

PHILIP E. AUERSWALD

4400 University Drive, MS 3C6
Fairfax, VA 22030
office: +1 703 993-3787
cell: +1 571-594-1102
auerswald@gmu.edu
www.auerswald.org

DATE OF BIRTH: 9/2/65

CITIZENSHIP: USA

EDUCATION

1999 Ph.D., Economics, University of Washington
 thesis: "Organizational Learning, Intrafirm Externalities, and Industry Evolution"
1988 B.A., Yale University, *cum laude*
 major: Political Science (Comparative Politics)

CURRENT POSITION

Jan 2003-present Assistant Professor and Director of the Center for Science and Technology Policy
 School of Public Policy, George Mason University

SELECTED TEACHING EXPERIENCE

2001-2002 Adjunct Lecturer, Kennedy School of Government, Harvard University
1993 Instructor, University of Washington, Department of Economics

SELECTED EMPLOYMENT AND AFFILIATIONS

2003-present Research Associate, Belfer Center for Science and International Affairs, Kennedy
 School of Government, Harvard University
2002 -2003 Assistant Director, Science, Technology, and Public Policy (STPP) Program and
 Acting Director, Energy Technology Innovation Project (2003 only), Belfer Center
 for Science and International Affairs, Kennedy School of Government, Harvard
 University
1999-2002 Fellow, Belfer Center for Science and International Affairs, Kennedy School of
 Government, Harvard University
1989-1991 Math Resource Teacher, District of Columbia Public Schools
1988-1989 Research Associate, Elliot Berg Associates

PUBLICATIONS

Journal Articles

"Research and Innovation in a Networked World." Philip Auerswald and Lewis Branscomb. *Technology in Society* (2008).
"Placing Innovation: An Approach to Identifying Emergent Technological Activity." Philip and Rajendra Kulkarni, *Economic of Innovation and New Technology* (2008).
"Entrepreneurship in the Theory of the Firm," Philip Auerswald (2008). *Small Business Economics*, 30:2, (February), pp. 111-126.
"Schumpeter's Century" Philip Auerswald (2007). *The American Interest*, 2:8 (November/December), pp. 124-134.

- “The Irrelevance of the Middle East,” Philip Auerswald (2007). *The American Interest*, 2:5 (May/June), pp. 19-37.
Selected by the Council on Foreign Relations <www.cfr.org> as a “Must Read” article for 2007.
- “The Myth of Energy Insecurity,” Philip Auerswald (2006). *Issues in Science and Technology*, 22:4, pp. 65-70.
- “Introduction to the Inaugural Issue,” Philip Auerswald and Iqbal Qadir (2006). *Innovations: Technology | Governance | Globalization*, 1:1, pp. 3-7.
- “Edwin Mansfield, Technological Complexity, and the ‘Golden Age’ of U.S. Corporate R&D,” Philip Auerswald and Lewis Branscomb (2005). *Journal of Technology Transfer*, 30:1/2, pp. 139-157.
- “The Challenge of Protecting Critical Infrastructure,” Philip Auerswald, Lewis Branscomb, Todd LaPorte, and Erwann Michel-Kerjan (2005). *Issues in Science and Technology*, 22:1, pp. 77-83.
- “Valleys of Death and Darwinian Seas: Financing the Invention to Innovation Transition in the United States,” Philip Auerswald and Lewis Branscomb (2003). *Journal of Technology Transfer*, 28, pp. 227-239.
- “The Production Recipes Approach to Modeling Technological Innovation: An Application to Learning-by-doing,” Philip Auerswald, Stuart Kauffman, José Lobo, and Karl Shell (2000). *Journal of Economic Dynamics and Control*, 24:3, pp. 389-450.

Authored Volumes

- Taking Technical Risks: How Innovators, Executives and Investors Manage High-tech Risks*, Lewis Branscomb and Philip Auerswald (2001). Cambridge, MA: MIT Press. (Chinese edition published by CITIC Publishing House, Beijing PRC.)
Selected by Booz Allen Hamilton’s Strategy & Business as a “Top 25 Business Book for 2000-2001.”

