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## **Curriculum Vitae Matthias Ruth**

### **Roy F. Weston Chair in Natural Economics**

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#### EDUCATION

- 1992 Ph.D., Department of Geography, University of Illinois, Urbana-Champaign, USA.  
1989 MA, Department of Economics, Ruprecht-Karls-Universität Heidelberg, Federal Republic of Germany.

#### CURRENT ACADEMIC POSITIONS

- 2010 – present Policy Advisor to the Chancellor on Sustainability, University System of Maryland, College Park, Maryland.  
2008 – 2010 Director, Environmental Policy Program, School of Public Policy, University of Maryland, College Park, Maryland.  
2006 – present Founding Director, Center for Integrative Environmental Research, Division of Research, University of Maryland, College Park, Maryland.  
2004 – present Roy F. Weston Chair in Natural Economics, Maryland School of Public Policy, University of Maryland, College Park, Maryland.  
2004 – present Founding Co-Director and Professor, Engineering and Public Policy Program, University of Maryland, College Park, Maryland.  
2003 – present Professor, Environmental Policy Program, Maryland School of Public Policy, University of Maryland, College Park, Maryland.  
2003 – present Co-Director and Professor, Joint Program in Conservation Biology, Sustainable Development and Public Policy, College of Chemical and Life Sciences and School of Public Policy, University of Maryland, College Park, Maryland.  
2002 – present Professor, Marine Estuarine Environmental Science Graduate Program, University of Maryland, College Park, Maryland.

#### PRIOR ACADEMIC POSITIONS

- 2003 – 2006 Professor and Director, Environmental Policy Program, Maryland School of Public Policy, University of Maryland, College Park, Maryland.  
2000 – 2003 Associate Professor and Director, Environmental Policy Program, Maryland School of Public Policy, University of Maryland, College Park, Maryland.  
1998 – 2000 Associate Professor, Department of Geography, the Center for Energy and Environmental Studies, and the Center for Transportation Studies, Boston University, Boston, Massachusetts.  
1992 – 1998 Assistant Professor, Department of Geography and at the Center for Energy and Environmental Studies, Boston University, Boston, Massachusetts.  
1991 Teaching Associate, Department of Geography, University of Illinois at Urbana-Champaign.

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#### AFFILIATE PROFESSORSHIPS AND RELATED APPOINTMENTS

- 2007 – present Faculty member, University of Maryland Energy Research Center, A. James Clark School of Engineering, University of Maryland, College Park, Maryland.
- 2005 – present Affiliate Professor, Department of Civil and Environmental Engineering, University of Maryland, College Park, Maryland.
- 2002 – present Affiliate Professor, National Center for Smart Growth Research and Education, University of Maryland, College Park, Maryland.
- 2000 – 2002 Adjunct Professor, Department of Geography and the Center for Transportation Studies, Boston University, Boston, Massachusetts.

#### VISITING PROFESSORSHIPS AND RELATED APPOINTMENTS

- 2007 – present Member of the University Faculty, Universität Bremen, Bremen, Germany.
- 2006 - 2007 Visiting Professor, Center for Sustainability Studies, and Division of Technology Development and Assessment, School of Engineering, Universität Bremen, Bremen, Germany.
- 2005 Visiting Professor, Landcare Research and the Centre for Ecological Economics, Massey University, Palmerston North, New Zealand.
- 2004 Visiting Professor, Departamento de Biología, Universidad de Puerto Rico, San Juan, Puerto Rico.
- 1998 – 1999 Visiting Professor, International Environment and Resource Policy Program, Fletcher School of Law and Diplomacy, and the Tufts Institute of the Environment, Tufts University, Medford, Massachusetts, USA.
- 1998 Visiting Professor, Department of Applied Mathematics, University of Mauritius, Reduit, Mauritius.

#### BOOKS

- Ruth, M. and M. Ibarraran (eds.) 2009. *Distributional Impacts of Climate Change: Social and Economic Implications*, Edward Elgar Publishers, Cheltenham, England.
- Ruth, M. and B. Davidsdottir (eds.) 2009. *The Dynamics of Regions and Networks in Industrial Ecosystems*, Edward Elgar Publishers, Cheltenham, England, pp. 238.
- Hannon, B. and M. Ruth. 2009. *Dynamic Modeling of Diseases and Pests*, Springer, New York, 290 pp.
- Ruth, M. and B. Davidsdottir (eds.) 2008. *Changing Stocks, Flows, and Behaviors in Industrial Ecosystems*, Edward Elgar Publishers, Cheltenham, England, 150 pp.
- Ruth, M., K. Donaghy and P.H. Kirshen (eds.) 2006. *Regional Climate Change and Variability: Impacts and Responses*, Edward Elgar Publishers, Cheltenham, England, 260 pp.
- Ruth, M. (ed.) 2006. *Smart Growth and Climate Change*, Edward Elgar Publishers, Cheltenham, England, 403 pp.
- Ruth, M. and J. Lindholm III. (eds.) 2002. *Dynamic Modeling for Marine Conservation*, Springer-Verlag, New York, 449 pp.
- Hannon, B. and M. Ruth. 2001. *Dynamic Modeling*, 2<sup>nd</sup> Edition, Springer-Verlag, New York, Tokyo.
- Ruth, M. and B. Hannon. 1997. *Modeling Dynamic Economic Systems*, Springer-Verlag, New York, 339 pp.
- Hannon, B. and M. Ruth. 1997. *Modeling Dynamic Biological Systems*, Springer-Verlag, New York, 399 pp.
- Hannon, B. and M. Ruth. 1994. *Dynamic Modeling*, Springer-Verlag, New York, Tokyo, 248 pp.
- Ruth, M. 1993. *Integrating Economics, Ecology and Thermodynamics*, Kluwer Academic Publishers, Dordrecht, The Netherlands, 251 pp.

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#### PEER-REVIEWED JOURNAL ARTICLES

- Gasper, R., A. Blohm and M. Ruth. in press. Social and economic impacts of climate change in the urban environment, *Current Opinion in Environmental Sustainability*.
- Davidson, B. and M. Ruth. in press. Industrial Inertia and Environmental Performance: Opportunities and Constraints for Environmental Policy, *International Journal of Environmental Technology and Policy*.
- Franklin, R.S. and M. Ruth. 2011. Growing Up and Cleaning Up: The Environmental Kuznets Curve Redux, *Journal of Applied Geography*.
- Ruth, M. 2010. Economic and Social Benefits of Climate Information: Assessing the Cost of Inaction, *Procedia Environmental Sciences*, World Climate Conference-3, Vol. 1, pp. 387–394.
- Paul, A., K. Palmer, M. Ruth, B. Hobbs, D. Irani, J. Michaels, Y. Chen, K. Ross and E. Myers. 2010. The Role of Energy Efficiency Spending in Maryland's Implementation of the Regional Greenhouse Gas Initiative, *Energy Policy*, Vol. 38, pp. 6820–6829.
- Ruth, M., A. Blohm, J. Mauer, S. A. Gabriel, B. F. Hobbs, D. Irani, Y. Chen. 2010. Strategies for Carbon Dioxide Emissions Reductions: Residential Natural Gas Efficiency, Economic and Ancillary Health Impacts in Maryland, *Energy Policy*, Vol. 38, pp. 6926–6935.
- Ruth, M. 2009. The Nature of the Beast and the Beast in Nature: Broadening the Perspective of Technology, *The Bulletin of Science, Technology and Society*, Vol. 29, No. 5, pp. 374-382.
- Ruth, M. 2009. Dynamic Modeling of Industrial Ecosystems, *Journal of Industrial Ecology*, Vol. 13, No. 6, pp. 839-842.
- Bassi, A.M., J.S. Yudken and M. Ruth. 2009. Climate Policy Impacts on the Competitiveness of Energy-intensive Manufacturing Sectors, *Energy Policy*, Vol. 37, No. 8, pp. 3052–3060.
- Ibarrarán, M.E., M. Ruth, S. Ahmad and M. London. 2009. Climate Change and Natural Disasters: Macroeconomic Performance and Distributional Impacts, *Environment, Development and Sustainability*, Vol. 11, No. 3, pp. 549 – 569.
- Kirshen, P., K. Knee, and M. Ruth. 2008. Climate Change and Coastal Flooding in Metro Boston: Impacts and Adaptation Strategies, *Climatic Change*, Vol. 90, pp. 453-473.
- Kirshen, P., Ruth, M., and Anderson, W. 2008. Interdependencies of Urban Climate Change Impacts and Adaptation Strategies: A Case Study of Metropolitan Boston USA, *Climatic Change*, Vol. 86, pp. 105-122.
- Ruth, M., S. Gabriel, K. Palmer, D. Burtraw, A. Paul, Y. Chen, B. Hobbs, D. Irani, J. Michael, K. Ross, R. Conklin, J. Miller. 2008. Economic and Energy Impacts from Participation in the Regional Greenhouse Gas Initiative: A Case Study of the State of Maryland, *Energy Policy*, Vol. 36, pp. 2279-2289.
- Ruth, M. and D. Coelho. 2007. Understanding and Managing the Complexity of Urban Systems under Climate Change, *Climate Policy*, Vol. 7, pp. 317 – 336.
- Ruth, M. 2007. Integrative Environmental Research and Education, *International Journal of Environmental Technology and Management*, Vol. 7, No. 5/6, pp. 632 – 643.
- Ruth, M., C. Bernier, N. Jollands, N. Golubiewski. 2007. Adaptation to Urban Water Supply Infrastructure to Impacts from Climate and Socioeconomic Changes: The Case of Hamilton, New Zealand, *Water Resources Management*, Vol. 21, No. 21, pp. 1031-1045.
- Jollands, N, M. Ruth, C. Bernier, and N. Golubiewski. 2007. The Climate's Long-term Impacts on New Zealand Infrastructure (CLINZI) Project, *Journal of Environmental Management*, Vol. 83, pp. 460-477.
- Ruth, M., C. Bernier, A. Meier and S. Laitner. 2007. PowerPlay: Exploring Decision Making Behaviors in Energy Efficiency Markets, *Technological Forecasting and Social Change*, Vol. 74, pp. 470-490.
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- Kirshen, P., M. Ruth and W. Anderson. 2005. Climate Change in Metropolitan Boston, *New England Journal of Public Policy*, Vol. 20, No. 2, pp. 89-103.
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- Amato, A., M. Ruth, P. Kirshen and J. Horwitz. 2005. Regional Energy Demand Responses to Climate Change: Methodology and Application to the Commonwealth of Massachusetts, *Climatic Change*, Vol. 71, No. 1, pp. 175 – 201.
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- Ruth, M., A. Amato, and B. Davidson. 2002. Carbon Emissions from US Ethylene Production Under Climate Change Policies, *Environmental Science and Technology*, Vol. 36, No. 2, pp. 119 - 124.
- Ruth, M. and P. Kirshen. 2001. Integrated Impacts of Climate Change upon Infrastructure Systems and Services in the Boston Metropolitan Area, *World Resources Review*, Vol. 13, No. 1, pp. 106 – 122.
- Lindholm, J., P. Auster, M. Ruth, and L. Kaufman. 2001. Modeling the Effects of Fishing and Implications for the Design of Marine Protected Areas: Juvenile Fish Responses to Variations in Seafloor Habitat, *Conservation Biology*, Vol. 15, pp. 424 – 437.
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- Ruth, M. 1995. A System Dynamics Approach to Modeling Fisheries Management Issues: Implications for Spatial Dynamics and Resilience, *System Dynamics Review*, Vol. 11, pp. 233 - 243.
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- Ruth, M. and F. Pieper. 1994. Modeling Spatial Dynamics of Sea Level Rise in a Coastal Area, *System Dynamics Review*, Vol. 10, pp. 375 - 389.
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- Pranav, V., A. Blohm and M. Ruth. in press. Temperature-Mortality Relationships In Urban Areas: Methods And Applications To Boston, Massachusetts And Baltimore, Maryland, USA, in S.P. Saikia (ed.) *Climatic Change*, International Book Distributors, Derhadun, India, Chpt. 14.
- Ruth, M. 2010. Nonrenewable Resources, in *Encyclopedia of Geography*, SAGE Publications, 6 Oct. 2010, pp. 2039-2041, [http://www.sage-reference.com/geography/Article\\_n823.html](http://www.sage-reference.com/geography/Article_n823.html).
- Gaspar, R.R., and M. Ruth. 2010. Ecological Economics, in *Encyclopedia of Geography*, SAGE Publications, 6 Oct. 2010, pp. 820-824, [http://www.sage-reference.com/geography/Article\\_n313.html](http://www.sage-reference.com/geography/Article_n313.html).

