PAUL A.T. HIGGINS

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EDUCATION

Ph.D.	**Stanford University**, Department of Biological Sciences, 2003
M.S.	**Stanford University**, Department of Biological Sciences, 1996
B.S.	**The University of Michigan**, Cellular and Molecular Biology, 1993

PROFESSIONAL EXPERIENCE

2005-Present	**Legislative Fellow for Climate Change**, Office of Senator Mike DeWine, The United States Senate, Washington, DC
2003-2005	**Visiting Research Fellow**, The University of California, Berkeley, CA
1998-1999	**Director, CO_2 Project Field Site/Research Associate II**, The University of Michigan, Ann Arbor, MI
1/97-6/97	**Intern**, Redefining Progress, San Francisco, CA
7/96-11/96	**Project Assistant**, Carnegie Institution of Plant Biology, Stanford, CA
1993-1994	**Research Associate/Chemist**, National Institutes of Health, Bethesda, MD
5/93-10/93	**Intern**, Chemical Industries Institute of Toxicology, Research Triangle Park, NC

GRANTS AND AWARDS

2005-2006 Congressional Science Fellowship, The American Meteorological Society, The University Corporation for Atmospheric Research, and AAAS, Washington, DC

Principal Investigator. NSF, BioInformatics Postdoctoral Research Fellowship, 2003-2005 ($100,000)

Graduate Research Environmental Fellowship. Global Change Education Program, Department of Energy, 1999-2003 (~$150,000)

Alternate. NOAA Postdoctoral Program in Climate and Global Change, 2003

Travel Grant. Department of Biological Sciences, Stanford University, 2003 ($1000)

Travel Grant. Department of Biological Sciences, Stanford University, 2002 ($600)

Research Grant. The University of Michigan Biological Station, 1999

Big Ten Water Polo Champion. The University of Michigan, 1989

Midwest Regional Water Polo Champion. The University of Michigan, 1989

TEACHING AND ADVISING

Guest Lecturer. *Biology and Global Change*, Stanford University, Winter 2004

Academic Advisor. Stanford University, 2001-2003

Teaching Assistant. *Principles of Ecology*, Stanford University, Winter 2002

Guest Lecturer. *Biology and Global Change*, Stanford University, Winter 2002

Co-Developer. *Seminar in Ecology, Economics and Ethics*, Stanford University, 2001-2002

Teaching Assistant. *Biology and Global Change*, Stanford University, Spring 2000

Teaching Assistant. *Biochemistry, Genetics, and Molecular Biology*, Stanford University, Fall 1995

SERVICE

Poll Monitor. Election Protection, November 2, 2004

Radio Interview (Politicization of Science). All This and More, KZSU, October 19, 2004

Guests on Call. The Mainstream Media Project, March 1-9, 2004. Includes radio appearances discussing climate change on NPR Affiliate WILL, KVMR News, KMUD's Women's Radio Collectively, WPDR's Party Line, and XFM 169's The Couch

Policy Committee. Department of Biological Sciences, Stanford University, 2002-2003

Nominations Commission. Associated Students of Stanford University, 2002-2003

Co-Founder. scienceinpolicy.org, 2003

Board of Trustees Committee on Land and Buildings. Stanford University, 2001-2002

Student Representative, Faculty Senate. Stanford University, 2001-2002
Representative, Graduate Student Council. Stanford University, 2001-2002
Radio Interview (Climate Change). The News Show, KZSU, October 22, 2001
Reviewer. *Climatic Change, Global Change Biology, Ecology, Ecological Modelling, Ecosystems, Clean Air,* Cambridge University Press, National Science Foundation

PEER REVIEWED PUBLICATIONS

Higgins, P.A.T., and Harte, J. Biophysical and biogeochemical responses to climate change depend on dispersal and migration. *BioScience*. In Press.

Higgins, P.A.T., Chan, K.M.A., and Porder, S. Bridge over a philosophical divide. *Evidence & Policy*. In Press.

Higgins, P.A.T. 2005. Exercise based transportation reduces obesity, oil dependence, and carbon emissions. *Environmental Conservation*. 32(3):197-202.

