARB, Delaware DNREC), the U.S. Department of Energy (DOE), the International Atomic Energy Agency (IAEA), the Electric Power Research Institute (EPRI), and the National Science Foundation (NSF).

CARL JOHNSON

Carl Johnson was appointed Deputy Commissioner for Air and Waste Management at the NYS Department of Environmental Conservation (DEC) in September 1997. He is responsible for the divisions of Solid and Hazardous Materials, Air Resources, and Environmental Remediation.

He has oversight of a broad spectrum of activities, including pesticide registration and reporting, hazardous waste disposal and reduction, solid waste landfilling, air quality planning and emissions reductions, and Superfund remediation and brownfield projects. He has most recently been involved in implementing the Governor's Acid Rain Initiative, the most aggressive program for controlling the precursors of acid rain in the nation. He has also guided the successful development of the NYS DEC's first public geographic information system, Environmental Navigator. His divisions include more than 900 DEC staff across the state.

Mr. Johnson holds a Master of Public Administration degree from the Maxwell School at Syracuse University and an undergraduate degree in Journalism from the Newhouse School at Syracuse University.

JANET JOSEPH

Janet Joseph is the Program Manager for Environmental Research at the New York State Energy Research and Development Authority (NYSERDA). Janet has held a variety of technical and policy positions at NYSERDA over the past 13 years. Prior to joining NYSERDA, Janet was a research scientist at Battelle Pacific Northwest Laboratories. Janet has also worked as an environmental consultant for Booz-Allen and Hamilton in Washington, D.C. Janet has a master's degree in Environmental Chemistry from the University of Maryland.

PATRICK KINNEY

Dr. Patrick Kinney is Associate Professor at the Joseph A. Mailman School of Public Health at Columbia University. Dr. Kinney teaches and carries out research in air pollution epidemiology, with a strong interest in transportation-related pollutants and asthma. His recent research has focused on characterizing levels and determinants of indoor, outdoor, and personal exposures to air pollution in the underprivileged neighborhoods of New York City, including studies of indoor allergens, diesel vehicle emissions, volatile organic compounds, polycyclic aromatic hydrocarbons, and other air toxins. In addition, he recently established a new research program funded by the STAR program of the U.S. Environmental Protection Agency that is developing integrated models for assessing human health impacts of changing urban land uses and climate. Prior to coming to Columbia, Dr. Kinney was at the Harvard School of Public Health, where he examined the effects of ozone air pollution on lung function in children as part of the Harvard Six Cities Air Pollution and Health Study. He has carried out numerous studies examining the human health effects of air pollution, including studies of the effects of ozone and/or particulate matter on lung health and on daily mortality in large cities. Dr. Kinney received his doctorate from Harvard University in Environmental Science and Physiology in 1986 and his M.S. in Environmental Health Science in 1982.

DAVID J. LAWRENCE

In his position as Manager of Market Strategy at New York Independent System Operator (NYISO), Mr. Lawrence is responsible for working with NYISO stakeholders and staff to design new products for the wholesale electricity market, including integrating wind power into NYISO's markets. He has also been the NYISO's representative on the Regional Greenhouse Gas Initiative (RGGI) Resource Panel. Mr. Lawrence joined the NYISO in April of 2000. He has also been responsible for developing and implementing demand response programs in collaboration with New York market participants.

Prior to joining the NYISO, Mr. Lawrence spent 24 years at Power Technologies, Inc., where he served as the Director of the Instrumentation and Energy Management Department. He has served as Chairman of the Schenectady Chapter of the Institute of Electrical and Electronics Engineers (IEEE) Power Engineering Society and Chairman of the IEEE Schenectady Section.

Mr. Lawrence received the B.S. and the master of engineering degrees in Electric Power Engineering from Rensselaer Polytechnic Institute, Troy, NY.

GREG LAWRENCE

Greg Lawrence, a research hydrologist for the U.S. Geological Survey since 1990, has spent his career conducting various research investigations related to acid rain effects on surface waters, soils, and forest health. He received a B.S. in Zoology from the University of Vermont, an M.S. in Environmental and Forest Biology from SUNY Environmental Science and Forestry, and a Ph.D. in Civil Engineering from Syracuse University.

