

John Balbus, MD, MPH

Dr. Balbus is a physician and public health professional with expertise in epidemiology, toxicology, and risk assessment. As of December 7, 2009, he will be Senior Advisor for Public Health to the Director of NIEHS. He has worked on climate change and human health issues for over 15 years, including writing the initial chapters on human health impact assessment for the US Country Studies Program and the United Nations Environment Programme. Dr. Balbus was also a co-author on GCRP's Synthesis and Assessment Product 4.6 (Analyses of the Effects of Global Change on Human Health and Welfare and Human Systems) and the first nationally representative survey of local public health officials regarding their knowledge of and attitudes towards CCH impacts. Prior to joining NIEHS, Dr. Balbus was chief health scientist for the environmental non-profit organization Environmental Defense Fund. He was also founding acting Chairman of the Department of Environmental and Occupational Health at the George Washington University School of Public Health and Health Services, where he founded the Center for Risk Science and Public Health. He has served on numerous federal committees, including the National Research Council Board on Environmental Studies and Toxicology, EPA's Children's Health Protection Advisory Committee, the Institute of Medicine's Roundtable on Environmental Health Sciences, Research and Medicine, and EPA's Science Advisory Board.

Sudipto Banerjee, M.S., Ph.D

Sudipto Banerjee is an Associate Professor of Biostatistics in the School of Public Health, University of Minnesota. He received a Ph.D. in (2000) and an M.S. (1998) in Statistics from the Department of Statistics at the University of Connecticut, an M.STAT from the Indian Statistical Institute Calcutta and a B.S. from Presidency College, Calcutta, India. His research focuses upon statistical modeling and analysis of geographically referenced datasets, Bayesian statistics (theory and methods), interface between statistics and Geographical Information Systems, and statistical computing. He has published over fifty-five peer-reviewed journal articles, several book chapters and has co-authored a book titled "Hierarchical Modeling and Analysis for Spatial Data". In 2009 he was honored with the Abdel El Sharaawi Young Investigator Award from The International Environmetrics Society. This is awarded to a young investigator who has made outstanding contributions to the field environmetrics.

Molly E. Brown, PhD

Dr. Brown received her MA in 1999 and PhD in 2002, both in Geography from the University of Maryland at College Park. Before going to graduate school, she received a BS in Biology at Tufts University and then joined the Peace Corps, serving from 1992-1994 in Senegal, West Africa. During her studies at Maryland, Dr. Brown worked at NASA and with the US Agency for International Development's Famine Early Warning Systems Network (FEWS NET). In this role she provided information and expertise on satellite-derived global vegetation data and on using from multiple sensors. In 2008 she published a monograph with Springer-Verlag entitled 'Famine Early Warning Systems and Remote Sensing Data'. Her work with FEWS NET has been the basis of a broader investigation of how earth science data is used for decision making in a variety of settings. In 2008 she joined NASA Goddard Space Flight Center as a civil servant in the Biospheric Sciences Branch. She is currently involved in a variety of projects that focus on expanding the use and utility of satellite remote sensing observations and earth science models in efforts to adapt U.S. federal programs and facilities to climate change in the 21st century.

Loren Cobb, PhD

Loren Cobb is an applied mathematician who specializes in dynamic spatial models of general social processes, including epidemics, public health emergencies, refugee problems, population flows, economic collapse, ethnic cleansing, governmental dysfunction, and civil wars.

Dr. Cobb has written numerous simulation models of societies in extreme distress; these models have been used for the past 15 years in international civil-military-police exercises in complex humanitarian emergencies, disaster relief operations, United Nations peacekeeping operations, and high-level national strategic planning.

Dr. Cobb is currently an Associate Professor in the Department of Mathematical and Statistical Sciences, University of Colorado Denver.

David R. Easterling, Ph.D.