Higgins, P.A.T., and Schneider, S.H. 2005. Long-term potential ecosystem responses to greenhouse gas induced thermohaline circulation collapse. *Global Change Biology*. 11(5):699-709.

Higgins, P.A.T., and Higgins, M. 2005. A healthy reduction in oil consumption and carbon emissions. *Energy Policy*. 33(1):1-4.

Higgins, P.A.T. 2004. Biogeochemical and biophysical responses of the land surface to a sustained thermohaline circulation weakening. *Journal of Climate*. 17(21):4135-4142.

Higgins, P.A.T., and Vellinga, M. 2004. Ecosystem responses to abrupt climate change: teleconnections, scale, and the hydrological cycle. *Climatic Change*. 64(1-2):127-142

Higgins, P.A.T., Masterandrea, M.D., Schneider, S.H. 2002. Dynamics of climate and ecosystem coupling: abrupt changes and multiple equilibria. *Philosophical Transactions of the Royal Society of London series B-Biological Sciences*. 357(1421):647-655.

Higgins, P.A.T., Jackson, R.B., desRosier, J.M., Field, C.B. 2002. Root production and demography in a California annual grassland under elevated atmospheric carbon dioxide. *Global Change Biology*. 8(9):841-850.

Hussusian, C.J., Struewing, J.P., Goldstein, A.M., Higgins, P.A.T., Ally, D.S., Sheahan, M.D., Clark Jr., W.H., Tucker, M.A., and Dracopoli, N.C. 1994. Germline p16 mutations in familial melanoma. *Nature Genetics*. 8(1):15-21.

Ranade, K., Hussusian, C.J., Struewing, J.P., Higgins, P., Ally, D.S., Sheahan, M., Mock, B.S., Dracopoli, N.C. 1994. RAP1GAP: A candidate tumor suppressor locus in 1p36.1. *American Journal of Human Genetics*. 55(3):A19.

Hussusian, C.J., Struewing, J.P., Goldstein, A.M., Higgins, P., Ally, D.S., Sheahan, M.D., W.H., Tucker, M.A., and Dracopoli, N.C. 1994. P16 Mutations in hereditary melanoma. *American Journal of Human Genetics*. 55(3):A19.

Higgins, P.A.T. Biodiversity loss under land use and climate change. *Submitted*.

BOOK CHAPTERS, EDITORIALS, AND COMMENTARY

Higgins, P.A.T. 2005. Climate Change: Complexity, Chaos and Order. *In:* Understanding Change: Models Methodologies and Metaphors. Andreas Wimmer and Reinhart Koessler (eds.). *Basingstoke: Palgrave*.

Chan, K.M.A., Higgins, P.A.T., and Porder S. 2005. Protecting science from abuse requires a broader form of outreach. *PLoS Biology.* 3(7):e218.

Higgins, P.A.T. March 30, 2005. (LTR) Junk Economics. *The Washington Times.*

Higgins, P.A.T. 2004. (LTR) The Bush Administration and climate change. *Science.* 306:2041.

Porder, S., Chan, K.M.A, and Higgins, P.A.T. 2004. (LTR) Scientists must conquer reluctance to speak out. *Nature.* 431:1036.

Porder, S., Chan, K.M.A, and Higgins, P.A.T. April 04, 2004. (OP-ED) Science and policy—it's an issue of trust. *San Francisco Chronicle.*

Chan, K.M.A., Porder, S., Higgins, P.A.T., and Kramer, S.B. 2004. (LTR) Concern is more than just ruffled feathers. *Nature*. 428(6980):255.

PRESENTATIONS

Higgins, P.A.T. INVITED. Biological responses and feedbacks in a changing world. February 14, 2006. Department of Integrative Biology, The University of Texas at Austin, TX

Higgins, P.A.T. KEYNOTE. Global change science from basic research to the federal policy process. August 23, 2005. Global Change Education Program. Washington, DC

Higgins, P.A.T. Biophysical and biogeochemical responses to climate change depend on dispersal and migration. August 9, 2003. The Ecological Society of America 90th Annual Meeting. Montreal, Canada.