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- Blohm, A. and M. Ruth. Resource Economics, in *Encyclopedia of Geography*, SAGE Publications. 6 Oct. 2010, pp. 2445-2446, [http://www.sage-reference.com/geography/Article\\_n632.html](http://www.sage-reference.com/geography/Article_n632.html).
- Ruth, M., P. Kirshen and D. Coelho. 2009. Climate Change and Cities: Differential Impacts and Adaptation Options in Industrialized Countries, in M. Ruth and M. Ibararan (eds.) *Distributional Impacts of Climate Change: Social and Economic Implications*, Edward Elgar Publishers, Cheltenham, England.
- Ruth, M. and M. Ibararan. 2009. Distributional Effects of Climate Change: Social and Economic Implications, in M. Ruth and M. Ibararan (eds.) *Distributional Impacts of Climate Change: Social and Economic Implications*, Edward Elgar Publishers, Cheltenham, England.
- Ruth, M. and B. Davidsdottir. 2009. The Dynamics of Regional and Networked Industrial Ecosystems: Background and Concepts, in M. Ruth and B. Davidsdottir (eds.) *The Dynamics of Regions and Networks in Industrial Ecosystems*, Edward Elgar Publishers, Cheltenham, England, pp. 3-5.
- Ruth, M., C. Bernier, A. Meier and S. Laitner. 2009. PowerPlay: Developing Strategies to Promote Energy Efficiency, in M. Ruth and B. Davidsdottir (eds.) *The Dynamics of Regions and Networks in Industrial Ecosystems*, Edward Elgar Publishers, Cheltenham, England, pp. 201-223.
- Davidsdottir, B. and M. Ruth. 2009. The Dynamics of Regions and Networks in Industrial Ecosystems: Restrospect and Prospect, in M. Ruth and B. Davidsdottir (eds.) *The Dynamics of Regions and Networks in Industrial Ecosystems*, Edward Elgar Publishers, Cheltenham, England, pp. 224-231.
- Wilbanks, T.J., P. Kirshen, D. Quattrochi, P. Romero-Lankao, C. Rosenzweig, M. Ruth, W. Solecki and J. Tarr. 2008. Effects of Global Change on Human Settlements, in J.L. Gumble (ed.) *Analyses of the Effects of Global Change on Human Health and Welfare and Human Systems*, US Environmental Protection Agency, Washington, DC., USA, Chapter 3, pp. 89-109.
- Davidsdottir, B. and M. Ruth. 2008. The Economic Dynamics of Stocks and Flows, in M. Ruth and B. Davidsdottir (eds.) *Changing Stocks, Flows, and Behaviors in Industrial Ecosystems*, Edward Elgar Publishers, Cheltenham, England, pp. 54-73.
- Ruth, M. 2008. Ein Pragmatiker auf dem Weg zum Vorausschauenden Management Industrieller Systeme (A Pragmatist on His Way towards an Anticipatory Management), in A. v. Gleich and S. Gößling-Reisemann (eds.) *Industrial Ecology: Erfolgreiche Wege zu nachhaltigen industriellen Systemen*, Vieweg+Teubner, Wiesbaden, Germany, pp. 316-332.
- Kirshen, P., M. Ruth and W. Anderson. 2006. Climate's Long-term Impacts on Urban Infrastructures and Services: The Case of Metro Boston, in M. Ruth, P. Kirshen and K. Donaghy (eds.) *Regional Climate Change and Variability: Impacts and Responses*, Edward Elgar Publishing, Cheltenham, UK, pp. 190-252.
- Ruth, M., A. Amato, and P. Kirshen. 2006. Impacts of Changing Temperatures on Heat-related Mortality in Urban Areas: The Issues and a Case Study from Metropolitan Boston, in Ruth, M. (ed.) 2006. *Smart Growth and Climate Change*, Edward Elgar Publishers, Cheltenham, England, pp. 364 – 392.
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#### KEY NOTE ADDRESSES AND OTHER SPECIALLY INVITED LECTURES

- “Climate Long-term Impacts on Metro Boston”, Envisioning Sustainable Cities, Lesley University, Cambridge, Massachusetts, November 7, 2010.
- “Harnessing Co-benefits of Urban Adaptation to Climate Change”, National Academy of Sciences, Transportation Research Board, Washington, DC, October 17-18, 2010.
- “Generating Understanding of Social, Economic and Climate Dynamics in Interaction”, ISEE User Conference, Providence, Rhode Island, October 4-6, 2010.
- “The Dynamics of Regional Co-benefits and Co-costs from Climate Mitigation and Adaptation” International Geographical Union, Groningen, The Netherlands, July 1-4, 2010.
- “Adapting to Urban Climate Change Impacts”, Technology Solutions for Vietnam’s Sustainable Economic Development Goals, Hanoi, Việt Nam, May 25, 2010.
- “Public Policy and Private Sector Opportunities to Help Move Towards a Sustainable Future”, 10<sup>th</sup> Annual Conference of the National Council for Science and the Environment, Washington DC, January 20 – 22, 2010.
- “Challenges of Adapting to a Changing Climate in an Urbanized World”, BioScience Day, University of Maryland, College Park, MD, USA, November 12, 2009.
- “Social and Economic Benefits of Climate Information”, World Climate Conference 3, World Meteorological Organization, Geneva, Switzerland, August 31- September 4, 2009.
- “Sustainability Research in a Changing Climate”, School of Earth and Environment, University of Leeds, Leeds, United Kingdom, May 13, 2009.
- “Meeting the Challenges of Climate Change”, Strategies to Survive the 21<sup>st</sup> Century, Distinguished Lecture Series, University of Maryland, College Park, Maryland, April 30, 2009.
- “Contributing Engineering Solutions in a Changing Climate”, A. James Clark School of Engineering Sustainability Lecture, University of Maryland, College Park, Maryland, April 22, 2009.
- “Urban Energy Use and Carbon Emissions”, The World Bank Group, Energy Week 2009, Washington, DC, March 31-April 2, 2009.
- “University of Maryland’s Climate Action Plan”, Sustainability Speakers Series, University of Maryland, College Park, Maryland, March 25, 2009.
- “Concepts and Tools of Ecological Economics”, Joint General Services Administration (GSA), HOK and University of Maryland Center for Integrative Environmental Research (CIER) Workshop on Sustainable Development in the Federal Portfolio of Programs and Actions, Department of the Interior, Washington, DC, March 6, 2009.
- “Challenges at the Technology, Environment, Society Interface”, Howard Hughes Medical Institute Workshop on Future Horizons in Plant Science, Chevy Chase, Maryland, January 7, 2009.
- “Water, Development and Urbanization: Meeting the Challenges of a Changing Climate”, Institute for Global Chinese Affairs, University of Maryland, College Park, Maryland, January 5, 2009.
- “Environmentally Sustainable Development”, Annual Conference of the Asian Development Bank Institute, Tokyo, Japan, December 5, 2008.
- “Adaptive and Anticipatory Infrastructure Management: Lessons from Climate Impacts Research, 2<sup>nd</sup> transatlantic INFRADAY Conference, Resources for the Future,

