

Seth D. Baum

Curriculum Vitae, February 2010
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EDUCATION

- 2007-present: Ph.D. candidate, Geography, Pennsylvania State University
Dissertation Title (Tentative): *Discounting Across Space and Time in Climate Change Assessment: A New Approach*
Advisor: William E. Easterling
- 2006: M.S., Electrical Engineering, Northeastern University
Concentration in Electromagnetics
Thesis Title: *User and Developer Interface Improvements to a Finite Difference Time Domain Code*
Advisor: Carey Rappaport
- 2003: B.S., Optics; B.S., Applied Mathematics; Minor, French, University of Rochester

RESEARCH EXPERIENCE

- 2008-2009: Research Assistant, Rock Ethics Institute, Pennsylvania State University
Developed and documented tools for ethics education in environmental sciences.
- 2008-2009: Research Assistant, Climate Risk Management Initiative, Penn. State University
Conducted research in the ethics and economics of climate risk management.
- 2003: Research Assistant, Lawrence Livermore National Laboratory
Summer internship. Conducted acoustic imaging research.
- 2001: Research Assistant, University of Rochester
Summer internship. Conducted theoretical quantum optics research.

TEACHING EXPERIENCE

Course Instructor

- 2009: Geography 030: Geographic Perspectives on Sustainability and Human-Environment Systems, Fall Semester, Pennsylvania State University.
Introductory, general education course. 174 students, 2 TA's.

- 2009: Geography 030: Geographic Perspectives on Sustainability and Human-Environment Systems, Summer Semester, Pennsylvania State University. Introductory, general education course. 9 students.
- 2004: Introduction to MatLab. Research Experience for Teachers Program (for high school teachers), Northeastern University. Designed and taught course.

Course Developer

- 2009-2010: Geography 030: Geographic Perspectives on Sustainability and Human-Environment Systems, Pennsylvania State University. Online course developed with the John A. Dutton e-Education Institute.

University Teaching Assistantships

- 2004: Electrical Engineering Technology U201: Circuit Analysis 1, Spring Semester, Northeastern University. Lead instructional circuits labs, graded lab reports.
- 2003: Electrical & Computer Engineering U210: Electrical Engineering, Fall Semester, Northeastern University. Lead instructional circuits labs, graded lab reports.

K-12 Teaching/Outreach

- 2004-2007: National Science Foundation GK-12 Fellow, Northeastern University School-year assistantship. Assisted science classes in Boston Public Schools.
- 2004: Substitute Teacher, Boston Public Schools
Part-time employment. Taught middle and high school math and science.
- 2002: Rochester Urban Fellow, University of Rochester
Summer internship. Organized engineering high school summer program.

Advising/Mentoring

- 2006: Bridge to AP Calculus Mentor, Northeastern University
Summer program. Mentored high school students entering AP calculus.
- 2005: Young Scholars Program Research Advisor, Northeastern University
Summer program. Lead high school students in an engineering research project.

OTHER PROFESSIONAL EXPERIENCE

- 2002: Program Assistant, Common Good Planning Center, Rochester, NY
Summer internship. Promoted quality urban design in the Rochester area.

GRANTS & AWARDS

- 2009-2010: Chosen as a Public Scholarship Fellow, Pennsylvania State University.
- 2008: Student Travel Award. Source: Society for Risk Analysis. \$350 + Conference Registration Fee.
- 2008: Dissertation Proposal Development Fellowship. Source: Social Science Research Council. \$4700.
- 2008: Focus the Nation Survey research grant. With Jennifer Domagal-Goldman, Peter Howe, and Laura Wray-Lake. Source: Penn State Laboratory for Public Scholarship and Democracy. \$150.
- 2007: Winning essay in the Ethics of Climate Change essay contest, Economics/Business section. Source: *Ethics in Science and Environmental Politics*. \$1000.
- 2002-2003: Chosen as President, Keidaean Senior Honor Society, University of Rochester.
- 2002: Chosen as a Rochester Democrat & Chronicle Community Service Scholar.