Higgins, P.A.T. INVITED. Multiple states in the coupled climate system. March 10, 2005. Dynamic Regimes Meeting, Environmental Protection Agency. Cincinnati, OH

Higgins, P.A.T. INVITED. Policy and science. January 22, 2005. Bay Area Conservation Biology Symposium. Stanford, CA

Higgins, P.A.T. POSTER. Exercise based transportation reduces oil consumption and carbon emissions. December 17, 2004. American Geophysical Union 2004 Fall Meeting. San Francisco, CA

Higgins, P.A.T. KEYNOTE. The role of science in a changing world. August 17, 2004. Global Change Education Program. Washington, DC

Higgins, P.A.T. Biotic responses to land use and climate change. August 12, 2003. The Ecological Society of America 89th Annual Meeting. Portland, OR

Higgins, P.A.T. INVITED. Straightening out the biosphere's role in a non-linear climate system. February 6, 2004. The Department of Geophysical Sciences, The University of Chicago, IL

Higgins, P.A.T. and Higgins, M. POSTER. A healthy reduction in oil consumption and carbon emissions. December 10, 2003. American Geophysical Union 2003 Fall Meeting. San Francisco, CA

Higgins, P.A.T. Climate change in a land-use context: implications for South American species richness. August 7, 2003. The Ecological Society of America 88th Annual Meeting. Savannah, GA

Higgins, P.A.T., Vellinga, M., Mastrandrea, M.D., Schneider, S.H. POSTER. Responses and feedbacks to abrupt climate change: the biosphere's role in the coupled earth system. April 8, 2003. EGS-AGU-EUG Joint Assembly. Nice, France

Higgins, P.A.T. Ecosystem responses and feedbacks to abrupt climate change. December 10, 2002. The American Geophysical Union 2002 Fall Meeting. San Francisco, CA

Higgins, P.A.T. POSTER. Ecosystem responses and feedbacks to abrupt climate change. November 8, 2002. Berkeley Atmospheric Sciences Center 2nd Annual Symposium. Berkeley, CA

Higgins, P.A.T. State transitions in ocean circulation as a potential driver of ecosystem change at a global scale. August 6, 2002. The Ecological Society of America 87th Annual Meeting. Tucson, AZ

Higgins, P.A.T. INVITED. Dynamics of climate and ecosystem coupling: abrupt changes and multiple Equilibria. June 10, 2002. Global Change Education Program. Gainsville, Florida

Higgins, P.A.T. INVITED. Climate change: complexity, chaos, and order. May 23, 2002. Paradigms of Change Workshop. University of Bonn. Bonn, Germany

Higgins, P.A.T. and Schneider, S.H. POSTER. Ecosystem change and climate feedback under greenhouse gas increase and thermohaline circulation collapse. November 9, 2001. Berkeley Atmospheric Sciences Center 1st Annual Symposium. Berkeley, CA

Higgins, P.A.T. INVITED. Multiple equilibria and irreversibility in the climate system. October 9, 2001. Response Options to Rapid or Severe Climate Change. Department of Energy. Germantown, Maryland (via uplink from Sandia National Laboratory)

Higgins, P.A.T. Potential ecosystem change in the North Atlantic under greenhouse gas increase and thermohaline circulation collapse. August 20, 2001. End-of-summer Workshop, Global Change Education Program

Higgins, P.A.T. and Schneider, S.H. Potential ecosystem change in the North Atlantic under greenhouse gas increase and thermohaline circulation collapse. August 12, 2001. The Ecological Society of America 86th Annual Meeting. Madison, WS

Higgins, P.A.T. Abrupt and variable climate change—Interactions between ocean circulation and anthropogenic change. August, 2000. End-of-summer Workshop, Global Change Education Program

RECENT COLLABORATORS

Stephen H. Schneider	John Harte	Donald R. Zak	Michael Vellinga
Christopher B. Field	Kurt Pregitzer	Stephen Porder	Mark Kubiske

Robert B. Jackson	Kai Chan	Stephen Schwartz	Michael Mastrandrea

GRADUATE ADVISORS

Stephen Schneider	Christopher Field	Stephen Schwartz	Elizabeth Hadly
Harold Mooney			

PROFESSIONAL ASSOCIATIONS

AAAS	American Meteorological Society
Ecological Society of America	Geological Society of America
American Geophysical Union	