

# DAVIS BAIRD

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## Education

- 1978-1981 Ph.D. Stanford University, Philosophy of Science, Philosophy of Language and Logic
- 1977-1978 A.M. Stanford University, Philosophy of Science
- 1972-1976 A.B. Brandeis University, Mathematics and Philosophy, *cum laude*, with High Honors in Philosophy

## Academic Positions

- 2023- Professor Emeritus and Senior Research Scholar, Clark University
- 2010- Distinguished Professor Emeritus and Dean Emeritus, University of South Carolina
- 2010-2023 Professor of Philosophy, Clark University
- 2010-2021 Provost and Vice President for Academic Affairs, Clark University
- 2005-2010 Dean, South Carolina Honors College, University of South Carolina
- 2004-2010 Louise Fry Scudder Professor, Department of Philosophy, University of South Carolina
- 1992-2005 Chair, Department of Philosophy
- 2001-2004 Professor, Department of Philosophy, University of South Carolina
- 1988-2001 Associate Professor, Department of Philosophy, University of South Carolina
- 1999-2000 Senior Fellow, Dibner Institute for the History of Science and Technology, M.I.T.
- 1982-1988 Assistant Professor, Department of Philosophy, University of South Carolina
- 1981-1982 Visiting Assistant Professor, Department of Philosophy, University of Arizona
- 1981 Instructor, Department of Philosophy, Stanford University

## Professional Service

- 2011- Fellow, American Association for the Advancement of Science
- 2013- Consulting Editor, *NanoEthics*
- 2013- Editorial Board, *Acta Baltica Historiae et Philosophiae Scientiarum*
- 2003- Grant reviewer for the National Science Foundation, Research Council of Canada, Nederlandse Organisatie voor Wetenschappelijk Onderzoek, Katholiek University of Leuven
- 1987- Manuscript reviewer for Oxford University Press, University of California Press, Kluwer Academic Publishers, Wadsworth Publishing, Prentice-Hall
- 1983- Journal Referee for *Techné: Research in Philosophy of Technology*, *British Journal for the Philosophy of Science*, *Synthese*, *Philosophy of Science*, *Isis*, *Nous*, *Technology and Culture*, *Social Studies of Science*.
- 2018 Team Chair, Maintenance of Accreditation Decennial Review, Institute for Doctoral Studies in the Visual Arts, New England Commission on Higher Education
- 2017 Team Chair, Maintenance of Accreditation Decennial Review, University of New England, New England Commission on Higher Education
- 2015 Team Chair, Focused Accreditation Review, Post University, New England Commission on Higher Education
- 2011-2015 Team member, Maintenance of Accreditation Decennial Reviews, Babson University, World Learning Institute, New England Commission on Higher Education
- 2002-2010 Established and served as owner and moderator of a listserv, [nanotalk@listserv.sc.edu](mailto:nanotalk@listserv.sc.edu)
- 1997-2010 Established and served as owner and moderator of a listserv, [philchem@listserv.sc.edu](mailto:philchem@listserv.sc.edu)
- 2014-2015 Past-Chair, Section on History and Philosophy of Science, American Association for the Advancement of Science
- 2013-2014 Chair, Section on History and Philosophy of Science, American Association for the Advancement of Science
- 2012-2013 Chair-Elect, Section on History and Philosophy of Science, American Association for the Advancement of Science
- 2012-2014 President, Society for the Study of Nanoscience and Emerging Technologies

- 2008-2012 Interim Treasurer, Executive Committee, Society for the Study of Nanoscience and Emerging Technologies
- 2006-2012 Co-Editor, *NanoEthics*
- 2005-2010 Member, External Advisory Board, Center for Probing the Nanoscale, Stanford
- 1997-2012 Editorial Board, *Foundations of Chemistry*
- 2010 President Elect, Society for the Study of Nanoscience and Emerging Technologies
- 2010 External Departmental Evaluator, Philosophy Department, Wofford College, Spartanburg, SC, 4-5 March 2010, Pittsburgh, PA
- 2008-2009 Program Committee Chair, First Annual Conference of the Society for the Study of Nanoscience and Emerging Technologies, September 2009, Seattle, WA
- 2008 Session Chair, Biennial Philosophy of Science Association 2008 Conference, 6 November 2008, Pittsburgh, PA
- 2008 Participant, "Technology and Innovation 2025," Workshop organized by Toffler Associates, in cooperation with the Office of the Director for National Intelligence, the National Intelligence Council and the National Security Agency, Baltimore, MD, 27-28 May 2008, SC.
- 2008 Co-Organizer, Workshop to establish an international society for the study of nanotechnology and emerging technologies in society, USC, Columbia, SC, 19-20 May 2008.
- 2007-2009 Program Committee, Biennial Philosophy of Science Association 2008 Conference, November 2008, Pittsburgh, PA
- 2007 Co-Organizer, Workshop, "Images of the Nanoscale: From Creation to Consumption," USC, Columbia, SC, 24-27 October 2007.
- 2007 Program Committee, Biennial Meeting of the Society for Philosophy and Technology, Charleston, SC, 8-11 July 2007.
- 2006 Participant in NanoFrontiers Workshop at the Woodrow Wilson Center, Washington, D.C., February 9-10, 2006.
- 2005-2007 Member, External Advisory Board, Center for Semiconductor Physics in Nanostructures, University of Arkansas and University of Oklahoma
- 2005-2007 Member, Board of Advisors, Fred Friendly Television Project, "Nanotechnology: The Convergence of Science and Society"
- 2004-2009 Associate Editor, *Philosophy of Science*
- 2004-2006 Member, External Advisory Board, Center for Biological and Environmental Nanotechnology, Rice University
- 2004-2006 Member, Advisory Committee, International Council of Nanotechnology, Rice University
- 2005 Program Committee Member, Conference: "Imagining Nanospace," University of Bielefeld, Germany, May 11-14, 2005
- 2004 Participant and Breakout Session Co-Chair, Research Directions II Workshop, National Nanotechnology Initiative, September 8-10, 2004, Washington, D.C.
- 2004 Co-organized International Conference, "Imaging and Imagining Nanoscience and Nanoengineering," University of South Carolina, March 3-7, 2004.
- 2003 Program Committee, National Nanotechnology Initiative Workshop on Societal and Ethical Implications of Nanotechnology, Washington, DC, 3-5 December 2003.
- 2003 with Catherine Alexander, led Panel on "Interaction with the Public and Social Networks" at National Nanotechnology Initiative Workshop on Societal and Ethical Implications of Nanotechnology, Washington, DC, 3-5 December 2003.
- 2003 Co-organized International Conference, "Discovering the Nanoscale II," University of Darmstadt, October 8-12, 2003.
- 2003 Co-organized International Conference, "Discovering the Nanoscale," University of South Carolina, March 20-23, 2003.
- 2002 Co-organized Workshop, "Reading Nano-Science," University of South Carolina, August 5-9, 2003.
- 1999 Organized International Society for the Philosophy of Chemistry, Summer Symposium on the Philosophy of Chemistry, July 1999.