JAMES P. LYONS

Dr. Lyons joined General Electric (GE) in 1970 with field engineering assignments in industrial control, automation, and power systems. Subsequent graduate academic studies concentrated in control systems and computer science, with a Ph.D. thesis topic of Variable Speed Wind Turbine Generators. Dr. Lyons joined GE Research in 1989 and in 1999 was appointed Chief Engineer for electrical & electronic systems with responsibilities for product applications across all GE businesses. He has been a corporate champion for wind energy within GE and one of the founding leaders of GE's wind energy business.

Dr. Lyons obtained a B.S.E.E. degree from Rensselaer Polytechnic Institute (1970), an M.S.E.E. from Virginia Polytechnic Institute (1981), and a Ph.D. from Cornell University (1984). He is a member of the Institute of Electrical and Electronics Engineers (IEEE) Industry Application, Computer, Power Electronics, Power Engineering, and Automatic Control Societies. He has authored more than 25 technical papers and has been awarded 28 patents.

KARL S. MICHAEL

Karl S. Michael is Program Manager for the Energy Analysis Program at the New York State Energy Research and Development Authority (NYSERDA) in Albany, New York. In this capacity, he coordinates energy, environmental, and economic modeling and forecasting activities related to energy policy and planning in New York. Mr. Michael is currently engaged in leading the energy modeling for the Regional Greenhouse Gas Initiative (RGGI), a consortium of nine northeastern states, initiated by Governor Pataki, to develop a model rule for a regional cap-and-trade program for carbon emissions from the electricity generation sector.

Mr. Michael has over 20 years of experience in modeling and analysis of energy planning issues in both the public and private sectors. Prior to joining NYSERDA in 1995, Mr. Michael was an Energy Analyst with the New York State Energy Office and an Economic Analyst with Orange and Rockland Utilities, Inc., of Pearl River, New York.

Mr. Michael holds an M.B.A. in Finance from the University of New Haven, West Haven, CT and a B.S. in Economics from the State University of New York, Albany.

SCOTT V. OLLINGER

Scott Ollinger is an Assistant Professor at the University of New Hampshire with joint appointments in the Institute for the Study of Earth, Oceans and Space and the Department of Natural Resources. He earned a bachelor's degree in Ecology and Environmental Science from Purchase College in 1989 and master's and Ph.D. degrees in Natural Resources from the University of New Hampshire in 1992 and 2000. His research interests include forest ecology and biogeochemistry with an emphasis on basic ecological processes and interactions with human-induced environmental change. He is also interested in using models to examine the ecological effects of multiple environmental stress factors. His current research involves the use of foliar chemistry as an indicator of ecosystem carbon-nitrogen interactions. This work is part of the recently formed North American Carbon Program, which is a component of the U.S. Interagency Carbon Cycle Science Program. Dr. Ollinger teaches courses on forest ecosystem ecology and biogeochemistry.

KAREN L. PALMER

Karen L. Palmer is the Darius Gaskins Senior Fellow in the Quality of the Environment Division of Resources for the Future in Washington, DC. Dr. Palmer received her Ph.D. in Economics from Boston College in 1990. Dr. Palmer specializes in the economics of environmental regulation and of public utility regulation, and her research interests include recycling and solid waste policy, electricity restructuring, and environmental regulation of the electricity sector. She is a coauthor of the book *Alternating Currents: Electricity Markets and Public Policy*, published by RFF Press in 2002. In 1996–97, Dr. Palmer spent six months as a visiting economist in the Office of Economic Policy at the Federal Energy Regulatory Commission. Her most recent work has focused on renewable energy and controls of multipollutants and carbon emissions from electricity-generating plants. Her published papers have appeared in a number of academic journals, including the *RAND Journal of Economics*, *American Economic Review*, *The Journal of Political Economy*, *Review of Economics and Statistics*, *Journal of Regulatory Economics*, *The Journal of Public Economics*, *The Energy Journal*, *The Journal of Environmental Economics and Management*, and *Economics Letters.*