Edited Volumes

- Financing Entrepreneurship*, Philip Auerswald and Ant Bozkaya, eds. (2008). Northampton, MA: Edward Elgar. In David Audretsch ed. series, *The International Library of Entrepreneurship*.
- Seeds of Disaster, Roots of Response: How Private Action Can Reduce Public Vulnerability*, Philip Auerswald, Lewis Branscomb, Erwann Michel-Kerjan, and Todd La Porte (2006). Cambridge, U.K.: Cambridge University Press.

Book Chapters

- “The Simple Economics of Technology Entrepreneurship: Market Failure Reconsidered,” Philip Auerswald (2007), in David B. Audretsch, Isabel Grilo and Roy Thurik eds., *The Handbook of Entrepreneurship Policy*, Northampton, MA: Edward Elgar.
- “Emerging Technologies for Change: Mobilizing Entrepreneurial Networks in Developing Countries,” Philip Auerswald (2007), in David Gibson, Manuel Heitor, and Alejandro Ibarra eds., *Connecting People, Ideas and Resources Across Communities*. Ashland, OH: Purdue University Press.
- “Where Private Efficiency Meets Public Vulnerability: The Critical Infrastructure Challenge,” Philip Auerswald, Lewis Branscomb, Erwann Michel-Kerjan, and Todd La Porte (2006), in *Seeds of Disaster, Roots of Response: How Private Action Can Reduce Public Vulnerability*, Philip Auerswald, Lewis Branscomb, Erwann Michel-Kerjan, and Todd La Porte (2006). Cambridge, U.K.: Cambridge University Press.
- “Complexity and Interdependence: The Unmanaged Challenge,” Philip Auerswald (2006), in *Seeds of Disaster, Roots of Response: How Private Action Can Reduce Public Vulnerability*, Philip Auerswald, Lewis Branscomb, Erwann Michel-Kerjan, and Todd La Porte (2006). Cambridge, U.K.: Cambridge University Press.

PUBLICATIONS (CONTINUED)

- “Leadership: Who Will Act? Integrating Public and Private Interests to Make a Safer World,” Philip Auerswald, Lewis Branscomb, Erwann Michel-Kerjan, and Todd La Porte (2006), in *Seeds of Disaster, Roots of Response: How Private Action Can Reduce Public Vulnerability*, Philip Auerswald, Lewis Branscomb, Erwann Michel-Kerjan, and Todd La Porte (2006). Cambridge, U.K.: Cambridge University Press.
- “Edwin Mansfield, Technological Complexity, and the ‘Golden Age’ of U.S. Corporate R&D,” Philip Auerswald and Lewis Branscomb (2005), in Albert N. Link and F.M. Scherer eds., *Essays in Honor of Edwin Mansfield: The Economics of R&D, Innovation, and Technological Change*. New York: Springer-Verlag.
- “Start-Ups and Spin-offs: The Role of the Entrepreneur in Technology-Based Innovation,” Philip Auerswald and Lewis Branscomb (2003), in David Hart ed., *The Emergence of Entrepreneurship Policy: Governance, Start-Ups, and Growth in the Knowledge Economy*. Cambridge, U.K.: Cambridge University Press.
- “Transitional Dynamics in a Model of Economic Geography,” Philip Auerswald and Jan Tai Tsung Kim (1995), in L. Nadel and D. Stein eds., *1993 Lectures in Complex Systems*. Santa Fe Institute Studies in the Sciences of Complexity, Lecture Volume VI, Addison-Wesley.

Reports

- “Placing Innovation: A Geographical Information Systems (GIS) Approach to Identifying Emergent Technological Activity,” Philip Auerswald, Lewis Branscomb, Sean Gorman, Rajendra Kulkarni, and Laurie Schintler (2007). Report to the U.S. Department of Commerce, Advanced Technology Program/NIST GCR 06–902, May.
- “Understanding Private-Sector Decision Making for Early-Stage Technology Development,” Philip E. Auerswald, Lewis M. Branscomb, Nicholas Demos, and Brian K. Min (2005). Report to the U.S. Department of Commerce, Advanced Technology Program/NIST GCR 02–841A, September.
- “Between Invention and Innovation: Mapping the Funding for Early Stage Technology Development,” Lewis Branscomb and Philip E. Auerswald (2002). Report to the Advanced Technology Program/NIST #NIST GCR 02–841, November.

