

STS 5424. Introduction to Science & Technology Studies



Class Time: Mondays 2:00-4:50

Location: 134 Lane Hall

Instructors: **Sonja Schmid** (sschmid@vt.edu)
234 Lane Hall
office phone: 1-8407
office hours: by appointment

Matt Wisnioski (mwisnios@vt.edu)
331 Lane Hall
office phone: 1-2887
office hours: by appointment

Description and Objectives

This seminar is a general introduction to STS for beginning and advanced graduate students regardless of disciplinary affiliation. It draws on anthropological, historical, philosophical, and sociological methods to explore topics ranging from the nature of scientific facts to international technopolitics and policy. Principal learning objectives include: (1) identifying the field's major themes and scholars to provide you the intellectual foundation for engaging in current debates, and (2) investigating what counts as innovative interdisciplinary scholarship to hone your own skills as critical analysts.

Requirements

Participation. Active reading and discussion constitute the foundation of a successful seminar; all participants must come to every meeting prepared to talk knowledgeably about the reading. Each seminarian will serve as a *discussion leader* with the responsibility of informally guiding our conversation. The goal of discussion leader is to gently shape the conversation by raising questions, and *not* to report in depth on the reading or pontificate on one's conclusions.

Weekly 1-Page Reaction Papers. Think of these as mini op-eds. The goal is to identify and wrestle with major themes, problems, challenges, etc. posed by the reading and through your analysis to raise questions and challenges for your fellow seminarians. It is not a summary. You are responsible for posting your reaction paper to Scholar by midnight before the day of class. Brevity is a virtue; a single typed-page is ideal (400 words max).

Written Assignments. Two short essays (6-8 pages each). The first will be a comparative book review; the second will be an investigation of a major theme in STS relevant to your interests. *Alternatively*, you can write a scholarly research paper of 12-20 pages depending on the scope of the essay. The subject and specific form are to be negotiated with us. In choosing a project we will aim for a topic that compliments your broader plan of study.

Reading

All readings will be accessible either on Scholar, library e-Book, or physical reserve in the library. The following books, to be read in their entirety, are available for purchase at the Tech Bookstore:

- Kuhn, Thomas S. *The Structure of Scientific Revolutions*. 3rd ed. Chicago: Chicago University Press, 1996 (or newer).
- Shapin, Steven, and Simon Schaffer. *Leviathan and the Air-Pump: Hobbes, Boyle, and the Experimental Life*. Princeton: Princeton University Press, 1985.
- Latour, Bruno. *Science in Action: How to Follow Scientists and Engineers through Society*. Cambridge, MA: Harvard University Press, 1987 (or newer).
- Hilgartner, Stephen. *Science on Stage: Expert Advice as Public Drama*. Stanford: Stanford University Press, 2000.

Schedule

Recommended readings are not required. We list them to give you a directory for future reading. We reserve the right to make changes to this syllabus; the most up-to-date version can be found on the course website on Scholar.

Week 1. Introduction *August 23*

- Hilgartner, Stephen. "Institutionalizing Science and Technology Studies in the Academy." In *Social Studies of Science and Technology: Looking Back Ahead*, edited by B. Joerges and H. Nowotny, 201-210. Dordrecht & Boston: Kluwer, 2003.
- Latour, Bruno. "Why Has Critique Run out of Steam? From Matters of Fact to Matters of Concern." *Critical Inquiry* 30, no. 2 (2004): 225-248.

Week 2. Multidisciplinary Origins *August 30*

- Merton, Robert K. "The Normative Structure of Science." In *The Sociology of Science: Theoretical and Empirical Investigations*, 267-278. Chicago: University of Chicago Press, 1973.
- Popper, Karl. "A Survey of Some Fundamental Problems." In *The Logic of Scientific Discovery*, 3-26. London & New York: Routledge, 1992.
- Koyré, Alexandre. "An Experiment in Measurement." *Proceedings of the American Philosophical Society* 97, no. 2 (April 30) (1953): 222-237.
- Ogburn, William Fielding. "Preface" and "Social Maladjustments." In *Social Change with Respect to Culture and Original Nature*. Gloucester, MA: Peter Smith, 1964 [1st ed. 1922]; v-xi and 197-236.
- Ellul, Jacques. *The Technological Society*. New York: Vintage, 1964; 1-14.