SERVICE

To The Department

- 2008-2009: Coordinator, Graduate Student Mentor Program, Department of Geography, Pennsylvania State University
- 2008-2009: Graduate Student Representative, Coffee Hour Committee, Department of Geography, Pennsylvania State University

To The University

- 2009-present: Student Health Insurance Board Liaison, Graduate Student Association, Pennsylvania State University
- 2009-present: Department of Geography Representative, Graduate Student Association, Pennsylvania State University
- 2007-2008: Lead Organizer, Penn State Focus the Nation
- 2001: Vice President, Delta Upsilon Fraternity, University of Rochester Chapter
- 2000-2001: Senator, Students' Association, University of Rochester

To The Profession

2008-present: Student Board Member, Ethics, Justice, and Human Rights Specialty Group, Association of American Geographers

2000-2001: Webmaster, Optical Society of America, University of Rochester Chapter

To K-12 Education

2003-2004: Classroom Assistant, Boston Public Schools

1999-2003: Tutor, Rochester Public Schools

1998-1999: Tutor, Wilkinsburg High School, Wilkinsburg, PA

To The Public

2009-present: Advisory Board Member, Lifeboat Foundation

2008-present: Member, Writers Circle, American Geographical Society

2004-2005: Executive Committee Member, Whats Up Magazine, Boston, MA

2002-2003: Co-Board Chair, Community Service Network, University of Rochester

2001-2003: Webmaster, Community Service Network, University of Rochester

2001-2003: Campus Coordinator, World Education Fund for Women, Rochester, NY

PROFESSIONAL AFFILIATIONS

2008-present: American Association for the Advancement of Science

2008-present: Society for Risk Analysis

2007-present: Association of American Geographers

2007-present: International Society for Ecological Economics

2007-present: United States Society for Ecological Economics

PEER REVIEWS

Notation: *Journal Name* (year of reviews: number of reviews in that year)

Ecological Economics (2009: 2)

Environmental Research Letters (2009: 1)

PUBLICATIONS – ACADEMIC

Peer-Reviewed Journal Articles

6 articles currently under review. Details available upon request.

Baum, Seth D., 2010. “Is humanity doomed? Insights from astrobiology”. *Sustainability*, vol. 2, no. 2 (February), pages 591-603.

Baum, Seth D., 2010. “Universalist ethics in extraterrestrial encounter”. *Acta Astronautica*, vol. 66, no. 3-4 (February-March), pages 617-623.

Schienze, Erich W., Nancy Tuana, Donald A. Brown, Kenneth J. Davis, Klaus Keller, James S. Shortle, Michelle Stickler, and Seth D. Baum, 2009. “The role of the NSF Broader Impacts Criterion in enhancing research ethics pedagogy”. *Social Epistemology*, vol. 23, no. 3-4 (July-December), pages 317-336.

Baum, Seth D., 2009. “Description, prescription and the choice of discount rates”. *Ecological Economics*, vol. 69, no. 1 (15 November), pages 197-205.

Baum, Seth D., 2009. “Cost-benefit analysis of space exploration: Some ethical considerations”. *Space Policy*, vol. 25, no. 2 (May), pages 75-80.

Haqq-Misra, Jacob D. and Seth D. Baum, 2009. “The ‘Sustainability Solution’ to the Fermi Paradox”. *Journal of the British Interplanetary Society*, vol. 62, no. 2 (February), pages 47-51.

Hunt, Colin and Seth Baum, 2009. “The ‘hidden’ social costs of forestry offsets”. *Mitigation and Adaptation Strategies for Global Change*, vol. 14, no. 2 (February), pages 107-120.

Baum, Seth, 2007. “Beyond the Ramsey model for climate change assessments”. *Ethics in Science and Environmental Politics*, vol. 2007, pages 15-21.

Response Articles

Baum, Seth D., 2008. “Better to exist: A reply to Benatar”. *Journal of Medical Ethics*, vol. 34, no. 12 (December), pages 875-876.

Baum, Seth, 2006. “Response to Quality science teachers: Essential to America’s future”. *The Science Teacher*, December, pages 8-9. Reprinted in *Journal of College Science Teaching*, vol. 36, no. 4 (January/February), 2007, pages 6-7.

Book & Other Reviews

Baum, Seth D., 2009. "District 9" (Film Review). *Journal of Evolution and Technology*, vol. 20, no. 2 (December), pages 86-89.

