

Jennie Catherine Stephens

Curriculum Vitae

Assistant Professor of Environmental Science and Policy
International Development, Community, and Environment, Clark University
950 Main Street, Worcester, MA 01610 jstephens@clarku.edu 508 793-8846

EDUCATION

California Institute of Technology, Pasadena, CA.

Ph.D. Environmental Science & Engineering June 2002

Thesis: "Response of Soil Mineral Weathering to Elevated
Carbon Dioxide" *Advisor:* Janet G. Hering

Graduate Minor in Science, Ethics and Society

Thesis: "Environmental Responsibility in Academia"

Advisors: Bill Deverell and Daniel Kevles

M.S. Environmental Engineering Science June 1998

Harvard University, Cambridge, MA

B.A.(Magna Cum Laude) Environmental Science and Public Policy June 1997

Honors thesis on innovative wastewater treatment technology

Duke University Marine Laboratory, Beaufort NC Fall 1995

Visiting Student - studied environmental marine science and policy

ACADEMIC POSITIONS

Clark University, Worcester, MA

Fall, 2005 – present

Assistant Professor of Environmental Science and Policy, Department of International Development, Community and Environment (IDCE)

Teaching graduate & undergraduate courses on climate change, energy, & sustainability science
Research Assistant Professor at George Perkins Marsh Research Institute on the Human Dimensions of Global-Environmental Change

Researching climate change mitigation technologies & policies, socio-political factors influencing deployment of renewable energy technology & carbon capture and storage

Harvard Kennedy School of Government, Cambridge, MA

Research Associate, Energy Technology Innovation Policy Group, 2006 – present

Researching energy technology deployment for climate change mitigation

Research Fellow, Energy Technology Innovation Policy Group Sept. 2004 – August 2005

Technological and policy analysis of CO₂ capture and storage (CCS)

Research Fellow, Belfer Center For Science and International Affairs July 2002 – August 2004

Analyzed strategic use of environmental science and technical information by government and industry in policy development.

Massachusetts Institute of Technology, Cambridge, MA

Fall 2004 – Spring 2005

Visiting Lecturer – Environmental Policy Group, Dept. of Urban Studies & Planning

Boston University, Department of Earth Sciences, Boston, MA

Summer, 2003

Lecturer – Taught an introductory undergraduate Course: Environmental Earth Science

Tufts University, Medford, MA

Spring, 2003

Lecturer – Course: Climate Change: Scientific, Political, and Economic Challenges

Jennie C. Stephens' C.V. (p. 2 of 5)

HONORS AND AWARDS

National Science Foundation NSF-SES-0724257 Collaborative Research Award
“Diffusion of Emerging Energy Technologies within a State Context”
Clark University Center for Excellence in Teaching and Learning (CETL)
Instructional Development Grant, 2006 & 2007
US EPA STAR Fellowship for Graduate Study, 1999 - 2002
Achievement Rewards for College Scientists (ARCS) Fellowship, 2000 - 2002
National Science Foundation (NSF) Graduate Fellowship, 1998 - 1999
Harvard College Research Fellowship and Dean's Research Award, 1996
Pforzheimer Student Fellowship, Radcliffe College, 1994 - 1995

PROFESSIONAL AFFILIATIONS

Board Membership and Advisory Committees

- Member of the Board of Directors, Bellona USA. An international NGO with a mission of promoting environmental sustainability through scientific policy analysis
- Editorial Board Member, *Sustainability: Science, Practice, and Policy*
- Advisory Committee Member, Energy Research, Development, Demonstration and Deployment (ERD³) Policy Project, Harvard Kennedy School of Government. Advisor on this project which has a goal of providing the next U.S. administration with recommendations for energy technology innovation.

Professional Membership

American Association for the Advancement of Science (AAAS)
American Geophysical Union (AGU)
Union of Concerned Scientists (UCS)
American Association of Geographers (AAG)
Emerging Energy Technologies Committee (EETC) of the Energy
Engineering Division, American Society of Civil Engineers (ASCE)
Contributing Author to Encyclopedia of Earth (EoE)
Carbon Capture and Storage Social Research Network (aka C2S2RN)
International Research Group for Policy and Politics of Carbon Capture and Storage

REFEREE FOR PROFESSIONAL JOURNALS AND GRANT AGENCIES

- Editorial Board Member for *Sustainability: Science, Practice, & Policy*.
 - Reviewer of articles for: *The Journal of Cleaner Production*, *Energy Policy*, *Journal of Environmental Management*, *Sustainability: Science, Practice, & Policy*, *the World Resources Institute (WRI) paper series*
 - Reviewer for the *UK Economic and Social Research Council* in their Research Centres Competition. October, 2007
 - Reviewer of book proposals for *Elsevier Science and Technology Books* and *Cambridge University Press*, Earth and Life Sciences Department.
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TEACHING AND SERVICE AT CLARK UNIVERSITY

Current Courses

EN 101 Sustainability Science: Environment, Society, and Technology (undergraduate course)

EN 103 The Sustainable University (undergraduate seminar-style, project-based course)

IDCE 30205 Climate Change, Energy and Development (graduate seminar)

IDCE 30226 Energy & Climate Social Change Research Seminar (graduate seminar)

Other Courses Taught

IDCE 30226 Biogeochemical Cycles and Global Change (graduate course)

EN 124 Global Warming: How to respond? (First-year seminar)

Summary of Service (abbreviated version)

Coordinator of the Environmental Science and Policy Graduate Program, 2007 - present

Environmental Science Undergraduate Steering Committee Member, March 2006 - present

Faculty Representative on the Clark University Environmental Sustainability Task Force,
Appointed, April 2006 – present.

