Integrating Environment and Human Health

7th National Conference on Science, Policy and the Environment

February 1-2, 2007 Washington, DC Ronald Reagan Building and International Trade Center

PROGRAM

February 1-2, 2007

Ronald Reagan Building and International Trade Center
1300 Pennsylvania Avenue, NW, Washington DC 20004

The National Council for Science and the Environment (NCSE) improves the scientific basis of environmental decisionmaking through collaborative programs with diverse communities, institutions and individuals.

The Council works for a society where environmental decisions are based on an accurate understanding of the underlying science, its meaning and limitations, and the potential consequences of action or inaction.

While an advocate for science and its use, the Council does not take value positions on environmental outcomes and is dedicated to maintaining and enhancing its reputation for objectivity, non-partisanship, and achievement.

The Council has programs in five strategic areas (for details please visit www.NCSEonline.org).

SCIENCE SOLUTIONS FOR ENVIRONMENTAL CHALLENGES

The Council brings stakeholders together to develop and implement science-based solutions to specific environmental challenges. Programs in this area include:

- The **National Commission on Science for Sustainable Forestry** provides practical information and tools to serve the needs of forest managers and policymakers to improve sustainable forestry.
- The **Wildlife Habitat Policy Research Program** produces information and tools to accelerate the conservation of wildlife habitat in the United States through State Wildlife Habitat Plans.
- The **Outlook Forest Research Dialogue** enhances research coordination, collaboration, and partnership within the forestry community.

STRENGTHENING EDUCATION

NCSE brings members of the academic community together to improve their environmental programs and increase their value to society. Programs in this area include:

- The **University Affiliate Program** provides services to advance programs at 140 member schools ranging from large private and public research institutions to smaller liberal arts institutions.
- The **Council of Environmental Deans and Directors** brings academic leaders together to improve the quality and effectiveness of environmental programs on the nation's campuses.
- The **EnvironMentors Program** prepares high school students for college programs and careers in science and environmental professions.

NATIONAL CONFERENCE ON SCIENCE, POLICY AND THE ENVIRONMENT

The Council annually convenes a national conference that brings together over 800 leaders from science, government, corporate and civil societies to develop strategies to improve science-based decisionmaking on a major environmental theme. The conference includes the annual John H. Chafee Memorial Lecture on Science and the Environment. Following the conference the strategies are disseminated and used to catalyze new initiatives with stakeholder communities.

PUBLIC EDUCATION – THE ENCYCLOPEDIA OF EARTH (www.eoearth.org)

NCSE is committed to communicating science-based information to decisionmakers and the general public in a way that is comprehensive and accessible. Through the **Environmental Information Coalition,** the online **Encyclopedia of Earth** was launched in September 2006. Currently, more than 500 scholars from 30 countries had written, reviewed and published over 1,000 articles on a wide range of topics. The initiative is rapidly expanding, adding new resources such as electronic books and maps.

SCIENCE POLICY

NCSE builds understanding of, and support for, environmental science and its applications, and the programs that make it possible. The Council presents expert testimony to Congressional committees, consults regularly with key decisionmakers in government, and works to promote funding for environmental programs at numerous federal agencies.

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Agenda

Thursday, February 1, 2007

8:00 am **Registration & Continental Breakfast** (Amphitheater Foyer)

8:00 am-
5:30 pm **Exhibition** (Amphitheater Foyer)
Poster Session ***8:00 am- 5:00pm*** Amphitheater Foyer, Meridian Suites Foyer
7:00 pm- 9:00pm Atrium

9:00 am **Welcome** (Amphitheater)
Amb. Richard Benedick, President, National Council for Science and the Environment

9:15 am **Keynote Address** (Amphitheater)
Howard Frumkin, Director, National Center for Environmental Health and
the Agency for Toxic Substances and Disease Registry, Centers for Disease Control and Prevention

10:00 am **Plenary Roundtable –Strong Connections** (Amphitheater)
Moderator and Speaker:
Rita Colwell, Honorary Chairman, Canon Life Sciences, and Distinguished Professor, University of Maryland and Johns Hopkins University
Speakers:
Jonathan Patz, Associate Professor, Environmental Studies and Population Health Science, University of Wisconsin-Madison
Steven Salzberg, Horvitz Professor of Computer Science and Director, Center for Bioinformatics and Computational Biology, University of Maryland-College Park
Joseph Graziano, Associate Dean, Columbia University, School of Public Health

11:00 am **Plenary Roundtable - Systems Thinking** (Amphitheater)
Moderator:
Bernard Goldstein, Dean Emeritus, University of Pittsburgh, School of Public Health
Speakers:
Francesca Grifo, Senior Scientist and Director, Scientific Integrity Program, Union of Concerned Scientists
Milton Friend, Director Emeritus, National Wildlife Health Center, USGS
Audrey Chapman, Healey Memorial Chair in the Medical Humanities and Bioethics, University of Connecticut
Larry Murillo, Assistant Professor, Oregon Health and Science University, Public Health and Preventative Medicine, One Sky Center

12:15 pm **Lunch** (On your own - food court in the building)
Film (Amphitheater) *The Beloved Community,* ***Pamela Calvert***
** Breakout Session Chairs and Volunteers meet in Polaris B/C

1:30 pm-
5:00 pm

Concurrent Breakout Sessions

Meeting Rooms	Decisionmaking in the Real World
Meridian C	1. Integrating Environment, Culture, and Human Well-being
Amphitheater	2. Risk and Decisionmaking
Woodrow Wilson Center	3. Population, Gender, Justice and Health
Hemisphere A	4. The Natural Environment, Built Environment, and Social Environment*
Polaris A	5. Ecology of Water and Health
Horizon B	6. Oceans and Human Health
Gateway	7. Biodiversity and Health
Hemisphere A	8. Health Benefits of a Healthy Urban Environment*
Continental B/C	9. Emerging Infectious Disease and other Health Implications of Global Changes and Ecological Trends
Polaris C	10. Children's Minds: Environment, Development, and Mental Function
VIP Room (Balcony level)	11. Socially-Mediated Linkages between Resource Depletion and Health
Meridian E	12. Energy, Air Quality and Health
Green Room (off Amphitheater stage)	26. Health Impact Assessment of Development Policies, Programs, and Projects
	Guiding and Fostering Multi-Disciplinary Research
Oceanic A	13. Emerging Issues in Environmental Influences on Reproductive Health
Classroom A	14. Setting Research Priorities for Health and the Environment
Horizon A	15. Community-Based Health: Incorporating Social Sciences and Humanities
Classroom D	16. Medical Geology, Physical Sciences, and Health
Classroom C	17. Ecology and Epidemiology
Oceanic B	18. Ecological and Human Health Risk Assessment
	Expanding Understanding: Information, Education, and Communication
Continental A	20. Health Professionals' Education and the Environment
Polaris B	21. Bringing Health into Environmental Education
Meridian D	22. Journalists, Mass Media, and Decisionmaking
Meridian B	23. Innovative Uses of Information Technology
Meridian A	24. Designing for Complementarity among Programs Generating Environmental and Health Information
Classroom B	25. Measuring the Outcomes of Policies and Programs

**these sessions are combined*

5:30 pm **NCSE Lifetime Achievement Awards Ceremony (**Amphitheater)

Theo Colborn, President, The Endocrine Disruption Exchange
Presented by ***Jeffrey Leonard***, President and CEO of Global Environment Fund (GEF)
Herbert Needleman, Professor of Child Psychiatry and Pediatrics, University of Pittsburgh School of Medicine
Presented by ***Karim Ahmed***, Secretary/Treasurer, National Council for Science and the Environment

6:00 pm **7th John H. Chafee Memorial Lecture on Science and the Environment** (Amphitheater)
Welcome
Amb. Richard Benedick, President, National Council for Science and the Environment
Introduction
Peter Saundry, Executive Director, National Council for Science and the Environment
Lecture
Larry Brilliant, Executive Director, Google.org

7:00 pm **Reception** (Atrium)

8:00 pm **Post Conference Social Outing** (Amphitheater Foyer)
Interested students and young professionals meet Megan Chavez in Amphitheater Foyer

Friday, February 2, 2007

8:00 am **Continental Breakfast** (Amphitheater Foyer)

8:00 am- **Exhibition** (Amphitheater Foyer)
1:30 pm **Poster Session** (Atrium)

9:00 am **Keynote Address** (Amphitheater)
Introduction
Karim Ahmed, Secretary/Treasurer, National Council for Science and the Environment
Plenary Lecture
Mirta Roses Periago, Director, Pan American Health Organization, Regional Director, Regional Office for the Americas, World Health Organization

10:00 am- **Concurrent Symposia**
Noon
Decisionmaking in the Real World (Hemisphere A)

Richard Jackson, *Chair,* Adjunct Professor, Division of Environmental Health Sciences, University of California, Berkeley, School of Public Health
Gary Erbeck, Director, Department of Environmental Health, County of San Diego
Henry Anderson, Chief Medical Officer, Wisconsin Division of Public Health
Barbara Smisko, Director, National Environment, Health and Safety, Kaiser Permanente
Robert Donkers, Environmental Counselor, Delegation of the European Commission to the U.S.

Guiding Research (Polaris B/C)

Paul Gilman, *Chair,* Director, Oak Ridge Center for Advanced Studies
Ken Olden, *Chair,* Director Emeritus, National Institute of Environmental Health Sciences, NIH
Nathalie Valette-Silver*, Discussant,* National Oceanic & Atmospheric Administration
Carol Henry, *Discussant,* Vice President, American Chemistry Council
Kathy Sessions, *Discussant,* Coordinator, Health and Environmental Funders Network
Mark Horton, *Respondent,* California State Public Health Officer
Paul Anastas, *Respondent,* Professor, Green Chemistry, School of Forestry & Environmental Studies, and Senior Research Scientist in Environmental Engineering, Yale University

Expanding Understanding (Polaris A)

Diane Wood, *Chair,* President, National Environmental Education Foundation
Mark Pokras, Director, Center for Conservation Medicine, Tufts University
Floyd Malveaux, Executive Director, Merck Childhood Asthma Network, Inc.
Audrey Gotsch, Dean, School of Public Health University of Medicine and Dentistry of New Jersey,
Kristen Grimm, President, Spitfire Strategies

The Cultural, Socio-Economic and Ecological Determinants of Avian Influenza and its Spread (Horizon A/B)

Leslie Dierauf*, Chair,* Director, USGS National Wildlife Health Center
Lonnie J. King, *Chair,* Director for the National Center for Zoonotic, Vector-Borne, and Enteric Diseases, Centers for Disease Control and Prevention
Steven Salzberg, Horvitz Professor of Computer Science and Director, Center for Bioinformatics and Computational Biology, University of Maryland
Hon Ip, Diagnostic Virologist, U.S. Geological Survey, National Wildlife Health Center
Marguerite Pappaioanou, University of Minnesota, School of Public Health and College of Veterinary Medicine
Sharon Kemerer, Director of Occupational Health, Baxter Health Care
Robert A. Cook, Chief Veterinarian & Vice President, Wildlife Conservation Society
A. Townsend Peterson, Professor Ecology and Evolutionary Biology, University of Kansas and Curator of Ornithology for the Natural History Museum and Biodiversity Research Center

New Orleans and Katrina: Environment and Health Causes and Consequences (Amphitheater)

Gail Bingham, *Chair,* President, RESOLVE
Denise J. Reed, Professor, Department of Geology and Geophysics, University of New Orleans
Charlie R. Demas, Director, Louisiana Water Science Center, U.S. Geological Survey
Henry Falk, Director, Coordinating Center for Environmental Health and Injury Prevention, Centers for Disease Control and Prevention
Evangeline Franklin, Director, Clinical Services and Employee Health, Health Department, City of New Orleans

Noon-1:30 pm **Buffet Lunch** (Atrium)
** Some tables reserved for mentor/young professional networking.

