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Education: B.S., 1979, M.S., 1981, Ph.D., 1985, Colorado State University; Professional Experience: Research Scientist/Senior Research Scientist, 1985-1992; Project Manager, Pacific Northwest National Laboratory, 1992-2003; Physicist, Lawrence Livermore National Laboratory (LLNL), 2003- ; Concurrent Positions: Detail assignment to the DOE Office of Energy Research, 1990-1991; Director of the DOE Computer Hardware, Advanced Mathematics and Model Physics Program, 1992-1997; Chair, DOE Climate Change Prediction Program Coordinating Committee, 1997- 2000; Intergovernmental Program Act (IPA) Assignment as Program Manager to DOE Office of Science; 2000-2002; Director, DOE Scientific Discovery through Advanced Computing Program, 2001-2002; Visiting Scientist, National Center for Atmospheric Research, 2002-2003; Director, Program for Climate Model Diagnosis and Intercomparison at LLNL and Chief Scientist, DOE Climate Change Prediction Program, 2003- ; Membership: American Meteorological Society; Research: Air pollution meteorology, atmospheric boundary-layer dynamics, mesoscale meteorological modeling, climate modeling, computational science. Mailing Address: Lawrence Livermore National Lab, 7000 East Ave., PO Box 808; L-103, Livermore, CA 94551; (Telephone: 925-422-4843; email: *bader2@llnl.gov*).

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Outstand Performance, Pacific Northwest National Laboratory, 2002; Distinguished Service Award, U.S. State Department, 2001; BER50 Award in recognition of his research accomplishments, United States Department of Energy, 1997; Director's Award for Research Group Performance, Pacific Northwest National Laboratory, 1993; Scientific Book Of The Year, for *A Primer on Greenhouse Gases* with Don Wuebbles, (Lewis Publishing), Lawrence Livermore National Laboratory, 1991; Research Interests: Energy, Economics, Technology, and Climate; The integrated assessment of climate change; Mailing Address: Pacific Northwest National Laboratory, Joint Global Change Research Institute at the University of Maryland, 8400 Baltimore Avenue, Suite 201, College Park, MD 20740-2496; (Telephone: 301-314-6749; email: jae@pnl.gov).

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Department, Exxon Mobil Corporation, 1998-present. Concurrent Positions: Visiting Scientist, Institute of Astronomy, Cambridge University, 1978; Visiting Fellow, The Institute for Advanced Study, 1980-1985; Professional Service and Memberships: American Association for the Advancement of Science; NATO Collaborative Research Grants Panel 1984-86; International Petroleum Industry Environmental Conservation Association: Global Climate Change Working Group 1988-present (Vice Chair 1995-7, Chair 1997-99), Member of Executive Committee 2000- present ; International Chamber of Commerce 1993- present: Energy Commission (Vice Chair 1998-2000), Environment and Energy Commission 1993- (Vice Chair 2003- present); Unites States Council for International Business 1993-present (Environment Steering Committee 1998-present); Editorial Boards: Annual Reviews of Energy and Environment 1992-1996, Consequences 1996-98; Global Climate and Energy Project Stanford University member Management Committee; Review Committees: US Department of Energy, State of the Art Review of Greenhouse Science, 1984; US Environmental Protection Agency, Subcommittee on Global Climate Change, Science Advisory Board, 1988-1989; International Geosphere Biosphere Program Evaluation Committee, 1994-1996; Intergovernmental Panel on Climate Change: Task Group on New Emissions Scenarios 1995-present; Lead Author Working Group III: Third Assessment Report- Decision-making Frameworks, Fourth Assessment Report- Mitigation from a Cross-Sectoral perspective; Stanford University School of Engineering Advisory Council, 2004-present. Research Interests: Global Climate Change: Science, Technology, Economics, and Policy; Technology Innovation: research, development, deployment and transfer; Linkages: local and regional air pollution, climate change and health. Mailing Address: Exxon Mobil Corporation, 5959 Las Colinas Blvd, Room 3314, Irving, Texas, 75039; (Telephone: 972-444-1674; email: brian.p.flannery@exxonmobil.com).