- 1999 Organized and Chaired Symposium Session, "What do Engineers Know?," Biennial meeting of the Society for Philosophy and Technology, July 1999.
- 1999-2007 Editor, *Techné: Journal of the Society for Philosophy and Technology*
- 1999-2005 Executive Committee, *International Society for the Philosophy of Chemistry*
- 1998 with Alfred Nordmann. Organized and co-chaired an author-meets-critics session on Peter Galison's *Image and Logic*, Joint meeting of the Society for Social Studies of Science and Environmental Studies Association of Canada, October 1998.
- 1998-1999 Assistant Editor, *Techné: Electronic Journal of the Society for Philosophy and Technology*
- 1997 Organized an interdisciplinary symposium, "History of Spectroscopy," Joint meeting of American Chemical Society and Society for Applied Spectroscopy, October 1997.
- 1994 with R.I.G. Hughes and Alfred Nordmann. Organized an international interdisciplinary conference, "Heinrich Hertz: Classical Physicist, Modern Philosopher," March 1994.
- 1994 with Keith Kenny, Gunar Strazdins, Van Kornegay and Walter Hanclosky. Organized a symposium, "Digital Directions: Improving on Reality?" April 1994.
- 1992 with Alfred Nordmann. Organized, chaired and commented on a symposium, "Instrumentation and the Production of Phenomena," Joint meeting of the History of Science Society, the Canadian Society for the History of Science and the British Society for the History of Science, July 1992.
- 1986-1987 President, South Carolina Society for Philosophy
- 1985-1986 Vice President, South Carolina Society for Philosophy

#### University Service, University of South Carolina

- 2009-2010 President's *ad hoc* Committee on Civility in Public Discourse
- 2006-2010 Fellowships and Scholar Programs Advisory Committee
- 2005-2010 Office of Undergraduate Research Advisory Committee, Chair
- 2005-2010 South Carolina Honors College Policy Committee
- 2005-2010 University Horseshoe Historical Renovation Committee, Chair
- 2005-2010 Scholarship Subcommittee for Carolina and McNair Scholars Core Committee
- 2005-2010 Rhodes Scholarship Committee, Chair 2007-
- 2006-2009 Faculty Excellence Initiative Faculty Cluster Search, Commercialization of Nanotechnology, Lead Dean
- 2007-2008 Faculty Excellence Initiative Search, History or Philosophy of Science, Chair
- 2007-2008 University 101 Director Search, Chair
- 2005-2007 USC NanoCenter <sup>nano</sup>Science and Technology Studies Group, Director
- 2006-2007 Nanotechnology Policy Faculty Search Committee, Chair
- 2006-2007 Graduate School Dean Search Committee, Chair
- 2005-2006 Cluster Hire Search Committee, "Public Communication of Science, Technology and Health," Chair
- 2005-2007 Office of Undergraduate Research Faculty Director Search Committee
- 2005 NanoCenter Director Search Committee
- 2004 College of Arts and Sciences Dean Search Committee
- 2002 Judge, Graduate Student Day, Communication Papers Competition
- 2003-2005 Associate Director, USC NanoCenter
- 2004-2005 University VCM Committee
- 2004-2005 University Faculty Budget Committee, Chair
- 2001-2004 University Bookstore Committee, Chair 2002-2004
- 2001-2002 University Faculty Committee on Instructional Development, Mungo Graduate Award Sub-committee
- 1994-2002 Provost's Faculty Legislative Liaison Committee
- 1992-1996 Provost's *ad hoc* Committee on Numerical and Analytical Reasoning Core Curriculum
- 1987-1994 Ph.D. Committee, Chair 1988-89; 93-94

- 1994-1995 Chair, Dean's *ad hoc* Forms Revision Committee  
 1993-1994 Chair, Department of Philosophy *ad hoc* Salary Committee  
 1991-1992 Director of Graduate Studies  
 1991-1992 Strategic Planning Committee, College of Humanities and Social Sciences;  
 Chair, Task Force on Enhancing Interaction Among Disciplines,  
 1992-1993 Career Advisory Committee, College of Humanities and Social Sciences  
 1987-1992 M.A. Committee  
 1985-1989 Curriculum Committee  
 1983-1985 Colloquia Organizer