CYNTHIA ROSENZWEIG

Dr. Cynthia Rosenzweig is a Senior Research Scientist at NASA Goddard Institute for Space Studies, where she heads the Climate Impacts Group. She has organized and led large-scale interdisciplinary regional, national, and international studies of climate change impacts and adaptation. She co-led the Metropolitan East Coast Regional Assessment of the U.S. National Assessment of the Potential Consequences of Climate Variability and Change, sponsored by the U.S. Global Change Research Program. She is a Coordinating Lead Author of the chapter on observed changes for the Intergovernmental Panel on Climate Change (IPCC) Working Group II Fourth Assessment Report and served on the IPCC Task Group on Data and Scenarios for Impact and Climate Assessment (TGICA). Dr. Rosenzweig's research involves the development of interdisciplinary methodologies by which to assess the potential impacts of and adaptations to global environmental change. A recipient of a Guggenheim Fellowship, she has joined impact models with global and regional climate models to predict future outcomes of both land-based and urban systems under altered climate conditions. She is a Professor of Environmental Science at Barnard College and a Senior Research Scientist at the Columbia Earth Institute.

KAREN M. ROY

Karen Roy has been a research scientist with the NYS Department of Environmental Conservation's Division of Air Resources, Bureau of Air Quality Analysis and Research, since 2001. She is the research manager of the ongoing Adirondack Long-Term Monitoring Program (ALTM) in Ray Brook, NY. Prior to this position she was a Project Analyst for Natural Resources at the NYS Adirondack Park Agency (1984–2001). Her background is in aquatic chemistry and limnology. She has a M.S. degree in Water Resources from the University of Vermont.

LINDSEY RUSTAD

Dr. Lindsey Rustad received a B.A. in Philosophy from Cornell University in 1980, a master of forest science degree from the Yale School of Forestry and Environmental Studies in 1983, and a Ph.D. in Plant Science from the University of Maine in 1988. She worked as Research Scientist at the University of Maine from 1988 to 1996 and has been working as a Forest Ecologist for the U.S. Department of Agriculture Forest Service in Durham, NH since 1997. Her research has focused on the effects of various aspects of global change on northern forest ecosystems. Her specific areas of interest have been aluminum biogeochemistry, acid rain, nitrogen saturation, and global climate change. She currently leads an international research coordination network of global change scientists (Terrestrial Ecosystem Response to Atmospheric and Climatic Change [TERACC) and has initiated a new synthesis of "Climate Variability and Change in the Northeastern United States and Eastern Canada: Consequences for Northern Forest Ecosystems."

DIANE L. SABER

Dr. Diane Saber received her bachelor of arts degree from Macalester College in St. Paul, Minnesota in Biology, her Ph.D. in Microbiology from the University of Minnesota, Minneapolis, and was awarded a postdoctoral fellowship at Yale University in New Haven, Connecticut. She also has an M.B.A. in marketing from Fairleigh Dickinson University. She has worked for over 24 years in the area of biotechnology approaches to wastewater treatment and hazardous site remediation in the United States and throughout the world. She has been with the Gas Technology Institute (GTI) for 12 years and currently serves as a Director of the Environmental Science and Forensic Chemistry Center at GTI. She directs projects related to forensic chemistry, biological applications for hazardous waste treatment, pollution prevention, greenhouse-gas detection and reduction, PCB research, bio-refining and innovative techniques for microbe detection in conjunction with microbial-induced corrosion. She has previously served as the Remediation Director for large U.S. consulting and engineering firms such as Fluor Daniel and Ebasco. In these positions, she has served as technical director for large Superfund cleanups. She has served on the U.S. Environmental Protection Agency's task force for biological applications to waste treatment and was chairperson for the environmental section of the Biotechnology Industry Organization (BIO). She has lectured within the United States and internationally and has had appointed positions at numerous U.S. universities.

NINA SCHOCH

Dr. Nina Schoch has been the Program Coordinator for the Adirondack Cooperative Loon Program since its inception in 2001. She initially began working with contaminant research in loons in 1998, which evolved into the Adirondack Cooperative Loon Program. The Adirondack Cooperative Loon Program is dedicated to improving the overall health of the environment, particularly the protection of air and water quality, through research and education efforts focusing on the common loon and regional conservation issues affecting wildlife and their habitats.

Dr. Schoch has a veterinary degree from the Virginia-Maryland Regional College of Veterinary Medicine, a master's degree in Natural Resources/Wildlife Management from Humboldt State University, and a bachelor's degree in Biology-Behavioral Ecology from Cornell University. She practiced small animal medicine in the Adirondack Park from 1991 to 2002 and is a licensed wildlife rehabilitator. Dr. Schoch has also worked with the Adirondack Nature Conservancy, coordinating an Invasive Plant Project, and with the NYS Department of Environmental Conservation as a seasonal wildlife technician, monitoring endangered species.