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- Washington, DC, November 14, 2008.
- “Water in the Urban Environment: Meeting the Challenges of a Changing Climate in Maryland and Asia”, Maryland-Asia Environmental Partnership, Baltimore, Maryland, October 23, 2008.
- “Climate Impacts and the Cost of Inaction: Data, Modeling and Policy”, Institute for Atmospheric Physics, Chinese Academy of Sciences, Beijing, China, October 14, 2008.
- “Water in the Urban Environment: Meeting the Challenges of a Changing Climate”, 2<sup>nd</sup> Annual Meeting of the OECD Roundtable Strategy for Urban Development, Milan, Italy, October 9-10.
- “Climate Impacts and Cost of Inaction: Empirical Evidence and Policy Options for the USA”, The Johns Hopkins University, Bloomberg School of Public Health, Baltimore, Maryland, September 18, 2008.
- “Climate Neutrality and Campus Action”, Environmental Policy Roundtable, School of Public Policy, University of Maryland, College Park, Maryland, September 12, 2008.
- “Hot Research for Cool Campuses”, Department of Geography Seminar Series, University of Maryland, College Park, Maryland, September 11, 2008.
- “Economic and Social Development in a Changing Environment: The Challenges from Fossil Fuel Dependence and Climate Change”, International Forum on the Beijing Olympic Games: Urban and Environmental Development, Beijing, China, July 5-6, 2008
- “Climate Change: Environmental, Social and Economic Challenges”, Climate Change, Chesapeake Chapter of the American Society of Safety Engineers, Chesapeake Section of the American Industrial Hygiene Association, and Maryland Association of Sanitarians, Baltimore, Maryland, June 18, 2008.
- “Adapting to Climate Change: The Roles of Engineering, Economics and Policy”, Escola Tècnica Superior de Enginyeria Camins, Canals i Ports (Department of Civil Engineering, Polytechnic University of Catalonia, Barcelona), Barcelona, Spain, June 13, 2008.
- “The Economics of Climate Change and Adaptation”, APROMA, Barcelona, Spain, June 12, 2008.
- “Campus Carbon Inventory: Approach and Challenges”, University System of Maryland Commitment to Climate Change Workshop, Shady Grove, Maryland, May 1, 2008.
- “US Climate Impacts and the Cost of Inaction”, Climate Change Impacts Interagency Workgroup, NASA Headquarters, Washington, DC, April 24, 2008.
- “Campus Carbon Inventory and Climate Action Plan”, Sustainability Speakers Series, University of Maryland, College Park, Maryland, April 16, 2008.
- “Cool Campus: Context and Challenge for Climate Action”, National Association of College and University Business Officers ‘Smart and Sustainable Campuses Conference’, University of Maryland, College Park, Maryland, April 1, 2008.
- “Planners, Municipal Officials and Climate Change”, Northeast Sustainable Energy Association, Boston, Massachusetts, March 11, 2008.
- “Climate and Urban Energy Systems: Possible Impacts and Adaptation”, International Energy Agency, Paris, France, January 29, 2008.
- “The Energy-Climate Change Connection: Mitigation and Adaptation Issues”, Climate Information: Responding to User Needs, University of Maryland, College Park, October 22-23, 2007.
- “Integrating Engineering, Economic and Social Sciences with Climate Change Research”, Inside Maryland, College Park, October 19, 2007.
- “University of Maryland Carbon Inventory”, Sustainability for Campus Facilities Planners and Capital Budget Officers, The University System of Maryland, Shady Grove, October 11, 2007.
- “Cities and Climate Change – Impacts and Adaptation”, Earth Systems Science Interdisciplinary Center (ESSIC), University of Maryland, College Park, October 8, 2007.
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- “Hot Nights (and Days) – Life in Bremen, Germany, Under an Altered Climate”, Environment Roundtable, School of Public Policy, University of Maryland, College Park, August 31, 2007.
- “Klimaauswirkungen und Adaption in Städten: Neue Einsichten und Herausforderungen” (Climate Impacts and Adaptation: New Insights and Challenges), Symposium on Sustainability and Global Change, University of Hamburg, Germany, June 21-22, 2007.
- “Wenn’s heiß wird in Bremen: Wie kann sich Bremen an den Klimawandel anpassen?” (When Things get Hot in Bremen: How Can Bremen Adapt to Climate Change?) Talk about Nachhaltigkeit, Haus der Wissenschaft, Bremen, Germany, June 19, 2007.
- “Klimawandel – Auswirkungen und Anpassungsstrategien” (Climate Change – Impacts and Adaptation Strategies) Key Note Address, ecole, Bremen, Germany, January 26, 2007.
- “Dynamische Modellierung für Investitions- und Politikentscheidung” (Dynamic Modeling for Investment and Policy Making), Applied Systems Engineering Lecture Series, Universität Bremen, Bremen, Germany, January 24, 2007.
- “Resilienz – Ein Neues Paradigma für Planung und Management?” (Resilience – A New Paradigm for Planning and Management?) artec, Institute für Nachhaltigkeit, Universität Bremen, Bremen, Germany, November 1, 2006.
- “Increasing Regional Resilience by Managing the Interrelations Among Population, Infrastructure and Institutions”, Adaptation and Impacts Research Division, Environment Canada and Institute for Resources, Environment and Sustainability, University of British Columbia, Vancouver, Canada, April 19-21, 2006.
- “The Economics of Sustainability and the Sustainability of Economics”, School of Architecture, Symposium on Industrial Ecologies of Construction, Massachusetts Institute of Technology (MIT), Cambridge, Massachusetts, March 21, 2006.
- “Integrative Environmental Research: Reaching Across Disciplines and Institutions”, Behavior, Ecology, Evolution and Systematics Program, University of Maryland, College Park, Maryland, February 13, 2006.
- “Climate Impacts and Adaptation in Urban Areas”, Center for Urban Environmental Research and Education and Department of Civil and Environmental Engineering, University of Maryland Baltimore County, Baltimore, Maryland, October 21, 2005.
- “Materials Entropy, Economics and Policy”, 2<sup>nd</sup> International Conference on Green Chemistry and Sustainable Chemistry, and 9<sup>th</sup> Annual Green Chemistry and Engineering Conference, Washington, D.C., June 20 – 24, 2005.
- “Constraints and Opportunities for Planning and Management in a Rapidly Changing Environment”, Industrial Ecology Lecture Series, Universität Bremen, Germany, June 8, 2005.
- “Technology Choice in Industry”, Global Energy Technology Strategy Program, Joint Global Change Research Institute, University of Maryland, College Park, Maryland, May 24, 2005.
- “Climate Impacts on Urban Infrastructure”, Massey University, Palmerston North, New Zealand, January 16, 2005.
- “Urban Change and Climate Impacts”, CSIRO, Social and Economic Integration, Canberra, Australia, January 24, 2005.
- “Anticipatory Management of Urban Infrastructure Systems”, US Army Corps of Engineers Climate Impacts Workshop, Baltimore, Maryland, November 9, 2004.
- “Anticipatory Management”, The Gordon Research Conferences, Industrial Ecology, Oxford University, Oxford, England, August 6, 2004.
- “Anticipatory Management of Urban Infrastructure Systems for Adaptation to Climate Variability and Change”, Joint Global Change Research Institute, College Park, Maryland, May 18, 2004.
- “The Economics of Sustainability and the Sustainability of Economics”, Symposium on The Science of Sustainability, Annual Meeting of the American Association for the Advancement of Science, Seattle, Washington, February 15, 2004.
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- “Preparing Urban Infrastructure for Impacts of Climate Change”, University of Puerto Rico, San Juan, Puerto Rico, February 13, 2004.
- “Perspectives and Plans for Environmental Research”, Institute for Environmental Studies, IVM, Vrije Universiteit Amsterdam, Amsterdam, The Netherlands, January 29, 2004.
- “Vulnerabilities and Adaptation of Urban Infrastructure in a Variable and Changing Climate”, Faculty of Earth and Life Sciences, IVM, Vrije Universiteit Amsterdam, Amsterdam, The Netherlands, January 30, 2004.
- “Modeling Urban Infrastructure Vulnerabilities to Climate Change: Methodologies and Applications”, University of Maryland Department of Geography Seminar Series, College Park, Maryland, November 20, 2003.
- “Dynamic Modeling of Ecological and Economic Systems”, Massey University, Palmerston North, New Zealand, November 18, 2003.
- “The Frontiers of Ecological Economics”, Opening Plenary, The Cutting Edge of Ecological Economics in Australasia, Auckland, New Zealand, November 16, 2003.
- “Urban Infrastructure Vulnerabilities and Dynamics in a Changing and Variable Climate”, Department of Geography, University of Southern California, and Center for Sustainable Cities, November 7, 2003.
- “Public Policy Water Issues”, Conference on Maryland Water Policy Issues – What does the Future Hold?, Water Resources Research Center, University of Maryland, College Park, Maryland, October 24, 2003.
- “The Joys and Perils of Large-Scale Interdisciplinary Research“, Ecological Economics Student Group Seminar Series, University of Maryland, College Park, Maryland, May 9, 2003.
- “Impacts of Climate Change on Localities“, Meeting of the State and Territorial Air Pollution Program Administrators and Association of Local Air Pollution Control Officials, Baltimore, Maryland, May 7, 2003.
- “Technological Constraints on Environmental Investment and Policy Making“, EAWAG, Zürich, Switzerland, April 24, 2003.
- “Dynamic Modeling of Climate Change Impacts on Urban Areas“, Department of Biological Resources Engineering, University of Maryland, College Park, Maryland, April 8, 2003.
- “Assessing Climate Change Impacts on Urban Areas“, EAWAG and ETH (Swiss Federal Technical University), Zürich, Switzerland, March 4, 2003.
- “Industrial Dynamics and Capital Vintage Effects: Implications for Environmental Investments and Policy“, Department of Economics, University of St. Gallen, Switzerland, March 4, 2003.
- “Synergies between Mitigation and Adaptation to Climate Change”, American Association for the Advancement of Science, Annual Meeting, Denver, Colorado, February 13 - 18, 2003.
- “Climate’s Long-term Impacts on Metro Boston”, U.S. Environmental Protection Agency, 5<sup>th</sup> State and Local Climate Change Partner’s Conference, Annapolis, Maryland, November 20 - 22, 2002.
- “Cities in Transition: Climate Impacts and Adaptation”, Inaugural Symposium: Climate Change – What’s at Stake and What can be Done? Joint Global Change Research Institute, College Park, Maryland, March 15, 2002.
- “Dynamic Industrial Systems Analysis for Policy Assessment”, Research Seminar Series, School of Public Affairs, University of Maryland, College Park, Maryland, December 5, 2001.
- “Towards a New Economics of Sustainability”, Ecological Economics Seminar Series, University of Maryland, College Park, Maryland, November 9, 2001.
- “The CLIMB Project: The Model and its Components”, Climate Change – Action in the Region, Metropolitan Area Planning Council Workshop, Boston, Massachusetts, October 1, 2001.
- “Mauritius Environmental Resource Management and Industrial Development (MERMAID)”, Keynote Address to the MERMAID 2001 Workshop, University of Mauritius and Mauritius Research Council, Reduit, Mauritius, June 25, 2001.
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- “Potential impacts of Climate Change on Metropolitan Energy Infrastructure”, Symposium: Power, Climate and Water – A Coalescence of Critical Issues, University of Illinois, Urbana-Champaign, April 30, 2001.
- “Climate Change and Urban Infrastructure”, CASE News Media Program: World Climate Change in the 21<sup>st</sup> Century – Understanding it Globally, Experiencing it Locally, University of Maryland, College Park, April 4, 2001.
- “Dynamic of Metals in an Industrial Metabolism”, Department of Physical resource Theory, Physics and Physical Engineering, Chalmers University, Göteborg, Sweden, March 12, 2001.
- “Economics for Sustainability”, Keynote Address to the EPA ORD Workshop on Sustainability Research, Cincinnati, Ohio, June 20, 2000.
- “Integrated Analysis and Management of Natural Resources in Mauritius”, University of Mauritius, Reduit, Mauritius, June 5, 2000.
- “Modeling the Dynamics of Resource Use and Technology Change for Investment and Policy Decision-making”, The Maryland School of Public Affairs, University of Maryland, College Park, March 13, 2000.
- “Identifying Investments in Industry and Urban Infrastructure with Guidance from Stakeholders”, Center for Analysis, Assessment and Mitigation of Regional Impacts from Climate Change, and Critical Research Initiatives Program, University of Illinois, Urbana-Champaign, Illinois, February 7, 2000.
- “Integrated Economic Analysis of Technology Change and Resource Use for Environmental Policy”. The Fletcher School of Law and Diplomacy, Tufts University, Medford, Massachusetts, January 25, 2000.
- “Climate Change Policies and the US Pulp and Paper Industry”, US Environmental Protection Agency, Washington, DC., December 10, 1999.
- “Dynamic Modeling for Consensus Building in Environmental and Investment Decision Making”, Center for Institutions, Population, and Environmental Change (CIPEC), Indiana University, Bloomington, Indiana, December 6, 1999.
- “Dynamic Modeling of Social and Environmental Systems”, Faculty of Environmental Science and The Schulich School of Business, York University, Toronto, Canada, May 5, 1999.
- “Understanding Industrial Responses to Climate Change Policies: The Case of US Pulp and Paper”, Department of Civil and Environmental Engineering, Tufts University, Medford, Massachusetts, April 9, 1999.
- “Modeling Industrial Responses to Climate Change Policies”, Tufts Institute of the Environment, Tufts University, Medford, Massachusetts, March 31, 1999.
- “Dynamic Modeling of Human-Environment Systems”, Tufts Institute of the Environment, Tufts University, Medford, Massachusetts, March 2, 1999.
- “Modeling for Consensus Building in Complex Settings”, Tufts Institute of the Environment, Tufts University, Medford, Massachusetts, February 16, 1999.
- “Creating Knowledge by Analogy”, Worcester Polytechnic Institute, Worcester, Massachusetts, December 4, 1998.
- “Material Cycles and Energy Flows in the Industrial Ecology”, Universitat Autònoma Barcelona, Barcelona, Spain, November 6, 1998.
- “Using Dynamic Modeling to Assess Climate Change Policies” Universitat Autònoma Barcelona, Barcelona, Spain, November 5, 1998.
- “Introduction of Dynamic Modeling: Dynamic Modeling of Physical Flows in the Economy”, Universitat Autònoma Barcelona, Barcelona, Spain, November 4, 1998.
- “Models sobre las interacciones Economía-Ecología” (Models of Economy-Ecology Interactions), Fundació Bancaixa, Valencia, Spain, November 3, 1998.
- “Dynamic Ecological Economic-Modeling”, Universitat Autònoma Barcelona, Barcelona, Spain, November 2, 1998.
- “Industrial Responses to Climate Change Policies”, The Tellus Institute, Boston, MA, June 25, 1998.
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- “Dynamic Modeling of the US Iron and Steel Industry”, American Council for an Energy Efficient Economy, Washington, D.C., April 30, 1998.
- “Dynamic Modeling: Theory, Concepts, Tools and Applications”, Department of Applied Mathematics, University of Mauritius, Reduit, Mauritius, Lecture Series from March 10 - 21, 1998.
- “Modeling Impacts of Energy and Carbon Taxes on US Industry”, University of Maryland, College Park, MD, November 24, 1997.
- “Dynamic Modeling of Industrial Processes”, National Center for Supercomputing Applications, University of Illinois, Urbana-Champaign, IL, April 30, 1996.
- “Oscillators, Thinkers, Midwives: Understanding Complex Living Systems”, Department of Chemistry Clark University, March 18, 1996.
- “Modeling the Dynamics of Resource Extraction, Emissions and Economic Adjustment”, Universidade Católica Dom Bosco, Campo Grande, Brazil, November 9, 1995.
- “Teaching Systems Thinking Through Dynamic Modeling”, Faculty Forum on Technology Enhanced Environments, Worcester Polytechnic Institute, October 19, 1995.