## Grants

- 2009-2010 with Harris Pastides, Charles Bierbauer, Carnegie Foundation, Institute for Change (\$210,840).  
 2005-2010 with David Berube, Otávio Bueno, Ann Johnson, Susanna Priest, National Science Foundation, Nanotechnology in Society Network Node: Imaging, Scientific Change and Public Understanding of Emerging Nanotechnologies (\$1,375,000).  
 2003-2007 with David Berube, Otávio Bueno, R.I.G. Hughes, George Khushf, National Science Foundation, Nanoscale Interdisciplinary Research Team Grant (\$1,350,000): "NIRT: From Laboratory to Society: Developing an Informed Approach to Nanoscale Science and Technology."  
 2002-2003 with Alfred Nordmann, R.I.G. Hughes, George Khushf, David Berube, National Science Foundation, Nanoscale Interdisciplinary Research Team Grant (\$175,000): "NER: Philosophical and Social Dimensions to Nanoscale Research."  
 2001-2003 with Alfred Nordmann, R.I.G. Hughes and George Khushf, USC Focal Points of Excellence Grant (\$55,404): "Support to Establish and Fund the Center for the Philosophy and Ethics of Complexity and Scale."  
 with Peter Sederberg, Dean of the South Carolina Honors College, et al., Hewlett Faculty Development Grant (\$3,500): to develop courses on "Fundamentals of Inquiry."  
 1999-2000 Massachusetts Institute of Technology, Dibner Institute for the History of Science and Technology, Senior Fellow in Residence (\$28,600): "Instrument Knowledge: A Philosophy of Scientific Instruments, and—separately—Baird Associates and the Rise of Chemical Instrumentation."  
 1993-1995 with Alfred Nordmann and R.I.G. Hughes, NEH Conference Grant (\$40,000): "Heinrich Hertz: Classical Physicist, Modern Philosopher."  
 1994 with Keith Kenny, Gunar Strazdins, Van Kornegay and Walter Hanclosky, GTE Conference Grant (\$5,000): "Digital Directions: Improving on Reality?"

## Publications

### Books

- 2012 co-edited with Eric Scerri and Lee McIntyre, *Filosofía de la Química: Síntesis de Una Nueva Disciplina*, Spanish Translation of *Philosophy of Chemistry: Synthesis of a New Discipline*, in *Boston Studies in the Philosophy of Science*, Gerardo Noriega, Translator, Dordrecht: Springer Academic Publishers. in *Boston Studies in the Philosophy of Science*, Dordrecht: Springer Academic Publishers.  
 2006a co-edited with Joachim Schummer, *Nanotechnology Challenges: Implications for Philosophy, Ethics and Society*, London: World Scientific Publishers.  
 b co-edited with Eric Scerri and Lee McIntyre, *Philosophy of Chemistry: Synthesis of a New Discipline*, in *Boston Studies in the Philosophy of Science*, Dordrecht: Springer Academic Publishers. Spanish Translation, 2012.  
 2004a *Thing Knowledge: A Philosophy of Scientific Instruments*. Berkeley, California: University of California Press. Winner of the 2006 Paul Bunge prize. Japanese translation, 2006. Japanese translation, 2008.  
 b co-edited with Alfred Nordmann and Joachim Schummer, *Discovering the Nanoscale*, Amsterdam: IOS Scientific Publishers. Available online at <http://cms.ifs.tu-darmstadt.de/fileadmin/phil/nano/nano.html>.

- 1997 co-edited with R.I.G. Hughes and Alfred Nordmann, *Heinrich Hertz: Classical Physicist, Modern Philosopher*, in *Boston Studies in the Philosophy of Science*, Dordrecht: Kluwer Academic Publishers.
- 1992 *Inductive Logic: Probability and Statistics*. Englewood Cliffs, New Jersey: Prentice-Hall; re-issued as *Inductive Logic: Inferring the Unknown*, Pearson Custom Publishing, 1999.

### Journals

- 2007a edited *Techné: Journal of the Society for Philosophy and Technology*, **10**(3):Spring 2007, <http://scholar.lib.vt.edu/ejournals/SPT/spt.html>.
- 2006a edited *Techné: Journal of the Society for Philosophy and Technology*, **10**(2):Winter 2006, <http://scholar.lib.vt.edu/ejournals/SPT/spt.html>.
- b edited *Techné: Journal of the Society for Philosophy and Technology*, **10**(1):Fall 2006, <http://scholar.lib.vt.edu/ejournals/SPT/spt.html>.
- c edited, *Techné: Journal of the Society for Philosophy and Technology*, **9**(3): Spring 2006, <http://scholar.lib.vt.edu/ejournals/SPT/spt.html>.
- d co-edited with Joachim Schummer, Issue of *Hyle*, “Nanotech Challenges, Part II,” **11**(1), <http://www.hyle.org>.
- 2005a edited, *Techné: Journal of the Society for Philosophy and Technology*, **9**(2): Winter 2005, <http://scholar.lib.vt.edu/ejournals/SPT/spt.html>.
- b edited, *Techné: Journal of the Society for Philosophy and Technology*, **9**(1): Fall 2005, <http://scholar.lib.vt.edu/ejournals/SPT/spt.html>.
- c co-edited with Joachim Schummer, Issue of *Techné: Journal of the Society for Philosophy and Technology*, “Nanotech Challenges, Part II,” **8**(3), <http://scholar.lib.vt.edu/ejournals/SPT/spt.html>.
- d co-edited with Joachim Schummer, Issue of *Hyle*, “Nanotech Challenges, Part II,” **11**(1), <http://www.hyle.org>.
- 2004a co-edited with Joachim Schummer, Issue of *Techné: Journal of the Society for Philosophy and Technology*, “Nanotech Challenges, Part I,” **8**(2), Winter 2004, <http://scholar.lib.vt.edu/ejournals/SPT/spt.html>.
- b edited, *Techné: Journal of the Society for Philosophy and Technology*, **8**(1): Fall 2004, <http://scholar.lib.vt.edu/ejournals/SPT/spt.html>.
- c edited, *Techné: Journal of the Society for Philosophy and Technology*, **7**(3): Spring 2004, <http://scholar.lib.vt.edu/ejournals/SPT/spt.html>.
- d co-edited with Joachim Schummer, Issue of *Hyle*, “Nanotech Challenges, Part I,” **10**(2), <http://www.hyle.org>.
- 2003a edited, *Techné: Journal of the Society for Philosophy and Technology*, **7**(2): Winter 2003, <http://scholar.lib.vt.edu/ejournals/SPT/spt.html>.
- b edited, *Techné: Journal of the Society for Philosophy and Technology*, **7**(1): Fall 2003, <http://scholar.lib.vt.edu/ejournals/SPT/spt.html>.
- c edited, *Techné: Journal of the Society for Philosophy and Technology*, **6**(3): Spring 2003, <http://scholar.lib.vt.edu/ejournals/SPT/spt.html>.
- 2002a edited, *Techné: Journal of the Society for Philosophy and Technology*, **6**(2): Winter 2002, <http://scholar.lib.vt.edu/ejournals/SPT/spt.html>.
- b edited, *Techné: Journal of the Society for Philosophy and Technology*, **6**(1): Fall 2002, <http://scholar.lib.vt.edu/ejournals/SPT/spt.html>.
- 2001 edited, *Techné: Journal of the Society for Philosophy and Technology*, **5**(3): Spring 2001, <http://scholar.lib.vt.edu/ejournals/SPT/spt.html>.
- 2000a edited, *Techné: Journal of the Society for Philosophy and Technology*, **5**(2): Winter 2000, <http://scholar.lib.vt.edu/ejournals/SPT/spt.html>.
- b edited, *Techné: Journal of the Society for Philosophy and Technology*, **5**(1): Fall 2000, <http://scholar.lib.vt.edu/ejournals/SPT/spt.html>.
- 1999 co-edited with Alfred Nordmann, Issue of *Perspectives on Science* devoted to Peter Galison’s *Image and Logic*, **7**(2).
- 1998 edited, *Techné: Journal of the Society for Philosophy and Technology*, **3**(4): Summer 1998, <http://scholar.lib.vt.edu/ejournals/SPT/spt.html>.

