Curriculum Vitae

**ROSINA M. BIERBAUM**

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**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

**PROFESSIONAL EXPERIENCE**

* Professor, College of Engineering, Climate and Space Science Department (dry appointment), 1/21-present
* Roy F. Weston Chair in Natural Economics, University of Maryland, 3/16-present
* Chair, Science and Technical Advisory Panel of the Global Environment Facility, 7/13-present
* Professor of Natural Resources and Environment Policy, School for Environment and Sustainability, and Professor, Environmental Health Sciences, School of Public Health (dry appointment), University of Michigan – *10/11-present*
* World Bank Adaptation Fellow, *4/11-12/17.*
* Visiting Scholar, Harvard Earth and Planetary Sciences, 3*/12-6/12.*
* Dean and Professor, School of Natural Resources and Environment, University of Michigan - *10/01-9/11*
* Co-Director, *World Development Report 2010: Development and Climate Change,* World Bank, Washington, DC – *9/09-9/10.*
* Acting Director, Office of Science and Technology Policy, Executive Office of the President, Washington, DC – *1/01 to 10/01*
* Associate Director for Environment, Office of Science and Technology Policy, Executive Office of the President, Washington, DC – *6/98 to 1/01*
* Acting Associate Director for Environment, Office of Science and Technology Policy, Executive Office of the President, Washington, DC -- 6*/97 to 6/98*
* Assistant Director for Environment, Office of Science and Technology Policy, Executive Office of the President, Washington, DC -- *2/95 to 6/97*
* Senior Policy Analyst, Environment Division, Office of Science and Technology Policy, Executive Office of the President, Washington, DC -- *11/93 to 2/95*
* Senior Associate, Environment Program, Office of Technology Assessment, U.S. Congress, Washington, DC -- *4/91 to 11/93*
* Project Director, Climate Change Issues; Environment Program, Office of Technology Assessment, U.S. Congress, Washington, DC -- *2/88 to 4/91*
* Science Policy Analyst, Assessment of Resources within the Exclusive Economic Zone, Oceans and Environment Program, Office of Technology Assessment, U.S. Congress, Washington, DC -- *11/86 to 2/88*
* Assistant Project Director, Assessment on Transported Air Pollutants, Oceans and Environment, Office of Technology Assessment, U.S. Congress -- *9/82 to 11/86*
* Policy Analyst, Oceans Program, Office of Technology Assessment, U.S. Congress, Washington, DC -- *9/81 to 9/82*
* Congressional Fellow, Oceans Program, Office of Technology Assessment, U.S. Congress, Washington, DC -- 9/80 to 9/81
* Senior Editorial Fellow, Quarterly Review of Biology, 9/78-9/79
* Editorial Fellow, Quarterly Review of Biology, 9/77-9/78
* SUNY, Stony Brook Teaching Assistant (lecturer and lab leader) in Terrestrial Ecology, Invertebrate Zoology, Genetics, Science and the Future of Man, Introduction to Ecology, 9/74-6/77

**PROFESSIONAL ASSOCIATIONS**

* Global CO2 Initiative Advisory Panel, University of Michigan, 2019 – present.
* Senior Scientific Adviser, Global Adaptation Commission, 2018 – 2021
* Board Member, American Association for the Advancement of Science (AAAS), 2018-2022
* American Academy of Arts and Sciences, Committee on Studies and Publications 2016 – 2022.
* Science Advisory Panel, United Nations Environment, Global Environmental Outlook (GEO-6), 2015 – 2021.
* External Advisory Committee, School of Global Environmental Sustainability, Colorado State University 2017- present
* American Academy of Arts and Sciences, Public Affairs, Journalism and Communications Section Panel 2014-2016
* President’s Council of Advisors on Science and Technology (PCAST), 2009-2017
* Board Member, Morgan Stanley’s Institute for Sustainable Investing, 2014-present
* Sustainability Advisory Panel, International Finance Corporation, 2013-2020
* Intergovernmental Panel on Climate Change: Review editor for Working Group II, Chapter 2: Foundations for Decision-making, 2012-2014.
* U.S. National Climate Assessment - Member, Federal Advisory Committee, and Convening Lead Author of the Adaptation Chapter (2011-2014)
* Board Member, Alliance for Climate Protection, 2012-present
* Board Member, Wildlife Conservation Society, 2011-present
* Board member, Gordon E. and Betty I. Moore Foundation, 2007-present
* Board member, Federation of American Scientists, 1999-present
  + Executive Committee, Secretary-Treasurer, 2005-2011
  + Executive Committee, Vice Chair, 2011-present
* Board member, Environmental and Energy Study Institute, 2002-present
* Executive Committee, Tyler Prize for Environmental Achievement, 2006-present
* International Advisory Board, Frontiers in Ecology & the Environment, 2003-present
* Board member, The Energy Foundation, 2003-January 2013
* Co-Chair, National Climate Adaptation Summit, 2010
* U.S. Scientific Expert, Permanent Court of Arbitration Panel of Arbitrators for Arbitration of Disputes Relating to Natural Resources and/or the Environment, 2002-2010
* Board on Atmospheric Sciences and Climate, National Research Council, The National Academies, 2002-2010
  + Co-Chair, Committee on Earth-Atmosphere Interactions: Understanding and Responding to Multiple Environmental Stresses, 2005
* Trustee, University Corporation for Atmospheric Research (UCAR), 2004-2010
  + Executive Committee, 2006-2010
* Science Advisory Council, John D. and Catherine T. MacArthur Foundation, 2008-09
* Michigan Climate Action Council, 2007-2009
* Vice Chair, United Nations Scientific Expert Group on Climate Change, 2004-2007
* Board member, American Association for the Advancement of Science, 2003-2007
* Co-chair, Sustainable America Summit on Natural Resources and Climate Change, 2007
* Design Committee, The Heinz Center’s The State of the Nations Ecosystems Project, 2000-2008
* External Advisory Board, *Vulnerability and Sustainability in Coupled Human-Natural Systems: An Integrative Traineeship in Sustainability and the Global Environment*, an NSF Integrative Graduate Education and Research Traineeships (IGERT) project at the University of Wisconsin-Madison
* Advisory Board, *Sustainability: Science, Practice, & Policy*
* Ecological Society of America
* Nominating Committee, 2006
* Intergovernmental Panel on Climate Change (IPCC) Reviewer for Working Group 1 and 2, 1995-2007
* American Institute of Biological Sciences
* American Meteorological Society
* American Geophysical Union
* Association of American Geographers
* Former Editorial Board member, *Consequences*
* New York Academy of Sciences
* Advisory Board, Aldo Leopold Leadership Program, 1999-2006
* Scientific Advisory Board of Strategic Environmental Research & Development Program, DOE, EPA & DOD, 1995-2001

**HONORS AND AWARDS**

* Elected to the American Philosophical Society, May 2023.
* Chosen as 2021 Chair of Goal 15 for “Biodiversity and life on land” of the “17 Rooms initiative focused on the Sustainable Development Goals” by The Brookings Institution and The Rockefeller Foundation
* Selected Member of 13-person international COVID-19 Global Task Force, Global Environment Facility, April 2020
* 2020 Prose Award, Winner for Environmental Sciences, Global Environment Outlook - GE0-6: Healthy Planet, Healthy People, United Nations Environment Program (key author)
* Co-moderator of Goal 15 for biodiversity and life on land of the “17 Rooms initiative focused on the Sustainable Development Goals” by The Brookings Institution and The Rockefeller Foundation.
* Elected Member, National Academy of Sciences, 2019
* President’s Award for National and State Leadership, University of Michigan, 2019.
* Sustainable Development Award for Use of Social Media to bring Climate Science to a wider audience, 2013 (shared with 4 other climate scientists and World Bank Staff for the MOOC “Turn Down the Heat”)
* Michigan Environmental Council’s 2012 Helen & William Milliken Distinguished Service Award
* Elected Fellow, the Ecological Society of America, 2012
* Distinguished Service Citation for application of ecology in the public welfare, Ecological Society of America, 2010
* Elected Fellow, American Academy of Arts and Sciences, 2007
* AAAS /Australian Parliament Advisor on developing a science fellows program, 2003
* Waldo E. Smith Medal, American Geophysical Union, in recognition of extraordinary service to geophysics, 2000
* Bethlehem Catholic High School Alumna of the Year, 2000
* Climate Protection Award from the U.S. Environmental Protection Agency for scientific leadership in climate protection, 1999
* Elected Fellow, American Association for the Advancement of Science, 1999
* Alumna of the Year, State University of New York, Stony Brook, 1996
* Elected full member of Sigma Xi, 1988
* Congressional Fellow, Office of Technology Assessment, 1980-81
* Editorial Fellow, *The Quarterly Review of Biology*, 1975-76
* Senior Editorial Fellow, *The Quarterly Review of Biology*, 1978-79

**ADVISING**

Doctoral Students

Marlotte de Jong, School for Environment and Sustainability – Candidacy achieved, April 2022.

Michael Lerner, Ford School of Public Policy (committee member) – Candidacy achieved, April 2020.

Clifton Cottrell, University of Maryland (co-chair) – Candidacy Achieved, April 2020.

Katherine Browne, SEAS (committee member) –Candidacy achieved April 2018; defended 2021.

Jennifer Carman, SEAS (committee member) – Candidacy achieved March 2018; defended 2020.

James Arnott, SEAS (committee member) – *Accelerating Actionable Sustainability Science funding, co-production, and the evolving social contract for science*, graduated September 2019.

Siobhan Elizabeth Kerr, University of Maryland (committee member), *Resilience in Climate and Disaster Recovery,* graduated May 2019.

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Melissa Stults, TCAUP/SNRE (Co-Chair) – *Planning to be Prepared: Assessing Local Level Planning for Climate Change in the United States*, graduated August 2016

Laura Kuhl, Tufts University (committee member), Fletcher School of Law and Diplomacy (committee member) *– Innovation and Technology Transfer for Climate Adaptation in the Agricultural Sector,* graduated November 2016

Eric Kravitz, SNRE (committee member) – *Accounting for CO2: The Enactment and Effects of the Regional Greenhouse Gas Initiative*, graduated August 2013

Kathryn Conlon, EHS, SPH (committee member) – *Extreme Heat, Vulnerable Populations and Adverse Health Outcomes: Informing Targeted Climate Change Adaptation Planning,* graduated August 2013

Nathan L. Engle, SNRE (co-chair) – *Adaptation to Extreme Droughts in Arizona, Georgia, and South Carolina,* graduatedDecember 2010

Christine J. Kirchhoff, SNRE (committee member) – *Integrating Science and Policy: Climate Change Assessments and Water Resources Management,* graduated *December 2010*

Mark W. Melaina SNRE (committee member) – *Initiating hydrogen infrastructures: analysis of technology dynamics during the introduction of hydrogen fuel for passenger vehicles. April 2005*

Postdoctoral Fellow

Shannon McNeeley, Adaptation efforts in the U.S. and the Global Environment Facility*, 2012*

Research Fellow

Melissa Stults, U.S. Adaptation planning and implementation, *2012*

Master’s Students

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| Melisa Ongun, Janet Van De Winkle, Sachin Shahria (2012-2014)  Alexandra Brewer, Maaz Gardezi (2013-2015)  Brian LeSchier, Matt Gacioch, Yu De Lee, Denise Miller (2014-2016)  Seth Buchsbaum, 2014-2017  Tyler Fitch, (2016-2018)  Lauren Jones, Tonya Summerlin, Evan Madden, Iqra Nasir (2018-2020)  Annalisa Wilder, Joseph Dierdorf, Julia Kehoe, Marissa Lazaroff, Gwen Sofka, Cassandra Wenzel (2019-2021)  Jyoti Bodas, Kat Cameron, Julia Kehoe, Annie Linden, Andrew Nowicki, Tyler Orcutt, Amy Schatz, Cassandra Worthington (2021-2023) |  |
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Master’s Projects: Faculty Adviser