Book Signing (Amphitheater Foyer)

Howard Frumkin, *Urban Sprawl and Public Health: Designing, Planning and Building for Healthy Communities***;**
Terry Tamminen, *Lives Per Gallon: The True Cost of Our Oil Addiction*,

1:30 pm **Plenary Roundtable - One World, One Health, One Science, One Education**
(Amphitheater)
Moderator:
Richard Jackson, Adjunct Professor, Division of Environmental Health Sciences, University of California, Berkeley, School of Public Health
Speakers:
Val Beasley, Professor of Veterinary, Wildlife, and Ecological Toxicology, College of Veterinary Medicine, University of Illinois at Urbana Champaign
Christopher Portier, Director, National Institute of Environmental Health Sciences, NIH
John Warner, Director, Center for Green Chemistry and Professor, Plastics Engineering, University of Massachusetts- Lowell
Lloyd Pinkham, River People, Elementary teacher, educator of Native Science and Philosophy

2:45 pm **Plenary Roundtable - Healthy People, Healthy Planet: From Evidence to Action**
(Amphitheater)
Moderator:
Peter Dykstra, Executive Producer, CNN
Speakers:
Mary Nichols, Director, University of California-Los Angeles Institute for the Environment
Georges Benjamin, Executive Director, American Public Health Association
Arthur Gibson, Vice-President, Environment, Health, and Safety, Baxter Healthcare
Terry Tamminen, Special Advisor for Governer Arnold Schwarzenegger, author of "Lives Per Gallon: The True Costs of Our Oil Addiction"

4:00 pm **Adjourn**
Concluding Remarks
Amb. Richard Benedick, President, National Council for Science and the Environment

Breakout Sessions – Thursday, February 1, from 1:30 to 5:00pm

Sessions on Decisionmaking in the Real World

1. Integrating Environment, Culture, and Well-being (Meridian C)

Detrimental effects of human activity in the past century and ecosystem degradation have long been established in the scientific community, but are not reflected in current regional and international policies. What is notable at present is a sense of urgency that previously did not exist. Ecosystem Health (EcoHealth) is a concept that has developed and evolved over the past three decades. Its approach is inherently transdisciplinary and recognizes complex biophysical, social, cultural, political and economic relationships between the ecosystem and human health. The participants will explore the following concepts in this breakout session using three case studies: (1) The human heath/ecosystem health interface; (2)The cultural health/ecosystem health interface ; and, (3) The healthy governance/ecosystem health interface.

Session Chair: ***Victoria Lee***, The Canadian Association of Physicians for the Environment
Discussants: ***Larry Murillo***, Assistant Professor, OHSU Public Health and Preventative Medicine, One Sky Center; ***Rye Barcott***, Harvard University, Kennedy School of Government, Founder, Carolina for Kibera

2. Risk and Decisionmaking Room: Amphitheater

Public decisions involving environmental and health issues often require decision makers to grapple with complex questions of risk. Over the past several decades, significant progress has been made in more clearly conceptualizing risk as a function of hazard and exposure; distinguishing risk assessment, risk characterization and risk management; and developing sophisticated tools for each step. Even as risk assessors continue to improve these tools, new issues and decisions are emerging (such as climate change and nanotechnology) which pose challenges to the risk assessment paradigm. In this break out sessions, participants will have the opportunity to discuss where there may be limits to the applicability of traditional risk assessment and to think together about what additional concepts and tools could be helpful.

Session Chair: ***Gail Bingham***, President, RESOLVE
Discussant: ***Terry Davies***, Senior Fellow, Resources for the Future; ***Julia Gohlke***, Postdoctoral Fellow, National Office of Risk Assessment Research, Institute of Environmental Health Science, National Institutes of Health

3. Population, Gender, Justice, and Health (Wilson Center)

The world's environmental problems increasingly resist disentanglement from one another and from human behaviors and activities. "Sustainable development" is challenging in part because actions that are benign on small scales become unsustainable when practiced by many or all of the world's 6.5 billion people. Close examination of the intersection of population, environment and women's lives tends quickly to raise issues of rights and justice, especially given the reality of varying levels of gender inequality in all societies. Economic and political arrangements can exacerbate gender imbalances and injustices. These interactions are notoriously difficult to understand quantitatively and qualitatively, but they are vitally important, particularly if equity, equality, and human health and well-being are among the values we hope to sustain.

Session Chair: ***Robert Engelman***, Vice President for Research, Population Action International
Discussants: ***Roger-Mark De Souza***, Population Reference Bureau; ***Katie Redford***, Executive Director, EarthRights International; ***Timothy Fields***, Vice President for DC operations of Tetra Tech EM Inc.

Rapporteur: ***Gib Clarke***, Program Associate, Environmental Change and Security Program, Global Health Initiative, Woodrow Wilson International Center for Scholars

4. The Natural Environment, Built Environment, and Social Environment

(Hemisphere A/B -- Combined with Session 8)

Three decades of research demonstrates that exposure to everyday nature (e.g., green spaces, trees, grass, gardens) promotes healthy social and cognitive functioning among humans. In public housing neighborhoods, green neighborhood spaces have been associated with positive attributes from an increase in the strength of the community to lower levels of crime, including less domestic violence. In addition to these benefits, having regular contact with natural settings has been found to have positive implications for cognitive functioning and psychological well-being in children and adults alike. In spite of these consistent findings, public policies and the physical design of places rarely reflect the capacity of green settings to promote human well-being. Moreover, individuals in different socioeconomic and ethnic groups have unequal access to green places and thus the positive benefits they bestow. The unequal access occurs in two ways: there are simply fewer green spaces in some communities, and many of the green spaces that do exist disregard the perceptions, needs, and preferences of minority communities.

Session Chair: ***William Sullivan***, Associate Professor and Director, Environmental Council, University of Illinois at Urbana-Champaign
Discussants: ***Kofi Boone***, Assistant Professor of Landscape Architecture, North Carolina State University; ***Stephen R. Kellert***, Tweedy Ordway Professor of Social Ecology, Yale University School of Forestry and Environmental Studies; ***Nancy Wells,*** Assistant Professor, Design and Environmental Analysis, College of Human Ecology, Cornell University

5. Ecology of Water and Health (Polaris A)

The lack of access to potable drinking water and adequate sanitation directly impacts the health of billions of people on the planet. These challenges attract increasing attention from national and international aid organizations, scientists, and governments. However, related issues of major importance for human and environmental health have received less attention. This session includes waterborne zoonoses, degradation of air quality associated with desiccating lakes and other water related ecological considerations requiring greater attention for freshwater management.

Session Co-Chairs: ***Milt Friend***, Director Emeritus, USGS National Wildlife Health Center; ***Michael Cohen***, Senior Research Associate, Pacific Institute
Facilitator: ***Joan Aron***, President, Science Communication Studies

6. Oceans and Human Health (Horizon B)

This session will bring together representatives from science, various levels of government and the private sector to develop recommendations to improve the use of the interagency Oceans and Human Health (OHH) program, established by Congress through the OHH Act of 2004, and related research findings, in the development and execution of public policy, from the local to the federal level. The OHH program is focused on research to more fully understand and characterize major health risks to humans posed by exposure to numerous pathogens, dangerous toxins from harmful algal blooms (HABs), and a broad range of chemical contaminants within ocean, coastal, and Great Lakes environments. We will use brief presentations of three very different case studies by OHH experts to stimulate group discussion of how to move technical information from the realm of scientific discourse to public policy and decisions.

Session Chair: ***Paul Sandifer***, Senior Scientist, National Centers for Coastal Ocean Science, NOAA
Discussants: ***Donald Anderson***, Senior Scientist and Director, Coastal Ocean Institute, Woods Hole Oceanographic Institution; ***A. Fred Holland***, Director, NOAA Hollings Marine Laboratory; ***D. Jay Grimes***, Provost and Vice President for Academic Affairs, University of Southern Mississippi

7. Biodiversity and Health (Gateway)

A better understanding of the consequences of ecosystem change on human well-being was identified as a research need by the Millennium Ecosystem Assessment (MA). The United Nations' (UN) Millennium Development Goals recognize the need to reconcile biodiversity conservation and the promotion of health and well-being. Characterizing the relationship between biodiversity and health can reveal the root causes of disease emergence and spread, which can lead to improved prevention and mitigation efforts. The rate of biodiversity loss is accelerating worldwide, despite decades of conservation efforts and the adoption of the Convention on Biological Diversity. The primary anthropogenic causes of this loss are habitat alteration, overharvesting, and the spread of invasive species. Climate change is also having spatial and temporal impacts on living systems. At the same time, infectious diseases appear to be emerging and re-emerging at an increasing rate, and environmental factors may be playing a significant role. Participants in this session will discuss the state of the science on the connections between changes in biodiversity and human infectious disease, important research priorities, and research outputs that could be useful for decisionmakers charged with protecting public health and the environment.

Session Co-Chairs: ***Montira Pongsiri***, Environmental Health Scientist, U.S. Environmental Protection Agency, Office of Research and Development; ***Joe Roman***, American Association for the Advancement of Science (AAAS) Fellow, U.S. Environmental Protection Agency
Discussants: ***Peter Daszak***, Executive Director, Consortium for Conservation Medicine; ***Tony L. Goldberg***, Associate Professor of Epidemiology, Director, Earth & Science Initiative on Emerging Disease & Ecosystem Health, University of Illinois; ***Thomas R. Gillespie***, Director, Earth & Society Initiative on Emerging Disease & Ecosystem Health, Departments of Pathobiology & Anthropology, University of Illinois; ***Keith Alger***, Vice President, Human Dimensions, Center for Applied Biodiversity Science, Conservation International; ***Brian F. Allen***, Ph. D candidate, Washington University, Department of Biology; ***Francesca T. Grifo***, Senior Scientist and Director, Scientific Integrity Program, Union of Concerned Scientists

8. Health Benefits of a Healthy Urban Environment (Hemisphere A/B)

This session will be combined with Session 4: The Natural Environment, Built Environment, and Social Environment

Session Chair: ***Richard Jackson***, Adjunct Professor, Division of Environmental Health Sciences, University of California, Berkeley, School of Public Health
Discussant: ***Andy Dannenberg***, Associate Director for Science, Division of Emergency and Environmental Health Services, Centers for Disease Control and Prevention

9. Emerging Infectious Disease and other Health Implications of Global Changes and Ecological Trends (Continental B/C)

Global environmental change, including climate change and the loss of habitat and biodiversity have dramatic implications for the distribution and proliferation of infectious disease. Invasive pathogens are devastating crops globally, and impacting humans through agricultural and economic loss. Other pathogens that affect people directly are also spreading due to a warming climate creating more habitable conditions.