## Articles

- 2021 with Alfred Nordmann, “Wohl gesetzte Tatsachen.” In Alfred Nordmann and Cheryce Xylander eds., *Vollendete Tatsachen: Voom endgültig Vorläufigen und vorläufig Endgültigen in der Wissenschaft*, 2021, Bielefeld: Verlag, 143-190. German translation and republication of “Facts-Well-Put,” 1994.
- 2015 “Outline of a Materialist Epistemology.” In Hans Radder ed., *The Philosophy of Scientific Experimentation*, 2003, Pittsburgh: University of Pittsburgh Press, 39-67. Translated and reprinted in Japanese, 2015.
- 2010a with Arie Rip, “Preface.” In *Understanding Nanotechnology: Philosophy, Politics and Publics*, U. Fiedeler, C. Coenen, S. Davies and A. Ferrari, eds. Heidelberg Germany: IOS Press, pps. v-vi.
- b with Michael Dickson, “Significance Testing.” In *Handbook of the Philosophy of Science*, Dov M. Gabbay, Paul Thagard and John Woods, General Editors, *Volume 7: Philosophy of Statistics*, Prasanta Bandyopadhyay and Malcolm Forster, eds., pps. 197-226.
- c “Engineering Realities.” *Spontaneous Generations*, **4**(1), 2010, pps. 1-17  
<http://jps.library.utoronto.ca/index.php/SpontaneousGenerations>.
- 2009a “Nanotechnology, ‘Curing Aging,’ and Finding the Bite to NanoEthics.” In eds., Deborah Bassett, Amanda Wysocki, and Suzanne Brainard, *Monograph: 2009 Nanoethics Graduate Education Symposium*, Seattle, Washington: Center for Workforce Development, University of Washington, pp. 21-33. Available on the web at <http://depts.washington.edu/ntethics/symposium/index.shtml>.
- b “Societal Implications.” In Baker, J. R., Hwang, R. Q., Stein, J. and van Zee, R., eds., *Research Directions II: Long-Term Research & Developmental Opportunities in Nanotechnology, Report of the National Nanotechnology Initiative Workshop, September 8-10, 2004*, pps. 35-9. Available at [http://nano.gov/sites/default/files/pub\\_resource/research\\_directionsII.pdf](http://nano.gov/sites/default/files/pub_resource/research_directionsII.pdf).
- 2008a “Following in the Footsteps of the Founders.” In Peter Sederberg, ed., *The Honors College Phenomenon*, Lincoln, Nebraska: National Collegiate Honors Council, pp. 139-146.
- b with Chris Toumey, “Nanoliteracy: Nurturing Understandings of Nanotechnology and Societal Interactions with Nanotech.” In Aldrin Sweeney and Sudipta Seal, eds., *Nanoscale Science and Engineering Education*, Stevenson Ranch, California: American Scientific Publishers, pp. 577-589.
- 2007a with Tom Vogt and Chris Robinson, “Opportunities in the ‘Post-Academic’ World.” *Nature Nanotechnology*, **2**(6): 329-332.
- b “Navigating Nano Through Society.” In Mihail Roco and Bill Bainbridge, eds., *Nanotechnology: Societal Implications II*. Dordrecht: Springer, pp. 75-87. Available at <http://www.wtec.org/SocietalImplications/> and at <http://www.nano.gov>.
- c with Cate Alexander, Panel Report on “Theme 9: Interaction with the Public.” In Mike Roco and Bill Bainbridge, editors, *Nanotechnology: Societal Implications I: Maximizing Benefits for Humanity*, Dordrecht: Springer, pp. 105-112. Available at <http://www.wtec.org/SocietalImplications/> and at <http://www.nano.gov>.
- 2006a with Chris Toumey, “Building Nanoliteracy in the University and Beyond,” *Nature Biotechnology*, **24**(6): 721-2.
- b with Joachim Schummer, “Introduction,” In Joachim Schummer and Davis Baird, eds., *Nanotechnology Challenges: Implications for Philosophy, Ethics and Society*. London: World Scientific Publishers, pp. 1-5.
- c with Eric Scerri and Lee McIntyre, “Introduction: The Invisibility of Chemistry,” in *Philosophy of Chemistry: Synthesis of a New Discipline*, Dordrecht: Springer Academic Publishers, pps. 3-18.
- 2005a with Joachim Schummer, “Editorial: Nanotech Challenges, Part II,” *Techné*, **8**(3): 1-2, <http://scholar.lib.vt.edu/ejournals/SPT/spt.html>.