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Council (NRDC), 2001-present; Director Air and Energy Program, NRDC 1990-2001; Co-director Air Program, NRDC, 1981-1990; Assistant Administrator Air, Noise and Radiation, US EPA 1977-1981; Staff attorney, Natural Resources Defense Council, 1971- 1977; Professional Service and/or Memberships: D.C. Bar Assn; Member Board on Energy and Environmental Systems, NAS; Trustee Resources for the Future; Trustee Center for Clean Air Policy; Review Committees: IPCC Special Report on Carbon Dioxide Capture and Storage, Review Editor; IPCC Fourth Assessment Report Work Group III, Review Editor; Awards and Honors: Miscellaneous; Research Interests: low ghg energy systems; CO2 capture and storage; energy policy; climate policy; Mailing Address: Natural Resources Defense Council, 1200 New York Ave, NW, Room 400, Washington, DC 20005; (Telephone: 202-289-6868; email: dhawkins@nrdc.org).

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Education: B.S., University of Minnesota, 1969; M.A., State University of New York-Stony Brook (Physics) 1971; Ph.D. Princeton University (Atmospheric and Oceanic Sciences), 1976; Professional Experience: Research Fellow in Climate, Harvard University 1976-1978; Research Scientist then Senior Research Scientist, Geophysical Fluid Dynamics Laboratory/NOAA, Princeton, NJ (GFDL), 1978-present; Currently Senior Research Scientist for GFDL; Head, Weather and Atmospheric Dynamics Group (GFDL), and Lecturer with rank of Professor, Geosciences Dept, Princeton University. Professional Services and Memberships: American Meteorological Society (Editor, Journal of the Atmospheric Sciences 1987-1990), American Geophysical Union; Associate Faculty Princeton Environmental Institute and Princeton Program in Applied and Computational Mathematics. Review Committees: Visiting Committee for Department of Earth, Atmospheric, and Planetary Sciences, Massachusetts Institute of Technology, 1995—2002; UCAR Climate System Model Advisory Board, 1999 - present. Awards and Honors: NOAA ERL Distinguished Authorship Awards, 1984, 1994, 2001; Meisinger Award, American Meteorological Society, 1987; Fellow, American Meteorological Society, 1991; Rosenstiel Award, University of Miami, 1994; Fellow, American Geophysical Union, 1995; Bernhard Haurwitz Memorial Lecturer, American Meteorological Society, 1999; Department of Commerce Gold Medal, 1999; National Academy of Sciences, 2003; NOAA Presidential Rank Award, 2005. Research Interests: General Circulation of the Atmosphere, Climate Modeling, Global Warming, Geophysical Turbulence. Mailing Address: Geophysical Fluid Dynamics Laboratory, Princeton, NJ 08542; (Telephone: 609-452-6512; email: Isaac.Held@noaa.gov).

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Management, Massachusetts Institute of Technology, 1973- ; Director, M.I.T. Center for Energy Policy Research, 1978-80; Director, International Energy Studies Program, M.I.T. Energy Laboratory, 1978-83; Associate Director, M.I.T. Energy Laboratory, 1980-83; Visiting Scholar, London Business School, 1983-84; Chair, M.I.T. Faculty, 1989-91; William F. Pounds Professor of Management, M.I.T., 1990-2001; Co-Director, M.I.T. Joint Program on the Science and Policy of Global Change, 1991- . Professional Service and/or Memberships: Member, Climatic Impact Committee, Division of Physical Sciences, National Academy of Sciences, 1973-75; Chair, Governor's Emergency Energy Technical Advisory Committee, State of Massachusetts, 1973-74; Member, Editorial Council, Journal of Environmental Economics and Management, 1973-86; Member of Review Panel, Study of Peaceful Nuclear Explosives, sponsored by the U.S. Arms Control and Disarmament Agency, 1975; Member, U.S. National Petroleum Council, 1975-83; Member, Nuclear Fuels Working group, Atlantic Council of the United States, 1975-78; Elected Town Meeting Member, Belmont, Massachusetts, 1981- ; Periodic columnist, Nikkei Sangyo Shimbun, Tokyo, 1980-82; Periodic columnist, Sankei Shimbun, Tokyo, 1983-84; Member, Editorial Board, Cambridge Energy Studies, Cambridge University Press, 1984-87; Member, Panel on Climate Variability, Climate Change and the Planning and Management of U.S. Resources, American Association for the Advancement of Science, 1986-89; Member, Committee on Alternative Energy R&D Strategies, National Academy of Sciences and National Academy of Engineering, 1989-90; Member, Advisory Panel on Study of "Systems at Risk from Climate Change", U.S. Congress, Office of Technology Assessment, 1992-93; Member, Committee on Metrics for Global Change Research, US National Research Council, 2003-05; Member, Scientific Committee, International Geosphere-Biosphere Program, 2006- . Awards and Honors: Tau Beta Pi (engineering honorary) and Pi Tau Sigma (mechanical engineering honorary), University of Texas at Austin, 1956-57; Hamilton Award, Outstanding Engineering Graduate, University of Texas at Austin, 1957; Environmental Policy Fellow, American Council for Capital Formation, 1998-99; Research Interests: Applied Economics, Energy, Environment, Public Policy; Mailing Address: Joint Program on the Science and Policy of Global Change, Building E40-439, Massachusetts Institute of Technology, Cambridge, MA 02139; (Telephone: 617-253-6609; email: Hjacoby@mit.edu).