Dr. Easterling is currently Chief of the Scientific Services Division at NOAA's National Climatic Data Center in Asheville, NC. He received his Ph.D. from the University of North Carolina at Chapel Hill in 1987 and served as an Assistant Professor in the Atmospheric Sciences Program, Department of Geography, Indiana University-Bloomington from 1987 to 1990. In 1990 he moved to the National Climatic Data Center as a research scientist, was appointed Principal Scientist in 1999, and Chief of Scientific Services in 2002. He has authored or co-authored more than eighty research articles on climate change issues in journals such as *Science*, *Nature* and the *Journal of Climate*. Dr. Easterling was a Lead Author for the Nobel Prize winning Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report, a Convening Lead Author for the U.S. Climate Change Science Program (CCSP) Synthesis and Assessment Product (SAP) 3.3 on Climate Extremes and was a Contributing Author to the IPCC Second and Third Assessment Reports and is currently a Lead Author on the IPCC Special Report on Climate Extremes. Dr. Easterling is a Fellow of the American Meteorological Society and his research interests include the detection of climate change in the observed record, particularly changes in extreme climate events and the assessment of climate model simulations for changes in extreme climate events.

Lora Fleming, MD, PhD

Dr Fleming is a board certified Occupational and Environmental Medicine Physician and Epidemiologist at the University of Miami where her areas of research and teaching are Occupational and Environmental Medicine and Epidemiology. She is the Co Director of the National Science Foundation (NSF)-National Institute of Environmental Health Sciences (NIEHS) University of Miami Oceans and Human Health Center (www.rsmas.miami.edu/groups/ohh/) where she works in the areas of Marine and Freshwater Toxins, Recreational Microbes, Environmental Human Health, and Epidemiologic issues. Working with various Center colleagues and others, she has created educational materials concerning the human health effects of marine and freshwater natural toxins, and performed research in Ciguatera Fish Poisoning, Florida Red Tides (Brevetoxins) and cyanobacterial toxins; currently, she is involved in a NIEHS-funded study of the human health effects of aerosolized red tide toxins (www.mote.org/niehsredtidestudy/) and in a CDC, FL DOH and OHH Center funded study of the possible human health effects of microbial pollution in recreational beach waters.

Nancy French, PhD

Dr. French is based in Ann Arbor, Michigan at the Michigan Tech Research Institute, a part of Michigan Technological University. She has been working on applications of remote sensing and geospatial technologies for ecology and vegetation studies for the past 20 years. Her work has involved studying vegetation signatures in synthetic aperture radar (SAR) and multi-spectral sensors such as Landsat TM/ETM+, AVHRR, MODIS, and ASTER. She has participated in field data collection for ground truth and vegetation characterization. She has designed sampling procedures for field data and developed image

analysis algorithms for studies concerned with vegetation and ecological monitoring. She has authored or co-authored 18 journal articles and 11 book chapters.

Dr. French's interests are in the study of terrestrial ecosystems and the application of remote sensing techniques to ecosystem studies, and specifically fire effects. Wildfires and their effect on the structure and function of the ecosystem is the main focus of this research. In particular, Dr. French is developing approaches to use satellite data to monitor the spatial and temporal patterns of fire and its impact on ecosystems and the carbon cycle. Estimating fire emissions based on field conditions and fire location timing is an important focus of her current projects.

In addition to her research interest, Dr. French has taught a course in Remote Sensing of the Environment at the University of Michigan and serves as Adjunct Assistant Professor of Forest Resources and Environmental Science at Michigan Technological University. Dr. French serves on the Editorial Advisory Committee and as an Associate Editor for the International Journal of Wildland Fire.

Michael Greenstone, PhD

Michael Greenstone is the 3M Professor of Environmental Economics in the Department of Economics at the Massachusetts Institute of Technology. He is currently on leave from MIT, and is the Chief Economist at the Council of Economic Advisors.

His research is focused on estimating the costs and benefits of environmental quality. He has worked extensively on the Clean Air Act and examined its impacts on air quality, manufacturing activity, housing prices, and infant mortality to assess its costs and benefits. He is currently engaged in a large scale project to estimate the economic costs of climate change. Other current projects include examinations of: the benefits of the Superfund program; the economic and health impacts of indoor air pollution in Orissa, India; individual's revealed value of a statistical life; the impact of air pollution on infant mortality in developing countries; and the costs of biodiversity.