Session Co-Chairs: ***Paul Epstein***, Associate Director, Harvard University, Center for Health and the Environment; ***Gerald T. Keusch***, Associate Provost for Global Health, Medical Campus, Associate Dean for Global Health, School of Public Health, Director, Global Health Initiative at Boston University
Discussant: ***James Marois***, Professor of Plant Pathology, University of Florida

10. Children's Minds: Environment, Development and Mental Function

(Polaris C)

This break-out session will discuss different environmental factors that can influence neurological development and brain function and potentially contribute to (or exacerbate) learning, behavioral and developmental disabilities as well as mental health issues. These factors may include toxicants, nutrition, socioeconomic status, gene-environment interactions, access to nature and infectious disease. The primary goal of this session is to outline the current science in this arena and develop up to 10 recommendations in terms of science, education and policy to help address these concerns.

Session Chair: ***Elise Miller***, Institute for Children's Environmental Health
Discussants: ***Allison Davis***, Director of Nursing, The Arc of Anne Arundel County; ***Leslie Rubin***, Director, Division of Developmental Pediatrics and Associate Professor of Pediatrics at Emory University; ***Stephen Kellert***, Tweedy Ordway Professor of Social Ecology, Yale University School of Forestry and Environmental Studies

11. Socially-Mediated Linkages between Resource Depletion and Health

(VIP Room-- off the Balcony of the Amphitheater)

This session looks at how socially-mediated linkages to resource depletion, consequent human behavior, public loss of confidence, and perception of risk create a "third category" of environmental problem separate from toxics and direct ecosystem effects that threaten human health. For example, when the North Atlantic cod fishery collapsed in 1990s as a result of over-fishing, communities that were dependent upon fishing have suffered a cascade of interrelated environmental, economic, social and health consequences. These include unemployment, alcoholism, depression, spousal abuse, and other problems that are often not recognized as having environmental causes. This session will identify examples of other such linkages, identify research needed to better understand the linkages, and mechanisms to educate decision makers about the unintended consequences of resource depletion.

Session Chair: ***Tee Guidotti***, Chair, Department of Environmental and Occupational Health, George Washington University
Discussants: ***Kristie Ebi,*** Employee Staffing Services, LLC; ***Pamela Davidson***, Assistant Professor, Department of Sociology and School of Public Policy and Public Administration (SPPA), George Washington University

12. Energy, Air Quality and Health (Meridian E)

Session Chair: ***Mary Nichols***, Director, UCLA Institute for the Environment

26. Health Impact Assessment of Development Policies, Programs, and Projects

(Green Room—off of Amphitheater)

Health impact assessment (HIA) has been defined as 'a combination of procedures, methods and tools that systematically judges the potential, and sometimes unintended, effects of a policy, plan,

program or project on the health of a population and the distribution of those effects within the population. HIA identifies appropriate actions to manage those effects.' (IAIA 2006). The World Health Organization (WHO) and the International Association of Impact Assessment (IAIA) have a joint program to develop the understanding and capacity required for the application of HIA and of Public Health Management Plans as part of the implementation of development policies and projects. This breakout session will examine lessons from the work of the WHO and the IAIA, including the economic and equity dimensions of the HIA and the strategic alliance between health and the environment.

Session Chair: ***Ben Cave***, Chair of the Health Section of the International Association of Impact Assessment and Director (IAIA), Ben Cave Associates
Discussants: ***Rita Hamm***, CEO, International Association of Impact Assessment; ***Aaron Wernham***, Alaska Inter-Tribal Council, Fellow, Columbia University Institute on Medicine as a Profession

Guiding and Fostering Multi-Disciplinary Research

13. Emerging Issues in Environmental Influences on Reproductive Health

(Oceanic A)
Headlines are raising questions about bisexual fish in rivers across the US and are reporting the loss of more and more natural commercial fisheries around the world. International biomedical experts are agreeing that the growing incidence of human male reproductive organ disorders, including testicular cancer, is a result of prenatal exposure to environmental chemicals. Epidemiologists have linked unusual external genitalia development in newborn boys with plastic additives in their mothers' urine during pregnancy. This session will take a look at the latest evidence concerning the role of environmental contaminants in reproductive health, development, and function, from the gene and early stages of development to the gray-haired population, highlighting the diverse impacts of endocrine disruption in multiple body systems at diverse stages in the life-cycle.

Session Chair: ***Richard Liroff***, Executive Director, Investor Environmental Health Network
Discussants**:** ***Theo Colborn***, President, The Endocrine Disruption Exchange; ***R. Thomas Zoeller***, Professor and Chair, Biology Department, University of Massachusetts; ***Michael Fry***, Director, Pesticides and Birds Program, American Bird Conservancy; ***Bernard Weiss***, Professor of Environmental Medicine and Pediatrics, School of Medicine and Dentistry, University of Rochester

14. Setting Research Priorities for Health and the Environment (Classroom A)

The session will discuss the research, science and technology Grand Challenges facing the Nation to reduce the impact of human and ecosystem health hazards. These challenges were identified by the federal government, in 2005. As a follow up, federal agencies are suggesting actions (ranging from short-term to long-term) they could implement to help in preventing or minimizing human and ecosystem health disasters. These activities will be discussed by all the participants to assess if any major research, science, and technology needs have been overlooked.

Session Co-Chairs: ***Nathalie Valette-Silver***, Director for the Cooperative Center for Marine Animal Health in the National Centers for Coastal Ocean Science, NOAA; ***Josephine Malilay***, Centers for Disease Control and Prevention
Discussants: ***David Applegate,*** U.S. Geological Survey/ Office of Science Technology Policy of the President, Committee on Environment and Natural Resources, Subcomittee on Disaster Reduction: Federal Grand Challenges for Disaster Reduction; ***Claude De ville De***

Goyet, Consultant, Pan American Health Organization; ***Kristie Ebi,*** Employee Staffing Services, LLC; ***Mary Gant***, National Institute of Environmental Health Sciences

15. Community Based Health: Incorporating Social Sciences and Humanities

(Horizon A)

Sustainable communities are characterized by a healthy environment, a strong economy and social justice. The goal of this session is to solicit recommendations for action based strategies needed to produce sustainable communities. This session will help to bridge the gap between the humanities and the social, natural and health scientists with respect to the much needed health research, development of treatment options, health promotion, disease prevention and delivery of health services to our community. The objective of this session will be to encourage collaboration through more effective dialogs among scientists and the community.

Session Co-Chairs: ***Robert Wingfield***, Director, Community Environmental Programs, Fisk University; ***Betty Cox***, Chair, Department of Sociology, Texas Southern University
Discussants: ***Vereda Johnson King,*** Associate Professor of Economics, North Carolina A&T State University; ***Myra M. Lewis***, Assistant Director, Deep South Center for Environmental Justice, Dillard University; ***Evangeline Franklin,*** Director, Clinical Services and Employee Health, Health Department, City of New Orleans

16. Medical Geology, Physical Sciences, and Health (Classroom D)

Medical Geology is an emerging scientific discipline that is concerned with the impacts of earth materials and processes on human and ecosystem health. It marries the analytical techniques and intellectual framework traditionally embraced by the physical science community with the epidemiological perspective, emphasis on applied solutions, and prevention of health problems that are historically associated with the fields of biomedicine and public health. Medical geologists investigate both natural and anthropogenic sources of potential health problems, and are not constrained by some false distinction between human health and that of wildlife and plants. This breakout session will generate by consensus a set of recommendations to advance Medical Geology in terms of science, education, and policy.

Session Chair: ***Joseph E. Bunnell***, Public Health Research Biologist, Energy Resources Team, U.S. Geological Survey
Discussants: ***Catherine Skinner***, Lecturer, Department of Orthopedics and Rehabilitation, Yale Medical School; ***Jose A. Centero***, Chief, Division of Biophysical Toxicology, Dept. of Environmental and Infectious Disease Sciences, Armed Forces Institute of Pathology

17. Ecology and Epidemiology (Classroom C)

The worldwide spate of emerging and reemerging infectious diseases in the first half of this decade has prompted a growing recognition of the connection between global climate change and human health. The implications of global environmental change on human health are beginning to prompt collaborations between the health community and the environmental science community to understand some of the upstream determinants of the causative agents of disease. Despite the heightened interest in exploring the environment-human health connection, funding for these efforts is difficult to come by. In an era of budget cutbacks, such large, interdisciplinary endeavors tend to be relegated to low-priority status. This session will explore the potential for further collaboration and funding for interdisciplinary research on the correlations between our environment and human health.

Session Chair: ***Jonathan Patz,*** Associate Professor, Environmental Studies and Population Health Sciences, University of Wisconsin-Madison

Discussant: ***Jim Collins***, Director of Epidemiology, Dow Chemical

18. Ecological and Human Health Risk Assessment (Oceanic B)

Risk assessment is a set of tools that has steadily gained visibility over the past four decades. It is applied to an increasing variety of contexts, from homeland security to insurance. However, when used to estimate narrowly focused outcomes--such as human health impacts of a particular pollutant--risk assessment can limit or skew debate. This session explores the extent to which standard tools of risk assessment that calculate probabilities and outcomes can be applied to manage both human health and ecosystem health. We will consider the role and importance of uncertainty, and differentiate between risk assessment as a tool for calculating outcomes and risk assessment as a process for describing systems interactions. We will use the cases of comparative risk projects and the environmental fate and transport of unused pharmaceuticals to explore this topic.

Session Chair: ***David Hassenzahl***, Chair, Department of Environmental Studies, and Associate Professor, School of Public Affairs, University of Nevada-Las Vegas
Discussants***:*** ***Michael Murray,*** Staff Scientist, National Wildlife Federation; ***Ilene Ruhoy***, Doctorial Candidate, University of Nevada-Las Vegas, and EPA Volunteer, Environmental Chemistry Branch, Environmental Sciences Division, US EPA

Expanding Understanding: Information, Education, and Communication

20. Health Professionals' Education and the Environment (Continental A)

With the myriad of environmental issues impacting our communities and our world, the public expects their health care providers to be prepared to address the health consequences of environmental exposures, but all too often providers are not equipped to respond effectively. The need for improvements in health professionals' environmental health knowledge has been expressed by leading health institutions. This session will provide examples of successful models for educating health professionals on environmental health. Participants will develop recommendations for integrating environmental health into health professionals' education and practice.

Session Chair: ***Leyla McCurdy***, Senior Director, Health & Environment, National Environmental Education Foundation
Discussants: ***Marie-Noel Brune,*** Technical Officer, Public Health and the Environment, World Health Organization; ***Floyd J. Malveaux***, Executive Director, Merck Childhood Asthma Network, Inc.; ***Elisabeth Blackburn,*** Coordinator, Community Affairs and Outreach, Office of Children's Health Protection and Environmental Education, Child and Aging Health Protection Division, U.S. Environmental Protection Agency

21. Bringing Health into Environmental Education (Polaris B)

Although many groups are working to bring environmental education to health education, there are far fewer examples of teaching environmental students about the relationship between human health and the environment. Yet, issues from environmental justice to global change need environmental professionals who understand and can communicate about the health consequences of an impaired environment and the environmental consequences of an unhealthy population. Examples of how human health can be an integral component of environmental education at all levels will be presented. Session participants will produce recommendations to promote the development and use of integrated environmental science/studies and human health curricula.

Session Chair: ***Richard Gragg***, Director, Center for Environmental Equity and Justice for the State of Florida and Associate Director, Environmental Sciences Institute, Florida A&M University
Discussants: ***Lovell Jones,*** Director, Center for Research on Minority Health and the University of Texas M.D. Anderson Cancer Center; ***Diane Angell,*** Assistant Professor of Biology, St. Olaf College; ***David Edwards***, Environmental Enforcement Coordinator, Department of Natural Resources, State of Wisconsin

22. Journalists, Mass Media, and Decisionmaking (Meridian D)

The media plays a critical role in providing citizens and decision-makers with accurate and unbiased information on issues of science and science policy. Coverage of topics related to the environment and health become more complex as the value judgments of these issues are as central to the debate (if not more so) than the facts themselves. How such issues are portrayed in the media largely influences how they will be received by the public and prioritized on the public agenda. This session will explore the responsibilities and roles of journalists when covering environmental and health issues that, despite a scientific consensus, remain politically and publicly contentious.