Working Papers

- “The Challenge of Protecting Critical Infrastructure,” Philip Auerswald, Lewis Branscomb, Todd LaPorte, and Erwann Michel-Kerjan (2005). Wharton Risk Management and Decision Process Center Working Paper # 05-11, October.
- “Agricultural Technology 110, Quzhou, China,” Yang Xuedong and Philip Auerswald (2003). Ash Institute for Democratic Governance and Innovation, Kennedy School of Government, Harvard University, Innovations in Technology and Governance (ITG) Project Case Study.
- “Valleys of Death and Darwinian Seas: Financing the Invention to Innovation Transition in the United States,” Philip Auerswald and Lewis Branscomb (2002), in Vicki Norberg-Bohm, ed., “The Role of Government in Energy Technology Innovation: Insights for Government Policy in the Energy Sector,” Belfer Center for Science and International Affairs, Harvard University, Working Paper October.
- “The Production Recipes Approach to Modeling Technological Innovation: An Application to Learning by Doing,” Philip Auerswald, Stuart Kauffman, José Lobo, and Karl Shell (1998). Cornell Center for Analytic Economics Working Paper 98-10.
- “The Production Recipes Approach to Modeling Technological Innovation: An Application to Learning by Doing,” Philip Auerswald, Stuart Kauffman, José Lobo, and Karl Shell (1998). Santa Fe Institute Working Paper 98-11-100.

Documentary Compilations, Edited

Iraq 1990-2005: A Diplomatic History Through Documents (2009, *forthcoming*), Philip Auerswald ed., Cambridge, U.K.: Cambridge University Press.

Clinton's Foreign Policy: A Documentary Record, Philip Auerswald, Christian Duttweiler, and John Garofano eds. (2003). New York: Kluwer Law International.

The Kosovo Conflict: a Diplomatic History Through Documents, Philip Auerswald and David Auerswald eds., with a foreword by Senator Joseph R. Biden Jr. (2000). Cambridge, MA: Kluwer Law International.

Op-ed and Commentary

"A fallen giant finding its feet," *Straights Times* (Singapore), August 14, 2008.

"China's Quick Fall, Slow Return to Glory," *International Herald Tribune*, August 12, 2008.

"China's Quick Fall, Slow Return to Glory," *Boston Globe*, August 11, 2008.

"A Declaration of Independence from Oil Fears," *San Francisco Chronicle*, July 15, 2007.

"Why the Middle East Matters Less and Less," *St. Petersburg Times*, June 24, 2007.

"A Model to Eradicate False Gulf Between Doing Good and Doing Well," (w/ Iqbal Quadir), *The Financial Times* (U.K.), January 26, 2007.

"Let's Call an End to Oil Alarmism," *International Herald Tribune*, January 23, 2007.

"Calling an End to Oil Alarmism," *Boston Globe*, January 23, 2007.

JOURNAL EDITORSHIPS

2006-present Founding co-editor, *Innovations: Technology | Governance | Globalization*, published by MIT Press

Special editions produced for the 2008 annual meeting of the World Economic Forum (Davos, Switzerland) and the World Economic Forum on the Middle East 2008 (Sharm el Sheikh, Egypt).

1991-2005 Co-Founder and Editor from 1995-2005, *Foreign Policy Bulletin*, currently published by Cambridge University Press.

GRANTS AND CONTRACTS

Co-Principal Investigator, "Control Systems and Critical Infrastructure Security Curriculum Project." Idaho National Laboratories/ Department of Homeland Security, BAE/INL contract # 000054827. 7/11/2006–1/31/2008: \$32,500K.

Co-Principal Investigator, "Private efficiency, public vulnerability: Developing sustainable strategies for protecting critical infrastructure," grant from the Critical Infrastructure Protection Program, School of Law, George Mason University (core funding from the U.S. Department of Commerce, National Institute for Standards and Technology). 1/01/2004–06/31/2006: \$159K.

Principal Investigator, "Understanding Regional Innovative Capacity," U.S. Department of Commerce, National Institute for Standards and Technology contract # SB1341-03-W-1235. 9/28/2004–3/28/2006: \$99K.