Baum, Seth D., 2009. "Global Catastrophic Risks" (Book Review). *Risk Analysis*, vol. 29, no. 1 (January), pages 155-156.

PUBLICATIONS – POPULAR

Goertzel, Ben, Seth Baum, and Ted Goertzel, 2010. "How long till human-level AI? What do the experts say?". *h+ Magazine*, February 5.

Haqq-Misra, Jacob D. and Seth D. Baum, 2010. "Where have all the aliens gone? Sustainability may explain the absence of extraterrestrials". *Sky & Telescope*, vol. 119, no. 3 (March), page 86.

Baum, Seth, 2009. "Collaboration is key to sustainability". *Centre Daily Times*, December 1, page A6.

Baum, Seth, 2009. "Senate should pass the American Clean Energy and Security Act". *Odessa American*, July 7; *Asheville Citizen-Times*, July 13. Different version published as "Senate should pass Clean Energy and Security act". *Centre Daily Times*, July 18, page A6.

Baum, Seth, 2008. "Reducing catastrophic risk through integrative assessment". *Hawaii Reporter*, August 25; *Daily Camera* (Boulder, CO), September 2.

Baum, Seth, 2002. "Form more partnerships between our city students and professionals". *Rochester Democrat and Chronicle*, September 23, page 7A.

11 publications in *University of Rochester Campus Times*, 1999-2009.

18 publications in *Whats Up Magazine* (Boston, MA), 2004-2007.

PUBLICATIONS – STUDENT

The following are articles published by students of mine as part of courses I taught.

Geography 30, Summer 2009

Ferry, Christina. "Cut meat consumption". *Centre Daily Times*, June 24, 2009.

Roseman, Alexis. "Help the environment and yourself - don't drive". *Bucks County Courier Times*, July 3, 2009.

Geography 30, Fall 2009

30 students published 32 op-ed articles and letters to the editor of publications including *Bucks County Courier Times*, *Butler Eagle*, *Centre Daily Times*, *Clarion News*, *Erie Times News*, *Hunterdon County Democrat*, *Pittsburgh Post Gazette*, *Pottstown Mercury*, *Voices of Central PA*, *Wellsboro Gazette*, and *Williamsport Guardian*.

PROFESSIONAL PRESENTATIONS

Invited Presentations

Baum, Seth, 2010. "Climate economics since the Stern Review". *Earth System Science Center Brown Bag Seminar Series*, March 17, Pennsylvania State University.

Conference Session Chairships

Baum, Seth, 2009. "Using integrated assessment modeling in climate change mitigation policy". *United States Society for Ecological Economics Fifth Biennial Conference*, May-June, Washington, DC.

Baum, Seth, 2009. "Young scholar perspectives on human dimensions of global change research: Advancing the role of research in environmental decision making". *Association of American Geographers 2009 Annual Meeting*, April, Las Vegas, NV.

Conference Oral Presentations

Baum, Seth, Destiny Aman, and Andrei Israel, 2010. "Promoting Civic Engagement Through Student Projects In Introductory Environmental Geography Courses". *Association of American Geographers 2010 Annual Meeting*, April, Washington, DC.

Baum, Seth, 2009. "Artificial intelligence and risk: What should we believe?". *Society for Risk Analysis 2009 Annual Meeting*, December, Baltimore, MD.

Baum, Seth, 2009. "Discounting and beyond: Interpreting the ethics in climate change economics". *United States Society for Ecological Economics Fifth Biennial Conference*, May-June, Washington, DC.

Baum, Seth, 2009. "Integrating ethics into human dimensions of global change research". *Association of American Geographers 2009 Annual Meeting*, April, Las Vegas, NV.

Baum, Seth, 2009. "An expert elicitation survey on artificial general intelligence". *Second Conference on Artificial General Intelligence*, March, Arlington, VA.

Baum, Seth, 2009. "Ethics, geopolitics, and catastrophic climate change". *no)Boundaries 2009 Graduate Student Conference*, February-March, State College, PA.

Baum, Seth, 2008. "Catastrophic climate change scenarios". *Society for Risk Analysis 2008 Annual Meeting*, December, Boston, MA.

Baum, Seth, 2008. "An expanded approach to discounting: Theory and psychology". *Climate Decision Making Center Annual Meeting and Student Workshop*, May, Pittsburgh, PA.