2021-2023: Working at the Nexus of Climate Justice and Nature-Based Solutions

Client: Urban Sustainability Directors Network, Kristin Baja, Alum

Student Team: Jyoti Bodas, Trevaris Brown, Kristen Buchler, Thea Louis

2017-2019: *Beyond Carbon Neutral: Building A Carbon Dioxide Removal Supply Curve*

Client: Energy Institute

Student Team: Andrew Stolberg, Carissa De Young, Katelyn Dindia Johnson, Xilin Zhang,

Derek Martin

Co-advisors: Rosina Bierbaum, Daniel Raimi, and John DeCicco

2013-14*: Detroit Climate Action Collaborative: Greenhouse Gas Inventory for the City of Detroit*

Client: Detroiters Working for Environmental Justice

Student Team: Jill Carlson, Jenny Cooper, Marie Donahue, Max Neale, Anis Ragland

Co-advisors: Greg Keoleian and Rosina Bierbaum

2013-14: *Distributed Energy Resources: Energy Evolution*

Client: IEE, an Institute of the Edison Foundation, and DTE Energy

Student Team: Chad Dibble, Braeden Gilchrist, Ryan Moody, Will Morrison, Markus Walther, David Wang, Hui Zhou

Co-advisors: Tom Lyon and Rosina Bierbaum

2013-14*: Assessment of Certification Programs in Tropical Landscapes*. Client: CGIAR

Student Team: Ben Chen, Hsuan-wen "Ann" Kuo, Chanisa Niljinda, Melisa Ongun, Paul Winters

Advisor: Arun Agrawal; consulting advisor: Rosina Bierbaum

2008-09: *Institutional Capacity and Market Accessibility as Determinants of the Effectiveness of Climate Change Adaptation Strategies -The Case of Three Middle Hill Communities in Nepal*

Client: International Forestry Research Institute

Student Team: Dietrich John Bouma, Eric Kwok-Wai Chu, Charlotte Bennett Mack, Parvaiz Ahmad Parry

Advisor: Arun Agrawal; consulting advisor: Rosina Bierbaum

2002-03: *City of Ann Arbor Greenhouse Gas Emissions Reduction Strategy*

Client: City of Ann Arbor

Student Team: Seth A. Epstein, Joseph A. Malcoun II, Jenny L. Oorbeck, Mamoru Yamada

Co-advisors: Greg Keoleian and Rosina Bierbaum

**COURSES TAUGHT**

2002-2008 ENVIRON 399 Junior Honors Thesis Class

2002-2008 ENVIRON 499 Senior Honors Thesis class

2010, 2011 NRE 580 Integrated Assessment (core course for 160 students)

2011, 2012 NRE 701 Adaptation Screening Tools

2012, 2013 NRE 701 Building climate information into development projects

2012-2017 NRE 677 Adaptation to Climate Change (local to global)

2013-2016 NRE 501-41 ` Climate Policy (domestic and international)

2017 PUAF689 The Role of Science in Policymaking for the President

(with Prof. James Gates, Physics)

2018-2020 EAS 677-41 Adaptation Policy

2021 EAS 677-41 Adaptation Policy from Global to Local

2021 EAS 677-42 Adaptation Policy by Sectors

2018 PUAF688T Developing Climate Screening advice for the Global Environment Facility – 15-member Master’s team project

2018-2023 PUAF689L Science Policy in the U.S. (Profs. Ellen Williams and Jim Gates)

2018 PLCY798A-0331 Role of Stakeholder engagement in achieving the goals of the

Multilateral Environmental Agreements (independent study

2020 EAS 600 Dir Res&Prb-Gr – 163 Nature-based Solutions: Review of lessons learned ` and best practices from international development agencies

**BIBLIOGRAPHY**

2023. **Bierbaum, R.**, Christianson, A., Schoonover, R. On assessing the security dimensions of ecological disruption. *Journal of the Royal Society*. Submitted and under review

2022. **Bierbaum, R**., and Lazaroff, M. From Theory to Practice: The Student Experience Evaluating

Development Projects Focused on Nature-Based Solutions, Sustainability 2022, 14(9), 5722 <https://www.mdpi.com/2071-1050/14/9/5722/pdf>

2022. Redford, K., Fonseca, G., Rodriguz, C. M, **Bierbaum,** R., et al., . Healthy Planet Healthy People *Conservation Letters* <https://conbio.onlinelibrary.wiley.com/doi/10.1111/conl.12864>

2022. Stafford-Smith, M., Metternicht, G., Carr, E., **Bierbaum, R.** (2022). Achieving transformation through GEF investments. A STAP Advisory Document. <https://www.stapgef.org/resources/advisory-documents/achieving-transformation-through-gef-investments>

2022. Stafford-Smith, M., Metternicht, G., **Bierbaum, R.** (2022). *Policy Coherence for the GEF. A STAP Information Brief*. <https://www.thegef.org/sites/default/files/documents/2022-06/EN_GEF_STAP_C.62_Inf.04_Framing%20Policy%20Coherence%20for%20the%20GEF%20.pdf>

2021. The Circular Economy and Climate Mitigation A STAP Advisory Document <https://stapgef.org/sites/default/files/2021-06/Circular%20Economy%20and%20Climate%20Mitigation_GEF%20Council%20posting.pdf>

2020. Nature-based Solutions <https://stapgef.org/sites/default/files/2020-02/Nature-based%20Solutions%20and%20theQ%20GEF-FINAL_web.pdf?null>=

2020. **Bierbaum, R**., Leonard, S., Rejeski, D., Whaley, C., Barra, R., Libre, C. Novel entities and technologies: environmental benefits and risks, *Environmental Science and Policy.* 105:134-143.<https://www.sciencedirect.com/science/article/pii/S146290111930317X?via%3Dihub>

## 2019. Erbaugh, J., **Bierbaum, R.,** Castilleja, G., Fonseca, G., Toward sustainable agriculture in the tropics. [*World Development*](https://www.sciencedirect.com/science/journal/0305750X), 121: pp 158-162. Special issue on “Commodity Agriculture” (all papers organized and commissioned by authors).

## <https://www.sciencedirect.com/science/article/abs/pii/S0305750X19301160>

2019. Stafford-Smith, M, **Bierbaum, R.,** Ratner, B., Metternicht, G., *Achieving more enduring outcomes from GEF investment,* 18p*,* Science and Technical Advisory Panel,<https://www.thegef.org/sites/default/files/council-meeting-documents/EN_GEF.STAP_.C.56.Inf_.04_Achieving%20more%20enduring%20outcomes%20from%20GEF%20investment.pdf>

2019. STAP Guidance on Climate Risk Screening for the Global Environment Facility (principal author) <https://stapgef.org/sites/default/files/publications/Climate%20Risk%20Screening%20web%20posting.pdf>

2019. Stafford-Smith, M, **Bierbaum, R.,** Ratner, B., Metternicht, G., *Achieving more enduring outcomes from GEF investment,* 18p*,* Science and Technical Advisory Panel,<https://www.thegef.org/sites/default/files/council-meeting-documents/EN_GEF.STAP_.C.56.Inf_.04_Achieving%20more%20enduring%20outcomes%20from%20GEF%20investment.pdf>

2018. **Bierbaum, R**. et al. 2018. Integration: to solve complex environmental problems. Scientific and Technical Advisory Panel to the Global Environment Facility. Washington, DC. <http://stapgef.org/sites/default/files/publications/STAP%20Report%20on%20integration.PDF>

2018. Stocking, M. et al. (**contributing author**). Managing knowledge for a sustainable global future. Scientific and Technical Advisory Panel to the Global Environment Facility. Washington, DC. <http://www.stapgef.org/managing-knowledge-sustainable-future>

2017. **R. Bierbaum**. Elements of Change: Six good practices are needed in tackling complex environmental change. *Our Planet*, October 2017, UNEP <http://web.unep.org/ourplanet/october-2017/articles/elements-change>

2017.L. V.Rasmussen, Agrawal A., **Bierbaum R**., Oldekop J. Across the practitioner-researcher divide: Indicators used to assess the sustainability of commodity agricultural production*, Global Environmental Change 42:* pp. 33-46.<http://www.sciencedirect.com/science/article/pii/S0959378016305635>

2016. *Report on Science and Technology to Ensure the Safety of the Nation’s Drinking Water,* President’s Council of Advisers on Science and Technology (**co-chair, lead author**), Washington, D.C.: Executive Office of the President.<https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/PCAST/pcast_drinking_water_final_report_20161221.pdf>

2016. *Report on Independence, Technology, and Connection in Older Age,* President’s Council of Advisers on Science and Technology (**contributing author**). Washington, D.C.: Executive Office of the President. <https://www.broadinstitute.org/files/sections/about/PCAST/2016%20pcast-independence-tech-ging.pdf>

2016. *Report on Technology and the Future of Cities,* President’s Council of Advisers on Science and Technology (**contributing author**), Washington, D.C.: Executive Office of the President. <https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/PCAST/pcast_cities_report___final_3_2016.pdf>

2015. *Report on Private Sector Efforts in Adaptation to Climate Change,* President’s Council of Advisers on Science and Technology(**co-chair, lead author**)**,** Washington, D.C.: Executive Office of the President. <https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/PCAST/pcast_climate_and_private_sector_recommendations_2015.pdf>

2015. *Report on Federal Information Technology R&D,* President’s Council of Advisers on Science and Technology, (**contributing author**), Washington, D.C.: Executive Office of the President. <https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/PCAST/nitrd_report_aug_2015.pdf>

2015.**Bierbaum R.,** Cowie A, Gorsevski V, Sims R, Rack M, Strapasson A, Woods J. and Ravindranath N. *Optimizing the global environmental benefits of transport biofuels*, <http://www.stapgef.org/stap/wp-content/uploads/2015/04/Biofuels_March13_final.pdf>

2014. **Bierbaum, R**., Stocking, M., Bouwman, H., Cowie, A., Diaz, S., Granit, J., Patwardhan, A., Sims, R., Duron, G., Gorsevski, V., Hammond, T., Neretin, L., Wellington-Moore, C. *Delivering Global Environmental Benefits for Sustainable Development.* Report of the Scientific and Technical Advisory Panel (STAP) to the 5th GEF Assembly, México 2014. Global Environment Facility, Washington, DC. <http://www.stapgef.org/sites/default/files/documents/STAP-GEF-Delivering-Global-Env_web-LoRes.pdf>

2014.  US Global Change Research Program, **R. Bierbaum** (convening lead author), Adaptation chapter in *Climate Change Impacts in the United States:*The *Third National Climate Assessment*, National Science and Technology Council, Washington, DC.   <https://www.globalchange.gov/nca3-downloads-materials>

2014. Letter report to the President on Information Technology for Targeting Job-Skills Training and Matching Talent to Jobs,President’s Council of Advisers on Science and Technology (**contributing author**), Washington, D.C.: Executive Office of the President. <https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/PCAST/PCAST_worforce_edIT_Oct-2014.pdf>

2014. Report to the President on *Combatting Antibiotic Resistance,* President’s Council of Advisers on Science and Technology (**contributing author**), Washington, D.C.: Executive Office of the President. <https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/PCAST/pcast_carb_report_sept2014.pdf>

2014. **Bierbaum, R.** An essay adapted from a presentation entitled, *“****Adaptation to Climate Change: What Is Being Done, What Could Be Done, and What Is Being Ignored”*,** 12th Annual Kratovil Symposium on Real Estate Law, *The John Marshall Law School, Volume 47, Issue 2*. <http://repository.jmls.edu/cgi/viewcontent.cgi?article=1941&context=lawreview>

2014. B Biagini, **Bierbaum**, R., Stults, M., Dobardzic, S. and McNeeley, S. A typology of adaptation actions: A global look at climate adaptation actions financed through the Global Environment Facility, *Global Environmental Change* 25 (2014), pp 97-108. <http://www.sciencedirect.com/science/article/pii/S0959378014000065>

2013. **Bierbaum, R.,** and M. Stults, Adaptation to Climate Change: Context Matters, Inaugural issue of *The Michigan Journal of Sustainability* <http://quod.lib.umich.edu/m/mjs/12333712.0001.004/--adaptation-to-climate-change-context-matters?rgn=main;view=fulltext>