CONSULTING

National Academy of Sciences, Board on Science, Technology, and Economic Policy (member of research team for Congressionally-mandated review of the Small Business Innovation Research Program; led effort to compile Department of Energy agency report)

Commonwealth of Massachusetts, Department of Economic Development, and University of Massachusetts, Donahue Institute (contributed research and working papers in support of statewide economic policy planning, resulting in publication of "Toward a New Prosperity: Building Regional

Competitiveness Across the Commonwealth”)
 National Institute of Standards and Technology (Economic Assessment Office, Advanced Technology Program)
 National Academy of Sciences (Board on Science, Technology, and Economic Policy)
 Oxford-Analytica
 University of Massachusetts (Donahue Institute)

INVITED TALKS

- 2008 Jul Office of the Director of National Intelligence, Joint Leadership Development Program, SAIC, Fairfax, VA
- 2008 May The OECD Kansas City Workshop on High-Growth SMEs, Innovation, and Intellectual Assets: Strategic Issues and Policies, Kauffman Foundation, Kansas City, Missouri
- 2008 Mar ICAF Reconstruction & Vital Infrastructure Industry Study: Critical Infrastructure Panel, National Defense University, Washington, DC
- 2007 Oct Third Global Entrepreneurship Monitor Research Conference, “Entrepreneurship, Economic Development, and Public Policy,” Washington DC
- 2007 Jul Skoll Social Entrepreneurship Colloquium, Said School of Business, Oxford University, Oxford, U.K.
- 2006 Nov Haniel-Research Seminar on "Marketing and Innovation Management," Institute of Entrepreneurial Studies and Innovation Management, Humboldt University, Berlin, Germany
- 2006 Oct Strategic Research Institute Conference on “Infrastructure Investing: A Growing Asset Class,” New York, NY
- 2006 Sep National Science Foundation, Colloquium on “Critical Infrastructures and Disaster-Resilient Communities,” Arlington, VA.
- 2006 Sep Woodrow Wilson International Center for Scholars, seminar series, Washington, DC.
- 2006 Sep School of International and Public Affairs, Columbia University, New York, NY.
- 2006 Sep Critical Infrastructure Roundtable of the National Academies, Symposium on “Critical Infrastructures and Disaster-Resilient Communities,” Washington, DC.
- 2006 Jun Swiss Re's Centre for Global Dialogue, workshop on “Risky Business? Innovation, Entrepreneurship, and Public Policy,” Rüschiikon, Switzerland.
- 2006 May The Wharton School, workshop on “Interdependent Security (IDS): Theory and Practice,” University of Pennsylvania, Philadelphia, PA.
- 2006 Apr Woodrow Wilson International Center for Scholars, seminar series on “Innovation Policy,” Washington, DC.
- 2006 Apr Department of Agricultural, Food & Resource Economics, seminar series, New Brunswick, NJ.
- 2005 Dec Ecole des Mines, workshop on “Public Policies for Research-Based Spin-offs,” Paris, France
- 2005 Oct Macroeconomics Seminar Series, Department of Economics, Cornell University, Ithaca, NY
- 2005 Jul School of Public Policy, graduate seminar, Tsinghua University, Beijing, China
- 2004 May National Academy of Sciences, Committee on Department of Defense Basic Research, Washington, DC
- 2004 Jan Association National de Recherche Technique (ANRT) conference on “Linking Research and Innovation,” Paris, France
- 2003 May Conference on the “Evaluation of Government Funded R&D Activities,” Vienna, Austria
- 2003 Mar French Ministry of Industry and U.S. National Academies conference on “Sustaining

- Innovation and Growth: Public Policy Support for Research and Development in France and the United States,” Paris, France
- 2002 Mar Conference Board, International Council on Management of Innovation and Technology, Richmond, VA
- 2001 Dec National Academy of Sciences, Board on Science, Technology, and Economic Policy (STEP), “Entrepreneurship Policy for the Future: Lessons from the United States and Sweden,” Stockholm, Sweden
- 2001 Nov Technology Transfer Society and National Institute on Disability & Rehabilitation Research (NIDRR), “State of Science in Technology Transfer,” Crystal City, VA
- 2001 Jun National Science Foundation, “Partnerships: Building a New Foundation for Innovation,” Arlington, VA
- 2001 Apr Center for International Development, Harvard University, “Global Governance of Technology: Meeting the Needs of Developing Countries,” Cambridge, MA