Session Chair: ***Pete Myers***, CEO/Chief Scientist, Environmental Health Sciences
Discussant: ***Dawn Fallik,*** formerly Medical and Science Reporter, The Philadelphia Inquirer

23. Innovative Uses of Information Technology (Meridian B)

Regardless of the scientific discipline, data and findings necessarily fall far short of their potential for societal impact if they are not adequately organized, categorized, and presented, in a logical, comprehensible, and easy to access manner. Thus, information science, or informatics, plays a critical role in creating repositories or databases, and the means by which these can be navigated, to create a useful knowledge base. Online databases linking human health and the environment (as well as ancillary disciplines such as toxicology, risk assessment, and occupational safety and health) are widespread, but gaps remain and it is essential to find ways to coordinate the existing data, to stimulate collaboration and minimize duplication, and to design portal starting points to dig deeper into the information trove. This session seeks to explore the informational matrix at the intersection of environment and human health, and will highlight today's successes. It also will raise for discussion ways by which the existing framework can better be integrated into a cohesive whole, suggest means to plug the gaps, and consider how to incorporate global concerns, all the while adhering to quality standards.

Session Co-Chairs: ***Cutler Cleveland***, Director, Center for Energy and Environmental Studies, Boston University; ***Phil Wexler***, Technical Information Specialist, Toxicology & Environmental Health Information Program, National Library of Medicine, National Institutes of Health

24. Designing for Complementarity among Programs Generating Environmental and Health Information (Meridian A)

The potential for monitoring is limited only by our ability to pose relevant questions about *what*, *where*, *when* or *how much*. This information forms the basis of assessments that prove useful in supporting decisions by stakeholders. Armed with monitoring information, these stakeholders can pose the more specific *why* and *what now* questions—to chart and guide the management of human and environmental resources. The spectrum of stakeholders ranges from heads of state or of environmental or health agencies to farmers, private sector managers, consumers and individuals with a need-to-know. Recognizing that monitoring needs and data reside within fluid and expansive spatial and temporal dimensions makes the practice of monitoring all the more complex. Furthermore, there well may be gaps in what information and data generated by

monitoring is available. This session seeks to explore the question: Can there be an ideal situation where monitoring data and information are collected once, and used in a variety of situations? That is, can we ***measure once, use many***?

Session Chair: ***Sidney Draggan***, Ecologist, Senior Science and Science Policy Advisor
Discussants: ***Caryl Waggett,*** Pennsylvania Consortium on Interdisciplinary Environmental Policy, Program on Human Health and Environment, Allegheny College; ***Gladys Cotter***, Associate Chief Biologist, U.S. Geological Survey; ***Stan Morain***, Earth Data Analysis Center, University of New Mexico; ***William Sprigg***, Institute of Atmospheric Physics, University of Arizona

25. Measuring the Outcomes of Policies and Programs (Classroom B)

Since the enactment of Government Research and Performance Act of 1993 and subsequent Federal and state and local accountability programs, administrative and public policy demand for performance measurement has rapidly increased. The current demand is to measure accountability of investment on broader long-term outcomes and to do so as quickly and cost-effectively as possible. For environmental health, this means measuring the value of research, regulations, and other programs in terms of better human health, environmental improvement, and benefit to the economy. Developing a series of reliable metrics that can be used to quantify and compare scientific and health outcomes is an important next step in evaluation. This session will bring together representatives from the government and the private sector to identify the methods and data sources to better enable tracking of impacts from investments in environmental health programs. Short case studies will be presented from organizations that have successfully measured the outcomes of their environmental health programs, followed by discussion and recommendations on how the data sources, methodologies, and metrics can be improved throughout the environmental health community.

Session Co-Chairs: ***Jill Engel-Cox***, Principal Research Engineer, Battelle Memorial Institute; ***Jerry Phelps***, Program Analyst, National Institute of Environmental Health Sciences
Discussants: ***Bernard Goldstein***, Dean Emeritus, University of Pittsburgh, Graduate School of Public Health; ***Ben Van Houten***, Chief, Program Analysis Branch, Division of Extramural Research and Training, National Institute of Environmental Health Sciences; ***Dale Pahl,*** Assistant Laboratory Director for Research, Office of Research and Development, U. S. Environmental Protection Agency

Biographies of Plenary Lecturers

Thursday Morning Keynote Address:

Howard Frumkin, MD, MPH, DrPH, serves as Director of the National Center for Environmental Health of the Agency for Toxic Substances and Disease Registry, Centers for Disease Control and Prevention (NCEH/ATSDR, CDC). NCEH/ATSDR works to maintain and improve the health of the American people by promoting a healthy environment and by preventing premature death and avoidable illness and disability caused by toxic substances and other environmental hazards.

Before joining the CDC in September 2005, Dr. Frumkin was professor and chair of the Department of Environmental and Occupational Health at the Emory University Rollins School of Public Health, and professor of medicine at Emory Medical School, in Atlanta. At Emory, he founded and directed the Environmental and Occupational Medicine Consultation Clinic, the Occupational Medicine Residency training program, and the Southeast Pediatric Environmental Health Specialty Unit. Dr. Frumkin is an internist, environmental and occupational medicine specialist, and epidemiologist.

He previously served on the board of directors of Physicians for Social Responsibility (PSR), where he co-chaired the Environment Committee; as president of the Association of Occupational and Environmental Clinics (AOEC); as chair of the Science Board of the American Public Health Association (APHA); as a member of EPA's Children's Health Protection Advisory Committee, where he chaired the Smart Growth and Climate Change work groups; and on the National Toxicology Program Board of Scientific Counselors.

He currently serves on the Institute of Medicine Roundtable on Environmental Health Sciences, Research, and Medicine. In Georgia, he was a member of the state's Hazardous Waste Management Authority, the Department of Agriculture Pesticide Advisory Committee, and the Pollution Prevention Assistance Division Partnership Program Advisory Committee.

In Georgia's Clean Air Campaign, he served on the board and chaired the Health/Technical Committee. He was named Environmental Professional of the Year by the Georgia Environmental Council in 2004. He has served as a consultant to several corporations and to several unions.

Dr. Frumkin received his BA from Brown University, his MD from the University of Pennsylvania, his MPH and DrPH from Harvard, his internal medicine training at the Hospital of the University of Pennsylvania and Cambridge Hospital, and his occupational medicine training at Harvard. He is board-certified in both internal medicine and occupational medicine, and is a fellow of the American College of Physicians and the American College of Occupational and Environmental Medicine.

He is the author or co-author of over 100 scientific journal articles and chapters, and has written numerous books, including *Urban Sprawl and Public Health: Designing, Planning and Building for Healthy Communities*, which he will be signing copies of on Friday, February 2 at 12:00 noon in front of the Amphitheater.

Friday Morning Keynote Address:

Mirta Roses Periago, MD, is the Director of the Pan American Health Organization and Regional Director of the Regional Office for the Americas of the World Health Organization.

Dr. Roses began her career of service in Córdoba, Argentina, as a physician on the staff of Rawson Hospital and as an assistant instructor at the National University in the Departments of Preventive and Social Medicine and Infectious Diseases. She participated in the Research Program on Argentine Hemorrhagic Fever in Pergamino, Buenos Aires Province. In 1974, she joined Argentina's Ministry of Public Health, where she held posts in the areas of epidemiology, research, and health emergencies.

She joined the Pan American Health Organization/World Health Organization (PAHO/WHO) in 1984 as coordinator of the Epidemiology Unit of the Caribbean Epidemiology Center (CAREC) in Trinidad and Tobago.

In 1986, Dr. Roses was transferred to the Dominican Republic, where she served as an epidemiologist. In 1988 she was named PAHO/WHO Representative in that country. There, she was awarded an honorary doctorate by the Central University of the East and named an Honorary Professor by the Autonomous University of Santo Domingo.

From July 1992 to January 1995 she served as the PAHO/WHO Representative in Bolivia, where she was awarded the Armed Forces Order of Marshal Santa Cruz, the Order of Bolivar the Liberator, and the Presidential Order of Public Health, and was named an Honorary Professor by the University of San Andrés.

In 1995, she was appointed Assistant Director of PAHO, joining the World Health Organization's Director Program Management Group and Global Program Management Group, which she chaired for two periods.

In September 2002, Dr. Roses was elected Director of the Pan American Sanitary Bureau by the countries of the hemisphere. She took office on 1 February 2003, becoming the first Argentine and first woman to hold that position in the world's oldest health public agency, founded in 1902.

Dr. Roses has been the recipient of numerous honors--among them, honorary doctorates from the National University of Córdoba in Argentina and the Cayetano Heredia Peruvian University. She has also been awarded Ecuador's National Order of Honorato Vásquez with the degree of High Official and Nicaragua's Order of José de Marcoleta and Pedro Joaquín Chamorro Order of Liberty.

NCSE Lifetime Achievement Award Recipients:

Theo Colborn, **Ph.D**, an environmental health analyst, is president of The Endocrine Disruption Exchange, (TEDX, Inc), Paonia, CO., and a Professor at the University of Florida, Gainesville. Previously, she directed the wildlife and contaminants program of the World Wildlife Fund (WWF), where she worked from 1988 until 1993. Dr. Colborn provided the science for Great Lakes, Great Legacy (1990), using wildlife and human examples to reveal the transfer of chemicals from one generation to the next. In 1992, she edited Chemically Induced Alterations in Sexual and Functional Development: The Wildlife Human Connection, which introduced the concept of endocrine disruption. She co-authored the 1996 book, *Our Stolen Future* with Dianne Dumanoski and Pete Myers, presenting in lay terms the message of the technical book.

Dr. Colborn has served on numerous science advisory boards for federal agencies such as the U.S. Environmental Protection Agency, the Department of Interior, the US Fish and Wildlife Service, the US Department of Health and Human Services Agency for Toxic Substances Disease Registry, the International Joint Commission of the United States and Canada, Environment Canada, Health Canada, and advised national health authorities in Japan and Europe. For her pioneering work on the effects of synthetic chemicals on the endocrine system, she received the 2000 Blue Planet Prize from the Asahi Glass Foundation, and the 2004 Rachel Carson Award from the Center for Science in the Public Interest.

Dr. Colborn started her career as a scientist late in life, after she and her husband retired from a successful pharmacy business to raise sheep. She became alarmed by pollution in the Gunnison River near their ranch in Colorado. Her involvement in Western water issues led her to earn a master's degree in science (freshwater ecology) at Western State College of Colorado and a Ph.D. in zoology, with distributed minors in epidemiology, toxicology, and water chemistry, from the University of Wisconsin-Madison. Her pioneering work on the effects of synthetic chemicals on the endocrine system has led some to compare her to Rachel Carson, who warned the world about the dangers of DDT.