2013. N.Renno, E. Williams, D. Rosenfeld, D. Fischer, J.Fischer; T. Kremic, A. Agrawal, M. Andreae, **R. Bierbaum**, R. Blakeslee, A., Boerner, N., Bowles, H. Christian, A. Cox, J. Dunion, A. Horvath, Xianglei Huang, A. Khain, S. Kinne, M. Lemos, J. Penner, U. Pöschl, J. Quaas, E. Seran, B. Stevens, T. Walati, T. Wagner. CHASER: an innovative satellite mission concept to measure the effects of aerosols on clouds and climate. *Bull. Amer. Meteor. Soc.*, **94**, 685–694. <http://dx.doi.org/10.1175/BAMS-D-11-00239.1>

2013. *PCAST Letter Report to the President on developing a strategy for addressing climate change, President’s Council of Advisers on Science and Technology* (**lead author**), Washington, D.C.: Executive Office of the President. <https://www.broadinstitute.org/files/sections/about/PCAST/2013%20pcast-energy-and-climate.pdf>

2013. **Bierbaum, R.,** and P. Matson, Energy in the Context of Sustainability, *Dædalus*142 (1): 146–161. <http://www.mitpressjournals.org/doi/abs/10.1162/DAED_a_00191>

2012. Report to the President on Agricultural Preparedness and the United States Agricultural Research Enterprise. The President’s Council of Advisors on Science and Technology (**contributing author**), Washington, D.C.: Executive Office of the President Executive Office of the President. <https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/pcast_agriculture_20121207.pdf>

2012. Report to the President on Transformation and Opportunity: The Future of the U.S. Research Enterprise*.* The President’s Council of Advisors on Science and Technology (**contributing author**), Washington, D.C.: Executive Office of the President.

2012. **Bierbaum, R**., J.Smith, A. Lee, M. Blair, L. Carter, F. Stuart Chapin III, P. Fleming, S. Ruffo, S. McNeeley, M. Stults, E. Wasley, L. Verduzco, A Comprehensive Review of Adaptation in the United States: More Than Before, But Less Than Needed”, *Mitigation and Adaptation Strategies for Global Change*, 44 pages (<http://link.springer.com/article/10.1007%2Fs11027-012-9423-1?LI=true#page-1>) <http://www.mitpressjournals.org/doi/pdf/10.1162/DAED_a_00191>

2011*.* Report to the President on *Sustaining Environmental Capital: Protecting Society and the Economy.* The President’s Council of Advisors on Science and Technology (**co-chair and lead author**), Washington, D.C.: Executive Office of the President. <https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/pcast_sustaining_environmental_capital_report.pdf>

2010. Report to the President on *Accelerating the Pace of Change in Energy Technologies through an Integrated Federal Energy Policy*. The President’s Council of Advisors on Science and Technology (**contributing author**), Washington, D.C.: Executive Office of the President. <https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/pcast-energy-tech-report.pdf>

2010*. Informing an Effective Response to Climate Change,* America’s Climate Choices: Panel on Informing Effective Decisions and Actions Related to Climate Change (**contributing author**) Board on Atmospheric Sciences and Climate. <http://www.nap.edu/catalog.php?record_id=12784>

2010. *National Climate Adaptation Summit Report*. National Climate Adaptation Summit Committee (**co-chair and lead author**) <http://vintage.joss.ucar.edu/events/2010/ncas/ncas_report.pdf>

2010. Report to the President: *Prepare and Inspire: K-12 Education in Science, Technology, Engineering, and Math (STEM) for America’s Future*. The President’s Council of Advisors on Science and Technology (**contributing author**), Washington, D.C.: Executive Office of the President. (<https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/pcast-stem-ed-final.pdf>

2009l **Bierbaum, R. M.,** and Robert B. Zoellick, 2009. Development and Climate Change. Science 6 November 2009: Vol. 326, no. 5954, p. 771. <http://science.sciencemag.org/content/326/5954/771.full>

2009. *World Development Report 2010: Development and Climate Change*. (**co-chair and lead author**), The World Bank, Washington, D.C. <https://openknowledge.worldbank.org/handle/10986/4387>

2009. *Michigan Climate Action Council Climate Action Plan*. Michigan Department of Environmental Quality (**Council member and contributing author**) <https://www.michigan.gov/documents/deq/deq-miclimateactionplan-part1_276563_7.pdf>

2008. **Bierbaum**, **Rosina M**., Brown, Daniel G., and McAlpine, J. L,. (eds.), *Coping with Climate Change: National Summit Proceedings.* The Regents of the University of Michigan, 2008. 256 pp. (also Chair and lead author.) <https://islandpress.org/book/coping-with-climate-change>

2008. **Bierbaum, R.** Coping with Climate Change: A National Summit. Conference report in *Environment,* Vol. 50, no 4, July/August 2008, 59-64. <http://www.tandfonline.com/doi/abs/10.3200/ENVT.50.4.59-65>

2008. **Bierbaum, Rosina B.,** and David C. Munson Jr. Sustainability and Innovation: Share the Gold, Sustainability: The Journal of Record. October 2008, 1(5): 283-284. <http://online.liebertpub.com/doi/abs/10.1089/SUS.2008.9938?journalCode=sus>

2008. **Bierbaum, R.**, Reilly, W., Revesz, R., & Meserve, R. Energy and Climate Change. *Bulletin of the American Academy of Arts and Sciences,* Winter 2008, Vol. LXI, no 2, 29-41. [www.jstor.org/stable/40481322](http://www.jstor.org/stable/40481322).

2007. **Bierbaum, R.** Adaptation to a Changing Planet, *The Public Garden,* Vol. 22, no 4, 2007, 5-6.

2007. Committee on Earth-Atmosphere Interactions: Understanding and Responding to Multiple Environmental Stresses, National Research Council [**Rosina M. Bierbaum** and Mary Anne Carroll, Co-Chairs]. Understanding Multiple Environmental Stresses: Report of a Workshop. The National Academies Press, 141 pp. <https://www.nap.edu/catalog/11748/understanding-multiple-environmental-stresses-report-of-a-workshop>

2007. **Bierbaum, Rosina M**., and Peter H. Raven. A Two-Pronged Climate Strategy. Science 6 April: Vol. 316. no. 5821, p. 17. <https://www.researchgate.net/profile/Rosina_Bierbaum/publication/6409033_A_Two-Pronged_Climate_Strategy/links/568bb53608ae051f9afc5b45/A-Two-Pronged-Climate-Strategy.pdf>

2007. Scientific Expert Group on Climate Change (SEG), 2007. *Confronting Climate Change: Avoiding the Unmanageable and Managing the Unavoidable* [**Rosina M. Bierbaum**, John P. Holdren, Michael C. MacCracken, Richard H. Moss, and Peter H. Raven (eds.)]. Report prepared for the United Nations Commission on Sustainable Development. Sigma Xi, Research Triangle Park, NC, and the United Nations Foundation, Washington, DC, 144 pp. (Lead author) <http://www.globalproblems-globalsolutions-files.org/unf_website/PDF/climate%20_change_avoid_unmanagable_manage_unavoidable.pdf>

2006. Lane, Neal Ph.D., Kirstin Matthews Ph.D., Amy Jaffe, and **Rosina Bierbaum**. Bridging the Gap between Science and Society: The Relationship between Policy and Research in National Laboratories, Universities, Governments and Industry. The James A. Baker Institute for Public Policy of Rice University, 2006, 287 pp. <https://scholarship.rice.edu/bitstream/handle/1911/91459/Bridging_The_Gap1.pdf?sequence=1>

2005. Lane, Neal Ph.D., Kirstin Matthews Ph.D., Amy Jaffe, and **Rosina Bierbaum**. Study 32: "Bridging the Gap Between Science and Society.” The James A. Baker Institute for Public Policy of Rice University, Number 32, November 2005. <https://www.bakerinstitute.org/research/bridging-the-gap-between-science-and-society-the-relationship-between-policy-and-research-in-nationa/aum>

2005. **Bierbaum, Rosina M**. Climate Change – the big environmental issue. Journal of Environmental Monitoring 2005, 7: 832-833. <http://pubs.rsc.org/-/content/articlelanding/2005/em/b510527g#!divAbstract>

2004. **Bierbaum, Rosina M**. Training environmental decisionmakers: a special case of environmental education. Applied Environmental Education and Communication 3 (1):1-3. <http://www.tandfonline.com/doi/abs/10.1080/15330150490277120?journalCode=ueec20>

2003**. Bierbaum, Rosina M**. Current challenges for climate change, *The Chemistry of Global Climate Change*. ACS Symposium On-Line Proceedings (previously at <http://lfee.mit.edu/acsclimate>).

2003. Friedman, R., and **Bierbaum, R**. The bumpy road to reduced carbon emissions. *Issues in Science and Technology* Summer 2003:55-58. <http://issues.org/19-4/friedman/>

2003. Lane, Neal F., **Bierbaum, Rosina M.,** and Anderson, Mark T. Science and water policy for the United States. Pp. 207-222 *in* R. Lawford, et. al., (Eds.) *Water: Science, Policy and Management.* Water Resources Monograph 16. Washington DC: American Geophysical Union. <http://onlinelibrary.wiley.com/doi/10.1029/016WM13/summary>

2002. **Bierbaum, R**. The role of science in federal policy development on a regional to global scale: personal commentary. *Estuaries* 25(4b):878-885. <https://link.springer.com/article/10.1007/BF02804913>

2001. Lane, N. and **Bierbaum, R**. Recent advances in the science of climate change. *Natural Resources and Environment* 15(3):147-151, 199-202. <http://www.jstor.org/stable/40924046?seq=1#page_scan_tab_contents>

2001. Biodiversity: Connecting with the Tapestry of Life. Washington DC: President's Committee of Advisors on Science and Technology and Smithsonian Institution Monitoring & Assessment of Biodiversity Program. (**second editor**) <http://www.meteor.iastate.edu/gccourse/issues/biodiversity/primer_med_res.pdf>

2000. **Bierbaum, R**. A federal science perspective on land use. Ecological Applications 10(3):682-685. [http://onlinelibrary.wiley.com.proxy.lib.umich.edu/doi/10.1890/1051-0761%282000%29010[0682:AFSPOL]2.0.CO;2/full](http://onlinelibrary.wiley.com.proxy.lib.umich.edu/doi/10.1890/1051-0761%282000%29010%5b0682:AFSPOL%5d2.0.CO;2/full)

2000. Program Guide to Federally Funded Environment and Natural Resources R&D. Washington DC: Executive Office of the President, National Science and Technology Council. (**co-lead author**).

2000. Our Changing Planet: The FY 2001 U. S. Global Change Research Program. Washington DC: Executive Office of the President, National Science and Technology Council. (**contributing author**) <https://www.carboncyclescience.us/sites/default/files/documents/2013/ocp2001.pdf>

1999. **Bierbaum, R**. The administration's initiative for ecosystem sciences. Association of Systematics Collections Newsletter 27(3-4):16-18.

1999. **Bierbaum, R**., and Baker, D. J. Some light on the hypoxia debate. Environmental Science and Policy 2(6):425-426. <http://www.sciencedirect.com.proxy.lib.umich.edu/science/article/pii/S1462901199000416>

1999. The Role of Monitoring Networks in the Management of the Nation's Air Quality. Washington, DC: Executive Office of the President, National Science and Technology Council. (**contributing author**) <https://www.esrl.noaa.gov/csd/AQRS/reports/monitoringnet.pdf>

1999. Our Changing Planet: The FY 2000 U.S. Global Change Research Program--The Nation's Research Investments to Understand the Complexity of Global Environmental Change. Washington DC: Executive Office of the President, National Science and Technology Council. (**contributing author**).