Recommended:

- Popper, Karl. "Introduction: On the Sources of Knowledge and of Ignorance," "Science: Conjectures and Refutations," and "Truth, Rationality, and the Growth of Scientific Knowledge." In *Conjectures and Refutations: The Growth of Scientific Knowledge*, 3-32, 33-65 and 215-250. London & New York: Routledge, 1963, reprinted 1989.
- Horkheimer, Max, and Theodor W. Adorno. *Dialectic of Enlightenment: Philosophical Fragments*. Stanford: Stanford University Press, 2002.
- Mannheim, Karl. "The problem of a Sociology of Knowledge." In *Essays on the Sociology of Knowledge*, 134-190. London: Routledge, 1952.
- Mannheim, Karl. "The Sociology of Knowledge." In *Ideology and Utopia*, 264-311. New York: Harvest, 1936.

Week 3. Paradigm Shift *September 6*

- Kuhn, Thomas S. *The Structure of Scientific Revolutions*. Chicago: Chicago University Press, 1962.
- Feyerabend, Paul. "Consultations for the Specialist." In *Criticism and the Growth of Knowledge*, edited by I. Lakatos and A. Musgrave, 197-230. Cambridge: Cambridge University Press, 1970.
- Lakatos, Imre. "Science and Pseudoscience," broadcast on 30 June 1973 as Programme 11 of The Open University Arts Course A303, "Problems of Philosophy"
<http://www.lse.ac.uk/collections/lakatos/scienceAndPseudoscience.htm>.

Recommended:

- Koyré, Alexandre. *From the Closed World to the Infinite Universe*. Baltimore: Johns Hopkins University Press, 1957.
- Kuhn, Thomas S. *The Road since Structure*. Chicago: University of Chicago Press, 2000.
- Feyerabend, Paul. *Against Method: Outline of an Anarchistic Theory of Knowledge*. London: Verso, 1975.
- Wittgenstein, Ludwig. *Philosophical Investigations*. Oxford: Blackwell, 1958.
- Fuller, Steve. *Thomas Kuhn: A Philosophical History for Our Times*. Chicago: University of Chicago Press, 2000.
- Zammito, John H. "Doing Kuhn One Better: The (Failed) Marriage of History and Philosophy of Science." In *A Nice Derangement of Epistemes: Post-positivism in the Study of Science from Quine to Latour*, 90-122. Chicago: University of Chicago Press, 2004.

Week 4. Constructing Truth *September 13*

- Collins, H. M. "The TEA Set: Tacit Knowledge and Scientific Networks." *Science Studies* 4, no. 2 (1974): 165-185.
- Mulkay, Michael J. "Norms and Ideology in Science." *Social Science Information* 15, no. 4 (1976): 637-656.
- Barnes, Barry, and David Bloor. "Relativism, Rationalism and the Sociology of Knowledge." In *Rationality and Relativism*, edited by M. Hollis and S. Lukes, 21-47. Oxford: Blackwell, 1982.
- Bloor, David. *Knowledge and Social Imagery*. Chicago and London: Chicago University Press, 1991; ch.1, conclusion, afterword.
- Zammito, John H. "How Kuhn Became a Sociologist (and Why He Didn't Like It): The "The Strong Program and the Social Construction of Science." In *A Nice Derangement of Epistemes: Post-positivism in the Study of Science from Quine to Latour*, 90-122. Chicago: University of Chicago Press, 2004.

Recommended:

- Collins, Harry M. *Changing Order: Replication and Induction in Scientific Practice*. Chicago & London: Chicago University Press, 1992; chs. 2-4.
- Bloor, David. *Knowledge and Social Imagery*. Chicago and London: Chicago University Press, 1991.
- Laudan, Larry. "The Pseudo-Science of Science?" *Philosophy of the Social Sciences* 11 (1981): 173-98.
- Bloor, David. "The Strengths of the Strong Programme in the Sociology of Knowledge." *Philosophy of the Social Sciences* 11 (1981): 199-213.
- Collins, Harry M. "An Empirical Relativist Programme in the Sociology of Scientific Knowledge." In *Science Observed: Perspectives on the Social Study of Science*, edited by K. Knorr-Cetina and M. Mulkay, 83-113. London: Sage, 1983.

Week 5. Rethinking Revolution *September 20*

- Shapin, Steven, and Simon Schaffer. *Leviathan and the Air-Pump: Hobbes, Boyle, and the Experimental Life*. Princeton, N.J.: Princeton University Press, 1985.
- Westfall, Richard S. "Review of *Leviathan and the Air-Pump*." *Philosophy of Science* 54, no. 1 (1987): 128-130.
- Rosenberg, Charles E. "Editorial: Woods or Trees? Ideas and Actors in the History of Science." *Isis* 79, no. 4 (1988): 564-570.