Herbert L. Needleman, M.D., is a Professor of Child Psychiatry and Pediatrics at the University of Pittsburgh School of Medicine. Dr. Needleman was born in Philadelphia, Pennsylvania and graduated from Overbrook High School. He received his baccalaureate degree from Muhlenberg College, and his MD from the University of Pennsylvania. He then interned at the Philadelphia General Hospital. Following military service as a captain in the US Army, he trained in pediatrics at the Children's Hospital of Philadelphia. He served as Chief Resident in pediatrics at that institution, and research fellow in cardiology of the National Institutes of Health. Following that, he entered the private practice of pediatrics. He then trained in psychiatry at the Temple University Health Sciences Center, and was assistant professor of psychiatry. He then moved to Boston as attending physician at the Children's Hospital of Boston and associate professor of psychiatry at Harvard Medical School. He is currently professor of child psychiatry and pediatrics at the University of Pittsburgh School of Medicine.

Dr Needleman became interested in the health effects of lead at "silent" doses. He developed a new way of measuring a child's body burden of lead: the analysis of teeth. This method as been adopted for use around the world. He mounted the first large scale study of intelligence and behavior in children who had no symptoms of lead toxicity. He showed that children with high lead in their teeth, but no signs of lead poisoning, had lower IQ scores, poorer attention, and

poorer language skills. Similar effects have been published in many studies around the world. His early paper, published in 1979 was influential in the decision to remove lead from gasoline.

Dr. Needleman followed his subjects into adulthood and showed that lead exposure is associated with increased risk for failure to graduate from high school, and reading disabilities. These studies have proved influential in government regulation and programs such as the Public Health Service Strategic Plan to Eliminate Childhood Lead Poisoning, and the Centers For Disease Control guidelines for recognition and treatment of the disease.

Dr. Needleman was the first investigator to study the effects of lead during pregnancy on infant development, and showed that umbilical cord blood lead levels were associated with IQ scores at 2 years of life. Other investigators in the U.S. and Australia have also subsequently reported similar studies.

For his research he has been honored with the first scientific studies award of the Academy of Association for Children with Learning Disabilities, the Sarah Poiley Medal of the New York Academy of Sciences, the Charles Dana Award for Pioneering Achievement in Public Health, the National Wildlife Federation Conservation Science Award, the University of Pittsburgh Chancellor's Award for Public Service, the H. John Heinz Foundation Environmental Award, the Physician's Forum Edward K. Barsky Award, the Society for Occupational and Environmental Health Vernon Houk Award, Muhlenberg College's Shankweiler Award, the University of Pennsylvania's Distinguished Graduate Award, and the Prince Mahidol Award of Thailand. He has been elected to Who's Who in America, the Institute of Medicine of the National Academy of Sciences, the Collegium Ramazzini and Sigma Xi.

John H. Chafee Memorial Lecturer:

Larry Brilliant, **MD, M.P.H**., is the Executive Director of Google.org. In this role, Larry works with the company's co-founders to define the mission and strategic goals of Google's philanthropic efforts. Google.org, the umbrella organization for these efforts, includes the Google Foundation as well as Google Grants (the AdWords giving program) and the company's major initiatives aimed at reducing global poverty, improving the health of the least advantaged in the world, and working to halt or even reverse the effects of the climate crisis.

Dr. Brilliant is board-certified in preventive medicine and public health. He is a founder and director of The Seva Foundation, which works in dozens of countries around the world, primarily to eliminate preventable and curable blindness. He also serves as a member of strategic advisory committees for the University of California-Berkeley School of Public Health, Omidyar Network, and Kleiner Perkins (KPCB) Venture Capital.

In addition to his medical career, Dr. Brilliant co-founded The Well, a pioneering virtual community, with Stewart Brand in 1985. He also holds a telecommunications technology patent and has served as CEO of two public companies and other venture-backed start-ups.

The author of two books and dozens of articles on infectious diseases, blindness, and international health policy, Dr. Brilliant has worked at city, county, state, federal, and international levels. He was recently a "first responder" for CDC's smallpox bio-terrorism response effort, volunteered in Sri Lanka for tsunami relief, and established "Pandefense," an interdisciplinary consultancy to prepare for possible pandemic influenza. He lived in India working as a United Nations medical officer for more than a decade where he played a key role in the successful World Health Organization (WHO) smallpox eradication program and has recently worked for the WHO polio eradication effort as well. He was associate professor of epidemiology, global health planning and economic development at the University of Michigan.

Dr. Brilliant earned a Masters in Public Health in health planning and economic development from the University of Michigan, and received his M.D. from Wayne Medical School. He has received several awards from the government of India and from the WHO. In 2005 he received an honorary Doctorate of Sciences from Knox College, and was named "International Public Health Hero" by the University of California. In February 2006 he received the Sapling Foundation's Technology Entertainment Design (TED) Prize.

Plenary Speakers

1. Strong Connections

Moderator and Speaker:

Rita Colwell, **Ph.D.,** is Chairman of Canon US Life Sciences, Inc. and Distinguished University Professor at the University of Maryland at College Park and Johns Hopkins University Bloomberg School of Public Health. She serves as a Board Member of the NCSE. Dr. Colwell served as the 11th Director of the National Science Foundation from 1998-2004. As NSF Director, she served as Co-chair of the Committee on Science of the National Science and Technology Council. Dr. Colwell has been awarded 40 honorary degrees from higher education institutions. Dr. Colwell's interests are focused on global infectious diseases, water, and health, and she is currently developing an international network to address emerging infectious diseases and water issues for both the developed and developing world.

Speakers:

Jonathan Patz, MD, MPH, is Associate Professor of Environmental Studies and Population Health Sciences at the University of Wisconsin-Madison, where he directs a university-wide initiative on Global Environmental Health. He is an Adjunct Associate Professor in the Department of Environmental Health Sciences at the Johns Hopkins Bloomberg School of Public Health, and also an Affiliate Scientist of the National Center for Atmospheric Research (NCAR). He has served as Co-chair for the Health Expert Panel of the US National Assessment on Climate Variability and Change, Convening Lead Author for the United Nations/World Bank Millennium Ecosystem Assessment, and Lead Author on several United Nations Intergovernmental Panel on Climate Change (IPCC) reports and World Health Organization (WHO) monographs on climate change. He currently is President of the International Association for Ecology and Health and Co-Editor for its journal, Ecohealth: Conservation Medicine and Ecosystem Sustainability. Dr. Patz has co-edited a textbook: Ecosystem Change and Public Health: A Global Perspective, published in 2001. Dr. Patz has written over 50 peer-reviewed scientific papers addressing the health effects of global environmental change. He has earned medical board certification in both Occupational/ Environmental Medicine and Family Medicine and received his medical degree from Case Western Reserve University and his Master of Public Health (MPH) degree from Johns Hopkins University. In 2005, he was awarded as an Aldo Leopold Leadership Fellow.

Steven Salzberg, **Ph.D.** is the Horvitz Professor of Computer Science & Director, Center for Bioinformatics and Computational Biology at the University of Maryland- College Park. From 1997 to 2005 he was at The Institute for Genomic Research (TIGR) in Rockville, Maryland, where he was the Senior Director of Bioinformatics, and where he continues to hold an adjunct appointment. Dr. Salzberg developed one of the first computational gene-finding systems for the human genome in the early 1990s. He was part of the teams that analyzed the human genome as well as the genomes of the organisms that cause Lyme disease, syphilis, tuberculosis, cholera, and anthrax. His recent genomics projects include sequencing and analysis of multiple strains of *Bacillus anthracis* (anthrax) and of the human influenza A virus. Dr. Salzberg has authored or co-authored two books and over 125 scientific publications. He is a Fellow of the American Association for the Advancement of Science, and he currently serves on the editorial boards of the journals Bioinformatics, BMC Biology, Journal of Computational Biology, BMC Genomics, BMC Bioinformatics, and Applied Bioinformatics. He has co-chaired the Third (1999) through the Eighth (2005) Conferences on Computational Genomics.

Joseph Graziano, Ph.D., is Associate Dean for Research and Professor of Environmental Health Sciences at Columbia University's Mailman School of Public Health. Dr. Graziano's research career has been devoted to understanding the consequences of exposure to arsenic and other metals, both on the molecular and population levels. Dr. Graziano has been a faculty member at the College of Physicians & Surgeons of Columbia University since 1979, and was Chairman of the Department of Environmental Health Sciences at the School of Public Health from 1991-2002, when he became Associate Dean. In 2000, Dr. Graziano became the founding director of the Columbia University Superfund Basic Research Program (SBRP). He previously served as a toxicology consultant to the World Health Organization and the World Bank, and has received numerous awards for his research. In 2002, he was voted Teacher of the Year at the Mailman School of Public Health.

2. Systems Thinking

Moderator:

Bernard Goldstein, MD, is Dean Emeritus of the University of Pittsburgh Graduate School Of Public Health. Dr. Goldstein is a member of the conference planning committee. An environmental toxicologist, his research interests have focused largely on the concept of biological markers in the field of risk assessment. Previously, Dr. Goldstein was Chairman of the Department of Environmental and Community Medicine at the University of Medicine and Dentistry, New Jersey-Robert Wood Johnson Medical School, where he directed the largest academic environmental and occupational health program in the U.S. -- the Environmental and Occupational Health Sciences Institute. He also has served as an officer with the U.S. Public Health Service and as Assistant Administrator for Research and Development at the U.S. Environmental Protection Agency.

Speakers:

Francesca T. Grifo, Ph.D., is a Senior Scientist at the Union of Concerned Scientists and the Director of their Scientific Integrity Program. Prior to joining UCS in 2005, Dr. Grifo directed the Center for Environmental Research and Conservation graduate policy workshop and ran the Science Teachers Environmental Education Program at Columbia University. Dr. Grifo edited and contributed to the books *Biodiversity and Human Health* and *The Living Planet in Crisis: Biodiversity Science and Policy*. In addition to her scholarly work, Dr. Grifo was the manager of the International Cooperative Biodiversity Groups Program at the National Institutes of Health. She was also a senior program officer for Central and Eastern European for the Biodiversity Support Program, a consortium of the World Resources Institute, the Nature Conservancy, and the World Wildlife Fund; and an AAAS Fellow in the Office of Research at the Agency for International Development. She currently holds adjunct appointments at Columbia and Georgetown.

Milton Friend, **Ph.D.,** is Founding Director Emeritus of the USGS National Wildlife Health Center. Dr. Friend is a member of the conference planning committee. Dr. Friend has had a distinguished career in government service that has encompassed national and international issues on wildlife health, biology and conservation. Dr. Friend served as Executive Director of the Salton Sea Science Committee from 1998 to 2002, to develop and oversee the science program for the Salton Sea Restoration Project. His many honors and awards include the Department of the Interior´s Meritorious Service and Distinguished Service Awards.

Audrey Chapman, Ph.D., holds the Healey Endowed Chair in Medical Humanities and Ethics at the University of Connecticut Health Center. Prior to coming to the University of Connecticut in July 2006, she served as the Director of the Science and Human Rights Program at the American Association for the Advancement of Science (AAAS) and as the Senior Associate for Ethics for the AAAS Program of Dialogue on Science, Ethics, and Religion. She received a Ph.D. in public law and government from Columbia University and graduate degrees in theology and ethics from New York Theological Seminary and Union Theological Seminary. She is also an ordained United Church of Christ minister. She has worked on a wide range of ethical, human rights, theological, and intellectual property issues related to health, genetic developments, and stem cells. She is the author, coauthor, or editor of sixteen books and numerous articles and reports. She is currently a member of the University of Connecticut Embryonic Stem Cell Oversight Committee, the John Dempsey Hospital Ethics Committee, the Gladstein Human Rights Committee, and the Executive Committee for the University of Connecticut Program on Science and Human Rights. In addition, she serves on the Expert Genomics Advisory Panel of the Connecticut Department of Public Health and co-chairs its Ethical, Legal, and Social Issues Subcommittee and is a member of the State of Connecticut Stem Cell Ethics Working Group. She also is a member of the Committee on Medical Humanities of the Canadian Institutes of Health Research and the Board of the Society of Christian Ethics.