1999. Endocrine Disruptors: Research Needs and Priorities. Washington DC: Executive Office of the President, National Science and Technology Council. (**contributing author**)

1998. **Bierbaum, R**. Preface: regional assessments of climate change and policy implications. Climate Research Special Issue 11(1):1-3. <http://www.jstor.org/stable/24865971?seq=1#page_scan_tab_contents>

1998. Pryor, D., **Bierbaum, R.,** & Melillo, J., Environmental monitoring and research initiative: a priority activity for the Committee on Environment and Natural Resources. Environmental Monitoring and Assessment 51(1-2):3-14. <https://link.springer.com/article/10.1023%2FA%3A1005918527591?LI=true>

1997**. Bierbaum, R**. Ensuring solid science on national environmental issues. FAILSAFE II(I):13-16.

1997. Vulnerabilities and Adaptation, Climate Action Report: Chapter 5 *in* *Climate Action report: 1997 Submission of the United States of America Under the United Nations Framework Convention on Climate Change,* Publication 10496. Washington DC: Department of State. (**co-lead author**) <https://babel.hathitrust.org/cgi/pt?id=pur1.32754067535413;view=1up;seq=3>

1997. Integrating the nation's Environmental Monitoring and Research Networks and Programs: A Proposed Framework. Washington DC: Executive Office of the President, National Science and Technology Council, 17 p. (**co-chair and lead author**). <http://www.graham.umich.edu/scavia/wp-content/uploads/2009/11/nstc_environmental_monitoring_framewrk.pdf>

1997. Backlund, P., Bassow, S., **Bierbaum, R**., Lapham, N., Melillo, J., Sharples, F. “Climate Change: State of Knowledge, 17 p. Washington DC: Executive Office of the President, Office of Science and Technology Policy. <http://hdl.handle.net/2027.42/49473>

# 1996. Toman, M. A., and R. Bierbaum: “An Overview of Adaptation to Climate Change”, Chapter in *Adapting to Climate Change: An International Perspective*, (eds.) J. Smith, Bhatti, N, Menzhulin, G, Benioff, R, Campos, M, Jallow, B, and Rijsberman, Budyko, M, and Dixon, R. K. (New York: Springer-Verlag).<https://books.google.com/books?hl=en&lr=&id=7oruBwAAQBAJ&oi=fnd&pg=PA5&dq=environment+bierbaum+r.&ots=5ffRJsYLl7&sig=fmwAxuz_3ROSeT5I9qcg>

1995. Toman, M. A., and **R. Bierbaum.** An overview of adaptation to climate change. *Resources for the Future Discussion Paper* 95-40.

1995. **Bierbaum, R.,** and Watson, R. T. Recasting US federal environmental R&D priorities. Climatic Change 29(2):123-130. <https://link.springer.com/article/10.1007%2FBF01094012?LI=true>

1993. **Bierbaum, R.** Review of *The Greenhouse Gambit: Business and Investment Responses to Climate Change*. Chemical and Engineering News, 71 (46), 63-66. <http://pubs.acs.org/doi/abs/10.1021/cen-v071n046.p063>

1993. Preparing for an Uncertain Climate--Volume II (OTA-O-568). Washington DC: US Congress, Office of Technology Assessment (**director and lead author**). Pp. 383. <http://ota-cdn.fas.org/reports/9339.pdf> )

1993. Preparing for an Uncertain Climate--Volume I (OTA-O-567). Washington DC: US Congress, Office of Technology Assessment (**director and lead author**). Pp. 359. <http://ota.fas.org/reports/9338.pdf>,

1991. Friedman, R. and **Bierbaum, R.** The road to reduced carbon emissions. Issues in Science and Technology Winter 1991-92:58-65. <http://www.jstor.org/stable/43311166?seq=1#page_scan_tab_contents>

1991. Changing by Degrees: Steps to Reduce Greenhouse Gases (OTA-O-482). Washington DC: US Congress, Office of Technology Policy. Pp. 354. (**Director and lead author**) <http://govinfo.library.unt.edu/ota/Ota_2/DATA/1991/9111.PDF>

1991. **Bierbaum, R.** Introduction to Respondents Panel on Current Analyses of Economic Costs, p. 283-285 *in* J. C. White (Ed.), *Global Climate Change: The Economic Costs of Mitigation and Adaptatio*n. New York: Elsevier <http://www.springer.com/us/book/9780444016478>

1990. Energy in Developing Countries (OTA-E-486). Washington DC: US Congress, Office of Technology Assessment. Pp. 137. (**contributing author**) <http://ota.fas.org/reports/9118.pdf>

1990. Replacing Gasoline: Alternative Fuels for Light-Duty Vehicles (OTA-E-364). Washington DC: US Congress, Office of Technology Assessment. Pp. 136. (**contributing author**) <http://ota.fas.org/reports/9039.pdf>

1988**. Bierbaum, R**., Friedman, R., and Gibbons, J.H. The questions for Congress. Pp. 201-210 *in* J. C. White (Ed.), *Acid Rain: The Relationship Between Sources and Receptors*. New York: Elsevier. <https://books.google.com/books?id=6_uu7yCQhV0C&printsec=frontcover&source=gbs_ViewAPI#v=onepage&q&f=false>

1988. **Bierbaum, R**., and Shumway S.E. Filtration and oxygen consumption in mussels (*Mytilus edulis*) with and without pea crabs (*Pinnotheres maculatus*). *Estuaries* 11 (4):264-271. <https://link.springer.com/article/10.2307/1352013>

1988. **Bierbaum, R**., Sundt, N., and Friedman, R. An Analysis of the Montreal Protocol on Substances That Deplete the Ozone Layer. Washington DC: US Congress, Office of Technology Assessment. Pp. 41.

1987. Jim Curlin, Westermeyer, W., and **Bierbaum, R**. “Recovery of mineral resources in the exclusive economic zone: technologies and competitiveness”, *Proceedings of OCEANS ’87: The Ocean – an international workplace*. Nova Scotia: Marine Technology Society. Copies available from IEEE Service Center. <http://catalog.hathitrust.org/api/volumes/oclc/17806090.html>.

1987. Marine Minerals: Exploring Our New Ocean Frontier (OTA-O-342). (**contributing author)** Washington DC: U S Congress, Office of Technology Assessment. Pp. 347. <http://ota.fas.org/reports/8716.pdf>

1987**. Bierbaum, R**. Review of *The Acid Rain Debate: Scientific, Economic, and Political Dimensions*, Yannarella, E. J. and Ihara, R. H. (Eds.) The Quarterly Review of Biology 62(1):116-117. <http://www.journals.uchicago.edu/doi/pdfplus/10.1086/415370>

1986. **Bierbaum, R**., and Ferson, S. Do symbiotic pea crabs decrease growth rate in mussels? *Biological Bulletin* 170:51-61. <http://www.journals.uchicago.edu/doi/abs/10.2307/1541380?journalCode=bbl>

1985. **Bierbaum, R.** The physiological consequences of harboring a symbiont: the effect of pea crabs (*Pinnotheres maculatus*) on mussels (*Mytilus edulis*). Unpublished Dissertation, State University of New York at Stony Brook, Stony Brook. 222pp. (will obtain electronic version 08/17)

1985. **Bierbaum, R.** Decision-making in the absence of scientific certainty. Pp. 197-208 *in* P. Mandelbaum (Ed.), *Acid Rain: Economic Assessment*. New York: Plenum. <https://www.scribd.com/document/351593252/Acid-Rain-Economic-Assessment>

1985. Acid Rain and Transported Air Pollutants: Implications for Public Policy (Republication of OTA-O-204, **co-lead author**). UNIPUB. Pp. 323.

1984. Acid Rain and Transported Air Pollutants: Implications for Public Policy, (OTA-O-204, **co-lead author**) <https://www.princeton.edu/~ota/disk3/1984/8401/8401.PDF>

1984. Report Brief: Acid Rain and Transported Air Pollutants (**lead author**) <http://ota.fas.org/reports/8401RB.pdf>.

1983**. Bierbaum, R.** The congressional dilemma. Pp. 1-10 *in* J. H. Gibson, et al. (Eds.), *Rocky Mountain Acidification Study Vol. FWS/OBS-80/40.17*. Washington DC: US Fish and Wildlife Service, Division of Biological Services, Eastern Energy and Land Use Team.

1983. Friedman, R. M., **Bierbaum, R. M**., Catherwood, P. A., Diamond, S. C., Hoberg, G. G. J. and Lee, V. A. The acid rain controversy: the limits of confidence. The American Statistician 37(4):385-394. <https://www.jstor.org/stable/2683501?seq=1#fndtn-page_scan_tab_contents>

1982. Friedman, R. and **R. Bierbaum**. Transported air pollutants: risk of damage and the risk of control. p. 263-275 *in* *proceedings,* SP-49: A Conference on Atmospheric Deposition. Detroit: APCA.

1982. The Regional Implications of Transported Air Pollutants: An Assessment of Acidic Deposition and Ozone Vol. II--Appendices. Washington DC: US Congress, Office of Technology Assessment. Pp. 250. (**co-lead author**).

1981. Long Range Transport Air Pollutants. Washington DC: US Congress, Office of Technology Assessment, working paper. Pp. 100 (**co-lead author**).

1982. **Bierbaum, R.** 1981. Parasitic effects of pea crabs on the blue mussel (*Mytilus edulis*). (Abstract) *American Zoologist* 20(4):745.

1980. **Bierbaum, R.** Graduate editorial fellowships--an idea whose time has come. Council of Biological Editors 3(2):3-8.

1979. **Bierbaum, R.** Review of Sea Microbes by J. M. Sieburth. *The Quarterly Review of Biology* 54(4):456-457. <http://www.journals.uchicago.edu/doi/abs/10.1086/411503>

1976. **Bierbaum, R**. Review of Writing Scientific Papers in English by M. O'Connor and F. P. Woodford. *The Quarterly Review of Biology* 51(1):208-209. <http://www.journals.uchicago.edu/doi/pdfplus/10.1086/409305>

1975. **Bierbaum, R.** Review of Air Pollution Effects on Plant Growth, M. Dugger (Ed.). *The Quarterly Review of Biology* 50(4):498-499. <http://www.journals.uchicago.edu/doi/abs/10.1086/408900>

**SELECTED SPEECHES AND LECTURES**

*“How to design Climate adaptation projects to be successful and durable”, Senegal workshop, April 25, 2023.*

*“Why United Nation’s Evaluation offices all need to consider Nature-positive and Climate-positive actions to achieve durable outcomes’, World Bank, January 23, 2023.*

*Guidance on using the new GEF proposal form***”** Invited, Bierbaum, R. M., Global Environment Facility (GEF) Training on the new PIF, "Guidance on using the new GEF proposal form," (Presentation) GEF, zoom. (August 16, 2022 - 2022).

*“Role of Forests in nature-based solutions***”** Invited, Bierbaum, R. M., Wildlife conservation Society Board, "Role of Forests in nature-based solutions," (Presentation) WCS, zoom. (January 21, 2022)

*“How adaptation can be built into GEF project and programs more directly”*, Bierbaum, R. M., LDCF/SCCF technical advisory Group, "How adaptation can be built into GEF project and programs more directly," (Presentation) Global Environment Facility, zoom. (September 16, 2022)

"STAP'S REPORT TO COUNCIL, DEC 2022," (Presentation) GEF, zoom. (November 28, 2022 - December 2, 2022).<https://stapgef.org/sites/default/files/2022-11/STAP%20Chair%27s%20Presentation%20to%20GEF%20Council-FINAL.pdf>

"STAP REPORT TO COUNCIL, JUNE 2022, <https://stapgef.org/resources/chairs-report-and-presentation-44>

*“17 Rooms: Room 15 - Life on Earth”* Invited, Bierbaum, R. M. (Cochair of Room 17, Life on Earth), Rockefeller and Brookings 17 Rooms, "17th Rooms: Life on Earth," (Presentation) Rockefeller and Brookings, zoom. (March 12, 2021 and December 20, 2021).