#### PAPERS AT CONFERENCES

- “Regional Climate Adaptation Co-benefits and Co-Costs”, International Society for Ecological Economics, Oldenburg and Bremen, Germany, August 22-25, 2010.
- “Managing Regional Climate Mitigation and Adaptation Co-Benefits and Co-Costs”, Resilient Cities, Bonn, Germany, May 28-30, 2010.
- “Temperature-mortality Relationship in Urban Areas: Methods and Application to Boston, Massachusetts and Baltimore, Maryland, USA”, Annual Meeting of the Association of American Geographers, Washington, DC, April 15-18, 2010.
- “Climate Change and Cities: Impacts and Adaptation Options”, Annual Meeting of the Association of American Geographers, Washington, DC, April 15-18, 2010.
- “Coastal Flooding and Environmental Justice: Identifying Vulnerable Communities and Feasible Adaptation Strategies in the Boston metro area and Maryland’s Eastern Shore”, Annual Meeting of the Association of American Geographers, Washington, DC, April 15-18, 2010.
- “Climate Change Impacts on Cities: Cases, Concepts and Methods”, Annual Meeting of the Association of American Geographers, Washington, DC, April 15-18, 2010.
- “Envisioning a Sustainable Maryland: Comparing Alternative Development Scenarios Considering Energy Consumption and Water Quality”, Western Regional Science Association, 48<sup>th</sup> Sedona, Arizona, February 21-24, 2010.
- “Strategies for Carbon Dioxide Emissions Reductions: Residential Natural Gas Efficiency, Economic and Ancillary Health Impacts in Maryland”, Western Regional Science Association, 48<sup>th</sup> Sedona, Arizona, February 21-24, 2010.
- “Beyond LEED: Moving Designers and Builders Towards Sustainability”, Federal Environmental Symposium East, National Institutes of Health, Bethesda, Maryland, June 16-18, 2009.
- “The Role of Energy Efficiency Spending in Maryland’s Implementation of the Regional Greenhouse Gas Initiative (RGGI)”, Western Regional Science Association, 48<sup>th</sup> Annual Meeting, Waikoloa, Hawai’i, February 22-25, 2009.
- “Climate Impacts and Response Options at Local Scales: Lessons from Five Industries in Pennsylvania, USA”, Western Regional Science Association, 48<sup>th</sup> Annual Meeting, Waikoloa, Hawai’i, February 22-25, 2009.
- “Economic and Energy Impacts from Participation in the Regional Greenhouse Gas Initiative: A Case Study of the State of Maryland”, Western Regional Science Association, 47<sup>th</sup> Annual Meeting, Waikoloa, Hawai’i, February 17 – 20, 2008.
- “Copper Cycles in Germany: Stocks, Flows, Dissipative Losses and the Role of Recycling”, International Society for Industrial Ecology, Toronto, Canada, June 17-20, 2007.