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Assembly of Mathematical and Physical Sciences, the executive committee of the Space Studies Board, and the executive committee of the Board on Atmospheric Sciences and Climate of the National Research Council, serving as a member of the Woods Hole Oceanographic Institution Corporation and serving on the council of the American Meteorological Society, Atmospheric Dynamics Committee of the AMS, MIT representative to UCAR; Memberships: American Meteorological Society, National Academy of Sciences, American Academy of Arts and Science, American Association for the Advancement of Science, American Geophysical Union, European Geophysical Society, World Institute of Sciences, Norwegian Academy of Science and Letters; Awards and Honors: Phi Beta Kappa, 1960, Sigma Xi, 1960, NCAR Outstanding Publication Award, 1967; AMS Meisinger Award, 1968; AGU Macelwane Award, 1969; Alfred P. Sloan Fellowship, 1970-1976; Vikram Amblal Sarabhai Professor at Physical Research Laboratory, Ahmedabad, India, 1985; AMS Charney Award, 1985; Japanese Society for the Promotion of Science Fellowship, Dec. 1986-Jan. 1987; Member, National Academy of Sciences, 1977; Fellow, American Academy of Arts & Sciences, 1977; Fellow, American Meteorological Society, 1980; Fellow, American Geophysical Union, 1980; Fellow, American Association for the Advancement of Science, 1994; Sackler Visiting Professor, Tel Aviv University, January 1992; Landsdowne Lecturer, University of Victoria, March 1993, Member, Norwegian Academy of Science and Letters, 1990; Bernhard Haurwitz Memorial Lecturer, American Meteorological Society, 1997; Research: The general circulation of the earth's atmosphere, Climate dynamics, Hydrodynamic shear instability, Dynamics of the middle atmosphere, Dynamics of planetary atmospheres, Parameterization of cumulus convection, Tropical meteorology; Mailing Address: Building 54, Room 1720, Massachusetts Institute of Technology, 77 Massachusetts Avenue, Cambridge, MA 02139; (Telephone: 617-253-2432; email: rlindzen@mit.edu).

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Press, MIT Press, Cambridge University Press, Climatic Change, Energy J., Global Environmental Change, Global Environmental Politics, International Environmental Affairs, International Security, International Studies Quarterly, J. of Conflict Resolution; J. of Policy Analysis and Management, J. of Conflict Resolution; Millennium; Negotiation J.; Policy Sciences; Science; Awards and Honors: 2004 winner, Harold and Margaret Sprout Award, International Studies Association; Research Interests: International Environmental Law, Policy, and Negotiations, Science and Technology in Public Policy, Scientific and Technological Assessments: methods, processes, determinants of effectiveness, Strategic decision-making and decision-making under uncertainty, especially in regulatory contexts; Mailing Address: Policy and Law, Hutchins Hall 432, University of Michigan, 625 S. State St., Ann Arbor MI, 48109; (Telephone: 734-763-6133; email: parson@umich.edu).

PITCHER, HUGH M.