*“Becoming a successful woman in science”,* Spence High School, NYC, May 28, 2021

**“Towards Sustainable Futures: Governance, Inclusiveness, and Stewardship”,** National Academies/Nobel Summit Our Planet, Our Future: April 28, 2021

“Science Supporting Transformations towards Global Sustainability”, National Academies/Nobel Summit Our Planet, Our Future: Science Supporting Transformations towards Global Sustainability, 27 April 2021

“Science Supporting Transformations towards Global Sustainability”, Wildlife Conservation Society***,*** *c*, April 29, 2021

“*What can you do to confront climate change*”, Eastern Middle School, Silver Spring, MD

*“Transform Tomorrow Today: The New Materiality of Climate Science and What it Means for Investors and Companies”*, CERES 2021, March 24, 2021

Keynote: *“Public Universities and Transformative Climate Action for a Just Recovery”,* Rutgers University, October 23, 2020

*“Addressing Climate Change and Protecting the Environment”,* Science, Technology, and Health Capabilities within the Department of State and USAID at an Inflection Point Workshop*,* September 21, 2020.

25th EarthFest Moderator, University of Michigan (with Guy Williams), September 14, 2020

Keynote, “*Research Needs for Sustainability”***, Supply Chain Sustainability Research Symposium**, Meridian Institute, June 12, 2020

*Resilience Research Needs*, Plenary Speaker, Climate Leadership Conference, Peace and Climate Change, C2ES, Detroit Westin, MI, March 4, 2020.

Keynote and Moderator: “*Hill Briefing on the Global Commission on Adaptation”,* Rayburn House Office Building, Environmental and Energy Study Institute, DC., November 1, 2019.

*“Climate Change: Implications for the Investment Community”,* Morgan Stanley Sustainable Investing Summit, New York, NY, October 29, 2019

“*Adaptation and Global Development Projects*”, Sustainability and Development Conference, University of Michigan, October 13, 2019.

*“Climate Risk Screening”* and “*Durability of Project Outcomes”.* Presentations and moderated panel discussions, Global Environment Facility, October 3-4, 2019

US-China Sustainability Conference, chaired the session on “*Adaptation Research Needs”*, University of Michigan, October 2, 2019.

“*The State of Policy and Action on Climate Change”*, UM Retirees’ Association, Ann Arbor, September 12, 2019.

“*Climate Change: Science, Impacts, and Adaptation*”, Tsinghua International Summer School-Environment, Beijing, China, August 5-6 2019

“*How University Leadership can encourage Science-Policy Engagement in Faculty*”, UC3 Annual Conference, Vancouver, CANADA, July 23, 2019.

*“Climate Change and the Role of Intact Ecosystems in Combatting it”,* Wildlife Conservation Society, NY., February 25, 2019.

*“University Role in advancing Climate Change Research”,* UC3 Conference, Tucson, AZ, February 11, 2019

*“Climate Change: Challenges and Opportunities for the Investment Community*”, Fidelity Investment managers, Boston, MA., January 25, 2019.

*“The 4th U.S. National Climate Assessment*“. Environmental and Energy Study Institute, Washington, DC., December, 2018.

Panelist on “*Role of dual degrees in graduate education*”, CSU School of Global Environmental Sustainability, **panelist**, Todos Santos, Mexico, November 6, 2018.

“*The Global Change Research Program*”, presentation with Congressional Staff, Washington, DC, Environmental and Energy Institute, July 24, 2018.

*“Emerging Issues: Novel entities, environmental security, circular economy, and mainstreaming adaptation into development*”, GEF Assembly, Danang, Vietnam, June 27, 2018.

*“Planetary Boundaries (with Johan* Rockström*): implications for achieving the Sustainability Development Goals and implementing the Multilateral Environmental Agreements*”, GEF Assembly, Danang, Vietnam, June 25, 2018.

“*Moving to improved Impact Programs: the role of innovation, integration, stakeholder engagement, and knowledge management*”, GEF Council, Danang, Vietnam, June 23, 2018.

*“Science and Environmental Decisionmaking”,* Keynote in “America’s Values in Conflict” series, Iowa State University, Ames, IA, March 22, 2018.

“*How Climate Change affects the Moore Foundation’s Investments”,* presentation to the Trustees and staff of the Gordon and Betty Moore Foundation, Palo Alto, CA, February 8, 2018.

“*Avoiding the Unmanageable and Managing the Unavoidable: How Climate change is already affecting the ‘bottom line’*”, United Nations Foundation and CERES, Investor Summit on Climate Risk, United Nations, January 31, 2018.

*How Emerging Climate Science can shape Foundations’ Priorities”,* Keynote on Climate Science, Hewlett Foundation workshop on their ‘Climate Strategy Refresh’, Washington, D.C., November 11, 2017.

**“***The Impacts of Climate Change: Relevance for State Energy Managers”,* Keynote at National Association of State Energy Officials (NASEO) Annual Meeting, New Orleans, September 20, 2017.

“Use of Climate Screening Tools in evaluating Climate Risk”, Keynote and desktop exercise, Federal Emergency Management Agency Executive Leadership Training, Emmitsburg, MD, July 11, 2017.

*“The Implications of Climate Change for Investors”*, Keynote at the annual meeting of the Interfaith Council on Corporate Responsibility, Grand Rapids, MI, June 14, 2017.

*“Science input to Integrated Approaches”,* 54th Global Environment Facility Council Meeting, Washington, D.C., May 24, 2017.

*“Confronting Climate Change”*, 7th annual Dave Keeling Lecture, Birch Aquarium, San Diego, May 8, 2017.

*“Lessons from 20 years in Washington at the Science-Policy Interface”,* PubPol 754 (STPP Class), April 18, 2017.

*“Climate Change Adaptation”,* keynote for IPIECA (International Petroleum Industry Environmental Conservation Association), Houston, Tx, April 4-5, 2017.

*“Advancing Resilience through the Multilateral Environmental Agreements and the Sustainable Development Goals: The Role for Academia”,* keynote speaker at the Symposium on New Perspectives on Sustainability and Resilience, Purdue University, March 22-23, 2017.

“W(h)ither the Climate Treaty”, International Studies 101, University of Michigan, March 21, 2017.

“*Science and national policy issues related to climate and health*”, keynote at Climate and Health Symposium, University of Michigan, School of Nursing, School of Public Health, and School of Natural Resources and Environment, March 10, 2017.

“*Nationally Determined Commitments and their effects on energy and industry*”, panelist, Energy Transition 2017: Strategies for a sustainable energy future, National Center for Sustainable Energy Studies, and Statoil, Trondheim, March 7, 2017

“*What does Climate Science tell us?”,* keynote at Implications of Paris, part 2, Norwegian University of Science and Technology, Trondheim, March 5-6, 2017

Speaker in session on “*Global Environmental Assessments and the Bridge to Environmental Policy*”, February 19, 2017, AAAS Annual Meeting, Boston.

Speaker in session on “Unfinished Business: Science Policy for the White House in the New U.S. Administration”, February 17, 2017, AAAS Annual Meeting, Boston.

*“Climate Change and Sustainable Investing*”, Morgan Stanley, December 12, 2016

Presentation on “*Science and Technology to Ensure the Safety of the Nation’s Drinking Water”*, PCAST public meeting, November 18, 2016.

“*Climate change: It’s about Equity”,* Freshman seminar, Footprints Across Time, University of Michigan, November 14, 2016.

“Avoiding the Unmanageable and Managing the Unavoidable”, International Studies 101, University of Michigan, November 1, 2016

Presentation, “Taking Stock of Planetary Boundaries – Climate Change”, Science Day, Global Commons Workshop, Global Environment Facility, October 11, 2016

Science lecturer on The Nature Conservancy/Rockefeller Brothers Foundation Arctic Climate Cruise, June 27-July 4, 2016.

“*Emerging Environmental Issues in the Climate Domain”*, United Nations Environment Assembly, Nairobi, May 25, 2016.

“New EnergyTechnologiess”, panelist at Implications of Paris, Part 1: Joint Global Change Research Institute, Maryland, May 3-4, 2016.

“*The State of Climate Change Science and Implications for Equity*”, Christensen Foundation, San Francisco, April 26, 2016

*“The Science of Climate Change”,* International Studies 101, University of Michigan, March 15, 2016.

*Middle Eastern Roundtable on Drought*, Panel discussant, University of Michigan, March 11, 2016

“*Bridging the Science-Policy Gap*”, Keynote at the 2016 National Collegiate Research Conference, Harvard University, January 22, 2016

*“Climate Change: What does the Science tell us*?”, Freshman Seminar, Footprints Across Time, University of Michigan, November 16, 2015.

*“Implications of the Paris Climate Agreement”, Workshop at the University of Maryland*, September 22, 2015.

*“The Role of PCAST in Science Policy”*, The Jerome B Wiesner Symposium: "Strengthening the Roles of Universities in National Science Policymaking: Education, Research, and Engagement”, University of Michigan, May 30-31, 2015. (Also delivered the final address on recommendations and next steps.)

*“From the Lab to White House and Back :Bridging the Science - Policy Gap”,* Plenary Lecture, National Postdoctoral Association, Baltimore, Md, March 13, 2015.

*Past is not Prologue: How Climate Change alters the Science & Art of managing Ecosystems,* Plenary address at The Stewardship Network Great Lakes 2015, Lansing MI, January 23, 2015.

The Impacts of Climate Change on the MidWest, Congressional Briefing, Energy and Environment Study Institute, *July 17, 2014*

*“Insights from working at the Science-Policy-Development interface,* Plenary Lecture, Industrial *Ecology, Gordon Research Conference, Italy, June 5, 2014*

*“Delivering Global Environmental Benefits for Sustainable Development”*, Plenary Presentation the 4th Assembly of the Global Environment Facility, Cancún, Mexico, May 27, 2014

*“Scientific and Technical Advisory Panel Report to the 46th Meeting of the GEF Council*”, Report to the 46th Meeting of the GEF Council, Cancún, Mexico, May 21, 2014

*“Coping with Climate Change: An Imperative for Development,* 14th Annual Barnard Lecture, American Association for the Advancement of Science, Washington, D.C. May 7, 2014 (http://new.livestream.com/aaasorg/Barnard2014/videos/50262677)

*“Past is not Prologue: How climate change alters development prospects*”, 2014 Pardee Distinguished Lecture, Boston University, April 30, 2014.

*“From the Lab to White House and Back: Bridging the Science - Policy Gap”,* Spring Keynote, Graduate Women in Science and Engineering, Boston University, April 30, 2014.

*“Working across Scales: World Bank Climate and Disaster Risk Screening Tools (with reflection on the unmet needs)”,* Association of American Geographers, Annual Meeting, Tampa, Florida, April 2, 2014.

*“Bridging the Science - Policy Gap*”, University of Michigan, Guest Lecture in Public Policy/Physics 481, March 27. 2014.

*“Careers in Science-Policy”,* UROP SEMINAR*,* University of Michigan,March 12, 2014

**“***Adaptation actions are nascent…but growing”,* Guest Lecture in Adaptation Law 661, February 2, 2014.

*“The Role of Science in the Global Environment Facility”,* Department of State, Washington, DC, January 31, 2014.

*“New Directions for the Science and Technical Advisory Group of the Global Environment Facility”,* Stockholm environment Institute, Sweden, January 22, 2014.

*“Perfect Storm: The Physical & Economic Impacts of Climate Change***”,** 2014 Investor Summit on Climate Risk, United Nations Headquarters, New York, January 15, 2014. (<http://www.ceres.org/incr/investor-summit>, presentation begins at 1:05:00 of the video).

*“The Role of Information, Communication, and Technology in advancing Global Environmental Benefits”,* CEO FORUM ON INNOVATION PARTNERSHIP, Institute for Electronic Government Briefing Center, Washington, D.C., December 18, 2013.

*“Implications of Climate Change Globally and Locally”,* Ann Arbor City Club, Michigan, December 4, 2014.

*“Climate Change: State of Knowledge”****,*** University of Michigan, Guest Lecture in LSA Course CICs-100, Introduction to Sustainability, November 4, 2013.