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- “Industrial Inertia and Industrial Change: Opportunities and Constraints for Environmental Policy”, International Society for Industrial Ecology, Toronto, Canada, June 17-20, 2007.
- “Climate Change and Natural Disasters: Macroeconomic Performance and Distributional Impacts“, The Econometric Society, Latin American Meetings, Mexico City, Mexico, November 2-5, 2006.
- “Seeking a Unified Urban Systems Theory“, Fourth International Conference on Sustainable City, Tallinn, Estonia, July 17-19, 2006.
- “Integrated Assessment of Climate Impacts on Infrastructure in New Zealand“, Association of American Geographers, Chicago, Illinois, March 6-11, 2006.
- “Integrated Assessment of Climate Impacts on Urban Infrastructure: A Case Study of Hamilton, New Zealand“, Western Regional Science Association, Santa Fe, New Mexico, February 22-26, 2006.
- “Climate’s Long-term Impact on New Zealand Infrastructure (CLINZI) – A Case Study of Hamilton City, New Zealand“, New Zealand Agricultural and Resource Economics Society, Nelson, New Zealand, August 26-27, 2005.
- “Dynamic Industrial Systems Modeling: Issues in Integrating Economic and Physical Modeling“, Bi-Annual Meetings of the International Society for Industrial Ecology, Stockholm, Sweden, June 12-15, 2005.
- “PowerPlay – Developing Strategies to Promote Energy Efficiency“, Bi-Annual Meetings of the International Society for Industrial Ecology, Stockholm, Sweden, June 12-15, 2005.
- “Natural Economics – The Quest for an Economics of Sustainability and the Sustainability of Economics“, Bi-Annual Meetings of the International Society for Industrial Ecology, Stockholm, Sweden, June 12-15, 2005.
- “Climate’s Long-term Impact on New Zealand Infrastructure (CLINZI): A Case Study of Hamilton City, New Zealand“, Fourth Biennial Conference of the Indian Society for Ecological Economics on Ecology and Human Well Being, June 3-4, Mumbai, India.
- “Integrated Impacts of, and Adaptation Strategies for Climate Change in Metropolitan Areas: A Case Study of the Boston Metropolitan Area“, World Water and Environmental Resources Congress, Anchorage, Alaska, May 15 – 19, 2005.
- “Pollution, Population and Economic Structure: The Environmental Kuznets Curve Revisited“, Annual Meeting of the Western Regional Science Association, San Diego, California, February 23-26, 2005.
- “Climate Impacts and Adaptation Strategies for Maryland’s Energy Sector“, North American Meetings of the Regional Science Association International, Seattle, Washington, November 11-13, 2004.
- “Potential Effects of Climate Variability and Change on Temperature-related Mortality in Metropolitan Boston“, Centennial Meeting of the Association of American Geographers, Philadelphia, Pennsylvania, March 14-19, 2004.
- “Climate Impacts on Urban Infrastructure: Regional Costs and Adaptation Strategies“, Annual Meeting of the Western Regional Science Association, Maui, Hawaii, February 23-28, 2004.
- “Ecological Economics Modeling“, The Cutting Edge of Ecological Economics in Australasia, Auckland, New Zealand, November 16, 2003.
- “Modeling Infrastructure Vulnerabilities and Adaptation to Climate Change in Urban Systems: Methodology and Application to Metropolitan Boston“, European Regional Science Association, Annual Meeting, Jyväskylä, Finland, August 27 – 30, 2003.
- “Urban Infrastructure and Sustainability in a Changing Environment“, International Society for Industrial Ecology, Annual Meeting, Ann Arbor, Michigan, June 29 – July 2, 2003.
- “Potential Effects of Climate Change on Temperature-related Mortality in Metro Boston“, Western Regional Science Association, Annual Meeting, Tucson, Arizona, February 26 - March 1, 2003.
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- "Regional Energy Demand Responses to Climate Change: Methodology and Applications to Massachusetts", North American Meeting, Regional Science Association International, San Juan, Puerto Rico, November 14 - 18, 2002.
- "Dynamic Investigations into Climate Change Impacts on Urban Infrastructure: Background, Examples, and Lessons", Western Regional Science Association Annual Meeting, Monterey, California, February 2002.
- "Assessing the Dynamics of Industrial Ecosystems" The Science and Culture of Industrial Ecology, International Society for Industrial Ecology, Leiden, The Netherlands, November 2001.
- "Industrial Ecology and Environmental Policy" MERMAID (Mauritius Environmental Resource Management and Industrial Development) Workshop, University of Mauritius and Mauritius Research Council, Reduit, Mauritius, June 2001.
- "Integrated Impacts of Climate Change on the Infrastructure Systems and Services of the Boston Metro Area", ASCE World Water Resources and Environmental Congress, 20-24 May 2001, Orlando, FL.
- "The Political and Economic Implications of Global Warming", Conference on Globalization and Ecological Security: The Next Twenty Years, Woodrow Wilson Center, Washington D.C. and University of Maryland, College Park, November, 2000.
- "Why Cost of Carbon Policies are Blunt Instruments for Cutting Industrial Carbon Emissions: Insights from Dynamic Modeling of the US Pulp and Paper Industry" Helsinki Symposium on Industrial Ecology and Material Flows, Helsinki, Finland, August/September 2000.
- "Integrated Impacts of Climate Change upon Infrastructure Systems and Services in Metro Boston", 11<sup>th</sup> Global Warming International Conference and Expo, Boston, Massachusetts, April 2000.
- "Dynamic Modeling for Consensus Building in Complex Environmental and Investment Decision Making", Keynote Address at the Systems Science 2000 Conference, Osnabrück, Germany, March, 2000.
- "Modeling the Dynamics of Resource Use and Technology Change for Investment and Policy Decision-making" The Maryland School of Public Affairs, University of Maryland, College Park, March 2000.
- "Implications of Climate Change Policies for the US Iron and Steel Industry", 39<sup>th</sup> Annual Meeting of the Western regional Science Association, Poipu, Kauaii, Hawaii, February/March 2000.
- "Impacts of Market-based Strategies on the US Pulp and Paper Industry", Eastern Economic Conference, Boston, Massachusetts, March 1999.
- "Industrial Responses to Climate Change Policies in US Pulp and Paper, Iron and Steel, and Cement Production", 94th Annual Meeting of the American Association of Geographers, Boston, Massachusetts, March 1998.
- "Impacts of Energy and Carbon Taxes on the US Pulp and Paper Industry", Annual Meeting of the Western Regional Science Association, Monterey, California, February 1998.
- "Dynamic Modeling of Economy-Environment Interactions: The Case of Metals and Fuels in the US", International Conference on Complex Systems, New England Complex Systems Institute, Nashua, New Hampshire, September 1997.
- "Mensch and Mesh: Perspectives on Industrial Ecology", Zero Emissions Strategies, Virtual Conference, The Commons, Paris, France, August 1997.
- "Entropy, Ecology, and Economic Systems: The Contributions of Nicholas Georgescu-Roegen to Ecological Economics", Fourth Biennial Meeting of the International Society for Ecological Economics, Boston, Massachusetts, August 1996.
- "Teaching Numeracy and Modeling in Ecological Economics", Fourth Biennial Meeting of the International Society for Ecological Economics, Boston, MA, August 1996.
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- “The Dynamics of Material and Energy Use in Pulp and Paper Manufacturing: Are Industry Practices Becoming More Sustainable?”, Fourth Biennial Meeting of the International Society for Ecological Economics, Boston, Massachusetts, August 1996.
- “Exploring Spatio-temporal Dynamics in Economic Exchange: A Dynamic Modeling Approach”, International Conference on System Dynamics, Cambridge, Massachusetts, July 1996.
- “New England Groundfishes: Modeling the Dynamic Interactions of Multiple Species”, Proceedings of the First Interdisciplinary Conference on the Environment, Boston, MA, June 1995.
- “Dynamics of New England’s Ground Fisheries: An Interdisciplinary, Spatially Explicit Approach to the Management of Multiple Species”, Third Biannual Conference of the International Society for Ecological Economics, Costa Rica, October 1994.
- “Thermodynamic Implications for Mineral Extraction, Substitution and Technical Change: The Case of Copper and Aluminum in the United States”, Third Biannual Conference of the International Society for Ecological Economics, Costa Rica, October 1994.
- "A Physical Measure of Sustainability", Society of Mechanical Engineers Annual Meeting, Washington, D.C., June 1992.
- "Consistent Estimation of Demand For Clean Air in the Chicago Metropolitan Area", Western Regional Science Association Annual Meeting, South Lake Tahoe, Nevada, February 1992.
- "National Income Measurements and the Environment: Issues and a Research Agenda", Western Regional Science Association Annual Meeting, South Lake Tahoe, Nevada, February 1992.
- "Demand for Clean Air in the Chicago Metropolitan Area: An Hedonic Approach", North American Meeting of the Regional Science Association, New Orleans, Louisiana, November, 1991.
- "Energy Flows in the Regional Economy: Methodology and Application to the Chicago Metropolitan Area", Western Regional Science Association, Annual Meeting, Monterey, California, February 1991.
- "Regional Energy Input-Output Analysis: Methodology and Application to the Iron and Steel Industry of the Chicago Metropolitan Area", Mid-Continent Regional Science Association, Annual Meeting, Lexington, Kentucky, May/June, 1990.
- "Estimation of a Complete System of Demands for Goods and Labour Supply for France: Linear Engel Curves and Zero Expenditures", European Econometric Society, Annual Meeting, Munich, Federal Republic of Germany, July 1989.
- "Modelling Interactions between the Economy and the Environment in the Long-Run", Vienna Center Second Conference on Economics and Ecology, Barcelona, Spain, September, 1987.

#### PARTICIPATION AT NATIONAL AND INTERNATIONAL WORKSHOPS

- Wildcards and Dynamic Modeling for Climate Impact Assessment and Roadmap Planning, Sustainability Center Bremen, Bremen, Germany, January 14, 2011.
- United States Global Change Research Program, Scenarios for National Climate Assessment, Alexandria, Virginia, December 6-8, 2010.
- Climate Change and Human Settlements, 6<sup>th</sup> HS-Net Advisory Board Meeting, Mombasa, Kenya, October 19-21, 2009
- Linking Global and Regional Energy Strategies (LinkS), SINTEF and NTNU, Trondheim, Norway, June 9-10, 2009.
- Energy and Environmental Strategic Foresight Laboratory: Turbulence and Systemic Vulnerabilities, Office of Intelligence and Counterintelligence, US Department of Energy and Bureau of Intelligence and Research, Department of State, University Club, Washington, DC, April 27-28, 2009.