Study Abroad Advisory Committee, summer 2007 – present

Geller Fellowship and Geller Annual Lecture Organizing Committee, 2005 - present

Compton Fellowship Committee, 2006-present

Faculty Steering Committee for the Mosakowski Institute, Summer 2008-present

Co-organizer of the Difficult Dialogues Spring 2008 symposium on Climate Change 2007-'08

PUBLICATIONS – PEER REVIEWED

Stephens, J.C. & D.W. Keith, 2008. Assessing Geochemical Carbon Management. *Climatic Change*. Vol. 90, p. 217-242.

Stephens, J.C. & A.C. Graham. 2008. Climate Science to Citizen Action: Urgent Need to Energize Non-Formal Climate Science Education. *EOS*. American Geophysical Union's Publication. Vol. 89. No. 22. p. 204-205

Stephens, J.C.; M.E. Hernandez, M. Román, A.C. Graham, & R.W. Scholz. 2008. Education as a Change Agent for Sustainability in Different Cultures and Contexts. *International Journal for Sustainability in Higher Education*. Volume 9, Issue 3. p. 317-338.

Stephens, J.C., E.J. Wilson, & T.R. Peterson. 2008. Socio-Political Evaluation of Energy Deployment (SPEED): An Integrated Research Framework for Analysis of Energy Technology Deployment. *Technological Forecasting and Social Change*. Vol. 75, p. 1224-1246

Stephens, J.C. 2008. "Socio-political Drivers of Deliberate Carbon Storage" Invited chapter in *The Science and Technology of Carbon Sequestration: Assessment and Verification of Natural and Deliberate Carbon Sinks* eds. McPherson, J.M. and Sundquist, E. American Geophysical Union. In Press. Publication expected fall 2008.

Stephens, J.C. 2006. Growing Interest in Carbon Capture and Storage (CCS) for Climate Change Mitigation. *Sustainability: Science, Practice, and Policy*. Vol. 2, Iss. 2.

Stephens, J.C. and J.G. Hering. 2004. Factors Affecting the Dissolution Kinetics of Volcanic Ash Soils: Dependencies on CO₂, pH and organic acids. *Applied Geochemistry*. Vol. 19, No. 8, p. 1217-1232

Stephens, J.C. and J.G. Hering. 2002. Comparative Characterization of Volcanic Ash Soils Exposed to Decade-Long Elevated Carbon Dioxide Concentrations at Mammoth Mountain, California. *Chemical Geology*. Vol. 186 No. 3-4, p. 301-313

PUBLICATIONS (CONTINUED)

Non-Peer Reviewed Invited Publications

Stephens, J.C. 2006. "CCS (Carbon Capture and Storage): Research is not Enough" Chapter in *The World Energy Book*. Issue 2. p. 15-18. World Energy Council Publication.

Stephens, J.C. & B. van der Zwaan. 2005. The Case for Carbon Capture and Storage. In *Issues in Science and Technology*. XXII, no. 1 (Fall 2005): 69-76.

Stephens, J.C. 2005. Coal Technologies for a CO₂-Constrained World: Current Challenges of Advancing These Technologies *OGEL (Oil, Gas, Energy Law Intelligence)* Special Issue on Coal. Fall 2005.

Conference Proceedings

Stephens, J.C. and P. Verma. "Carbon Management and Stakeholder Perceptions in the U.S.A. and India" Proceedings of the Earth System Science Partnership Global Environmental Change Open Science Conference. November 9-12, 2006. Beijing, China

Stephens, J.C. and P. Verma. 2006. "The Role of Environmental Advocacy Groups in the Advancement of Carbon Capture and Storage (CCS)" Proceedings of the 5th Annual Conference on Carbon Capture and Sequestration. May 8-11, 2006. Alexandria, Virginia.

Stephens, J.C. 2005. Coupling CO₂ Capture and Storage with Coal Gasification: Defining "Sequestration-Ready" IGCC. Proceedings of the 4th Annual Conference on Carbon Capture and Sequestration. May 2-5, 2005. Alexandria, Virginia.

Other Publications

Stephens, J.C. 2007. Community Engagement in a First-Year Seminar. *New England Faculty Development Consortium (NEFDC) Exchange*. Volume 17. No. 2. Spring 2007. p. 9-10

Stephens, J.C. & B. van der Zwaan. 2005 *CO₂ Capture and Storage (CCS): Exploring the Research, Development, Demonstration, and Deployment Continuum* Belfer Center for Science and International Affairs Discussion Paper 2005-08 (peer-reviewed), Energy Technology Innovation Project, Kennedy School of Government, Harvard University, 2005.