*“Adaptation to Climate Change: what is being done, what could be done, and what is being ignored”,* Keynote at the13th Kratovil Conference on Real Estate Law and Practice, The John Marshall Law School, Chicago, September 26, 2013.

*“Climate Change: Insights from Science, Implications for Responses*”, Keynote at the 2013 Governor's Conference on Energy & the Environment, Lexington, Kentucky, September 17, 2013.

*“Climate Services and the Role of Hydromet Systems in Developing Countries”,* World Bank Panel Discussion, September 8, 2013.

*“The emergence of Adaptation as an issue, and the Role of National & International Assessments in setting priorities”, UNEP Headquarters, Nairobi, Kenya, July 30, 2013.*

“*What is scope of adaptation activity in the U.S.?” Special briefing for Congressional staff and the Energy and Environment Study Institute Board and Associates, May 29, 2013.*

*“Climate Change: Insights from Science, Imperatives for Action”,* Plenary address at “Water for Food “Global Conference, May 6-9, 2013, Nebraska

*“The Role of National & International Assessments in setting priorities”, Guest lecture in Public Policy 754 class, April 16, 2013.*

*“The State of Climate Change Science*”, Guest lecture in CICS 101, March 26, 2013.

*“Adaptation activities in the public and private sector in the United States”, CHEVRON Webinar, March 22, 2013.*

*“Comparison of 3 Reports on Climate Change: World Bank, UNEP, and the Global Environment Facility”,* AAAS Auditorium, sponsored by UNEP/GEF. March 20, 2013*.*

*“Findings of the Adaptation Chapter in the U.S. National Climate Assessment,* Special Symposium on the U.S. National Climate Assessment, AAAS Annual Meeting, February, 15. 2013.

*“Overview of the U.S. National Climate Assesssment: Process and Product*”, Opening plenary at the Midwest Townhall, University of Michigan, February 12, 2013.

*“What do we know about Climate Change, and how do we know it?”,*  Invited presentation to the Crowne Family Philanthropies, Chicago, February 4, 2013.

*“The impacts of a 4o C world on Sustainable Development”.* AGU Annual Meeting, San Francisco, Special session on the Anthropocene, December 7, 2012.

*“Preparing for the Conference of Parties 18”,* Guest lecture in ENV 139 “Footprints across Time”, Professor Bobbi Low, November 12, 2012.

*“Climate Change Primer”,* Guest Lecture in “Introduction to International Studies 101”, Professor Greta Uehling, November 6, 2012.

*“Next steps on Adaptation”,* Global Expert Team on Climate Change, the World Bank Group, September 19, 2012.

*“The Impacts of Climate Change on World Bank operations”,* special briefing to the President of the World Bank, Dr. Jim Kim, September 18, 2012.

*“Climate Change: Insights from Science, Imperatives for Action”,* Presentation to the Vice Presidents of the International Finance Corporation, September 12, 2012. (Same lecture was given to all the senior staff of the IFC immediately after this presentation.)

*“Green Growth: a necessary component to tackle climate change”,* World Bank, June 26, 2012.

*“The Role of Assessments in Science Policy”,* address to the Harvard Science Fellows, May 14, 2012.

*“National efforts on advancing Adaptation”,* address to EPA Region I staff, May 7, 2012.

*“Climate Change Knowledge Networking Opportunities”,* World Bank, May 1, 2012.

*“Urban Infrastructure and Climate Change”, Harvard University, April 19, 2012.*

*“Adaptation as a new topic in the U.S. National Climate Assessment*”, National Research Council, National Academies of Sciences, April 4, 2012.

*“Climate Change: Avoiding the Unmanageable and Managing the Unavoidable”,* Climate Change Learning Day for Field Officers of the IFC, March 30, 2012.

“The Role of *National* and International Assessments in setting Priorities”, University of Michigan Energy Club, March 28, 2012.

*“Development and Climate Change*”, Webinar for CHEVRON leadership, March 16, 2012

*“What I learned from spending twenty years at the Science-Policy Interface”,* PhD seminar, School of Public Health, March 14, 2012.

*“The Stark Reality of the Climate Crisis*”, Alliance for Climate Protection, Climate Reality Project, Antarctica, January 29, 2012.

“*Ecosystem Services and Climate Change”,* Ecosystems Workshop, Gordon and Betty Moore Foundation, January 18, 2012.

“*An Urgent Challenge: Economic Impacts of Climate Change and Resource Scarcity*”, Investor Summit on Climate Risk and Energy Solutions, United Nations, January 12, 2012.

*“The PCAST Report on Advanced Manufacturing”,* Advanced Manufacturing Symposium, University of Michigan, NCRC, December 12, 2011.

*“The Impacts of Climate Change*”,AOSS 503, Professor Andronova, November 22, 2011.

*“Long-term Research and Efforts towards a Continued Assessment Process*”, Conference sponsored by DOE, November 10, 2011.

“*Competing Demands for Land, Water, Energy*”, DOE/USDA Conference for the National Climate Assessment, November 7, 2011.

“*Sustaining Environmental Capital: Protecting Society and the Economy*”, Presentation on the PCAST Report at Leadership Forum of the Heinz Center for Science, Economics and the Environment, October 26, 2011.

*“Adaptation to Climate Change: A rich and timely agenda”,* Plenary Address, APEC Climate Symposium 2011, Harnessing and Using Climate Information for Decision Making meeting, Hawaii, October 17, 2011.

“*Climate Change: Avoiding the Unmanageable and Managing the Unavoidable*”, Annual Lecture of the International Pacific Research Center (IPRC), October 17, 2011.

“Hydromet Services and their role in preparing for climate change”, World Bank, September, 2011.

“ “*Nontraditional Career Paths for PhD Students*”, Presentation to the Nanotechnology and Integrated Systems student association (NIMSA), October, 6. 2011.

“Impacts of Climate Change on the Great Lakes”, MICHIGAN ASLA (American Society for Landscape Architecture): Honoring the Past ~ Embracing Change, September 22, 2011.

“Role of Science in Decision-making about Climate Change”, Health Risk Conference, University of Michigan, September 20, 2011.

‘*Next Steps on Ecological Monitoring and* Assessment”, briefing to the Inter-agency Subcomittee on Ecological Systems of the Committee on Environment and Natural Resources, National Science and Technology Council, August 20, 2011.

*“Sustaining Environmental Capital: Protecting Society and the Economy*”, Presentation on the PCAST Report to the Staff of the Council on Environmental Quality, Executive Office of the President, September 8, 2011.

*“Sustaining Environmental Capital: Protecting Society and the Economy*”, Presentation on the PCAST Report to the Staff of the House and Senate Committees of the U.S. Congress, August 1, 2011 (two separate briefings).

*“Climate Change and Development: Avoiding the Unmanageable and Managing the Unavoidable”,* Plenary address to the Society of Environmental Engineers and Science Professionals Annual Meeting, July, 12, 2011*.*

*“U.S. Global Change Research – a new era?”,* University of Michigan Workshop on Climate Change Research, May 11, 2011.

Presentation to PCAST public session of final report “*Sustaining Environmental Capital: Protecting Society and the Economy*”, May 8, 2011.

*“Development and Climate Change*”, ICARUS (Initiative on Climate Adaptation Research and Understanding through the Social Sciences) Conference, Plenary Address, University of Michigan, May 6. 2011.

“Climate Change: Insights from Science, Imperatives for Policy”, Chelsea Adult Learning Institute, May 4, 2011.

*“From the Lab to the White House: Lessons learned along the way”,* Public Policy 754, Research Seminar in Science Technology and Public Policy, April 5, 2011.

“Communication of Climate Science”, ENVIRON 304, Environmental Journalism Class, March 30, 2011.

*“Working at the Interface of Science and Policy*”, Public Policy/Physics 481, National Science Policy, March 29, 2011.

*“Climate Change: What do we know? What must we prepare for?”* Aspen Institute Congressional Program – Energy Security: Policy Considerations for the new members of the U.S. Congress, San Juan, PR, February 26, 2011.

*“Climate Research at the University of Michigan”,* U.S. Green Building Council, January 26, 2011.

*“Innovations in Funding and Finance for Conservation”,* guest lecture, NRE 501, December 12, 2010.

“*Climate Resilient Development”,* Erb Climate Literacy and Leadership Conference, December 8, 2010.

*“Sustainability and Climate Change: Issues for Adaptation”,* guest lecture*,* AOSS 530 Engineering Climate Change, December 7, 2010.

*"Adaptation to Climate Change: A Rich and Timely Research Agenda."* Potsdam Institute for Climate Impact Research (PIK), Berlin, Germany, October 28, 2010.

*“Developing in a Changing Climate.”* Foreign Policy Forum, American Academy, Berlin, Germany, October 27, 2010.

Presentations on the *World Development Report 2010: Development and Climate Change (about 30 times, in all, including 6 in Africa, 2 in China, and 2 in India):*

* + Sustainability Lecture Series, New York University Sustainability Task Force, Environmental Studies Program and Climate Week NYC, New York, NY, September 28, 2010.
  + Argonne National Laboratory Director’s Special Colloquia Series, Chicago IL, July 13, 2010.
  + Electric Power Research Institute (EPRI) Global Climate Change Research Seminar: Issues in Climate Policy, Washington, DC, April 18, 2010.
  + 7th Annual Nancy M. Cantor Lecture on Intellectual Diversity, University of Michigan, Ann Arbor, Michigan, April 13, 2010.
  + Fletcher University, Boston, MA, April 8, 2010.
  + Boston University, Boston, MA, April 8, 2010.

*“Innovation and Climate Change.”*  Kennedy School Executive Education Innovation for Economic Development, Harvard University, Boston, MA, April 9, 2010.

*“A scientist’s journey from the Lab to the White House…”* Women in Math and Science Conference, Millersville University, Millersville, PA, April 5, 2010.

*“The Changing Climate for Development.”* Seventh Annual Hans Landsberg Memorial Lecture*,* Resources for the Future, Washington, DC, December 15, 2009.

*“Confronting Climate Change: Evolving Strategies for Adapting to Climate Change.”* Pinchot Institute for Conservation Distinguished Lecture, Washington, DC, February 27, 2009.

*“The Impact on Climate Change on the Great Lakes,“* (with Larry Schweiger), a presentation to the Council of Michigan Foundations, Grand Rapids, MI, October 13, 2008.

*Climate Change in the Great Lakes: Environmental Challenges, Economic Opportunities,” a* presentation to the Economic Club of Traverse City, MI, August 22, 2008.

*“Funding Climate Change Adaptation: Necessity or Copout?”* keynote address to the Consultative Group for Biological Diversity Annual Meeting, Tucson, AZ, June 3, 2008.

*“How Can Social Learning Move Us Toward Sustainability?”* a symposium for the American Association for the Advancement of Science Annual Meeting, Boston, MA, February 17, 2008.

*“Confronting Climate Change,”* a presentation at a conference on “Beyond Science: The Economics and Politics of Responding to Climate Change,” James A. Baker III Institute for Public Policy, Rice University, Austin, TX, February 9, 2008. Conference proceedings: <http://www.bakerinstitute.org/publications/EF-ST-pub-BeyondScienceConfReport-121008.pdf>.

*“Adaptation to Climate Change,”* American Meteorological Society Annual Meeting, New Orleans, LA, January 21, 2008.

*“The Impact of Climate Change on Estuarine and Coastal Environments,“* opening plenary, Estuarine Research Federation, Providence, RI, November 4, 2007

*“How YOU Can Prevent Global Warming,”* Graduate Lecture Series, Towson University, Towson, MD, October 22, 2007.

*“Energy in a Carbon Constrained World,”* a presentation at the Energy for Low Carbon Input session of the American Institute of Physics 2007 Industrial Physics Forum, Seattle, WA, October 14, 2007.

*“Energy and Climate Change,”* presentation at a Stated Meeting of the American Academy of Arts and Sciences, Cambridge, MA, October 6, 2007.

*“Climate Change: Adaptation,”* keynote address to the annual meeting of the Great Lakes Commission, Chicago, IL, October 1, 2007.