Larry Murillo, Ph.D., is Shoshone from Fort Hall, Idaho on his mother's side and Guamara from Mexico on his father's side. He is an Assistant Professor in Public Health and Psychiatry at the Oregon Health and Science University and is associated with the One Sky Center. Dr. Murillo is currently developing information to evaluate and plan health programs based on American Indian traditional health practices and epistemology. In October of 2005 he was awarded a two-year grant from the National Institute of Alcohol Abuse Administration to study Native American Health Disparities. Dr. Murillo has worked for over 20 years with various Native American communities as a public health educator and community organizer. As a cultural health educator he has developed health promotion disease prevention programs in the areas of Maternal Child Health, AIDS, Tobacco Education, Diabetes, and Obesity. Dr. Murillo received his doctoral degree in Public Health from the University of California, Berkeley. His recently completed dissertation is entitled "American Indian and Alaska Native Traditional Health Practices: Providing a Socio-Cultural Context for Health Care and Implications for Health Disparity. His latest publication is a chapter in the book "Healing and Mental Health for Native Americans: Speaking in Red." The chapter is called "Perspectives on Traditional Health Practices."

3. One World, One Health, One Science, One Education

Moderator:

Richard Jackson, **MD,** is Professor of Environmental Health at the University of California, Berkeley School of Public Health. He has served in many leadership positions with the California Health Department, most recently as the State Health Officer under Governor Schwarzenegger. For nine years he was Director of the Centers for Disease Control and Prevention's (CDC) National Center for Environmental Health. While in California he carried out investigations that led to strengthening of farm worker health protection, food safety and child health. His work led to the establishment of the California Birth Defects Monitoring Program and state and national laws that removed the licenses for a series of dangerous

pesticides. At CDC, he worked for the addition of folic acid to food to prevent birth defects, established the national asthma epidemiology and control programs, and oversaw the childhood lead poisoning prevention programs. He instituted the current federal effort to "biomonitor" chemical levels in the US population. He was the US lead under several US government efforts around health and environment in Russia, including radiation threats.

Speakers:

Val Beasley, **Ph.D., DVM,** is Professor of Veterinary, Wildlife, and Ecological Toxicology, College of Veterinary Medicine, University of Illinois at Urbana-Champaign. After graduation from the Purdue School of Veterinary Medicine, Dr. Beasley was in small animal practice for six years in New Jersey and Ohio. After completing a residency and PhD in toxicology at the University of Illinois, he joined the faculty. Recent studies have focused on heavy metal contaminants and marine mammals; mass die-offs in flamingos including potential roles of metals, algal toxins, and infectious agents; and especially, causes of amphibian declines. Dr. Beasley is also Founder and Executive Director of the Envirovet Program in Wildlife and Ecosystem Health, an international educational program that offers an intensive summer institute in multiple locations in the USA and southern Africa, and is also affiliated with the Envirovet Baltic program in Northern Europe.

Christopher Portier, Ph.D. serves as Associate Director of the National Institute of Environmental Health Sciences (NIEHS) for Risk Assessment and leads the Environmental Systems Biology (ESB) Research Group within the Laboratory of Molecular Toxicology. As Associate Director, Dr. Portier organizes and coordinates all research activities related to risk assessment both within the NIEHS and outside of the NIEHS with grantees and institutional collaborators. As Head of ESB, Dr. Portier conducts research into quantifying and modeling the interactions of mammalian systems with environmental agents. Previously, Dr. Portier was Director of the Environmental Toxicology Program (ETP) at the NIEHS and Associate Director of the National Toxicology Program (NTP). Dr. Portier received his Ph.D. in biostatistics from the University of North Carolina in 1981. Dr. Portier is an internationally recognized expert in the design and analysis of toxicology data and in risk assessment methodology. He has published over 150 peer-reviewed scientific manuscripts and over 50 book chapters/reports covering such diverse topics as risk assessment, statistics, cancer biology, immunology, development, genetically modified foods and genomics.

John Warner, **Ph.D.**, is Professor of Plastics Engineering and Community Health and Sustainability, and the Director of the Center for Green Chemistry at the University of Massachusetts, Lowell. Prior to his position at the University of Massachusetts, Lowell, Dr. Warner worked at the Polaroid Corporation for nine years, and then started the world's first Green Chemistry Ph.D. program at University of Massachusetts, Boston. Dr. Warner received the 2004 Presidential Award for Excellence in Science Mentoring. His recent patents in semiconductor design, biodegradable plastics and personal care products are examples of how green chemistry principles can be incorporated into commercially relevant applications. Dr. Warner is co-author of the book *Green Chemistry: Theory and Practice* and serves on the Board of Directors of the Green Chemistry Institute in Washington DC.

Lloyd Pinkham,**Ph.D**., is an Elementary School Teacher in Union Gap, Washington. He is a former gifted and talented teacher in science, reading, math, language and art, and a

previous anthropology professor in Alaska. Dr. Pinkham is an educator of Native Science and Philosophy, ancient traditions and customs, and believes these teach the values of indigenous, inherent knowledge, methods and practices. The central message is: respect and care for the Earth Mother, and, in return, we will also be protected. Dr. Pinkham promotes Native Science, a practice that covers social, economic, natural and wildlife resources and the Universe. He believes that ancient stories and legends handed down through the generations engender values that form the base for a balance of all life.

4. Healthy People, Healthy Planet: From Evidence to Action

Moderator:

Peter Dykstra is an Executive Producer at CNN, with responsibility for coverage of Science, Technology, Space, Environment, and Weather. He joined the network in 1991, and was part of the team that won an Emmy Award for coverage of the 1993 Mississippi River Floods. He has also produced award-winning and award-nominated documentaries for CNN Presents, the network's acclaimed documentary series, and for TV Asahi of Japan. He also supervises a staff of eight meteorologists who produce and appear on weathercasts for CNN, CNN International, Headline News, and CNN's Pipeline broadband video service. The four networks combine for nearly 25,000 weathercasts per year. Dykstra received a Bachelor of Science degree from Boston University, and is a former national Board member of the Society of Environmental Journalists. He is on the Advisory Committee of the Ted Scripps Fellowship at Colorado University's School of Journalism; and serves as a Judge for the Oakes Environmental Journalism Awards at the Columbia University Graduate School of Journalism, and recently concluded a three-year term on the Awards Panel of the National Academies Communication Awards, based at the National Academy of Sciences.

Speakers:

Mary Nichols, J.D., Professor-in-Residence, currently serves as Director of the UCLA Institute of the Environment (IoE). Nichols received her B.A. from Cornell University (1966) and her J.D. from Yale Law School (1971). After law school, she served as attorney for the Center for Law in the Public Interest in Los Angeles (1971-74) where she brought the first litigation under the then recently passed Clean Air Act. Nichols was employed by the state of California as the Secretary of Environmental Affairs and the Chair of the Air Resources Board (1974-78). Nichols moved on to private environmental law consultation (1983-88), while serving as campaign manager for Tom Bradley for Governor of California (1985-86). Nichols also took on the role of Director for the People for the American Way (1987-88) before founding the Los Angeles office for Natural Resources Defense Council as senior attorney (1989-93). From 1993-97, Nichols was appointed as Assistant Administrator of Air and Radiation for the U.S. Environmental Protection Agency. She then headed the Environment Now Foundation as Executive Director from 1997-98. Prior to joining UCLA, she served as the California Secretary for Resources (1979-2003) where she was responsible for the State's activities relating to the management, preservation, and enhancement of its natural resources, and for the oversight of the state's scenic, cultural, and recreational resources.

Georges Benjamin, MD, FACP, is well known in the world of public health as a leader, practitioner and administrator. Benjamin has been the executive director of the American Public Health Association (APHA), the nation's oldest and largest organization of public health professionals, since December 2002. He was secretary of the Maryland Department of Health and Mental Hygiene from 1999-2002, where he played a key role developing

Maryland's bioterrorism plan, following four years as its deputy secretary for public health services. Benjamin is a graduate of the Illinois Institute of Technology and the University of Illinois College of Medicine. He is board-certified in internal medicine and is a fellow of the American College of Physicians.

Arthur Gibson, M.B.A., Vice President of Environment, Health & Safety – Baxter International Inc. has spent 29 years in several areas of manufacturing operations developing a diversified experience in management. Gibson was Corporate Vice President of EHS at The Home Depot. Prior to that, Gibson served as Senior Vice President of Corporate Environment, Health, Safety, Security and Workers' Compensation for the R.R. Donnelley Corporation from 1996-2004. Prior to his tenure with R.R. Donnelley, Gibson was with the Grumman Corporation, where he was the Corporate Director of Environmental, Health, Safety, Medical Services and Energy. Gibson started his career in 1976 as an aeronautical design engineer at Grumman Aerospace Corporation. As the Vice President of Environment, Health & Safety with Baxter International, he is responsible for leading the strategy, planning processes and day-to-day functional operations of the Environmental, Health & Safety organization globally. Gibson holds Bachelor's degrees in American Foreign Policy and Aeronautical Engineering from Cornell University, an MBA in International Finance from Long Island University and he completed the Senior Executive program at Massachusetts Institute of Technology. He is chair of the Board of Trustees of the National Environmental Education Foundation (NEEF). He also is Chairman of the Environmental Council of the Conference Board.

Terry Tamminen, Special Advisor for Governor Arnold Schwarzenegger and author of "*Lives Per Gallon:: The True Costs of Our Oil Addiction*." Tammenin, an accomplished author, has also authored a series of best-selling "Ultimate Guides" to pools and spas .and several theatrical works on the life of William Shakespeare. He is an avid airplane and helicopter pilot and speaks German, Dutch and Spanish. He has had notable careers in sheep farming and real estate, among other professions. In 1993, Tamminen founded the Santa Monica BayKeeper and served as its Executive Director for six years. He co-founded Waterkeeper programs in San Diego, Orange County, Ventura, and Santa Barbara. He also served for five years as Executive Director of the Environment Now Foundation in Santa Monica, CA and co-founded the Frank G. Wells Environmental Law Clinic at the School of Law, University of California Los Angeles. In the summer of 2003, Tamminen helped Arnold Schwarzenegger win the historic recall election and become Governor of California. Tamminen became Secretary of the California Environmental Protection Agency in November 2003 and was promoted to Cabinet Secretary, Chief Policy Advisor to the Governor, in December 2004. During his tenure with Governor Schwarzenegger, Tamminen helped launch some of the most progressive, successful, and laudable sustainable energy initiatives in the country. In August 2006, Tamminen left the Schwarzenegger administration to focus on *Lives Per Gallon***.** He will be signing copies of this book on Friday, February 2, at 12:00 noon outside of the Amphitheater.

Exhibition

The Exhibition will take place Thursday, February 1 from 8:00 am- 5:00 pm and Friday, February 2 from 8:00 am- 1:30 pm.