Hill, Christopher. “‘A new kind of clergy’: Ideology and the experimental method. Review of Steven Shapin & Simon Schaffer, *Leviathan and the Air-Pump*.” *Social Studies of Science* 16, no. 4 (1986): 726-734.

Recommended:

Biagioli, Mario. “Galileo the Emblem Maker.” *Isis* 81 (1990): 230-258.

Week 6. Controversy, Risk, and Expertise *September 27*

- Nelkin, Dorothy. “The Political Impact of Technical Expertise.” *Social Studies of Science* 5 (1975): 35-54.
- Beck, Ulrich. “The Politics of Knowledge in the Risk Society,” and “Science Beyond Truth and Enlightenment?” In *Risk Society: Towards a New Modernity*, 51-84, 155-182. Translated by Mark Ritter. London & Newbury Park, CA: Sage, 1992.
- Gieryn, Thomas. “Boundary-Work and the Demarcation of Science from Non-Science: Strains and Interests in Professional Ideologies of Scientists.” *American Sociological Review* 48, no. 6 (1983): 781-95.
- Epstein, Steven. “The Construction of Lay Expertise: AIDS Activism and the Forging of Credibility in the Reform of Clinical Trials.” *Science, Technology, & Human Values* 20, no. 4 (1995): 408-37.
- Frickel, Scott. “When Convention Becomes Contentious: Organizing Science Activism in Genetic Toxicology.” In *The New Political Sociology of Science: Institutions, Networks, and Power*, edited by S. Frickel and K. Moore, 185-214. Madison: University of Wisconsin Press, 2006.

Recommended:

- Lupton, Deborah. *Risk*. London & New York: Routledge, 1999.
- Dean, Mitchell. “Risk, Calculable and Incalculable.” In *Risk and Sociocultural Theory: New Directions and Perspectives*, edited by D. Lupton, 131-159. Cambridge, UK, New York & Melbourne: Cambridge University Press, 1999.
- Beck, Ulrich. “On the Logic of Wealth Distribution and Risk Distribution.” In *Risk Society: Towards a New Modernity*, 19-50. Translated by Mark Ritter. London & Newbury Park, CA: Sage, 1992.

Week 7. Place and the Ethnographic Lens *October 4*

- Price, Derek J. De Solla. *Little Science, Big Science ... and beyond*. 2 ed. New York: Columbia University Press, 1986; selections.
- Knorr-Cetina, Karin. “The Ethnographic Study of Scientific Work: Towards a Constructivist Sociology of Science.” In *Science Observed*, edited by K. Knorr-Cetina and M. Mulkay, 115-140. London: Sage, 1983.
- Latour, Bruno. “Give Me a Laboratory and I Will Raise the World.” In *The Science Studies Reader*, edited by M. Biagioli, 258-275. New York: Routledge, 1999.
- Traweek, Sharon. *Beamtimes and Lifetimes: The World of High Energy Physicists*. Cambridge, Massachusetts: Harvard University Press, 1988; selections.
- Vaughan, Diane. “The Role of the Organization in the Production of Techno-Scientific Knowledge.” *Social Studies of Science* 29, no. 6 (1999): 913-943.

Recommended:

- Latour, Bruno, and Steve Woolgar. *Laboratory Life: The Construction of Scientific Facts*. 2nd ed. Princeton: Princeton University Press, 1986.
- Gusterson, Hugh. *Nuclear Rites: A Weapons Laboratory at the End of the Cold War*. Berkeley, Los Angeles and London: University of California Press, 1996.
- Kunda, Gideon. *Engineering Culture: Control and Commitment in a High-Tech Corporation*. Philadelphia: Temple University Press, 1992.

Week 8. Technologies/Artifacts/Things *October 11*

Winner, Langdon. "Do Artifacts Have Politics?" *Daedalus* 109 (1980): 121-136.

Marx, Leo. "Technology: The Emergence of a Hazardous Concept." *Social Research* 64, no. 3 (1997): 965-988.

Mackenzie, Donald. "Nuclear Missile Testing and the Social Construction of Accuracy." In *The Science Studies Reader*, edited by M. Biagioli, 342-357. New York: Routledge, 1999.