Baum, Seth and Vanessa Schweizer, 2008. "Efforts at general public education: Where does the science end and advocacy start?". *Climate Decision Making Center Annual Meeting and Student Workshop*, May, Pittsburgh, PA.

Baum, Seth, 2008. "Discounting explained and refined". *Association of American Geographers 2008 Annual Meeting*, April, Boston, MA.

Baum, Seth and Steve Fernandez, 2008. "Exploring connections between science and society through nuclear physics". *National Science Teachers Association 2008 National Conference*, March, Boston, MA.

Baum, Seth, Angélica Torres, Charity Cochran-Murphy, and David Romeo, 2008. "Meaningful K12-university partnerships: Insights from GK12 programs". *National Science Teachers Association 2008 National Conference*, March, Boston, MA.

Baum, Seth, 2007. "Putting Ramsey model-based climate change assessments in perspective". *United Nations Framework Convention on Climate Change 13th Conference of Parties*, December, Bali, Indonesia. *Note: I was unable to attend; the paper was presented on my behalf by the Rock Ethics Institute.*

Conference Poster Presentations

Baum, Seth, 2008. "Welfare discounting: Ethics and implications". *Climate Decision Making Center Annual Meeting and Student Workshop*, May, Pittsburgh, PA.

Baum, Seth, 2007. "Utilitarianism: A transdisciplinary approach". *United States Society for Ecological Economics Fourth Biennial Conference*, June, New York City, NY.

Baum, Seth and Claire Duggan, 2007. "Reflections on education outreach". *Center for Subsurface Sensing and Imaging Systems Year 7 National Science Foundation Site Visit*, April, Boston, MA.

Silevitch, Michael, Claire Duggan, Seth Baum, Ann McDonald, and Jay Laird, 2007. "ROVERS: Remote Operated Volatile Explosives Retrieval Systems: An educational game collaboration between the Bernard M. Gordon Center for SubSurface Imaging Systems, the Northeastern University Multimedia Studies Program, and Metaversal Studios, Inc.". *Center for Subsurface Sensing and Imaging Systems Year 7 National Science Foundation Site Visit*, April, Boston, MA.

Baum, Seth, Michael Byrne, Emily Hart, Jason Kessel, Marielle Postavia-Davignon, Nicholas Yang, Claire Duggan and Thomas Gilbert, 2007. "Northeastern University: Experience, believe, achieve". *National Science Foundation GK-12 Program Annual Conference*, March, Washington, D.C. *Note: I designed the poster but was unable to attend.*

Baum, Seth and Carey Rappaport, 2006. "Introducing the NUFDTD software package". *Center for Subsurface Sensing and Imaging Systems 2006 Research and Industrial Collaboration Conference*, October, Boston, MA.

Baum, Seth, 2006. "Modeling ground penetrating radar while teaching high school science". *Center for Subsurface Sensing and Imaging Systems Year 6 National Science Foundation Site Visit*, April, Boston, MA.

Baum, Seth, Lara Jabr, Anna Myers, Marielle Postavia-Davignon, Jay Rushford, Claire Duggan and Thomas Gilbert, 2006. "Northeastern University: Experience, believe, achieve". *National Science Foundation GK-12 Program Annual Conference*, March, Washington, D.C.

Baum, Seth, Stephen Wong, Dan Mahr, Carey Rappaport, Claire Duggan, and Grady McClinton, 2005. "Developing FDTD code while teaching high school science". *Center for Subsurface Sensing and Imaging Systems 2005 Research and Industrial Collaboration Conference*, October, Boston, MA.

Baum, Seth, Jay Laird, Sam Christy, Michael Silevitch, Claire Duggan, and Ann McDonald, 2005. "Subsurface imaging-themed computer games and machine activities". *Center for Subsurface Sensing and Imaging Systems 2005 Research and Industrial Collaboration Conference*, October, Boston, MA.

Baum, Seth, Robin Canale, Ryda Chea, Jiaan Hyland-Babaie, Carey Rappaport, Claire Duggan, and Paul Muller, 2005. "Modeling ground penetrating radar while teaching high school science". *Center for Subsurface Sensing and Imaging Systems Year 5 National Science Foundation Site Visit*, April, Boston, MA.