Exhibits are located in the Amphitheater Foyer

1. National Council of Science and the Environment
2. E & E Publishing, LLC
3. Florida A & M University Environmental Science Institute
4. ESRI
5. Environ
6. U. S. Geological Survey
7. U. S. Environmental Protection Agency
8. Baxter Healthcare
9. Agency for Toxic Substances and Disease Registry of the National Center for Environmental Health, Centers for Disease Control and Prevention
10. Island Press
11. Earth Portal
12. National Park Service
13. Millennium Institute
14. USDA Forest Service
15. National Institute of Environmental Health Sciences, National Institutes of Health
16. Taylor & Francis Group
17. National Aeronautics and Space Administration
18. Tetra Tech, Inc
19. American Chemical Society

Poster Session Titles & Authors

The Poster Session will take place Thursday, February 1 from 8:00 am – 5:00 pm in the Amphitheater Foyer and Meridian Suites Foyer and 7:00 pm – 9:00 pm in the Atrium. On Friday, February 2 the poster session is from 8:00 am – 1:30 pm in the Atrium.

1. MICHAEL PIDO. Palawan State University, Philippines. Center for Strategic Policy and Governance. **Integrating Human Health Concerns in Environment and Natural Resources Management.**

2. STEVEN A. OSOFSKY[1]; DAVID H. M. CUMMING[2]; MICHAEL D. KOCK[1]; and WILLIAM KARESH[1]. [1]Wildlife Conservation Society; [2]University of Cape Town. **Moving Conservation AHEAD (Animal Health for the Environment and Development): Addressing Wildlife, Livestock and Related Human and Ecosystem Health Issues to Foster Sustainable Success in Southern African Transfrontier Conservation Areas.**

3. AREKERE[1]; B.M. RIVERS[2]; and B.L. GREEN[2]. [1]Texas A&M University; [2]College Station, TX. **Eliminating Environmental Disparities: a Precursor to Eliminate Health Disparities.**

4. MATTHEW R. COLIP. AmeriCorp – VISTA, U.S. EPA - Region III. **Using Rain Gardens to Control Mosquito Breeding in Areas Endemic to Malaria.**

5. XIANGMING XIAO[1]; MARIUS GILBERT[2]; JAN SLINGENBERGH[3]; FUMIN LEI[4]; BOBBY BRASWELL[1]; and ZHONGWEI GUO[4]. [1]Institute for the Studies of Earth, Oceans and Space, University of New Hampshire, Durham, NH; [2]Université Libre de Bruxelles, Brussels, Belgium; [3]United Nations Food and Agriculture Organization (FAO), Rome, Italy; [4]Institue of Zoology, Chinese Academy of Sciences, Beijing, China. **Ecology-based Risk Assessment and Early Warning of Highly Pathogenic Avian Influenza in Asia.**

6. RONALD JENKINS, MIKE HOWELL, JOHN CARSON, PAUL BLANCHARD and VIRGINIA BROWN. Vulcan Materials Center for Environmental Stewardship and Education, and Department of Biology, Samford University. **The Story of Environmental Androgens, the Impact of Paper Mills, And Risks.**

7. CANDICE DAVENPORT[1]; JENNIFER LI[2]; KATHY KRAFT[3]; and STAN MILLER[4]. [1]Somerset County Department of Health; [2]NACCHO; [3]Upper Chesapeake Health; [4]MD. **Walk the Walk: Encouraging the Use of Walking School Buses as a Path to a Healthier Community and Environment**.

8. PATRICK SULLIVAN[1]; JAMES CLARK[2]; FRANKLIN AGARDY[1]; and PAUL ROSENFELD[2]. [1]Forensic Management Associates, San Mateo, CA; [2]Soil/Water/Air/Protection Enterprise, Santa Monica, CA. **Synthetic Chemical Mixtures in the Food, Water and Air of American Cities.**

9. JAMI L. MONTGOMERY[1]; KEVIN DRESSLER[2]; ELIZABETH ESCHENBACH[3]; WENDY GRAHAM[4]; CHARLES N. HAAS[5]; THOMAS HARMON[6]; RICHARD HOOPER[7]; ALAN

KRUPNICK[8]; DAVID MAIDMENT[9]; BARBARA MINSKER[10]; DANNY REIBLE[11]; JERALD SCHNOOR[12]; CLAIRE WELTY[13]; JOHN WILSON[14]; and GARY WOODARD[15]. [1]CLEANER Project Office**;** [2]Penn State University; [3]Humbolt State University; [4]University of Florida; [5]Drexel University; [6]University of California, Merced; [7]CUAHSI, Inc.; [8]Resources For The Future; [9]University of Texas; [10]University of Illinois at Urbana-Champaign; [11]Univ. of Texas; [12]University of Iowa; [13]University of Maryland, Baltimore County; [14]New Mexico Institute of Mining & Technology; [15]University of Arizona. **WATERS Network: An Initiative of the U.S. National Science Foundation Engineering and Geosciences Directorates.**

10. STEVE DICKENS. River Network, Shelburne, VT. **Cancer Downstream: A Citizen's Guide to Investigating Pollution/Health Connections.**

11. KORINE N. KOLIVRAS. Virginia Tech. **The Importance of Scale in Assessing the Relationship between Climate Variability and Disease Emergence Potential**.

12. PAUL SHEPPARD[1]; JOACHIM D. PLEIL[2]; ROBERT J. SPEAKMAN[3]; GARY RIDENOUR[4] and MARK L. WITTEN[1]. [1]University of Arizona; [2]U.S. EPA; [3]Smithsonian Institution; [4]M.D. **Ecologic Study of Mesoscale Environments with Excess Disease Prevalence.**

13. MARY BACHRAN and THEO COLBORN. The Endocrine Disruption Exchange, Inc. Paonia, CO. **Bisphenol A (BPA): A Close Look.**

14. STEPHEN FRIES[1]; HW PAERL[1]; JF PAUL[2]; ZF WILLIAMS[3]; JL HSIEH[1]; and RACHEL T. NOBLE[1]. [1]Institute of Marine Sciences, University of North Carolina at Chapel Hill, Morehead City, NC; [2]National Health and Environmental Effects Research Laboratory, U.S. Environmental Protection Agency, Research Triangle Park, NC; [3]Carolina Environmental Program, University of North Carolina at Chapel Hill, Chapel Hill, NC. **Dynamics of Vibrio vulnificus in the Neuse River Estuary: Model for Public Health Protection from Multidisciplinary Monitoring Efforts.**

15. J. DYBLE[1]; G.L. FAHNENSTIEL[1]; S. JOSEPH[1]; P.A. TESTER[2]; R.W. LITAKER[2] and D.F. MILLIE[3]. [1]NOAA, Great Lakes Environmental Research Laboratory, Ann Arbor, MI; [2]NOAA, Center for Coastal Fisheries and Habitat Research, Beaufort, NC; [3]Florida Institute of Oceanography, St. Petersburg, FL. **The Impacts of Harmful Algal Blooms on Human Health in the Great Lakes.**

16. S.AKHTAR AHMED, ASMA KHAN, ABEL SALAZAR, JASSICA GURUMENDI, AND MAQ KHAN. University of Illinois at Chicago. **Effect of Temperature on Toxicity of Heavy Metals to Earthworm Lumbrius terrestris.**

17. T.T. WYNNE[1]; M.C. TOMLINSON[1]; RICHARD P. STUMPF[1]; J. DYBLE[2]; G.L. FAHNENSTIEL[2]; and P.A. TESTER[3]. [1]NOAA, National Ocean Service, Center for Coastal Monitoring and Assessmment; [2]NOAA, Great Lakes Environmental Research Laboratory;

[3]NOAA, Center for Coastal Fisheries and Habitat Research. **Developing a Harmful Algal Bloom Observing System for the Great Lakes.**

18. CHAD M. BRIGGS. Environmental Initiative, Lehigh University. **Environmental Health Risk, Perchlorate Contamination and Local Development.**

19. VAL BEASLEY[1]; KIRSTEN GILARDI[2]; and JAN MYBURGH[3]. [1]Diplomate ABVT, Department of Veterinary Biosciences, College of Veterinary Medicine, University of Illinois at Urbana-Champaign; [2]Diplomate, American College of Zoological Medicine Wildlife Health Center, School of Veterinary Medicine, University of California, Davis; [3]Department of Paraclinical Sciences, Faculty of Veterinary Science, University of Pretoria. **Envirovet Program in Wildlife and Ecosystem Health.**

20. CARYL WAGGETT[1]; DON BROWN[2]; MAURIE CAITLIN KELLY[3]; MICHAEL RIOS[4]; and TED EMMETT[5]. [1]Allegheny College; [2]Pennsylvania Consortium for Interdisciplinary Environmental Policy; [3]Penn State University Institutes of the Environment; [4]Penn State University Hamer Design Center; [5]UPenn Center for Excellence in Environmental Toxicology. **Pennsylvania Environmental and Community Health (PEACH) Mapping.**

21. ROBIN BUNCH. United States Fish and Wildlife Service. **U.S. Fish and Wildlife Service's Children and Nature initiative: A National Campaign to Bridge the Gap Between Children's Health and the Natural Environment.**

22. RICHARD KIANG; FARIDA ADIMI, and JOSEPH NIGRO. NASA Goddard Space Flight Center. **Malaria Modeling and Surveillance.**

23. ABBY NERLINGER[1]; MARK R. CULLEN[1]; and RICHARD T. DI GIULIO[2]. [1]Yale University School of Medicine; [2]Duke University Nicholas School of the Environment and Earth Sciences. **Considerations for the Determination of Polycyclic Aromatic Hydrocarbon Exposure Risk upon Consumption of Fish from the Southern Branch of the Elizabeth River in Portsmouth, Virginia.**

24. JOHN V. STONE. Applied Anthropologist, Institute for Food and Agricultural Standards, Michigan State University. **Charting a Multi-Stakeholder 'Issues Landscape' for Nanotechnology Standards: Report of an International Workshop**.

25. ROBB BAJEMA. Aquinas College. **Globalization's Impact on Agriculture, the Environment and Human Health.**

26. J.G.DAVIS; N.M. MARCILLAC; A.L. ELLIOTT; J.G. PRITCHETT; and J.L. COLLETT, JR. Colorado State University. **Ammonia Emissions Reduction from Agriculture: A Colorado Case Study.**

27. ANA CORDOVA[1]; CONSTANCE L. FALK[1]; and PAULINE PAO[2]. [1]New Mexico State Univ.; [2]OASIS Farm Manager. **Localized Food Systems: Impacts on Health and the Environment.**

28. SUSAN LOVELACE[1]; KATIE DOMBROWSKI[1]; FRED HOLLAND[2]; and ERIC LACY[3]. [1]Hollings Marine Laboratory; [2]National Oceanic and Atmospheric Administration; [3]Medical University of South Carolina. **The Hollings Marine Laboratory, A Model for Collaborative Research**.