HOWARD SIMONIN

Howard Simonin has 27 years experience with the NYS Department of Environmental Conservation at the Rome Field Station. He is the unit leader for the Aquatic Toxicant Research Unit in the Division of Fish, Wildlife, and Marine Resources. He has conducted research and published scientific articles on the effects of pesticides on aquatic life, has conducted research dealing with acidic deposition and its impacts on fish and wildlife, and has worked on mercury-related projects for over 12 years. He has a B.S. degree in Zoology from SUNY College of Environmental Science and Forestry and an M.S. degree in Limnology from Michigan State University. He has also worked for two years in the Peace Corps as a fishpond specialist raising tilapia.

PETER R. SMITH

Peter R. Smith was appointed President of the New York State Energy Research and Development Authority by the NYSERDA Board on January 26, 2004. Prior to his appointment, Mr. Smith served for nearly one year as Acting President as well as Vice President for Programs. As Vice President for Programs he oversaw delivery of the Authority's energy efficiency, energy analysis, economic development, research and development, residential, nuclear waste, and bond financing programs. Mr. Smith joined NYSERDA in 1995 as Program Director for Energy Analysis. He also represents NYSERDA's Chairman on the New York State Board on Electric Generation Siting and the Environment.

Peter is responsible for the overall management of the Authority, which is a public benefit corporation of the State of New York with assets of more than $330 million. NYSERDA is also the third-party administrator of New York's eight-year, nearly one-billion–dollar public benefit program, which was created as part of the State's move to electric competition. As administrator, NYSERDA operates more than 30 programs under the umbrella of **New York Energy $mart**[SM]. NYSERDA was also named by the New York Public Service Commission as the central procurement agency for New York's Renewable

Portfolio Standard, which directs that over the next decade 25% of the electricity purchased in New York will come from renewable resources.

As President, he also serves the State of New York as the Chairman of the Energy Planning Board and as a member of the State Environmental Board, the Water Resources Planning Council, and the Disaster Preparedness Commission. He is the state's liaison officer to the U.S. Nuclear Regulatory Commission and represents New York State on the National Low-Level Radioactive Waste Forum.

Mr. Smith is also active on the national energy scene. He was appointed by the Secretary of the U.S. Department of Energy (U.S. DOE) to the State Energy Advisory Board (STEAB), which provides programmatic and policy guidance to the U.S. DOE's Office of Energy Efficiency and Renewable Energy. He serves on the Board of the American Council for an Energy Efficient Economy (ACEEE), as well as on the Board of the Alliance to Save Energy. Mr. Smith is currently Chair of the National Association of State Energy Officials (NASEO).

Peter has more than 27 years of experience in analyzing and studying energy and environmental issues and problems. He holds a master's degree in Public Administration from the Nelson A. Rockefeller School of Public Affairs and Policy, State University of New York at Albany, and a bachelor of arts from LeMoyne College in Syracuse, New York.

TIMOTHY J. SULLIVAN

Timothy J. Sullivan earned a B.A. in History from Stonehill College, an M.A. in Biological Sciences from Western State College of Colorado, and a Ph.D. in Biological Sciences from Oregon State University. He did postdoctoral research at the Center for Industrial Research and the University of Oslo, Norway. For the past 17 years, Dr. Sullivan has been President and Principal Scientist of E&S Environmental Chemistry, Inc. His research focuses on the effects of air pollution on aquatic and terrestrial resources; watershed analysis; effects of land use on surface waters; aquatic acid/base chemistry; mobilization, speciation, and toxicity of metals in acidic waters; episodic processes controlling surface water chemistry; and environmental assessment. His most recent projects have included the Southern Appalachian Mountains Initiative (SAMI) Aquatic and Terrestrial Assessments, the Shenandoah National Park Assessment of Air Quality and Related Values, studies of land use and water quality in agricultural and forestry lands in Coastal Oregon, and studies to quantify critical loads of sulfur and nitrogen deposition for the protection of acid-sensitive lakes and streams.