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Assessing the Benefits of Avoided Climate Change, Pew Enter on Global Climate Change, Washington, DC, March 16-17, 2009.

Joint General Services Administration (GSA), HOK and University of Maryland Center for Integrative Environmental Research (CIER) Workshop on Sustainable Development in the Federal Portfolio of Programs and Actions, Department of the Interior, Washington, DC, March 6, 2009.

Future Horizons in Plant Science, Howard Hughes Medical Institute, Chevy Chase, Maryland, January 7-9, 2009

Trans-Atlantic Research and Development Interchange on Sustainability (TARDIS), Graz University of Technology, Austrian Federal Ministry of Science and US Environmental Protection Agency, Seggau Castle, Graz, Austria, October 26 – 29, 2008.

Planners, Municipal Officials and Climate Change, Northeast Sustainable Energy Association, Boston, Massachusetts, March 11, 2008.

Cities Energy Modelling, International Energy Agency, Paris, France, January 30-31, 2008.

Resilience, Biocomplexity and Industrial Ecology, Sustainable Systems Symposium, Center for Resilience, Ohio State University, March 2-3, 2006.

International Symposium on Industrial Symbiosis, Royal Institute of Technology, Stockholm, Sweden, June 11, 2005.

Yale University Workshop on Steel Industry Workshop, Yale Center for Industrial Ecology, Yale University, March 14 – 16, 2005.

Social and Economic Integration – Climate Change Impacts Workshop, CSIRO, Canberra, Australia, January 27 – 28, 2005.

Sustainable Industrial Development: Energy and Material Exchange and Optimization through Eco-industrial Networks, University of Southern California, Los Angeles, California, November 6-7, 2003.

Universidade Eduardo Mondlane, “Integrated Regional Modeling of the Human-Ecosystem-Climate System in Southern Africa: Interactions at the River Basin, National and Regional Levels”, Maputo, Mozambique, July 2000.

Fletcher School of Law and Diplomacy, Tufts University, “Climate’s Long-term Impacts on Metro Boston”, Medford, Massachusetts, March 2000.

Boston University, “Structural Change in Transportation and Communication in the Knowledge Society: Implications for Theory, Modeling and Data”, Boston, Massachusetts, October 1999.

Osaka Sangyo University, “Non-Linear & Chaos-Theoretic Thinking”, FOCAS Seminar, Osaka, Japan, August 1999.

National Science Foundation, “Sustainable Natural Resource Management”, Maputo, Mozambique, June 1999.

National Center for Ecosystem Analysis and Synthesis, “Value of the World’s Ecosystem Services and Natural Capital”, Santa Barbara, California, June 1999.

US Environmental Protection Agency, “Steel Technology Workshop”, Washington, DC, February 1999.

International Human Dimensions Program, “Industrial Transformation”, Boston, MA, September 1998.

The Balaton Group, “Scenario Building for the Intergovernmental Panel on Climate Change”, Csopak, Hungary, September 1998.

National Center for Ecosystem Analysis and Synthesis, “Value of the World’s Ecosystem Services and Natural Capital”, Santa Barbara, California, June 1998.

Ecosystem Research Centre, “Valuation of Material and Energy Flows Across the Economy-Environment Boundary”, Salzau, Germany, August 1996.

MacArthur Foundation, “Assessing the Role of Human Capital and Natural Capital in Economic Production”, Boston, MA, July 1996.

United Nations Environmental Program, “Integrated Adaptive Ecological Economic Modeling and Assessment”, Boston, MA, July 1996.

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United Nations Environmental Program, “Integrated Adaptive Ecological Economic Modeling and Assessment”, Fazenda Rio Negro, Brazil, November 1995.  
The Daimler Benz Corporation, “Daimler Benz on the Path to a Global Enterprise”, Stuttgart, Federal Republic of Germany, July 1995.  
US Army Construction and Engineering Laboratory, “Dynamic Modeling” Project, Urbana, Illinois, June 1993.  
National Center for Supercomputing Applications, “Dynamic Ecological Economic Modeling” Project, Urbana, Illinois, April 1993.

#### GRANTS

2009 – 2010 Maryland Offshore Wind Energy Facility Development, Principal Investigator: Matthias Ruth, Source: Maryland Energy Administration (\$100,000).  
2009 – 2013 Linking Global and Regional Energy Strategies (LinkS), Principal Investigator: Bjørn Bakken (SINTEF, Norwegian Research Institute), US Co-Principal Investigators: Matthias Ruth, Steve Gabriel, Jae Edmonds, Source: Research Council of Norway (\$3.8 Million).  
2009 – 2010 Nutrient Trading with Carbon Benefits, Principal Investigator: Matthias Ruth, Source: Department of the Environment, Maryland (\$100,000).  
2009 Climate Impacts on Native American Communities, Principal Investigator: Matthias Ruth, Source: National Congress of American Indians, Washington, DC (\$10,000).  
2009 Evaluation of Resource-based Markets and Alternative Economic Indicators, Principal Investigator: Matthias Ruth, Source: Department of Natural Resources, Maryland (\$40,000).  
2009 Climate Action Plan and Greenhouse Gas Inventory for the University of Maryland University College, Principal Investigator: Matthias Ruth, Source: University of Maryland University College (\$78,000).  
2008 – 2012 Evaluating Campus Transport Issues, Principal Investigator: Matthias Ruth, Source: University of Maryland System (\$160,000).  
2008 Sustainability Indicators, Principal Investigator: Matthias Ruth, Source: Maryland Department of Natural Resources (\$25,000).  
2008 – 2010 Coastal Flooding and Environmental Justice: Developing Strategies for Adapting to Climate Change, Principal Investigator: Ellen Douglas, Co-Principal Investigators: Matthias Ruth, Paul Kirshen, Allen Gontz and Jack Wiggin, Source: National Atmospheric and Oceanographic Organization (\$150,000).  
2008 Maryland Climate Impacts and Cost of Inaction, Principal Investigator: Matthias Ruth, Source: Maryland Department of the Environment (\$48,000).  
2008 Economic Analysis of S2191 (Lieberman-Warner Bill), Principal Investigators: Daraius Irani and Matthias Ruth, Source: Natural Resources Defense Council (\$30,000).  
2008 Impacts of Climate Change and Cost of Inaction at the State-level, Principal Investigators: Matthias Ruth, Source: Environmental Defense (\$90,000).  
2008 – 2012 Northwest 2050: Climate Adapted Innovation Processes for the Oldenburg-Bremen (Germany) Metropolitan Region, Principal Investigator: Consortium Verein Metropolregion Bremen-Oldenburg im Nordwesten e.V., Universität Bremen (artec-Forschungszentrum Nachhaltigkeit), Universität Oldenburg (CENTOS - Oldenburg Center for Sustainability Economics and Management), Sustainability Center Bremen (econtur gGmbH, ecolo GbR), BioConsult Schuchardt & Scholle GbR, Center for Integrative Environmental Research (CIER), University of Maryland, Source: German Ministry of Science, Education and Technology (Euro 15 Million).

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2008	Economic and Energy Analysis of Climate Change Mitigation and Adaptation in Maryland, Principal Investigator: Matthias Ruth, Source: Maryland Department of the Environment, Baltimore, Maryland (\$334,000).
2007 – 2008	Economic and Energy Impacts of Maryland Joining the Regional Greenhouse Gas Initiative (RGGI), Principal Investigators: Matthias Ruth and Steve Gabriel, Source: Maryland Department of the Environment, Baltimore, Maryland (\$370,000).
2007 – 2009	Reality Check Plus – Envisioning a Sustainable Maryland, Principal Investigators: Gerrit Knaap, Glen Moglen and Matthias Ruth, Source: US Environmental Protection Agency, Collaborative Science and Technology Network for Sustainability (\$275,000).
2007	Economic Impacts of Climate Change, Principal Investigator: Matthias Ruth, Source: Environmental Defense, Washington DC (\$30,000).
2006 – 2008	Climate Change Technology R&D Portfolio Decision Making under Uncertainty, Principal Investigators: Erin Baker (University of Massachusetts), co-Principal Investigators: Jeffrey Keisler (University of Massachusetts), Matthias Ruth (University of Maryland) and John Weyant (Stanford University), Source: US Department of Energy, Office of Science (\$375,000).
2006 - 2007	Study of Economic and Energy Impacts of RGGI Participation, Principal Investigators: Matthias Ruth and Steve Gabriel, Source: Maryland Department of the Environment, Baltimore, Maryland (\$372,000).
2005 - 2006	Climate's Long-term Impacts on New Zealand Infrastructure – Phase II, Co-Principal Investigators: Nigel Jollands and Matthias Ruth, Source: Landcare Research, Palmerston North, New Zealand (NZ\$ 100,000).
2005	International Collaboration for Urban Climate Impact Research, Principal Investigator: Matthias Ruth, Source: University of Maryland Office of International Programs, Travel Grant (\$2,500).
2004	Natural Economics, Principal Investigator: Matthias Ruth, Source: Roy F. Weston, (\$1,650,000)
2004 - 2005	Climate's Long-term Impacts on New Zealand Infrastructure, Co-Principal Investigators: Nigel Jollands and Matthias Ruth, Source: Landcare Research, Palmerston North, New Zealand (NZ\$ 100,000).
2004	PowerPlay, Principal Investigator: Matthias Ruth, Sources: US EPA and OECD/International Energy Agency, Paris, France (\$25,000).
2004	Dynamic Integrated Assessment of Climate Change Impacts on Infrastructure Systems and Services, Principal Investigator: Matthias Ruth, Source: Manaaki Whenua Fellowship, New Zealand (NZ\$25,000).
2004	Climate Impacts and Adaptation Strategies for Maryland's Energy Sector, Principal investigator: Matthias Ruth, Source: General Research Board, University of Maryland (\$8,750).
2003 – 2004	Adapting to Climate Change Through Smart Growth, Principal Investigator: Matthias Ruth, Source: National Center for Smart Growth Research and Education, (\$20,000).
2001 – 2002	Mauritius Environmental Resource Management and Industrial Development, Principal Investigator: Matthias Ruth, Source: The National Geographic Society (\$14,100).
2001 – 2002	Integrated Analysis and Management of Natural Resources: The Mauritius Context, Principal Investigator: Matthias Ruth, Source: The National Science Foundation (\$34,000).
2000 – 2001	Effectiveness and Economic Benefits of Stellwagen Bank National Marine Sanctuary, Principal Investigator: Matthias Ruth, Source: Environmental Defense (\$15,000).