- b with Joachim Schummer, "Editorial: Nanotech Challenges, Part II," *Hyle*, **11**(1): 3-4, <http://www.hyle.org>.
- 2004a with Joachim Schummer, "Editorial: Nanotech Challenges, Part I," *Techné*, **8**(2): 1-2, <http://scholar.lib.vt.edu/ejournals/SPT/spt.html>.
- b with Joachim Schummer, "Editorial: Nanotech Challenges, Part I," *Hyle*, **10**(2): 63-4, <http://www.hyle.org>.
- c with Tom Vogt, "Societal and Ethical Interactions with Nanotechnology [SEIN]: An Introduction," *Nanotechnology, Law and Business*, **1**(4): 391-396.
- d with Ashley Shew, "Probing the History of Scanning Tunneling Microscopy." In Davis Baird, Alfred Nordmann and Joachim Schummer, eds., *Discovering the Nanoscale*, Amsterdam: IOS Press, 145-156.
- e with Alfred Nordmann and Joachim Schummer, "Introduction." In Davis Baird, Alfred Nordmann and Joachim Schummer, eds., *Discovering the Nanoscale*, Amsterdam: IOS Press, 1-5.
- 2003a with Gideon J. Mellenbergh, Herman J. Adèr, Martijn P.F. Berger, John E. Cornell, Jacques A.P. Hagenaars, and Peter C.M. Molenaar, "Conceptual Issues of Research Methodology for the Behavioural, Life, and Social Sciences," *The Statistician*, **52**(Part 2): 211-218.
- b "Outline of a Materialist Epistemology." In Hans Radder ed., *The Philosophy of Scientific Experimentation*, Pittsburgh: University of Pittsburgh Press, 39-67. Translated and reprinted in Japanese, 2015.
- c "Need to Study Ethical and Societal Implications of Nanotechnology," Testimony to the U. S. Senate Committee on Commerce, Science and Transportation," [http://www.senate.gov/~commerce/hearings/testimony.cfm?id=745&wit\\_id=2012](http://www.senate.gov/~commerce/hearings/testimony.cfm?id=745&wit_id=2012).
- 2002a "Thing Knowledge: Function and Truth." *Techné: Journal of the Society for Philosophy and Technology*, <http://scholar.lib.vt.edu/ejournals/SPT/v6n2/baird.html>. **6**(2): 13-27.
- b "Detached Thing Knowledge." In Jutta Schickore and Friedrich Steinle, eds., *Revisiting Discovery and Justification*, Max-Planck-Institut für Wissenschaftsgeschichte, Preprint 211, 163-173.
- c "Histories of Baird Associates." In Peter Morris ed., *From Classical to Modern Chemistry: The Instrumental Revolution*, London: National Museum of Science and Industry, 129-148.
- d "Analytical Chemistry and the 'Big' Scientific Instrumentation Revolution." In Peter Morris ed., *From Classical to Modern Chemistry: The Instrumental Revolution*, London: National Museum of Science and Industry, 29-56. This is a reprint of my 1993 article that appeared in *Annals of Science*. **50**(3): 267-290.
- 2000a "Encapsulating Knowledge: The Direct Reading Spectrometer." *Foundations of Chemistry*, **2**(1): 5-46. A severely condensed version is in *Techné: Journal of the Society for Philosophy and Technology*, <http://borg.lib.vt.edu/ejournals/SPT/spt.html>. **3**(3): 1-9.
- b "Analytical Instrumentation and Instrumental Objectivity." In N. Bhushan and S. Rosenfeld, eds., *Of Minds and Molecules: New Philosophical Perspectives on Chemistry*, Oxford: Oxford University Press, 90-113.
- c "The Thing-y-ness of Things: Materiality and Spectrochemical Instrumentation, 1937-1955." In P. Kroes and A. Meijers, eds., *The Empirical Turn in the Philosophy of Technology*, volume 20 of *Research in Philosophy and Technology*, Carl Mitcham, series editor, Amsterdam: JAI, Elsevier Science, 99-117.
- d "Organic Necessity: Thinking about *Thinking about Technology*." *Techné: Journal of the Society for Philosophy and Technology*, <http://borg.lib.vt.edu/ejournals/SPT/spt.html>. **5**(1): 1-14.
- 1999a "Internal History and the Philosophy of Experiment." *Perspectives on Science*, **7**(3): 383-406.
- b with Mark Cohen. "Why Trade?" *Perspectives on Science*, **7**(2): 231-254.
- c with Alfred Nordmann. "Forays into the Trading Zones of *Image and Logic*." *Perspectives on Science*, **7**(2): 147-150.