Pinch, Trevor J., and Wiebe E. Bijker. "The Social Construction of Facts and Artifacts, or How the Sociology of Science and the Sociology of Technology Might Benefit from Each Other." In *The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology*, edited by W. E. Bijker, T. P. Hughes and T. J. Pinch, 17-50. Cambridge and London: MIT Press, 1987.

Hughes, Thomas P. "Technological Momentum." In *Does Technology Drive History? The Dilemma of Technological Determinism*, edited by M. R. Smith and L. Marx, 101-113. Cambridge & London: MIT Press, 1994.

Maines, Rachel. "Socially Camouflaged Technologies: the Case of the Electromechanical Vibrator [with historical documents]." In *American Technology*, edited by C. W. Pursell, 116-130. Malden, Mass.: Blackwell, 2001.

Recommended:

Cowan, Ruth Schwartz. *More Work for Mother: The Ironies of Household Technology from the Open Hearth to the Microwave*. New York: Basic Books, 1983.

Oldenziel, Ruth. *Making Technology Masculine: Men, Women and Modern Machines in America, 1870-1945*. Amsterdam: Amsterdam University Press, 1999.

Feenberg, Andrew. *Transforming Technology: A Critical Theory Revisited*. New York, N.Y.: Oxford University Press, 2002.

Kasson, John. "The Factory as Republican Community." In *Civilizing the Machine: Technology and Republican Values in America, 1776-1900*, 53-106. New York: Penguin, 1976.

Joseph Pitt. *Thinking about Technology*. New York: Seven Bridges Press, 2000.

Winner, Langdon. *Autonomous Technology: Technics-out-of-Control as a Theme in Political Thought*. Cambridge, MA: MIT Press, 1977.

Mitcham, Carl. *Thinking through Technology: The Path between Engineering and Philosophy*. Chicago: University of Chicago Press, 1994.

Heidegger, Martin. *The Question Concerning Technology and Other Essays*. New York: Harper & Row, 1977.

Mesthene, Emmanuel G. "Some General Implications of the Research of the Harvard University Program on Technology and Society." *Technology and Culture* 10, no. 4 (1969): 489-536.

Week 9. Actor-Networks *October 18*

Latour, Bruno. *Science in Action: How to Follow Scientists and Engineers through Society*. Cambridge, MA: Harvard University Press, 1987.

Galison, Peter. "Trading Zone: Coordinating Action and Belief." In *The Science Studies Reader*, edited by M. Biagioli, 137-160. New York: Routledge, 1999.

Amsterdamska, Olga. "Surely You are Joking, Monsieur Latour!" *Science, Technology & Human Values* 15, no. 4 (1990): 495-504.

Recommended:

Halfon, Saul. "The Disunity of Consensus: international Population Policy Coordination as Socio-Technical Practice." *Social Studies of Science* 36, no. 5 (2006): 783-807.

Sismondo, Sergio. "Some Social Constructions." *Social Studies of Science* 23 (1993): 515-553.

Knorr-Cetina, Karin. "Strong Constructivism—from a Sociologist's Point of View: A Personal Addendum to Sismondo's Paper." *Social Studies of Science* 23 (1993): 555-563.

Sismondo, Sergio. "Response to Knorr Cetina." *Social Studies of Science* 23 (1993): 563-569.

Week 10. Order, Calculation, and Power *October 25*

Bowker, Geoffrey C., and Susan Leigh Star. *Sorting Things Out: Classification and its Consequences*. Cambridge, MA: MIT Press, 1999; 1-133.

Porter, Theodore. "Quantification and the Accounting Ideal in Science." *Social Studies of Science* 22 (1992): 633-652.

Foucault, Michel. *Discipline and Punish: The Birth of the Prison*. New York: Vintage Books, 1979; selections.

Lessig, Lawrence. "four puzzles from cyberspace," "what things regulate," and "privacy." In *Code and Other Laws of Cyberspace*, 9-23, 85-99, 142-163. New York: Basic Books, 2002.

Recommended:

O'Malley, Pat. "Risk and Responsibility." In *Foucault and Political Reason: Liberalism, Neo-Liberalism and the Rationalities of Government*, edited by A. Barry, T. Osborne and N. Rose, 189-207. Chicago: University of Chicago Press, 1996.

Porter, Theodore M. *Trust in Numbers: The Pursuit of Objectivity in Science and Public Life*. 2nd ed. Princeton: Princeton University Press, 1995.

Lampland, Martha. "False Numbers as Formalizing Practices." *Social Studies of Science* 40 (2010): 377-404.