Greenstone is also interested in the consequences of government regulation, more generally. He is conducting or has conducted research on: the effects of federal antidiscrimination laws on black infant mortality rates; the impacts of mandated disclosure laws on equity markets; and the welfare consequences of state and local subsidies given to businesses that locate within their jurisdictions.

He is a member of the Environmental Economics Advisory Committee of EPA's Science Advisory Board and his research has been funded by the NSF, NIH, and EPA. In 2004, Professor Greenstone received the 12th Annual Kenneth J. Arrow Award for Best Paper in the Field of Health Economics. He is currently an editor of *The Review of Economics and Statistics*. He has been a Research Associate at the National Bureau of Economic Research (NBER) and a Nonresident Senior Fellow at Brookings.

Greenstone received a Ph.D. in economics from Princeton University and a BA in economics with High Honors from Swarthmore College.

Shafiqul Islam, PhD

Shafiqul Islam is Professor of Civil and Environmental Engineering and First Bernard M. Gordon Senior Faculty Fellow in Engineering at Tufts University. He also holds a joint appointment as Professor of Water and Diplomacy at the Fletcher School of Law and Diplomacy at Tufts. Professor Islam received a Sc.D. in Hydrometeorology and Hydroclimatology from the Massachusetts Institute of Technology. Professor Islam's teaching and research interests are to understand characterize, measure, and model water issues ranging from climate to cholera to conflicts with a focus on scale issues and remote sensing. His research group WE REASoN (Water and Environmental Research, Education, and Actionable Solutions Network) emphasizes interdisciplinary collaborative partnership to address water problems by synthesizing scientific information and contextual wisdom and creating actionable knowledge.

Prior to joining Tufts University, he was Professor at the University of Cincinnati, where he served as Director of the Cincinnati Earth Systems Science Program and developed an interdisciplinary graduate program in environmental hydrology involving over twenty faculty from three colleges. He has developed international partnerships with the faculty and students at MIT, Purdue University, University of Maryland, Penn State University, Princeton, BUET in Bangladesh, ICDDR, University of Tokyo, and ETH in Switzerland, to initiate and sustain multi-year, interdisciplinary collaborative partnerships to address contemporary problems of environmental hydrology focusing on scarcity and abundance of water and human health. His major research sponsors include the National Science Foundation, National Institute of Health and the National Aeronautics and Space Administration. He has served on numerous national and international panels, including the GEWEX Panel of the National Academy of Sciences. Remote Sensing Committee of the Hydrology Section of the American Geophysical Union, and the ASCE Task Force on Artificial Neural Networks in Hydrology. As a Fulbright Scholar, Professor Islam spent several months in Bangladesh investigating issues of arsenic contamination in the Ganges basin.

Michael Jerrett, PhD

Michael Jerrett, PhD, is an associate professor in the Division of Environmental Health Science, and Director of the Doctor of Public Health Program, School of Public Health, University of California, Berkeley. Building on expertise in Health Geography, Geographic Information Science, and Spatial Analysis, Dr. Jerrett assesses the role of the built environment on health risks and outcomes. His topical areas of focus are (a) air pollution exposure modeling and health effects assessment, including the role of shorter-lived greenhouse pollutants; (b) obesity and the built environment (i.e., how the built landscape influences physical activity and food intake); and (c) the social distribution of environmental exposures. He has published some of the most widely cited studies on air pollution health effects, social susceptibility to environmental risks, and environmental inequality.

Patrick Kinney, ScD

Patrick Kinney is Professor of Environmental Health Sciences at the Mailman School of Public Health at Columbia University. He directs the new Columbia Climate and Health Program (CCHP) and serves on the Faculty of the Earth Institute. Prof Kinney's teaching and research address issues at the intersection of global environmental change, human health, and policy, with an emphasis on the public health impacts of indoor and outdoor air pollution in developing countries, and of climate change.