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- 2000 Planning Visit for an International, Interdisciplinary Workshop on Integrated Analysis and Management of Natural Resources: The Mauritius Context, Principal Investigator: Matthias Ruth; Source: The National Science Foundation (\$2,000).
- 1999 – 2004 Infrastructure Systems, Services and Climate Change: Integrated Impacts and Response Strategies for the Boston Metropolitan Area, Principal Investigators: Paul Kirshen and Matthias Ruth; Source: US Environmental Protection Agency (\$900,000).
- 1998 – 2001 Modeling of the Dynamics of Industrial Greenhouse Gas Emissions, Principal Investigator: Matthias Ruth; Source: US Environmental Protection Agency (\$150,000).
- 1998 – 2001 The Seasing Eye: Creating Science and Scientists to Promote Sustainability of Fisheries, Principal Investigators: Les Kaufman, Peter Auster and Matthias Ruth; Sources: The Kendall Foundation (\$30,000) and Mudge Foundation (\$40,000).
- 1997 – 1998 Dynamic Models of Industrial Responses to Climate Change Policy in US Pulp and Paper, Iron and Steel, and Cement Production, Principal Investigator: Matthias Ruth; Source: US Environmental Protection Agency (\$125,000).
- 1996 – 1998 The Stakeholder-Scientist: A Critical New Player in Adaptive Co-Management of the Gulf of Maine and Georges Bank Fisheries, Principal Investigators: Les Kaufman and Matthias Ruth; Source: The Kendall Foundation (\$30,000).
- 1995 – 1997 Dynamic Modeling of Technology Change, Environmental Policy and Strategic Management in the US Pulp and Paper Industry; Principal Investigator: Matthias Ruth; Source: Roy F. Weston Inc. (\$32,000).
- 1995 The Biology of Yearling Groundfishes: A Spatially Explicit Model and its Policy Implications; Principal Investigator: Les Kaufman; Coprincipal Investigators: Matthias Ruth and Carl Safina; Source: The Pew Charitable Trust (\$6,000).
- 1993 Enhancing Quantitative Environmental Analysis in the Social Sciences: Systems Modeling, Geographic Information Systems, and Environmental Networking; Principal Investigator: Cutler Cleveland; Coprincipal Investigators: Matthias Ruth, Suchi Gopal, Sheldon Anis; Source: National Science Foundation (\$90,000).
- 1993 Summer Research Stipend; Principal Investigator: Matthias Ruth, Source: Boston University (\$3,900).
- 1989 – 1992 Gottlieb Daimler- and Karl Benz- Foundation Research Fellowship Principal Investigator: Matthias Ruth, Source: Gottlieb Daimler- and Karl Benz- Foundation (\$36,000).

#### ADMINISTRATIVE EXPERIENCE

- 2007 – 2010 Director, Environmental Policy Program, School of Public Policy, University of Maryland, College Park, Maryland.
- 2006 – present Founding Director, Center for Integrative Environmental Research (CIER), Division of Research, University of Maryland, College Park, Maryland.
- 2004 – present Founding Co-Director, Engineering and Public Policy Program, University of Maryland, College Park, Maryland.
- 2003 – present Co-Director, Program in Conservation Biology, Sustainable Development and Public Policy, University of Maryland, College Park, Maryland.
- 2002 – present Director, Ecological Economics Certificate Program, University of Maryland, College Park, Maryland.
- 2000 – 2006 Director, Environmental Policy Program, School of Public Policy, University of Maryland, College Park, Maryland.
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1993 – 2000 Director of Graduate Studies, Center for Energy and Environmental Studies, Center for Energy and Environmental Studies, Boston University, Boston, Massachusetts.

#### SERVICE TO GOVERNMENT AND THE PUBLIC

2010 – present Member, Steering Committee, Outcome Indicators, European Commission, Brussels, Belgium.

2010 – present Member, Climate Adaptation Steering Committee, International Council on Local Environmental Initiatives, Boston, Massachusetts.

2010 Member, Maryland Trade Delegation to Vietnam, May 25 – 27, 2010.

2009 – present Member, OneMaryland Working Group and OneMaryland Coordinating Committee, Annapolis, MD.

2009 – present Member, Advisory Committee, Council on Competitiveness, Washington, DC.

2008 – present Member, Global Warming Advisory Council to Senator Benjamin Cardin, US Senate, Washington, D.C.

2007 – 2009 Member, Governor's Commission on Climate Change, Technical Working Group, Maryland, USA.

2007 – 2009 Member, Advisory Committee, Greater Washington Initiative, Greater Washington Board of Trade, Washington D.C.

#### MEMEBERSHIP ON EDITORIAL BOARDS

2010 – present Member of the Board, Environmental Economics, Business Perspectives Publishing.

2010 – present Member of the Board, Environmental Innovation and Societal Transitions, Elsevier, The Netherlands.

2009 – present Member of the Board, International Regional Science Review, Sage, Publishing.

2009 – present Member of the Board, Sustainability Science, Springer, Tokyo.

2008 – present Member of the Board, The Open Environmental Journal, Bentham.

2007 – present Member of the Board, The Review of Regional Studies, Oklahoma State University Press.

2005 – present Member of the Board, Journal of Industrial Ecology, Wiley-Blackwell.

2004 – present Member of the Board, International Journal of Design & Nature and Ecodynamics, WIT Press.

2000 – present Member of the Board, Journal of Environmental Management, Academic Press, London.

1995 – present Book Series Editor, Modeling Dynamic Systems, Springer, New York.

#### OTHER SERVICES TO THE SCIENTIFIC COMMUNITY

2010 – present Review Editor, Intergovernmental Panel on Climate Change (IPCC), Fifth Assessment Report, Working Group III, Geneva, Switzerland.

2010 – present Member of the Board, International Society for Ecological Economics.

2009 Co-organizer, Joint General Services Administration (GSA), HOK and University of Maryland Center for Integrative Environmental Research (CIER) Workshop on Sustainable Development in the Federal Portfolio of Programs and Actions, Department of the Interior, Washington, DC, March 6, 2009

2007 – 2009 Project Associate, Urbanization and Global Environmental Change, IHDP Core Project, Arizona State University, Tempe, Arizona.

2007 – 2008 Member, Steering Committee, Conference on the Human Dimensions of Global Environmental Change *and* International Conference of the Social-Ecological Research Programme, 'Long-Term Policies: Governing Social-Ecological Change', February 2008, Berlin.



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2007 – 2008	Member, International Scientific Advisory Committee, Sustainable City Conference 2008, Skiathos, Greece.
2005 – 2008	Member, Science Advisory Committee of the Marine Management Area Science project, funded by the Moore Foundation, based at Conservation International, Washington, D.C.
2005 – present	Member of the Board, Western Regional Science Association.
2005 – present	Council Member, International Society for Industrial Ecology.
2005 – 2006	Member, International Scientific Advisory Committee, Sustainable City Conference, July 2006, Tallin, Estonia.
2004 – 2005	Co-Chair, Annual Conference of the International Society for Industrial Ecology, Stockholm, Sweden.
2003 – 2006	US Society for Ecological Economics, Policy Committee.
2003 – 2004	Member, Conference Committee, International Society for Industrial Ecology.
2001 – 2004	Internationalization Taskforce, School of Public Affairs, University of Maryland.
2001	Co-organizer of the workshop on Mauritius Environmental Resource Management and Industrial Development (MERMAID), University of Mauritius and Mauritius Research Council, Reduit, Mauritius, June 25 – 29, 2001.
2001	US-China Productivity Center, Ministry of Science and Technology of China and University of Maryland, Integration Design Team Member.
2000 – 2001	Scientific Leadership Network, Ecosystem Dynamics and Essential Human Needs (EDHN), American Association for the Advancement of Science, Washington, D.C.
2000	Review of tenure case for the Department of Civil and Environmental Engineering, Lafayette College, Easton, Pennsylvania.
2000 – 2003	Member of the International Steering Committee, Workshop to Design an Integrated Regional Model of the Human-Ecosystem-Climate System in Southern Africa: Interactions at River Basin, National, and Regional Levels, Maputo, Mozambique.
2000	Co-organizer of the workshop on “Climate’s Long-term Impacts on Metro Boston”, Fletcher School of Law and Diplomacy, Tufts University, Medford, Massachusetts, March 2000.
1999 – 2000	Member of the Scientific Advisory Committee for the Systems Science 2000 Conference, University of Osnabrück, Osnabrück, Germany.
1996 – 1998	Member of the Publications Committee of the International Society of Ecological Economics.
1996	Host and co-organizer of the international workshop on Dynamic Modeling, Boston, MA, August 1996.
1995 – 1996	Co-organizer, Fourth Biennial Conference of the International Society for Ecological Economics.

SERVICE TO THE TEACHING AND ADMINISTRATIVE COMMUNITY

2010 – present	Member, Admissions Committee, School of Public Policy, University of Maryland, College Park, MD.
2009 – present	Member, Search Committee, Energy Security Environment, University of Maryland, College Park, MD.
2009 – present	Councilor at-large, University Sustainability Council, University of Maryland, College Park, MD.
2008 – 2009	Member, University Research Council, University of Maryland Senate and Division of Research, College Park, MD.
2008	Member, Search Committee, Vice President for Administrative Affairs, University of Maryland, College Park, MD.