- 1998 “Encapsulating Knowledge.” *Techné: Electronic Journal of the Society for Philosophy and Technology*, <http://borg.lib.vt.edu/ejournals/SPT/spt.html>. **3**(3): 1-9. A considerably expanded version is in *Foundations of Chemistry*, **2**(1): 5-46.
- 1997 “Scientific Instrument Making, Epistemology and the Conflict between Gift and Commodity Economies.” *Techné: Electronic Journal of the Society for Philosophy and Technology*, <http://borg.lib.vt.edu/ejournals/SPT/spt.html>. **2**:1-16. Also in *Ludus Vitalis*, Supplement **2**, 1997, 1-16.
- 1995 “Meaning in a Material Medium.” In D. Hull, M. Forbes and R. Burian eds., *PSA 1994*, **2**:441-51.
- 1994 with Alfred Nordmann. “Facts-well-Put.” *British Journal for the Philosophy of Science*. **45**: 37-77. Also in J. Pitt and E. Lugo, eds., *The Technology of Discovery and the Discovery of Technology: Proceedings of the 1991 Annual Conference of the Society for Philosophy and Technology*, 413-56. Translated and reprinted in German, 2021.
- 1993 “Analytical Chemistry and the ‘Big’ Scientific Instrumentation Revolution.” *Annals of Science*. **50**(3): 267-290.
- 1991a “Baird Associates’ Commercial Three-Meter Grating Spectrograph and the Transformation of Analytical Chemistry.” *Rittenhouse*. **5**(3): 65-80.
- 1990 with Thomas Faust. “Scientific Instruments, Scientific Progress and the Cyclotron.” *British Journal for the Philosophy of Science*. **41**:147-75.
- 1989 “Instruments on the Cusp of Science and Technology: The Indicator Diagram.” *Knowledge and Society: Studies in the Sociology of Science Past and Present*. **8**: 107-22.
- 1988a “Five Theses on Instrumental Realism.” In A. Fine and J. Leplin eds., *PSA 1988*, **1**: 165-73.
- b “Not Really About Realism: A Review of Ian Hacking’s, *Representing and Intervening*.” *Nous*. **22**: 299-307.
- 1987a “Factor Analysis, Instruments, and the Logic of Discovery.” *British Journal for the Philosophy of Science*. **38**:319-37.
- b “Significance Tests: History and Logic.” *Encyclopedia of Statistical Sciences*, N. L. Johnson and S. Kotz, editors-in-chief. New York: John Wiley & Sons. **8**:466-71.
- 1985 “Lehrer/Wagner Consensual Probabilities Do Not Adequately Summarize the Available Information.” *Synthese*. **62**: 47-62.
- 1984 “Tests of Significance Violate the Rule of Implication.” In P.D. Asquith and P. Kitcher eds., *PSA 1984*, **1**: 81-92.
- 1983a “The Fisher/Pearson Chi-Squared Controversy: A Turning Point for Inductive Inference.” *British Journal for the Philosophy of Science*. **34**: 105-18.
- b “Conceptions of Scientific Law and Progress in Science.” *The Limits of Lawfulness*, N. Rescher, ed. Lanham, Maryland: University Press of America, 33-41.
- 1982 with Richard Otte. “How to Commit the Gambler’s Fallacy and Get Away with It.” In P.D. Asquith and T. Nickels eds., *PSA 1982*, **1**: 169-80.
- 1981 *Significance Tests: Their Logic and Early History*. Unpublished Doctoral Dissertation submitted to Stanford University, June 1981. Ian Hacking, Principal advisor. Ann Arbor, Michigan: University Microfilms International.

## Reviews

- 2003 E. Higgs, A. Light and D. Strong, *Technology and the Good Life? Environmental Ethics*. **25**: 325-328.
- 2001 A. Thackray and M. Myers, *Arnold O. Beckman: One Hundred Years of Excellence*. *Isis*. **92**(4): 805-6.
- 1996 J. Buchwald, *The Creation of Scientific Effects: Heinrich Hertz and Electric Waves*. *Philosophy of Science*. **63**:141-3.
- 1995 A. Musgrave, *Common Sense, Science and Scepticism*. *Review of Metaphysics*. **48**:917-8.
- 1992 D. Ihde, *Instrumental Realism*. *Isis*. **83**: 529-30.
- 1991 G. Gigerenzer, Z. Swijtink, T. Porter, L. Daston, J. Beatty, and L. Kruger, *The Empire of Chance*. *Isis*. **82**(1): 103-5.



- 1990 C. Tanford, *Ben Franklin Stilled the Waves*. *Journal of American History*. September, p. 632.
- 1988 D. C. Stove, *The Rationality of Induction*. *Review of Metaphysics*. **41**: 412-3.
- 1986 Brian Skyrms, *Pragmatics and Empiricism*. *British Journal for the Philosophy of Science*. **37**: 514-6.
- 1985 Ian Hacking, *Representing and Intervening*. *Journal of Social and Biological Structures*. **8**: 337-44.
- 1983 *What? Where? When? Why?: Essays on Induction, Space and Time, Explanation*, R. McLaughlin, ed. *Isis*. **74**: 260-1.
- 1981 T.A.F. Kuipers, *Studies in Inductive Probability and Rational Expectation*. *Journal for the History and Philosophy of Logic*. **1**: 247-8.

### Software

- 1985 "Data Base Managers," text for IBM PC software, *Get Started*. K. Stuart Marvin.