*“Protecting Tropical Forests and Fighting Climate Change,”* a working session at the Clinton Global Initiative Annual Meeting, New York, NY, September 26, 2007.

*“Climate Impacts and Adaptation in the US: Lessons from Agriculture and Water Resources,”* briefing for Congressional staff, Washington, DC, September 24, 2007.

*“Sustainability and Climate Change: Issues for Adaptation”,* World Bank Executive Directors’ Colloquium 2007, Washington, DC, September 21, 2007.

*“Climate Science: The Basics & the Latest,”* Sundance Summit: A Mayors’ Gathering on Climate Protection, Sundance, UT, September 10, 2007.

*“Climate Change Impacts on Cities in the Great Lakes and St. Lawrence Basin,”* keynote address to the Great Lakes and St. Lawrence Cities Initiative Annual Meeting, Grand Rapids, MI, July 13, 2007.

*“Climate Change: Insights from Science, Imperatives for Policy,”* Seventh Annual William R. Farrand Public Lecture, Exhibit Museum of Natural History, University of Michigan, Ann Arbor, MI, March 28, 2007.

*“Sustainability and Climate Change: Issues for Adaptation,”* Institute for the Study of Society and Environment (ISSE) Frontiers of Human Dimensions Science Research Seminar Series, Boulder, CO, February 23, 2007.

*“Climate Change Science and Policy,”* Energy Science, Technology and Policy: Facing the Challenge symposium, University of Michigan, Ann Arbor, MI, February 13, 2007.

*“Climate Change: Why You Should Care,”* Sundance Summit: A Mayors’ Gathering on Climate Protection, Sundance, UT, November 13, 2006.

*"Confronting Climate Constraints: Sustainable Cities and Ecosystems,”* a tutorial at the Aspen Ideas Festival, Aspen, CO, July 9, 2006.

*“Water: The New Currency?”,* a tutorial at the Aspen Ideas Festival, Aspen, CO, July 7, 2006.

*“Insights from Science, Imperatives for Policy,*” Leadership Summit for Sustainable America: Energy and Climate Change, Wingspread Conference Center, Racine, WI, June 6, 2006.

*“Developments in Climate Science and Policy,”* keynote at the Spring meeting of the U.S. Green Building Council, West Michigan Chapter, Grand Rapids, MI, May 23, 2006.

*“The Role of Science in Environmental Decision Making: A Scientist's View from the Congress and the White House,”* Presidential lecture, Iowa State University Institute of Science and Society, Ames, IA, March 7, 2006.

*“Global Warming— Science and Policy,”* Symposium on the Environment and Public Health, Oakland University, Rochester, MI, October 20, 2005.

*“Environmental Science and Technology for Public Policy,”* Symposium on Technology Innovation for Sustainable Prosperity – A Memorial Tribute to Vicki Norberg-Bohm, Cambridge, MA, September 23, 2005.

*“The State of the Science”*, Sundance Summit: A Mayors’ Gathering on Climate Protection, Sundance, UT, July 11, 2005.

*“Global Climate Change: What do we know? What can we do?*,” a tutorial at the Aspen Ideas Festival, Aspen, CO, July 9, 2005.

*“Global Climate Change: Effects on Natural and Human Systems”,* keynote address at the inaugural L. Keith Caldwell Symposium on Environment, Indiana University, Bloomington, IN, April 18, 2005.

*“Climate Change: Consequences by Degrees”,* Presidential seminar on climate change and societal impacts, University of Oklahoma, Norman, OK, March 23, 2005.

*“The Prognosis for Science in the Next Four Years: What Does the Future Hold for Environmental Science & Policy?”*, Science Technology and Public Policy, a symposium at the Annual Meeting of the American Association for the Advancement of Science, Washington, DC, February 20, 2005.

*“Preserving the Whole Earth Systems”* at Whole Earth Systems: Integrating Environmental Science, Technology and Policy, a symposium in honor of Steve Schneider’s 60th birthday, Stanford University, Palo Alto, CA, February 10-12, 2005.

*“The State of Knowledge on Climate Change”*, McKnight Foundation Board, Minneapolis, MN, November 20, 2004.

*“Infusing science in Policy: The case of Climate Change”*, Provost’s lecture series, Holy Cross College, Worchester, MA. October 22, 2004.

*"Local Land Trusts: Global Context,”* Washtenaw County Land Trust, 11th Annual Fall Dinner, Oct. 5, 2004.

*“Science, Policy and Politics: Lessons learned from two decades in Congress and the White House”*,Presidential Lecture Series, Florida International University, Sept. 29, 2004.

*“The Role of Science in National Policymaking,”* Edwin Way Teale Lecture, University of Connecticut, Sept. 22, 2004.

Guest Trainer *“Becoming Involved in Policymaking: Seizing the Moment”*, Summer Aldo Leopold Leadership Program, June 27, 2004.

*“Scientific Consensus on Climate Science,”* Energy Foundation Board Meeting, Minneapolis, MI, June 16, 2004.

Guest speaker on world energy use, Adult Learning Institute, Oakland Community College, May 4, 2004.

*"The role of environmental science in policymaking: lessons from the Congress and the White House,"* University of Michigan Earth Day campus-wide student lecture series, April 5, 2004.

*“The Greening of the Dana Building”* and *“UM President’s Environmental Task Force,”* Environmental and Energy Study Institute Board Meeting, Washington, DC, December 2, 2003.

*“Bridging the Gap between Science and Society: The Relationship between Policy and Research in National Laboratories, Universities, Government, and Industry,”* Symposium in honor of Neal Lane’s 65th birthday, Rice University and the Baker Institute, November 1-2, 2003.

“*Environmental Sustainability – the Challenge of your generation*”, Environment Convocation Speaker, Earlham College, October 29-30, 2003.

*“Current Challenges for Climate Change,”* keynote address, American Chemical Society Presidential Plenary on the Chemistry of Climate Change, September 8, 2003.

*“Fueling the Future: Energy for a Small Planet,”* keynote address, Institute for Retired Professionals, Livonia, MI, March 28, 2003.

“*From the Lab to the White House: The Science, Policy and Politics of Climate Change,”* keynote address, Environmental Protection Agency’s Office of Transportation & Air Quality, Federal Women’s Program in celebration of Women’s History Month, Ann Arbor, MI, March 25, 2003.

*“Environmental Challenges of the 21st Century,*” keynote address to the 10th Annual Meeting of the Great Lakes Region Waste Reduction & Energy Efficiency Workshop and Expo, Livonia, MI, November 20, 2002.

Overview of the Symposium and closing plenary speaker, “Great Lakes Symposium: Our Challenging Future”, Ann Arbor, MI, November 5-6, 2002.

National Science Foundation’s “Cyberinfrastructure for Environmental Research and Education,” National Center for Atmospheric Research, Boulder, CO, October 31-November 1, 2002.

*“The Politics of Global Change,”* Northern Great Plains Center for People and the Environment: The 2002-2003 Distinguished Speaker Series, Grand Forks, ND, October 17, 2002.

*“Preparing for an Uncertain Climate: A Framework for Adaptive Management”*, 29th Annual Natural Areas Conference, Asheville, NC, October 2-5, 2002.

*“On Global Warming,”* plenary speaker, Association for Politics and the Life Sciences, Montreal, Quebec, August 11-14, 2002.

*“State of the Nation’s Ecosystems: The Heinz Center Indicator Report,”* Ecological Society of America 87th Annual Meeting, Tucson, AZ, August 7, 2002.

*“100 Years of Great Lakes Research at UM,”* a special discussion sponsored by the University of Michigan, accompanied by the Honorable Herb Gray, Canadian Head of the International Joint Commission, Canadian Embassy, Washington, DC, July 18, 2002,

“*Green Chemistry and Sustainability*”,Keynote Speaker, American Chemical Society, “Green Chemistry Institute project,” Washington, DC, June 27, 2002.

*“Healthy Ecosystems, Healthy People: What Have We Learned,*” closing plenary speaker, Healthy Ecosystems Healthy People, Linkages *between* biodiversity, ecosystem health and human health,Washington, DC, June 7, 2002.

“*Policy Fundamentals:. Personal Perspectives on Executive Leadership”*, American Meteorological Society Summer Policy Colloquium, “Washington, DC, June 4, 2002.

“*Mobilizing Science and Technology for Sustainable Development*”, Harvard University, Boston, MA, April 11, 2002.

Moderator at the Town Hall Meeting on “Human Population and Environment Linkages,” sponsored by the National Wildlife Federation and Center for Environment and Population, Ann Arbor, MI, April 9, 2002.

*“21st Century Challenges: A Matter of “Degrees,”* Luncheon speaker, Agenda: Ann Arbor 2002, Smart Communities, Smart Futures, presented by The Ann Arbor Area Chamber of Commerce and the Leadership Ann Arbor Alumni Group*,* Ann Arbor, MI, March 26, 2002.

*"The Science and Politics of Global Warming,”* Life Sciences Values and Societies Program evening lecture series, hosted by the Outreach Lecture Series, Ann Arbor, MI, March 17, 2002.

*“Environmental Challenges for the 21st Century: A Matter of Degrees,”* keynote speech delivered at, the first annual Peter M. Wege Lecture, University of Michigan, Ann Arbor, MI, October 17, 2001.

*“Introductory Remarks at Roundtable on International IPR Databases,”* sponsored by Department of State, The National Academies, AAAS, and the Association of American Universities, National Academy of Science, Washington, DC, July 11, 2001.

Address to Math Olympiad Awardees at 13th USA Math Olympiad AwardsCeremony; Department of State, Washington, DC, June 4, 2001.

*“The Current State of Knowledge on the Science of Climate Change*,” presentation at US AID’s 2001 Global Climate Change Training Workshop, Arlington, VA, March 6, 2001.

“Voice of America”, appearance on this television program to talk about the science of climate change, November 6, 2000.

*“The Role of Science in Federal Policy Development for Environmental Issues on the Continental to Global Scale*,” speech delivered at the “Symposium on Nutrient Over-Enrichment of Coastal Waters: Global Patterns of Cause and Effect” at the National Academy of Sciences in Washington, DC, October 13, 2000.

*“The Need for Improved Understanding of Carbon Sequestration and Standing Stocks,”* keynote speech delivered at “Advances in Terrestrial Ecosystem Carbon Inventory, Measurements and Monitoring,” a workshop sponsored by the U.S. Forest Service in Raleigh, NC, October 3, 2000.

*“A Report on the State of the Science*,” speech at conference “Climate Change, Biodiversity, and Protected Areas,” which was co-sponsored by The Nature Conservancy and the Yale School of Forestry and Environmental Studies in Arlington, VA, September 21, 2000.

*“Global Climate Change: Impacts and Adaptation*,” speech at symposium “Understanding the Stratosphere: Challenges and Opportunities Beyond the Science of Climate Change” which marked the retirement of Jerry Mahlman at Princeton University, Princeton, NJ, September 12, 2000.

*“Integrated and Interdisciplinary Science Needs: A National Perspective*,” plenary address at the LTER All Scientists Meeting in Snowbird, UT, August 2, 2000.

*“The First National Assessment of the Impacts of Climate Change on the U.S.*,” presentation as part of NASA/USRA lecture series “The Environment Past, Present, and Future”, Seabrook, MD, June 13, 2000.

*“What’s at Risk? Our Stakes in Protecting Climate*,” presentation at the Seattle Summit sponsored by the Climate Institute, Seattle, WA, April 3, 2000.

*“The Presidency and the Environment: The 20th Century and Beyond*,” presentation at the Wallace Stegner Center Symposium, Salt Lake City, UT, April 1, 2000.

*“Meeting the Challenge, Seizing the Opportunities”*, keynote address on climate change and variability at the Northern Great Plains and Northern Rocky Mountains Climate Change Workshop, Grand Forks, ND, November 15, 1999.

*Global Climate Change: The Latest Developments*, presentation at The Nature Conservancy International Leadership Council meeting, St. Paul, MN, June 23, 1999.

*“11 Reasons Why Your Work Matters”*, presentation to the Annual Meeting of the NASA Land Use Change and Land Cover Change Program, Airlie, VA, May 19, 1999.