Stephens, J.C. 2005 *Coupling CO₂ Capture and Storage with Coal Gasification: Defining "Sequestration-Ready" IGCC* Belfer Center for Science and International Affairs Discussion Paper 2005-09 (peer-reviewed), Energy Technology Innovation Project, Kennedy School of Government, Harvard University. Cambridge, Mass. September 2005.

Stephens, J.C. and K. Sims Gallagher. 2005. "Untie Utilities Hands on Coal" Op-ed in The Albuquerque Journal. March 10, 2005.

Stephens, J.C. & D. Keith. 2005. Regulatory and Legal Aspects of Carbon Storage. Module 10, in Asian-Pacific Economic Cooperation (APEC) Training Manual on CO₂ Capture and Geological Storage.

Stephens, J.C. & D. Keith. 2005. Health, Safety and Environmental Risks of CO₂ Storage. Module 8 in Asian-Pacific Economic Cooperation (APEC) Training Manual on CO₂ Capture and Geological Storage.

Stephens, J.C. 2002. Response of Soil Mineral Weathering to Elevated Carbon Dioxide. Ph.D. Thesis. Department of Environmental Science and Engineering, California Institute of Technology, Pasadena, CA

Stephens, J.C. 1997-98. Factors limiting the acceptance and use of innovative environmental technologies: A case study of the Solar Aquatics System™ (SAS) technology for wastewater treatment. *Journal of Environmental Systems*. Vol. 26, No. 2, p. 163-170

SELECTED PRESENTATIONS

Stephens, J.C. 2008. *Comparative State-level Discourse on the Potential of Carbon Capture and Storage Technology to Contribute to an Energy System Transition*. Presenter and co-organizer of session on *Transition Challenges in Energy and Land-Use* American Association of Geographers Annual Meeting. Boston, MA April 18, 2008.

Stephens, J.C. 2008. *Challenges of Integrating the Advancement of Coal Gasification Technology and CO₂ Capture and Storage (CCS) Technology*. Invited Presentation in Symposium on "Coal Gasification: Myths, Challenges, and Opportunities" American Association for the Advancement of Science (AAAS) Annual Meeting, February 14-18, 2008. Boston, MA

Stephens, J.C., M.E. Hernandez, M. Roman, J. Qian, R.W. Sholz. 2008. *"Institutions of Higher Education as Agents for Change in Advancing Sustainability in Different Cultures and Contexts"* Annual Meeting of the Alliance for Global Sustainability. January 2008. MIT, Cambridge, MA

Stephens, J.C. 2007. *Risk Perceptions of CCS: Comparative State-Level Media Analysis*. Risk Society Association Annual Meeting. December 12, 2007. San Antonio, TX

Stephens, J.C. 2007 *"State-level Socio-Political Influences on Deployment of Emerging Energy Technologies"* Invited Presentation. Energy Technology Innovation Project Seminar Series. Kennedy School of Government, Harvard University, Cambridge, MA. April 10, 2007

Stephens, J.C. & P. Verma 2006. *"Carbon Management Technologies and Stakeholder Perceptions in the U.S.A. and India"* Presented at the 2nd International Young Scientists' Global Change Conference. November 7-8, 2006. Beijing, China. and Presented at the Earth System Science Partnership Global Environmental Change Open Science Conference. November 9-12, 2006. Beijing, China

Stephens, J.C. 2006. "Emerging Energy Technologies for Climate Change Mitigation: Growing Interest in Carbon Capture and Storage" Invited presentation at Worcester Polytechnic Institute (WPI), Interdisciplinary and Global Studies Division. October 5, 2006.

Stephens, J.C. 2005 *"Policy Challenges for Deploying Climate Change Mitigation Technologies"* Invited presentation at Franklin W. Olin College of Engineering, Needham, MA December 5, 2005.

Stephens, J.C. 2005. *"CO₂ Storage Potential in Geologic Formations in China"* Kennedy School of Government, Harvard University. Invited presentation at a Joint U.S./China Workshop on Advanced Coal Technologies in a Sustainable Energy System: Preparing and Preserving Appropriate Technological Options. September 19, 2005.

Stephens, J. C. 2005. *"Advancing the Demonstration and Deployment of CO₂ Capture and Storage Technology: The Link with Coal Gasification."* Schlumberger-Doll Research. Ridgefield, CT: 22 March 2005.

Stephens, J.C. 2005. *"Decision-making in Energy with Elusive Constraints on CO₂."* Environmental Policy Group, Department of Urban Studies and Planning, Massachusetts Institute of Technology. Cambridge, MA: February 8, 2005.

Stephens, J.C., 2005. *"Assessing Geochemical Carbon Management."* AGU Chapman Meeting on the Science and Technology of Carbon Sequestration: Verification and Assessment of Natural and Deliberate Carbon Sinks. San Diego, CA: 17 January 2005.

Stephens, J.C. 2003. *"Industry and Government Strategies Related to Technical Uncertainty in Environmental Regulation: Pollution from Automobiles"* Presented at the 2003 Open Meeting on the Human Dimensions of Global Environmental Change. Montreal, Canada. October 16-18, 2003.