### Lectures

- 2022 "Invited Comment on Johannes Lenhard and Ann Johnson's "Chapter 5: Systems Thinking and the Mainframe Culture of Prediction," Reading group of the Consortium for History of Science, Technology and Medicine, by Zoom, February 18, 2022.
- 2021 "You are All Wizards Now." Graduate Commencement Address, Clark University, Worcester, MA, June 12, 2021.
- 2016a "Achieve the Honorable." Worcester Academy Board of Visitors Annual Meeting Keynote Address, Worcester Academy, Worcester, MA, November 4, 2016.
- b "Data and Our Self-Study Story." Self-Study Workshop, Commission on Institutions of Higher Education, New England Association of Schools and Colleges, Southbridge, MA, October 14, 2016.
- c "Our Self-Study Story." Self-Study Workshop, Commission on Institutions of Higher Education, New England Association of Schools and Colleges, Southbridge, MA, October 13, 2016.
- 2015a "Data and Our Self-Study Story." Self-Study Workshop, Commission on Institutions of Higher Education, New England Association of Schools and Colleges, Southbridge, MA, October 16, 2015.
- b "Our Self-Study Story." Self-Study Workshop, Commission on Institutions of Higher Education, New England Association of Schools and Colleges, Southbridge, MA, October 15, 2015.
- c "Baird Associates' Infrared Instrumentation, 1940s and 50s." Pittcon, New Orleans, March 9, 2015.
- 2014 "Beyond Scholarship: Invisibles in the World of Things." Commentary at Early Modernists Unite Session, Clark University, October 22, 2014.
- 2013 "Engineering Realities." Pittcon, Philadelphia, March 18, 2013.
- 2012 "Liberal Education and Effective Practice: It's Personal." Keynote address, Jonas Clark Fellows Society, Boston, 3 November 2012.
- 2011a "The Humanities and the Management of Future Risks." Humanities Workshop, "Global Humanities, Re-envisioned Globally, Luxembourg, 23 July 2011.
- b "Many Ways of Knowing." 14<sup>th</sup> Congress of Logic, Methodology and Philosophy of Science, Nancy, France, 21 July 2011.
- c Author meets critics session on Thing Knowledge, Biennial Workshop on the History of Astronomy, University of Notre Dame, 8 July 2011.
- d "Many Ways of Knowing." Philosophy Department Colloquium, Clark University, Worcester, MA, 23 February 2011.
- e "From Laboratory to Society: Developing an Informed Approach to Nanoscale Science and Technology: Managing Risk with Future Technologies." NanoWorcester, First Annual Symposium, Massachusetts College of Pharmacy and Health Sciences, Worcester, MA, 12 February 2011.

- 2010a “Nanotechnology, ‘Curing Aging,’ and Finding the Bite to NanoEthics.” International Academy for Nanomedicine, Second Annual Congress, Antalya, Turkey, 6 October 2010.
- b “Images of Nanoscale Objects: Proliferation, Conventions, Epistemology and Fundamentally Stories.” Society for the Study of Nanoscience and Emerging Technologies, Second Annual Conference, Darmstadt, Germany, 1 October 2010.
- c “Honors Beyond the Classroom: Students Learning about Knowledge at Work.” Keynote address at IdeaPOP 2010, University of South Carolina, Columbia, SC, 21 May 2010.
- d with Jenni Lister and Ricki Shine, “The Honors College Experience: What Students Need to Know” 2010 “Counseling the College Bound Student, Southern Association for College Admission Counseling, Columbia College, Columbia, SC, 12 March 2010.
- 2009a “On the Origins and Mission of the Society for the Study of Nanoscience and Emerging Technologies, or ‘s.net.’” 2009 National Science Foundation Nanoscale Science Engineering Grantees Conference, Arlington, VA, 9 December 2009.
- b “Nanotechnology, ‘Curing Aging,’ and Finding the Bite to NanoEthics.” Center for Workforce Development, Graduate NanoEthics Symposium, in conjunction with the first annual meeting of the Society for the Study of Nanoscience and Emerging Technologies, Seattle, WA, 9 September 2009. Available for streaming on the web at <http://depts.washington.edu/ntethics/symposium/index.shtml>.
- c “Gifts for the Next Century,” Wilson Hall School Commencement Address, Sumter, SC, 28 May 2009.
- d “Nanotechnology, ‘Curing Aging,’ and Finding the Bite to ‘Nano Ethics,’” Nanotechnology: The Legal and Ethical Issues, Notre Dame, 19 March 2009.
- 2008a delivered by Briana Timmerman in my absence, “Developing in Honors: Alumni Relations,” National Collegiate Honors Council Annual Meeting, 23 October 2008.
- b “Seven Point Five Thoughts about Measurement and Quantification,” Last Lecture Series of the Carolina Scholars Association, University of South Carolina, Columbia, SC, 1 October 2008.
- c “Beyond the Data: How Images of the Nanoscale Work,” 30<sup>th</sup> Anniversary Celebration of the South Carolina Honors College, University of South Carolina, Columbia, SC, 20 September 2008.
- d “Images of the Nanoscale: Problems, Prospects,” Nanostructure Fabrication, Gordon Research Conference, 16 July 2008.
- e “What is Nanotechnology and Why Should You Care?” Wofford College Colloquium, 14 March 2008.
- f “Gifts for the Next Century,” Hammond School Cum Laude Society Keynote Address, Hammond School, Columbia, SC, 13 March 2008.
- g “What is Nanotechnology and Why Should You Care?” South Carolina Citizens’ School of Nanotechnology, USC, SC, 5 March 2008.
- 2007a “How to Make a Network Work,” Nanoscale Science and Engineering Grantees Conference, National Science Foundation, Washington, DC, 4 December 2007.
- b “Engineering Knowledge,” Burian-McNabb Lecture in Science, Technology and Society, Virginia Tech, Blacksburg, VA, 30 November 2007.
- c with Chappell Wilson, “How to Increase Giving Ten-fold,” National Collegiate Honors November Council Annual Meeting, Denver, CO, 1 November 2007.
- d “What is Nanotechnology and Why Should You Care?” South Carolina Citizens’ School of Nanotechnology, USC, SC, 12 September 2007.
- e “What is Nanotechnology and Why Should You Care?” South Carolina Criminal Justice Academy, Columbia, SC, 16 August 2007.