WORKSHOP AND CONFERENCE PRESENTATIONS

2007

- 2007 Feb American Association for the Advancement of Science Annual Meeting, San Francisco, CA
- 2006 Jan International Symposium of the Regional Science Association International, Indian Institute of Management (IIM), Bangalore, India
- 2005 Nov Association for Public Policy and Management (APPAM) 2005 annual meeting, Washington, DC
- 2005 Sep Technology Transfer Society 2005 Annual Conference, “Advancing Innovation and Entrepreneurship,” Kansas City, MI
- 2003 Nov Association for Public Policy and Management (APPAM) 2003 annual meeting, Washington, DC
- 2004 Sep Technology Transfer Society 2004 Annual Conference, “Emerging Issues in Technology Transfer”
- 2003 Jun Seventh International Conference on Technology Policy and Innovation, Monterrey, Mexico
- 2002 Feb American Association for the Advancement of Science Annual Meeting, Boston, MA
- 2001 Jun Society for Computational Economics 7th International Conference, New Haven, CT
- 2000 Oct New England Complex Systems Institute, Second International Conference on Complex Systems, Nashua, NH
- 1998 Oct New England Complex Systems Institute, Second International Conference on Complex Systems, Nashua, NH
- 1997 Jul Society for Computational Economics, 3rd International Conference, Palo Alto, CA
- 1996 Jun Western Economic Association annual meeting, San Francisco, CA

PROFESSIONAL SERVICE

- 2004 Reviewer for National Science Foundation program on Human and Social Dynamics
- 2002-present Member of Research Team, National Research Council’s Board on Science, Technology, and Economics Policy (STEP) review of the federal Small Business Innovation Research (SBIR) Program
- 2002 Jun Constituent Reviewer, National Institute for Disability and Rehabilitation Research (NIDRR) Summative Program Review, Rockville, MD

- 2002 Reviewer for National Research Council's Board on Science, Technology, and Economics Policy (STEP) report on "Government-Industry Partnerships for the Development of New Technologies: Summary Report"
- 2001 Reviewer for National Research Council's Board on Science, Technology, and Economics Policy (STEP) report on "Government-Industry Partnerships in Biotechnology and Information Technologies: New Needs and Opportunities"
- 2001 Mar Participant in Senate Committee on Small Business Forum on "Encouraging and Expanding Entrepreneurship: Examining the Federal Role," Washington, DC

Referee for *The Annals of Regional Science, Complexity, Ecological Economics, Environment and Planning B, International Journal of Industrial Organization, Journal of Technology Transfer, Management Science*, MIT Press (books), Oxford University Press (books), *Research Policy, Security Studies*, and *Small Business Economics*.

AWARDS AND FELLOWSHIPS

- 2007 Selected as one of three recipient of the 2007 (inaugural) Emerging Researcher, Scholar and Creator Award, granted by the GMU Provost to recognize achievement by "up and coming" faculty at the University.
- 1999-2002 Postdoctoral Fellowship, Science, Technology and Public Policy Program, Kennedy School of Government, Harvard University
- 1997, summer Thorne Fund (Cornell University) grant to support dissertation research
- 1993, summer 1994, February and July-August: Research Visitor, Santa Fe Institute (SFI)

COURSES TAUGHT

Analytic Methods for Research on Science, Technology, and Innovation (doctoral seminar)
Innovation Policy in the 21st Century: Technology, Governance, and Globalization
Managerial Economics and Policy Analysis
Markets and Market Failure
Policy Analysis for Practitioners

DOCTORAL ADVISEES

Sung Jae Kim (Member, Doctoral Committee; Ph.D. defense completed in Spring 2006)
Mahmud Farooque (Member, Doctoral Committee; Ph.D. completed in Spring 2004)
Jerald Coughter (Chair, Doctoral Committee; supervised research and reading)
David Diamond (Member, Doctoral Committee; Member, Field Committee, 2006)
Kadri Kallas (Member, Field Committee, 2007)
Paul Trampe (Member, Field Committee, 2007)
Gretchen Ehle (Member, Field Committee 2006; supervised research and reading)
Liza Parfomak (Member, Field Committee 2005)
Lorraine Cichowski (supervised research and reading)
Lynn Chapman (advisor)
Henry Vega (advisor)

LANGUAGES

French fluent
Spanish intermediate written and spoken

Chinese (Putonghua) beginner spoken