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Department of Agriculture, 1986-1998; Visiting Scientist, Joint Program on the Science and Policy of Global Change, Massachusetts Institute of Technology, 1992-1993; Senior Research Scientist, Laboratory for Energy and the Environment & Associate Director for Research, Joint Program on the Science and Policy of Global Change, Massachusetts Institute of Technology, 1998-present. Professional Service and/or Memberships: American Agricultural Economics Association, 1986-1999; American Economic Association 1983-present, American Geophysical Union 2000-present. Review Committees: US delegate; OECD Ag. Research Director's Meeting, 1988; Author, Intergovernmental Panel on Climate Change, First Assessment Report, 1989-1991, Chair, U.S. Federal Task Group: Economics of Global Change, 1991-1992, Convening Lead Author, Intergovernmental Panel on Climate Change, Second Assessment Report, 1993-1996, Vice Chair, U.S. National Assessment Working Group, 1997-1998, National Research Council, Panel on Integrated Environmental & Economic Accounting, 1997-1999; Co-Chair, US Agricultural Sector Assessment, National Assessment of Climate Change and Climate Variability, 1998-2002, National Research Council, Committee on Global Change Research, 2000-2002, Advisory Committee, Consortium for Agricultural Soils Mitigation of GHGs, 2001-2004, US Carbon Cycle Science Steering Group, 2003-present; Awards and Honors: USDA Award for Superior Service, 1989; ERS Administrator's Award for Outstanding Research, 1989; ERS Excellence Award, 1995, Alan A. Powell Award, 2001; air pollution, technical change. Mailing Address: Massachusetts Institute of Technology, E40-433, 77 Massachusetts Avenue, Cambridge, MA 02139; (Telephone: 617-253-8040; email: jreilly@mit.edu).

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Distinguished Public Service Award, 2005; Research Interests: Hydrometeorology and hydroclimate modeling, remote-sensing application in hydrology, interface of hydrology with water resources management in semi-arid regions, interpretation of scientific information, such as climate forecasts and flood forecasts, by decision makers and the public at large. Mailing Address: University of California, Irvine, Dept. of Civil and Environmental Engineering, E/ 4130 Engineering Gateway, Irvine, CA 92697-2175; (Telephone: 949-824-8825;email: soroosh@uci.edu).

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Commission, Second Vice-Chairman (1988-1990); Louisiana Forestry Commission, Member (1988-1990); Gulf of Mexico Fishery Management Council, Member (1988-1990); Louisiana Wildlife and Fisheries Commission, Ex-Officio Member and Secretary, (1988-1990); Governor's Cabinet on Economic Development, State of Louisiana, Member (1989-1990); Louisiana Artificial Reef Council, Chairman (1988-1990); Louisiana Offshore Terminal Authority, Environmental Director (1988-1990); Louisiana Wetland Conservation and Restoration Task Force, Member (1989-1990); Southeastern Association of Fish and Wildlife Agencies, Vice President (1990); Global Change Task Force, U.S. Department of Interior, National Biological Service, Member (1994); Seventh American Forest Congress, Yale University, Southern Region Forest Research Committee, Chairman, (1995-96); Heinz Center for Science, Economics and the Environment, Member, Panel on Risks, Vulnerability, and True Costs of Coastal Hazards (1997-1998); National Assessment Synthesis Team, U.S. Global Change Research Program and National Science Foundation, Member and Lead Author, 1998-2001; Intergovernmental Panel on Climate Change, Working Group II, Lead Author, Third and Fourth Assessment Reports (1998-2001 and 2005-present); Panel on River Basin and Coastal Systems Planning, Panel Member, National Academy of Sciences (2002-2004); United Nations Framework Convention on Biodiversity, Ad-Hoc Technical Expert Group on Biodiversity and Adaptation to Climate Change, Member, 2005. Research: wetlands, forestry, climate change, sea level rise, subsidence, coastal processes/hazards. Mailing Address: U.S. Geological Survey, 700 Cajundome Blvd., Lafayette, LA 70506; (Telephone: 318-256-5628; email: Virginia_Burkett@usgs.gov).

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Geographers, 1996-2000; American Meteorological Society Commissioner for Education and Human Resources 2003-present; Editorial Board, Professional Geographer, 2005-present; Editor, Journal of Applied Meteorology and Climatology, 2006-present; Awards and Honors: NRC Research Associate, 1984-1985; Fulbright Senior Specialist, 2003; Fellow, American Meteorological Society, 2004; Research Interests: Synoptic and applied climatology, climate impact analysis, local and regional climate variability and change; Mailing Address: Department of Geography, 238 Geography Building, Michigan State University, East Lansing, MI 48824; (Telephone: 517-353-9186; email: winkler@msu.edu).

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