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- 2007 – 2009 Chair, Academic Promotion and Tenure Committee, School of Public Policy, University of Maryland, College Park, MD.
- 2007 – present Chair, Climate Action Plan Working Group, University of Maryland, College Park, MD.
- 2005 – present Energy Systems Engineering Field Committee, James A. Clark School of Engineering, University of Maryland, College Park, MD.
- 2005 – 2007 Member, Provost’s Accreditation Task Force on Faculty Advancement, University of Maryland, College Park, MD.
- 2003 – 2005 Member, Dean’s Search Committee, School of Public Policy, University of Maryland, College Park, MD.
- 2003 – 2005 Member of the Academic Planning Advisory Committee (APAC), University of Maryland, College Park, MD.
- 2003 – 2005 Senator, University of Maryland Senate, College Park, Maryland.
- 2003 – 2005 Faculty Chair, Policies and Curriculum Committee, School of Public Affairs, University of Maryland, College Park, MD.
- 2002 – 2005 Member, Honor Council, Office of Judicial Programs and Student Ethical Development, University of Maryland, College Park, MD.
- 2002 Member, Committee on Appeals of Arbitrary and Capricious Grading, School of Public Affairs, University of Maryland, College Park, MD.
- 2001 Member of the University of Maryland, School of Public Affairs, Director of Finance and Administration Search Committee, College Park, MD.
- 2001 Judge, Graduate Research Interaction Day, Graduate Student Government, University of Maryland, College Park, MD.
- 2001 – 2003 Member of the University of Maryland, School of Public Affairs, Strategic Planning Committee, University of Maryland, College Park, MD.
- 2000 – 2001 Member of the University of Maryland, School of Public Affairs, Director of Public Policy and Private Enterprise Search Committee, College Park, MD.
- 2000 Member of the University of Maryland, School of Public Affairs, Director of Career Services Search Committee, University of Maryland, College Park, MD.
- 1999 - 2000 Member of the Boston University Environmental Policy Faculty Search Committee, Boston, MA.
- 1997 - 2000 Faculty Associate of the Center for Ecology and Conservation Biology, Boston University, Boston, MA.
- 1997 Member of the Boston University Environmental Policy Faculty Search Committee, Boston, MA.
- 1996 - 2000 Member of the Admissions Committee, Department of Geography, Boston University, Boston, MA.
- 1995 - 1999 Advisor, Curriculum Development, Davis Senior High School, Davis, California.
- 1995 Member of the Boston University Environmental Policy Faculty Search Committee, Boston, MA.
- 1994 - 2000 Member of the Presidential University Graduate Fellowship Committee, Graduate School, Boston University, Boston, MA.
- 1992 - 2000 Member of the Faculty Advisory Committees in Environmental Analysis and Policy, and in Environmental Science, Boston University, Boston, MA.

#### TEACHING EXPERIENCE

- Dynamic Modeling for Investment and Policy Decision Making (University of Maryland, College Park, MD)
- Microeconomics and Policy Analysis (University of Maryland, College Park, MD)
- Dynamic Modeling (York University, Toronto, Canada)
- Modeling Dynamic Systems (University of Mauritius, Mauritius)
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Physical Environment: Principles and Policy (Boston University, Boston, MA).  
Modeling of Environmental and Social Systems (Boston University, Boston, MA).  
Economic Geography (Boston University, Boston, MA).  
Ecological Economics (Boston University, Boston, MA).  
Population, Resources, Economic Growth and Environment (Boston University, Boston, MA).  
Conservation of Natural Resources (University of Illinois, Urbana-Champaign, IL).  
Contemporary Social and Environmental Problems (University of Illinois, Urbana-Champaign, IL).

#### CONSULTING

2010 – present The Haisla Nation, Canada.  
2009 - 2010 United Nations, Nairobi, Kenya.  
2009 Sonoran Institute, Arizona.  
2008 - 2009 HOK, Washington, DC.  
2008 - 2009 Asia Development Bank Institute, Tokyo, Japan.  
2008 - 2009 Chalmers University of Technology, Gothenburg, Sweden.  
2008 Union of Concerned Scientists, Cambridge, Massachusetts.  
2008 Environmental Defense, Washington DC.  
2008 OECD/International Energy Agency, Paris, France.  
2008 National Resources Defense Council, Washington, DC.  
2008 Center for Climate Strategies (CCS), Washington, DC.  
2008 Distributed Energy Financial Group (DEFG), Washington, DC.  
2007 - 2008 National Aeronautic and Space Agency (NASA) Goddard Space Flight Center, Greenbelt, Maryland.  
2007 - 2008 High Road Strategies, Arlington, Virginia.  
2007 The Conservation Fund, Washington DC and The Resnick Group, Baltimore, Maryland.  
2006 – 2007 ICF Consulting, Fairfax, Virginia.  
2006 Duke University, Nichols School of the Environment, Chapel Hill, North Carolina.  
2005 The Conservation Fund, Washington DC and The Resnick Group, Baltimore, Maryland.  
2004 OECD/International Energy Agency, Paris, France.  
2002 - 2003 Management Systems International, Washington, D.C.  
2000 National Oceanographic and Atmospheric Administration, U.S. Department of Commerce, Washington, D.C.  
1994 - 2003 Consultant, Roy F. Weston, Inc., West Chester, Pennsylvania.  
1992 Consultant, Environmental Planning and Economics Inc., Springfield, Illinois.  
1986 - 1989 Consultant, Systeam K.G. Dr. Winterstein, Karlsruhe, Federal Republic of Germany.

#### REVIEWS FOR FOUNDATIONS, NATIONAL AND INTERNATIONAL ORGANIZATIONS

American Association for the Advancement of Science (USA)  
Austrian Academy of Sciences (Austria)  
Economic and Social Research Council (United Kingdom)  
Intergovernmental Panel on Climate Change  
National Commission on Energy Policy (USA)  
National Science Foundation (USA)  
National Oceanographic and Atmospheric Administration (USA)  
Swiss National Science Foundation (Switzerland)  
The National Academies (USA)  
US Environmental Protection Agency, Office of Research and Development (USA)

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### REVIEWS FOR SCIENTIFIC JOURNALS

Climate and Development	International Journal of Sustainable Development
Climate Change	International Journal of Production Economics
Climate Policy	International Regional Science Review
Climate Research	Journal of Agricultural and Environmental Ethics
Conservation Biology	Journal of Applied Meteorology and Climatology
Ecological Economics	Journal of Environmental Economics and Management
Energy	Journal of Great Lakes Research
Energies	Journal of Industrial Ecology
Energy Efficiency	Journal of Policy Analysis and Management
Environmental Conservation	Natural Hazards
Environment and Development Economics	Neuroscience Letters
Environment and Planning B	Professional Geographer
Environment and Planning C	Quarterly Journal of Economics
Environmental Management	Structural Change and Economic Dynamics
Environmental Management Review	Sustainability Science
Environmental Modelling and Software	The Journal of European Environmental Policy
Environmental Values	Water Resources Management
Geographical Analysis	
Global Environmental Change	
Growth and Change	
Industrial & Engineering Chemistry Research	

### REVIEWS FOR BOOK PUBLISHERS

Academic Press	Routledge
Edward Elgar	Springer-Verlag
Harwood Academic Publishers	United Nations University Press
Island Press	MIT Press
Kluwer Academic Publishers	

### REVIEWS OF ACADEMIC APPOINTMENT, TENURE AND PROMOTION CASES

Swiss Technical Institute (ETH) Zürich, Switzerland	Tufts University, USA
Lafayette College, USA	University of Jyväskylä, Finland
Macquary University, Australia	University of Oldenburg, Germany
Portland State University, USA	University of Vermont, USA
	Yale University, USA

### SCIENTIFIC ADVISORY BOARD FUNCTIONS

2010 - present	Advisor, Metropolitan Council of Governments, Washington, DC.
2010 - present	Advisor, International Council of Local Environmental Initiatives (ICLEI), Boston, Massachusetts.
2007 - 2009	Cities Energy Modelling International Expert Group, International Energy Agency, Paris, France.
2005 - 2008	Advisor, The Roosevelt Institution's Center for Emergency Preparedness and Relief (SCEPR), University of North Carolina, Chapel Hill, North Carolina
2005 - 2008	Advisor, Marine Management Area Science, Center for Applied Biodiversity Studies, Conservation International, Washington, DC.
2005 - 2006	Advisor, Institute for Research and Innovation in Sustainability, Toronto, Canada.

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### NEWS COVERAGE OF RESEARCH IN THE MEDIA

Over 120 interviews and research features in the popular press and news media, including TV and nationally syndicated radio shows. Detailed listings available on demand.

### TESTIMONIES AND HEARINGS

“Climate Impacts and Adaptation in Maryland”, National Academies of Sciences, America’s Climate Choices, Washington, D.C., May 4-5, 2009.

“Testimony – State of Maryland Joint Hearings on the Greenhouse Gas Reduction Action”, Annapolis, Maryland, February 27, 2009.

“Testimony – State of Maryland, Senate Education, Health and Environmental Affairs Committee Hearing on the Greenhouse Gas Reduction Action, ”, Annapolis, Maryland, February 10, 2009.

“Testimony – State of Maryland Joint Hearings on Global Warming Solutions”, Annapolis, February 29, Maryland, 2008.

“Climate Impacts on Urban Infrastructure”, National Research Council, Washington, D.C., June 17, 2004.

“Implications of Climate Change for the Poor in the US”, US Conference of Catholic Bishops, Washington, D.C., May 22, 2002.

“Material Flows and the US Pulp and Paper Industry”, National Academy of Sciences, Washington, D.C., August 15, 2002.