Week 11. Publics, Performance, and Expertise Revisited *November 1*

Hilgartner, Stephen. *Science on Stage: Expert Advice as Public Drama*. Stanford: Stanford University Press, 2000.

Lewenstein, Bruce. "The Meaning of 'Public Understanding of Science' in the United States after World War II." *Public Understanding of Science* 1 (1992): 45-68.

Collins, Harry, and Robert Evans. "The Third Wave of Science Studies: Studies of Expertise and Experience." *Social Studies of Science* 32, no. 2 (2002): 235-296.

Roth, Wolff-Michael, and Stuart Lee. "Scientific Literacy as Collective Practice." *Public Understanding of Science* 11 (2002): 33-56.

Recommended:

Lynch, Michael, and Simon Cole. "Science and Technology Studies on Trial: Dilemmas of Expertise." *Social Studies of Science* 35, no. 2 (2005): 269-311.

Guston, David H. "Stabilizing the Boundary between US Politics and Science: The Role of the Office of Technology Transfer as a Boundary Organization." *Social Studies of Science* 29, no. 1 (1999): 87-111.

Week 12. Subjectivity, Objectivity, and the Self *November 8*

Hartsock, Nancy C. M. "The Feminist Standpoint: Developing the Ground for a Specifically Feminist Historical Materialism." In *Discovering Reality: Feminist Perspectives on Epistemology, Metaphysics, Methodology, and Philosophy of Science*, edited by S. Harding and M. B. Hintikka, 293-310. Dordrecht, Boston, London: D. Reidel, 1983.

Daston, Lorraine, and Peter Galison. *Objectivity*. Cambridge, MA: MIT Press, 2007; selections.

Turkle, Sherry. "Child Philosophers: Are Smart Machines Alive?" In *Second Self: Computers and the Human Spirit*, 29-63. New York: Simon & Schuster, 1984.

Haraway, Donna. "Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective." In *Simians, Cyborgs and Women: The Reinvention of Nature*, 183-201. New York: Routledge, 1991.

Recommended:

Haraway, Donna. "Cyborg Manifesto: Science, Technology, and Socialist-Feminism in the Late Twentieth Century." In *Simians, Cyborgs and Women: The Reinvention of Nature*, 149-181. New York: Routledge, 1991.

- Longino, Helen E. *Science as Social Knowledge: Values and Objectivity in Scientific Inquiry*. Princeton: Princeton Univ. Pr., 1990.
- Longino, Helen E. "Taking Gender Seriously in Philosophy of Science." *PSA: Proceedings of the Biennial Meeting of the Philosophy of Science Association 2* (1992): 333-340.

Week 13. The Global Turn November 15

- Friedman, Thomas. "It's a Flat World After all." *New York Times*, April 3, 2005.
- Hecht, Gabrielle. "Rupture Talk in the Nuclear Age: Conjugating Colonial Power in Africa." *Social Studies of Science* 32, no. 5/6 (2002): 691-727.
- Jasanoff, Sheila. *Designs on Nature: Science and Democracy in Europe and the United States*. Princeton, N.J.: Princeton University Press, 2005; selections.
- Oosterhout, Dianne van. "From Colonial to Postcolonial Irrigation Technology: Technological Romanticism and the Revival of Colonial Water Tanks in Java, Indonesia." *Technology and Culture* 49 (2008): 701-726.
- Anderson, Benedict. *Imagined Communities: Reflections on the Origins and Spread of Nationalism*. London: Verso, 1983; selections.

Recommended:

- Jasanoff, Sheila, and Sang-Hyun Kim. "Containing the Atom: Sociotechnical Imaginaries and Nuclear Power in the United States and South Korea." *Minerva* 47, no. 2 (2009): 119-146.
- Parthasarathy, Shobita. "Architectures of Genetic Medicine." *Social Studies of Science* 35, no. 1 (2005): 5-40.
- Moon, Suzanne. "The Emergence of Technological Development and the Question of Native Identity in the Netherlands East Indies." *Journal of Southeast Asian Studies* 36, no. 2 (2005): 191-206.
- Adas, Michael. *Machines as the Measure of Men: Science, Technology, and Ideologies of Western Dominance*. Ithaca, NY: Cornell University Press, 1989.
- Headrick, Daniel R. *The Tools of Empire: Technology and European Imperialism in the Nineteenth Century*. New York: Oxford University Press, 1981.
- Appadurai, Arjun. *Modernity at Large: Cultural Dimensions of Globalization*. Minneapolis: University of Minnesota Press, 1996.
- Mitchell, Timothy. *Colonising Egypt*. Cambridge et al.: Cambridge University Press, 1988.

