

Curriculum Vitae
ROSINA M. BIERBAUM

ACADEMIC BACKGROUND

Ph.D. (Ecology and Evolution) -- State University of New York, Stony Brook, 1985
B.S. (Biology) -- Boston College, 1974
B.A. (English) -- Boston College, 1974

BIOGRAPHICAL STATEMENT

In October 2001 Dr. Rosina Bierbaum joined the University of Michigan as Dean of the School of Natural Resources and Environment (SNRE). Since her arrival, Bierbaum has: overseen the creation of a new undergraduate Program in the Environment; enhanced interdisciplinary teaching and research by successfully recruiting thirteen new faculty to the School, eight of whom hold joint appointments in other Colleges at the University of Michigan; developed a new MS track to link business, engineering and natural resources; tripled research activity in SNRE; and expanded the mission of the School to include global change. Each year, she teaches in both the undergraduate and graduate programs and guest lectures in a dozen classes across the University. Additionally, she delivers about 50 presentations in national and international venues annually.

In April 2009, President Obama named her to the President's Council of Advisors on Science and Technology (PCAST). PCAST consists of 20 of the nation's leading scientists and engineers. They advise the President and Vice President directly to help the administration formulate policy in the many areas where understanding of science, technology and innovation is key to forming responsible and effective policy.

In April 2008, Bierbaum was selected by the World Bank to co-author and co-direct its prestigious World Development Report 2010, which will focus on climate change and development. Published since 1978, the World Development Report is an annual publication that focuses on a different topic each year and aims both to consolidate existing knowledge on a particular aspect of development and to stimulate debate on new directions for development policy. For the first time, this report will focus on helping Nations think about how sustainability, mitigation and adaptation to climate change, and development can be achieved simultaneously.

Bierbaum has been elected a Fellow of the American Academy of Arts and Science as well as a Fellow of the American Association for the Advancement of Science. In 2000 she was awarded the Waldo E Smith medal of the American Geophysical Union for 'extraordinary service to geophysics', and in 1999 she was awarded the Environmental Protection Agency's "Climate Protection Award".

Bierbaum currently serves as a trustee of the University Corporation for Atmospheric Research (UCAR); and as a board member for the Federation of American Scientists, The Energy Foundation, the Gordon E. and Betty I. Moore Foundation, and the Environmental and Energy Study Institute. She is also a member of the John D. and Catherine T. MacArthur Foundation's Science Advisory Council, the International Advisory Board for the journal "Frontiers in Ecology and the Environment", the National Research Council's Board on Atmospheric Sciences and Climate, the Design Committee for The Heinz Center's *The State of the Nation's Ecosystems* project, and the Executive Committee for the Tyler Prize for Environmental Achievement. Dr. Bierbaum serves as the U.S. Scientific Expert, Permanent Court of Arbitration of Disputes Relating to Natural Resources and/or the Environment, in the Hague. On campus, she co-chaired the University of Michigan's Sustainability Task Force and chaired the Deans' Council of the Graham Environmental Sustainability Institute. Michigan Governor Jennifer Granholm appointed her to serve on the Michigan Climate Action Council in 2007 and the Task Force on Chronic Wasting Disease in Cervids in 2003.

Prior to joining the School of Natural Resources and Environment, Bierbaum was acting director of the Office of Science and Technology Policy (OSTP) from January 2001, and preceding that, she directed the

first Environment Division at OSTP. Dr. Bierbaum was confirmed by the U.S. Senate as Associate Director for Environment of OSTP on July 30, 1998. She served as the administration's senior scientific advisor on environmental research and development, with responsibilities for scientific input and guidance on a wide range of national and international environmental issues. These included global change, air and water quality, biodiversity, ecosystem management, environmental monitoring, and energy research and development. She worked closely with the President's National Science and Technology Council (NSTC), and co-chaired its Committee on Environmental and Natural Resources, which coordinated the \$5 billion federal research and development efforts in this area, including the (then) \$2 billion US Global Change Research Program. Bierbaum led the U.S. government reviews of the IPCC second and third assessment reports in 1995 and 2000. She also led the US delegations to the Intergovernmental Panel on Climate Change (IPCC) Plenary in Shanghai in 2001, the IPCC Plenary in Montreal in 1999, and the IPCC plenary in Costa Rica in 1998, and served as alternate head of delegation to the IPCC plenary in Mexico City in 1996. She headed the U.S. Delegation for the U.S./China bilateral on Climate Science in 2000.

Bierbaum's career in Washington began in 1980 when she was awarded a Congressional Fellowship. She then continued working in the Office of Technology Assessment (OTA) on a wide range of environmental issues, helping various Committees of the Congress tackle the emerging science and policy concerns posed by acid rain, marine pollution and mining, urban smog, ozone depletion, energy production and climate change. Her work led to 9 book-length publications and positions as Assistant Project Director for Acid Rain in 1982, Senior Analyst in 1985, and Project Director for Climate Change in 1988. In 1991, she was awarded OTA's highest honor -- Senior Associate.

In addition to publishing many articles in technical and popular journals, Dr. Bierbaum is the co-author of the report "Confronting Climate Change: Avoiding the Unmanageable and Managing the Unavoidable" prepared at the request of the Commission on Sustainable Development (2007). She is also the primary author of *Changing By Degrees: Steps to Reduce Greenhouse Gases*. This report (1991) identified a series of technical options to reduce both U.S. and worldwide emissions. In 1993, she directed and was the primary author of the two volume study, *Preparing for an Uncertain Climate*, which outlines a sustainable development strategy for the United States. This report was the foundation for the United States' formal submissions on Adaptation to the International Conference of Parties on Climate Change in 1995 and 1997.

Bierbaum's Ph.D work focused on understanding how multiple environmental stresses affect physiological parameters of growth, reproduction, and glycogen storage in shellfish and their symbiotic organisms (pea crabs). This work helped form ideas that carried through her work on climate change with OTA, OSTP, the IPCC and the National Academy of Sciences, namely that organisms are more resilient to a variety of external stresses if these are not concomitant in space and time, and if organisms are not living in conditions near their physiological limits. However, the juxtaposition of multiple stresses in degraded ecosystems can result in impacts that are more than additive and lead to physiological tipping points.

For the 2008-2009 school year, Dr. Bierbaum has been selected to direct the prestigious World Development Report—the World Bank's annual synthesis of a key topic, with advice for the next decade. For the first time, this report will focus on Climate Change and Development, helping Nations think about how sustainability, mitigation and adaptation to climate change, and development can be achieved simultaneously.