29. MELANIE MCFIELD[1] and PATRICIA KRAMER[2]. [1]Smithsonian Institution; [2]Perigee Environmental. **Healthy Reefs for Healthy People: An Emerging Ecohealth Coalition in Mesoamerica**

30. DIANE ANGELL; MERRIE BENASUTTI; and BETHANY BIRKELO. St. Olaf College, Northfield, Minnesota. **Environmental Health and Civic Engagement at a Small Liberal Arts College.**

31. PETER DEFUR[1]; GARY EVANS[2]; ELAINE COHEN HUBAL[3]; AMY KYLE[4]; RACHEL MORELLO-FROSCH[5]; and DAVID WILLIAMS[6]**.** [1]Virginia Commonwealth University; [2]Cornell University; [3]U.S. EPA; [4]University of California Berkeley; [5]Brown Univeristy; [6]Harvard School of Public Health. **Vulnerability as a Function of Individual and Group Resources in Cumulative Risk Assessment.**

32. MARIA BASTAKI; SHANNON LINDQUIST; and TED WHITESELL. The Evergreen State College**. Public Health Risks Associated with Cadmium Accumulation in Puget Sound Shellfish.**

33. JUDY OGLETHORPE[1]; NANCY GELMAN[2]; and VELIA KURZ[3]. [1]WWF US; [2]Africa Biodiversity Collaborative Group; [3]Namibia Association of CBNRM Support Organizations. **HIV/AIDS and Conservation: What are the Connections and What can We do About Them?**

34. CHRISTINA M. MAGINNIS and WAYNE G. LANDIS. Western Washington University. **A Screening-Level Integrated Ecological and Human Health Risk Model for Lake Whatcom, a Multi-Use Water Supply in Whatcom County WA.**

35. I. VOJNOVIC; P. VARNAKOVIDA; A. PODAGROSI; J. MESSINA; S. SMITH; B. PIGOZZI; and J. DARDEN. Governor's Council on Physical Fitness, Health, and Sports, and Blue Cross-Blue Shield Association. **The Relationship between Obesity and Urban-built Environment: The Analysis of Physical Activity and Travel Behavior.**

36. SARAH GOSS-ROBERTSON and JASON T. EBERL. Indiana University Purdue University at Indianapolis. **Elementary Ecological Education: Assessing Environmental Attitudes and Experiences across the Educational Experience.**

37. TIMOTHY Q. DONAGHY and FRANCESCA T. GRIFO. Scientific Integrity Program of the Union of Concerned Scientists. **Scientific Integrity Affects the Air We Breathe.**

38. G.KATSITADZE[2]; N.PRUIDZE[1]; M.TSERETELI[3]; M.KURCHULI[1]; R.TATARADZE[4]; G.TSILOSANI[4]; and P.BLAIR[4]. [1]Georgian Ministry of Labor, Health and Social Affairs; [2]Tbilisi State University; [3]Institute of Occupational Medicine; [4]A Call to Serve Georgia/International. Presentation of the National Environmental Health Action Plan: Georgia.

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Conference Room Locations

Thursday, February 1, 1:30-5:00pm
Breakout Sessions (Concurrent)

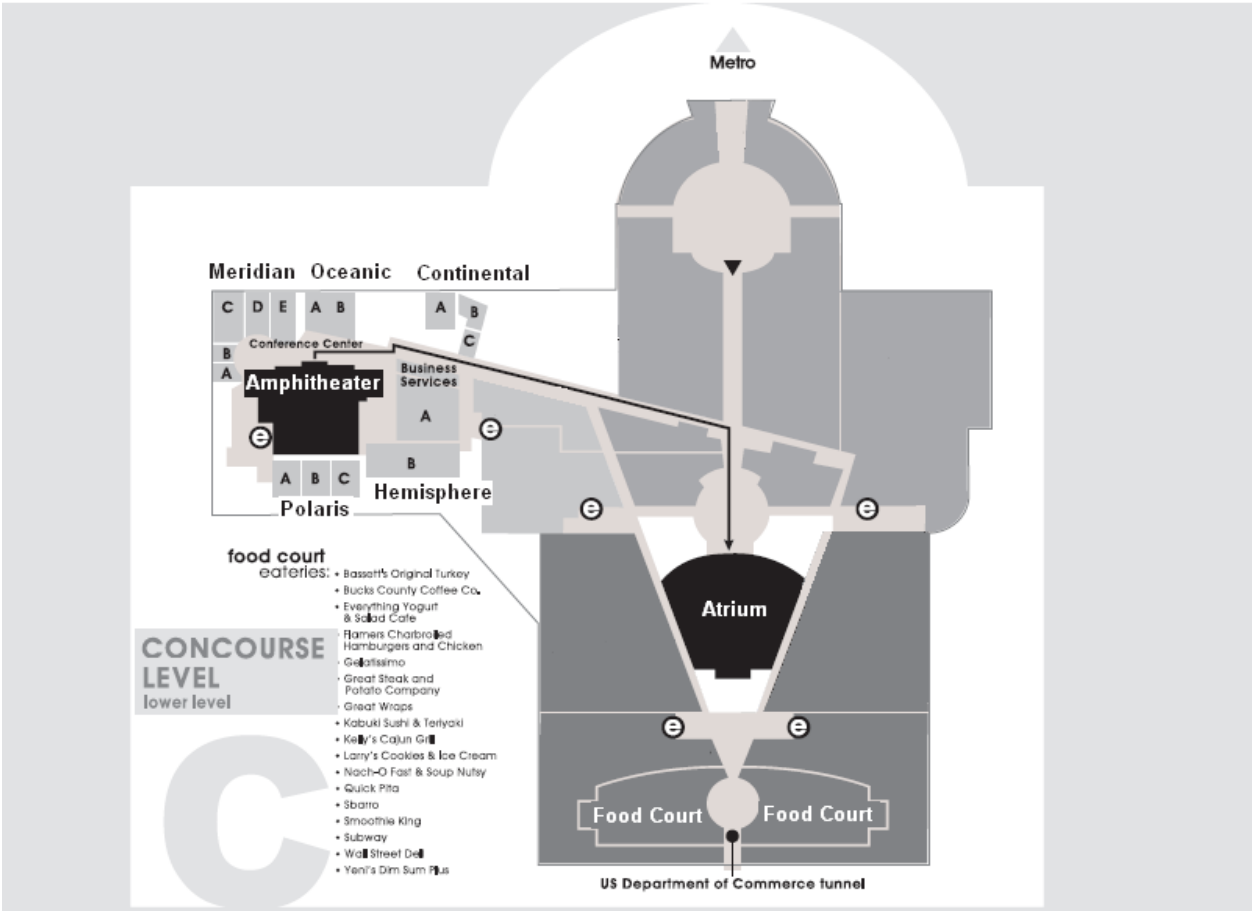
Meeting Rooms	Decisionmaking in the Real World
Meridian C	1. Integrating Environment, Culture, and Human Well-being
Amphitheater	2. Risk and Decisionmaking
Woodrow Wilson Center	3. Population, Gender, Justice and Health
Hemisphere A	4. The Natural Environment, Built Environment, and Social Environment*
Polaris A	5. Ecology of Water and Health
Horizon B	6. Oceans and Human Health
Gateway	7. Biodiversity and Health
Hemisphere A	8. Health Benefits of a Healthy Urban Environment*
Continental B/C	9. Emerging Infectious Disease and other Health Implications of Global Changes and Ecological Trends
Polaris C	10. Children's Minds: Environment, Development, and Mental Function
VIP Room (Balcony level)	11. Socially-Mediated Linkages between Resource Depletion and Health
Meridian E	12. Energy, Air Quality and Health
Green Room (off Amphitheater stage)	26. Health Impact Assessment of Development Policies, Programs, and Projects
	Guiding and Fostering Multi-Disciplinary Research
Oceanic A	13. Emerging Issues in Environmental Influences on Reproductive Health
Classroom A	14. Setting Research Priorities for Health and the Environment
Horizon A	15. Community-Based Health: Incorporating Social Sciences and Humanities
Classroom D	16. Medical Geology, Physical Sciences, and Health
Classroom C	17. Ecology and Epidemiology
Oceanic B	18. Ecological and Human Health Risk Assessment
	Expanding Understanding: Information, Education, and Communication
Continental A	20. Health Professionals' Education and the Environment
Polaris B	21. Bringing Health into Environmental Education
Meridian D	22. Journalists, Mass Media, and Decisionmaking
Meridian B	23. Innovative Uses of Information Technology
Meridian A	24. Designing for Complementarity among Programs Generating Environmental and Health Information
Classroom B	25. Measuring the Outcomes of Policies and Programs

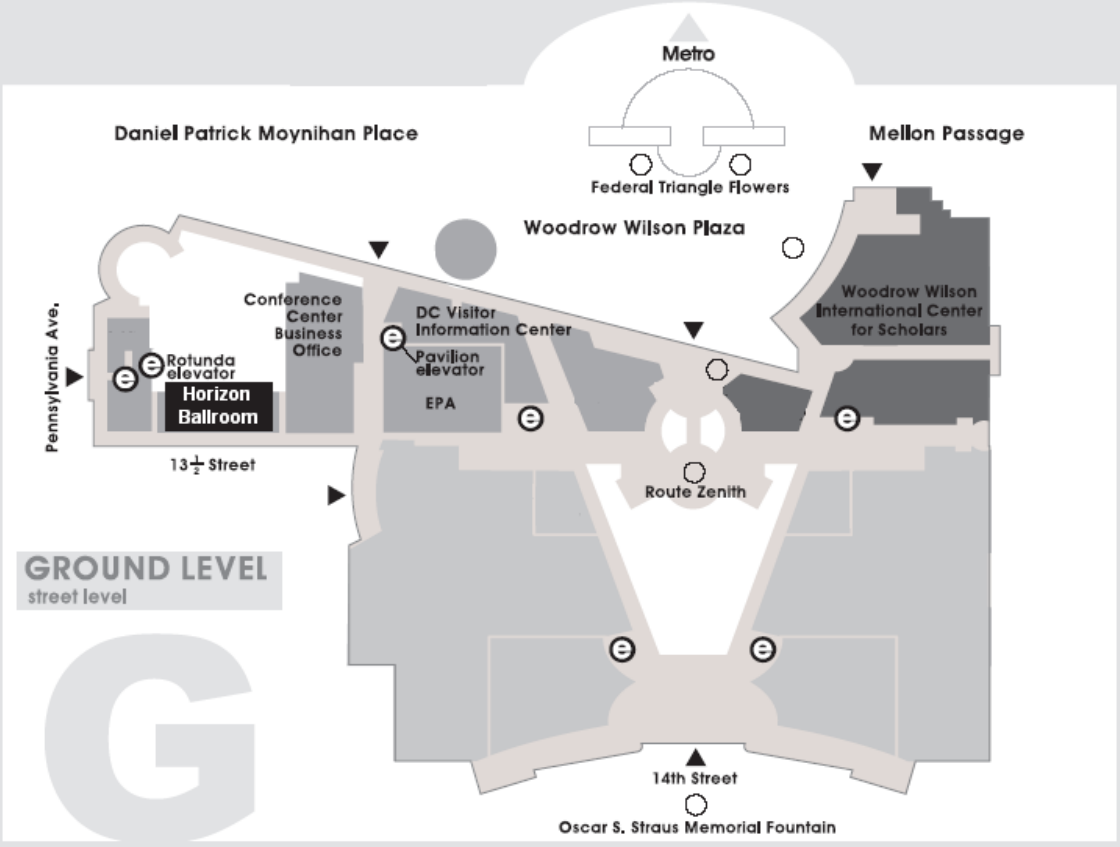
**these sessions are combined*

Friday, February 2, 10:00 a.m. – Noon
Symposia (Concurrent)

Meeting Rooms	
Hemisphere A	Decisionmaking in the Real World
Polaris B/C	Guiding Research
Polaris A	Expanding Understanding
Horizon A/B	Avian Flu: The Cultural, Socio-Economic and Ecological Determinants of Avian Influenza and its Spread
Amphitheater	New Orleans and Katrina: Environment and Health Causes and Consequences

Ronald Reagan Building and International Trade Center





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