Week 14. Environmental Politics November 29

- Merchant, Carolyn. "Introduction: Women and Ecology," "Chapter 1. Nature as Female," "Chapter 7. Dominion over Nature." In *The Death of Nature: Women Ecology, and the Scientific Revolution*, xix-xxiv, 1-41, 164-190. New York: Harper and Row, 1983.
- Miller, Clarke. "The Politics of Climate Change." In *Controversies in Science and Technology*, edited by D. Kleinman, A. J. Kinchy and J. Handelsman, 289-304. Madison, Wis.: University of Wisconsin Press, 2008.
- Oreskes, Naomi. "The Scientific Consensus on Climate Change." *Science* 306, no. 3 December (2004): 1686.
- Worster, Donald. "Transformations of the Earth: Toward an Agroecological Perspective in History." *Journal of American History* 76, no. 4 (1990): 1087-1106.
- Cronon, William. "Modes of Prophecy and Production: Placing Nature in History." *Journal of American History* 76, no. 4 (1990): 1122-1131.
- Allen, Barbara L. "Environmental Justice and Expert Knowledge in the Wake of a Disaster." *Social Studies of Science* 37, no. 1 (2007): 103-110.

Recommended:

- Martello, Marybeth Long. "Negotiating Global Nature and Local Culture: The Case of Makah Whaling." In *Earthly Politics: Local and Global in Environmental Governance*, edited by S. Jasanoff and M. Long Martello, 263-284. Cambridge, Mass. & London, England: MIT Press, 2006.
- Sarewitz, Daniel, and Roger J. Pielke. "The Steps Not Yet Taken." In *Controversies in Science and Technology*, edited by D. Kleinman, A. J. Kinchy and J. Handelsman, 329-351. Madison, Wis.: University of Wisconsin Press, 2008.
- Masco, Joseph. "Bad Weather: On Planetary Crisis." *Social Studies of Science* 40 (2010): 7-40.

Week 15. Has Critique Run Out of Steam? *December 6*

- Zammito, John H. "A Nice Derangement of Epistemes: Radical Reflexivity and the Science Wars." In *A Nice Derangement of Epistemes: Post-positivism in the Study of Science from Quine to Latour*, 90-122. Chicago: University of Chicago Press, 2004.
- Downey, Gary. "What is Engineering Studies For? Dominant Practices and Scalable Scholarship." *Engineering Studies* 1, no. 1 (2009): 55-76.
- Guston, David H. "The Center for Nanotechnology in Society at Arizona State University and the Prospects for Anticipatory Governance." In *Nanoscale: Issues and Perspectives for the Nano Century*, edited by N. Cameron and M.E. Mitchell, 377-392. New York, NY: John Wiley and Sons, 2007.
- MacKenzie, Donald. "Physics and Finance: S-Terms and Modern Finance as a Topic for Science Studies." *Science, Technology, & Human Values* 26, no. 2 (2001): 115-144.
- Tatum, Jesse S. "The Challenge of Responsible Design." *Design Issues* 20, no. 3 (2004): 66-80.

Recommended:

- Karinen, Risto, and David H. Guston. "Toward Anticipatory Governance: The Experience with Nanotechnology." In *Governing Future Technologies: Nanotechnology and the Rise of an Assessment Regime*, edited by M. Kaiser, M. Kurath, S. Maasen and C. Rehmman-Sutter, 217-232. Dordrecht: Springer, 2010.
- Hamlett, Patrick, Michael Cobb, and David H. Guston. *National Citizens Technology Forum: Nanotechnologies and Human Enhancement. CNS-ASU Report #R08-0003*. Tempe, AZ: Center for Nanotechnology in Society, Arizona State University, 2008.
- Barben, Daniel, Erik Fisher, Cynthia Selin, and David H. Guston. "Anticipatory Governance of Nanotechnology: Foresight, Engagement, and Integration." In *Handbook of Science and Technology Studies, Third Edition*, edited by E. J. Hackett, O. Amsterdamska, M. Lynch and J. Wajcman, 979-1000. Cambridge, MA: MIT Press, 2008.
- Callon, Michel. "What Does it Mean to Say That Economics is Performative?" In *Do Economists Make Markets? On the Performativity of Economics*, edited by D. MacKenzie, F. Muniesa and L. Siu, 311-357. Princeton, N.J.: Princeton University Press, 2007.