ROBERT D. TEETZ

Mr. Teetz is currently Director of Environmental Licensing and Compliance for KeySpan. He is a graduate of the City University of New York and has over 30 years of environmental policy, licensing, and compliance experience in the electric and gas energy business. He is responsible for developing, implementing, and managing corporate environmental policies at KeySpan. He represents KeySpan on the Regional Greenhouse Gas Initiative (RGGI) stakeholder committee and is also a past winner of the Electric Power Research Institute (EPRI) Innovator Award for research he managed on NO_X control systems for oil-fired power plants.

ELIZABETH THORNDIKE

Dr. Thorndike founded the Center for Environmental Information, Inc. (CEI) in Rochester, New York and served as Executive Director and then President of CEI from its establishment in 1974 until 1992, when she left to undertake fulltime graduate study at Cornell. She continues as a member of the Board of Directors.

In 1997, Dr. Thorndike was nominated by Governor Pataki and confirmed by the New York State Senate as a Board member of the New York State Energy Research and Development Authority, filling the statutorily designated environment seat. She was renominated and reconfirmed in 1999 for a full six-year term to 2005. She serves as Chair of the Waste Facilities Management Committee.

Previous public-service appointments have included 15½ years as a Commissioner of the New York State Adirondack Park Agency from 1980 to 1995, where she chaired the Agency's Park Policy and Planning Committee with oversight for local government planning services, state land (forest preserve) matters, official zoning map amendments, and development of policy for the public and private lands in the Adirondack Park. From 1985 to 1994, Dr. Thorndike was a member of Governor Mario Cuomo's bipartisan Environmental Advisory Board.

Dr. Thorndike is a visiting lecturer in the Department of City and Regional Planning at Cornell University, a member of the Advisory Council for the College of Agriculture and Life Sciences at Cornell, a member of the Honorary Board of the Girl Scouts of Genesee Valley, and a Trustee and Chair of the Conservation Committee of the Association for the Protection of the Adirondacks. She attended Smith College, has degrees from Stanford and Harvard, and a Ph.D. from Cornell with a concentration in Natural Resource Policy and Planning.

JAMES VICKERY

Mr. Vickery is Acting National Program Director of the U.S. Environmental Protection Agency (EPA) Particulate Matter Research Program. His responsibilities span Atmospheric Sciences, Exposure, Health Effects, and Assessment. Formerly, he served as Assistant Director for Air Research at the U.S. EPA's National Exposure Research Laboratory. Mr. Vickery began his environmental career as an air-pollution engineer with the State of Connecticut's Department of Environmental Protection over 30 years ago. He has held several management positions with the Office of Research and Development over the past 14 years. Prior to that, he worked in various programs and policy offices in the U.S. EPA's Washington, DC headquarters. His background is in chemical engineering and public administration. Mr. Vickery is, in addition, one of the original organizing members of NARSTO, the North-American research consortium of public and private research organizations chartered in 1995. NARSTO coordinates atmospheric sciences research supporting public policy on tropospheric ozone and particulate matter. He is also a co-lead of the U.S. Committee on Environment and Natural Resources Particulate Matter Work Group, coordinating federally sponsored atmospheric sciences, human exposure, and health effects research on particulate matter.

MARK WATSON

Mark Watson is a Senior Project Manager at NYSERDA and has worked in the Environmental Monitoring, Evaluation, and Protection Program since 1999. He has a bachelor of science degree with a focus on Forest Biology from the College of Environmental Science and Forestry at Syracuse. His prior experience includes work at the Wildlife Pathology Unit and the Bureau of Fisheries at the New York State Department of Environmental Conservation, the New York State Energy Office, and the Ecological Services Division of Texas Instruments.

RONALD E. WYZGA

Dr. Ronald Wyzga is Technical Executive at the Air Quality Health and Risk Department in the Electric Power Research Institute (EPRI) Science and Technology Division in Palo Alto, California. Prior to joining EPRI in 1975, Dr. Wyzga worked at the Organisation for Economic Co-operation and Development (OECD) in Paris, where he co-authored a book on economic evaluation of environmental damage.

Dr. Wyzga received an A.B. in Mathematics from Harvard College in 1964, and was then awarded his M.S. in Statistics from Florida State University in 1966. In 1971, he completed a Sc.D. in Biostatistics at Harvard University.

Dr. Wyzga serves on and has chaired several committees for the U.S. Environmental Protection Agency Science Advisory Board Committees and National Academy of Sciences (NAS). In 1990 he was elected Fellow of the American Statistical Association. His research interests include environmental risk assessment and health effects of air pollution.