*“Climate Change Science and Adaptation*,” presentation to the Washington Advisory Group Workshop of Climate Change and Adaptation Research, Washington, DC, May 18, 1999.

*“The Science of Global Warming*,” presentation to the 41st Annual Senior Seminar, Foreign Service Institute, Arlington, VA, May 17, 1999.

*“Biodiversity, Climate Change, and Natural Resource Management*,” presentation to Nature Conservancy Senior Staff, Washington, DC, May 14, 1999.

*Potential Consequences of Climate Variability and Change to Water Resources of the United States*, Plenary Presentation to the American Water Resources Association Specialty Conference on Water Resources and Climate Change*,* Atlanta, Georgia, May 10, 1999.

*“Environmental Monitoring and Research*,” presentation to the US China Forum on Energy, Environment, and Sustainable Development, Washington, DC, April 9, 1999.

*“Preparing For an Uncertain Future: Laying the Groundwork for Decisions on Climate Change Adaptation*,” invited lecture, Carnegie Lecture Series on Global Environmental Change, Carnegie Mellon University, Pittsburgh, PA, March 8, 1999.

*“Assessments and Partnerships for Environmental and Natural Resources Research,”*  invited presentation to the National Science Board Environmental Research Symposium, Los Angeles, CA, February 18, 1999.

*“Environmental Research at the White House*,” teleconference presentation to Women in Science, a Science Enhancement for Science Advancement (SESA) Conference of the Allen County Area Schools, Lima, OH, February 9, 1999.

*“Ecosystems, Wetlands Research, and the Kyoto Protocol*,” invited presentation to the Wetlands & Climate Change Workshop, Patuxent National Wetlands Research Visitors Center, MD, February 3, 1999.

*“Science Policy in the Next Millennium*,” panel presentation at the American Association for the Advancement of Science Annual Meeting, Anaheim, CA, January 23, 1999.

*“The National Assessment of Climate Change*,” presentation to the US Global Change Research Program National Assessment Agriculture Sector Workshop on Agriculture and Climate Change, Washington, DC, January 21, 1999.

*“National Assessment of Climate Change Impacts and the U.S. Global Change Research Program 10-year Plan”,* Heinz Center, Washington, DC, December 3, 1998.

*“Climate Change in the Americas”,* invited presentation National Hurricane Center, Miami, FL, December 2, 1998

*“Strategic Environmental Issues,”* plenary talk at the SERDP Quarterly Meeting, Washington, DC, December 1, 1998.

*“Fiscal Year 2000 Program Plans and Goals*,” Ocean Studies Board Meeting, National Academy of Sciences, Washington, DC, October 26, 1998.

*“Achieving a Sustainable Future; Challenges and Opportunities in Monitoring and Assessment of our Nation’s Ecosystems*,” Keynote Address to the Annual Meeting of the Ecological Society of America, Baltimore, MD, August 4, 1998.

*“Achieving a Sustainable Future; Challenges and Opportunities in Monitoring and Assessment of our Nation’s Ecosystems*,” keynote address to the Annual Meeting of the Ecological Society Of America, Baltimore, MD, August 4, 1998.

*“Science and Policy for the Environment: The First National Assessment of the Consequences of Climate Change for the United States*,” Panel presentation at the Spring Meeting of the American Geophysical Union, Boston, MA, May 26, 1998.

*“Taking Stock and Looking Ahead:*  presentation to the U.S. Global Change Research Program Retreat, Airlie, VA, May 20, 1998.

*“Climate Change: Science and Impacts*,” Plenary presentation at the Metro East Coast Climate Impacts Workshop, New York, NY , March 23, 1998.

*“Observation and Science for Environmental Assessment and Policy Making*,” Luncheon Address, 36th Annual Goddard Memorial Symposium, Greenbelt, MD, March 18, 1998.

*“A National Perspective on Global Climate Change Assessment and Impacts on Water Resources*,” Plenary Address at “Tilting the Balance: Climate Variability and Water Resource Management in the Southwest,” El Paso, TX, March 2, 1998.

*“The Kyoto Protocol and the Framework Convention on Climate Change: Short-term Goals, Long-term Goals, and Research Needs*,” at “Where do we Go from Kyoto?”, Conference sponsored by the Fletcher School of Diplomacy at Tufts University and Harvard University, February 27, 1998.

*“Climate Change -- Post Kyoto and Beyond: Implications, Impacts, and Issues for States*,” invited speech at a joint conference of the Center for Clean Air Policy, Environmental Council of the States, and the State and Territorial Air Pollution Program Administrators (STAPPA)/Association of Local Air Pollution Control Officials (ALAPCO), January 21, 1998.

*“New Efforts in Climate Change Science: Regional Workshops and the National Assessment of the Consequences of Climate Change for the U.S.*,” invited presentation at the Annual Meeting of the Center for Environmental Information, November 18, 1997.

*“Potential Impacts of Climate Change on the U.S.*,” Plenary address at the U.S. Climate Forum, Washington, DC, November 12, 1997.

*“Assessing the Impacts of Climate Change*,” invited presentation at a Meeting of the President’s Council on Sustainable Development (PCSD), Tulsa, Oklahoma, September 22, 1997.

*“The Science and Impacts of Global Climate Change*,” invited presentation to the DOD Environmental Security Staff, Arlington, VA, August 19, 1997.

*“Global Climate Change*,” invited presentation to US AID senior management staff, Washington DC, July 29, 1997.

*“Climate Change Science and Mitigation Issues*,” invited presentation at the Center for Strategic and International Studies, Washington, DC, July 22, 1997.

*“Climate Change: Science and Policy Issues”*, invited presentation to Senior Department of Justice Staff, Washington DC, July 21, 1997.

*“Environment and Natural Resources Research: Priorities and Challenges*,” plenary address to the first international Global Observations and Information Network (GOIN) Conference, Boulder, CO, June 27, 1997.

*“Greenhouse Gas Emissions, Concentrations, and Possible Ecological Impacts*,” invited presentation to the EPA All States Meeting, Washington, DC, May 21, 1997.

*“The Science and Impacts of Climate Change*,” briefing for the Farm Bureau, Washington, DC, May 9, 1997.

*“Planning for an Uncertain Climate: Policy Implications*,” 1997 Williams Lecture, University of Nebraska-Lincoln, Lincoln, NE, April 30, 1997.

*“Greenhouse Gas Emissions and Atmospheric Concentrations*,” presentations to Congressional Staff and Industry and NGO staff, April 25, 1997.

*OSTP’s Perspective on Partnerships*, presented during a Panel Discussion on University-Government Partnerships in Climate Change Research, at the Annual Meeting of the University Corporation for Atmospheric Research, Washington, DC, April 10, 1997.

*“Science and Technology in the Second Clinton Administration*,” at a joint Meeting of the Marine Technology Society and the Women’s Aquatic Network, Washington, DC, March 20, 1997.

*“Potential Impacts of Climate Change*,” invited presentation at the National meeting of EPA Regional Administrators, Washington, DC, February 26, 1997.

*“Improving Environmental Monitoring and Research*,” presented during the session on Priorities for Environment Natural Resources Research, at the Annual Meeting of the American Association for the Advancement of Science, February 16, 1997

*“The Future of Environmental R&D*,” presented during the session on Priorities for Environment Natural Resources Research at the Annual Meeting of the American Association for the Advancement of Science, February 16, 1997.

*“Potential Impacts of Global Climate Change*,” presented at the Annual Meeting of the Association of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE), Philadelphia, PA, January 27, 1997.

*“Climate Change Research Needs: Impacts, Mitigation, and Adaptation*,” presented to senior staff of the World Resources Institute, January 3, 1997.

*“Committee on Environment and Natural Resources Initiatives*,” presentation to the National Research Council Board on Environmental Studies and Toxicology Meeting, Washington, DC, November 8, 1996.

*“An Ecologist Meets Washington: Yes, We Can Make A Difference*,” presented during the Plenary Session for Gender and Minorities Committee, Annual Meeting of the Ecological Society of America, Providence, RI, August 13, 1996

*“Environment and Natural Resources R&D,”* presentation to a meeting of American Association for the Advancement of Science (AAAS) Fellows, Washington, DC, June 4, 1996.

*“Policy Implications of Climate Change”,* Session on Assessing Ecological Implications of Changes in Climate, Annual meeting of the American Association for the Advancement of Science, Baltimore, MD, February, 12, 1996.

*“The Science of Climate Change*,” Luncheon Presentation at WIIT (Women in International Trade), Washington, DC, September 12, 1995.

*“Environmental Technologies and Environmental Policy Development*,” U.S. Global Change Policy Symposium, National Press Club, Washington, DC, May 18, 1993.

*“U.S. Options to Reduce Greenhouse Gas Emissions*,” National Academy of Sciences, Symposium on Global Climate Change, December 9, 1992.

*“Decisionmaking in the Face Of Uncertainty: A View for the Congress*,” Plenary, Annual meeting of the Ecological Society of America (ESA) and the American Institute for Biological Sciences (AIBS), Honolulu, HI, August 12, 1992.

*“Climate Change: A Technical Analysis for the U.S. Congress*,” Keynote Speaker, International Conference on Pollution in the Metropolitan and Urban Environment (POLMET ‘91), Hong Kong, December 9, 1991.

*“Greenhouse Gases Today and Tomorrow: The sources the sinks, the culprits”;”Reducing CO2 in the energy sectors”; “Forestry and Agriculture”; “International Dimensions”; “A View from the Congress”,* one week series of talks presented at Global Change, The Ralph M. Johnson Distinguished Guest Lecture Series, College of Science, Utah State University, July 29 - August 2, 1992.

*“Changing by Degrees: Steps to Reduce Greenhouse Gases*,” Oral Statement of Dr. Rosina Bierbaum before the House Committee on Energy and Commerce, February 21, 1991.

*“Climate Change*,” Testimony of Dr. Rosina Bierbaum, Project Director, before the Senate Committee on Environment and Public Works, April 26, 1991.

*“Responses to Global Change -- What You Can Do*,” Testimony of Dr. John Andelin, Assistant Director, Science, Information, and Natural Resources Division, accompanied by Dr. Rosina Bierbaum and Dr. Howard Levenson, Oceans and Environment Program, before the Senate Committee on Commerce, Science, and Transportation, April 25, 1990.

*“How Congress Designs a Bill*,” International Association of Impact Assessors Annual Meeting, Philadelphia, PA, September 1987.

*“Environmental Policy-making*,” Congressional Fellows Lecture Series, September 15, 1987

*“Acid rain Legislation, 1980 - 1986: The Evolution of an Idea*,” Air Pollution Control Association Annual Meeting, Minneapolis, MN, June 1986.

*“Effects of Atmospheric Oxidation on Biospheric Processes*,” Chair, Gordon Conference Session, June 24-28, 1985.

*“The Costs and Benefits of Controlling Acid Rain*,” International Conference on the Economics of Acid rain, Center for Environmental Information, L’Enfant Plaza, Washington, DC, December 4-6, 1984.

*“National Energy Policy Issues*,” Aspen Institute for Humanistic Studies, Wye Plantation, MD, September 21-23, 1984.

*“Aquatic Ecosystems and the Effect of Acid Rain*,” American Fisheries Society, 114th Annual meeting, Cornell University, Ithaca, NY, August 12-16, 1984.

*“The Role of Science in Policymaking*,” Symposium on Ecology in the International Arena, Ecological Society of America (ESA) and the American Institute for Biological Sciences (AIBS) meetings, Grand Forks, ND, August 6-13, 1983.

*“The Atmospheric Chemistry involved in Transported Air Pollutants: Sox , Nox , and Ozone*,” Conference on Environment, Public, Information, and the Media, Lehigh University, Bethlehem, PA, May 5, 1983.

*“Effect of Acid Deposition on Crops, Forests, and Aquatic Ecosystems*,” Summer Visiting Scientist Seminar Series, Environmental Protection Agency, Washington DC, August 6, 1982.