Kenneth Linthicum, PhD

Dr. Linthicum is presently the Center Director, Center for Medical, Agricultural & Veterinary Entomology, USDA-Agricultural Research Service, Gainesville, Florida USA. He directs a major Agricultural Research Service facility, consisting of 4 research units, employing 60 scientists and 150 support personnel, with a broad research program cutting across several national programs related to production, product values, and safety of crops and animals, as well as natural resources and sustainable agricultural systems. His scientific interests include vector and disease control, systematics, arbovirology, malaria, rickettsial diseases, and applications of Geographic Information Systems and Remote Sensing to disease surveillance and epidemiology. His own research findings have been published in 167 papers in the national and international scientific literature, and presented in more than 270 papers given at national and international scientific meetings; including publications in the prestigious journals Science, Nature, Lancet, and the Proceedings of the National Academy of Sciences which included development of detailed models using remotely sensed data to enhance surveillance and control of vector-borne diseases. He was the recipient of the John I. Davidson Award for Practical Papers by the American Society for Photogrammetric Engineering and Remote Sensing, and is Editor Emeritus of the Journal of the American Mosquito Control Association.

He has served on numerous research and policy review panels dealing with Bioterrorism and vector-borne Infectious Disease topics for organizations such as the World Health Organization, Food and Agriculture Organization, the National Institute of Allergy & Infectious Disease, the Department of Defense, Department of Homeland Security, and the National Academy of Sciences. He has provided consultation

for NASA, NOAA, USDA, EPA, National Geographic, Smithsonian Institution, The Bill and Melinda Gates Foundations, The Wellcome Trust and numerous universities on issues dealing with surveillance and control of vectors and vector-borne diseases. He has had resident assignments in Brazil, Kenya and Thailand with numerous short-term assignments in Central and South America, Europe, Africa, Asia and Australia.

George Lubber, PhD

Dr. George Lubber is an epidemiologist and the Associate Director for Global Climate Change for the National Center for Environmental Health at the Centers for Disease Control and Prevention. His research interests include the epidemiology of harmful algal blooms and the health effects of climate change. Most recently, his work has focused on the epidemiology and prevention of heat-related illness and death, the development of municipal heat response plans, and the application of remote sensing techniques to modeling vulnerability to heat stress in urban environments. In addition to his leadership role in the Global Climate Change Workgroup at CDC, Dr. Lubber is a co-chair of the Human Contributions and Responses Interagency Work Group for the US Climate Change Science Program.

Helene G. Margolis, Ph.D., M.A.

Dr. Margolis is Assistant Adjunct Professor in the Department of Internal Medicine, University of California, Davis, School of Medicine. From 2005-2008 she also served as co-lead scientist for climate change public health impacts assessment and prevention at the California Department of Public Health (CDPH). Her training in epidemiology (Ph.D.), immunology (M.A.), and Marine Sciences (oceanography)/Biology (B.A.) provides her unique insights/skills to guide climate change-related health research and policy programs. She has for nearly 20 years been a leader in the area of vulnerable populations' health research and policy. Prior to joining CDPH, she served as Assistant Director of the Children's Environmental Health Center (CEHC) in the Office of the Secretary of the California Environmental Protection Agency, and lead scientist for the California Air Resources Board's (CARB) epidemiologic research programs. Through her program at CARB, in collaboration with the University of Southern California (John Peters) she initiated the Southern California Children's Health Study which has led to numerous peer-reviewed publications including sentinel reports on air pollution-related permanent deficits in lung function growth, and increased risk of new onset asthma among children. Her research interests include the public health impacts of climate change and variability, with special focus on population/individual vulnerability, including environmental, biological and social determinants of health/risk, and on the clinical ramifications and interventions to reduce vulnerability; chronic disease pathophysiology/mechanisms, including gene-environment interactions; and biostatistical considerations in multi-determinant model development. A hallmark of her work and accomplishments is the bridging of science and public policy.

Fran Norris, PhD

Fran H. Norris, PhD, is a community psychologist, research professor in the Department of Psychiatry at Dartmouth Medical School, associate of the *National Center for PTSD*, and director of the NIMH-funded *National Center for Disaster Mental Health Research*. Research interests include posttraumatic stress, postdisaster mobilization of social support, cross-cultural issues, and community resilience. She is Deputy/Statistical Editor for the *Journal of Traumatic Stress* and Scientific Editor of the *PTSD Research Quarterly*. In 2005, she received the Robert S. Laufer Award for Outstanding Scientific Achievement from the International Society for Traumatic Stress Studies.