- f “Enhancement is Diminishment,” NanoFuture Forum,  
<http://powerofsmall.org/event/southcarolina> , South Carolina State Museum,  
 24 April 2007.
- g “Understanding Images of the Nanoscale,” Auburn University, 21 March 2007.
- h “Nanotechnology: Ethical and Societal Issues,” Presentation to the Human Odyssey  
 Program Auburn University, 20 March 2007.
- i “Public Pictures of the Nanoscale,” Presentation to the Nanotechnology in Society  
 Principle Investigators Meeting, National Science Foundation, 16 March 2007.
- j with Ann Johnson, “Societal Interactions Research Effort at USC,” Presentation to the  
 Nanotechnology in Society Principle Investigators Meeting, National  
 Science Foundation, 15 March 2007.
- k “What is Nanotechnology and Why Should You Care?” South Carolina Citizens’ School  
 of Nanotechnology, Benedict College, Columbia, SC, 7 March 2007.
- l with Ann Johnson, “*nano*Science and Technology Studies at USC’s NanoCenter: Program  
 in Societal and Ethical Implications of Nanotechnology,” Report to the  
 NanoCenter’s External Advisory Board, Columbia, SC, 11 January 2007.
- 2006a “Following in the Footsteps of the Founders,” National Collegiate Honors Council,  
 Annual Meeting, Philadelphia, 16 November 2006.
- b “Engineering Reality,” Conference: “Science in the Context of Application:  
 Transformations of Academic Research,” Zentrum für Interdisziplinäre  
 Forschung, Bielefeld, Germany, 27 October 2006.
- c with Vivek Thakur, “Two Roads from Laboratory to Commercial Product,” University of  
 Bergen, Norway, 25 October 2006.
- d “*nano*Science and Technology Studies at the University of South Carolina,” University of  
 Bergen, Norway, 23 October 2006.
- e with Vivek Thakur, “Two Roads from Laboratory to Commercial Product,” The  
 Commerce and Politics of Science, Notre Dame, 23 September 2006.
- f “South Carolina Honors College: Educating Tomorrow’s Leaders,” Forest Acres Rotary  
 Club, Forest Acres, South Carolina, 13 September 2006.
- g “What is Nanotechnology and Why Should You Care?” South Carolina Citizens’ School  
 of Nanotechnology, Benedict College, Columbia, SC, 6 September 2006.
- h “Instrumentation and Knowing,” Paul Bunge Prize Lecture, Deutschen Bunsen-  
 Gesellschaft, Erlangen, Germany, 26 May 2006.
- i “Many Ways of Knowing,” Deutsches Museum, Munich, Germany, 23 May 2006.
- j “Medical Nanotechnology: Why Should You Care?” South Carolina Medical  
 Association, Columbia, SC, 12 April 2006.
- k “Moving Images of the Nanoscale,” Orphans Film Symposium, University of South  
 Carolina, 23 March 2006. Audio available at  
[http://www.sc.edu/filmsymposium/Orphans\\_Sound/mp3/DavisBaird.mp3](http://www.sc.edu/filmsymposium/Orphans_Sound/mp3/DavisBaird.mp3);  
 video available at [http://ia340908.us.archive.org/2/items/OrphanFilmSymposium/  
 DavisBairdNanoscalePresentation.mov](http://ia340908.us.archive.org/2/items/OrphanFilmSymposium/DavisBairdNanoscalePresentation.mov).
- 
- l “What is Nanotechnology and Why Should You Care?” South Carolina Citizens’ School  
 of Nanotechnology, Benedict College, Columbia, SC, 15 March 2006.
- m “Images of the Nanoscale: What they say, what they suggest,” South Carolina Academy  
 of Science, Keynote Address, University of South Carolina, 10 March 2006.
- n “Moving Images of the Nanoscale: Interpretations and Connotations,” Center for  
 Nanoscale Science, Pennsylvania State University, State College, PA, 1 March  
 2006.
- o “*nano*Science and Technology Studies Program in Societal and Ethical Interactions with  
 Nanotechnology,” special presentation to Dr. Arden Bement, Director of the  
 National Science Foundation, University of South Carolina, 24 February 2006.
- p “Improving Nanotechnology Communication Across Multiple Boundaries,” Presentation  
 to the Nanotechnology in Society Principle Investigators Meeting, National  
 Science Foundation, 7 February 2006.

- q “*nano*Science and Technology Studies at USC’s NanoCenter: Program in Societal and Ethical Implications of Nanotechnology,” Report to the NanoCenter’s External Advisory Board, Columbia, SC, 12 January 2006.
- 2005a “A Blooming Buzzing Confusion: The World of the Nanoscale,” University of North Carolina, Greensboro, State University Colloquium, 11 November 2005.
- b “Multi-disciplinary Research: Prospects and Problems,” University of North Carolina, Greensboro, State University Colloquium, 11 November 2005.
- c “A Blooming Buzzing Confusion: The World of the Nanoscale,” Montana State University Colloquium, 7 October 2005.
- d “On Nano Movies” NanoCulture Colloquium Series, University of South Carolina NanoCenter, 4 October 2005.
- e “What is Nanotechnology and Why Should You Care?” South Carolina Citizens’ School of Nanotechnology, University of South Carolina, 21 September 2005.
- f “Philosophical Issues in Future Applications” contribution to “The Nanotechnology-Biology Interface: Exploring Models for Oversight,” Center for Science, Technology and Public Policy, Hubert Humphrey Institute of Public Affairs, University of Minnesota, 15 September 2005.
- g “What is Nanotechnology and Why Should You Care?” Cheraw Rotary Club, Cheraw, South Carolina, 20 May 2005.
- h “On Nano Movies,” Conference: “Imaging Nanospace,” Universität Bielefeld, 13 May 2005.
- i “On Nano Movies,” Center for Probing the Nanoscale, Stanford University, 6 May 2005.
- j “What is Nanotechnology and Why Should You Care?” Rutgers University, Newark, New Jersey, 20 April 2005.
- k “What is Nanotechnology and Why Should You Care?” South Carolina Citizens’ School of Nanotechnology, Edventure Museum, 3 April 2005.
- l “On the History of the USC NanoCenter and societal and ethical research on the interactions of nanotechnology at USC,” Symposium: “Nano Before Nano,” Chemical Heritage Foundation, 18 March 2005.
- m “Nanotechnology and Ethics,” Five Points Rotary Club, 4 February 2005.
- n “Converging Technologies, Diverging Values: Navigating NBIC Through Turbulent Waters,” contribution to “Nanotechnology in Science, Economy and Society,” Philipps Universität, Marburg, Germany, 15 January 2005.
- o “NanoCenter Program in Societal and Ethical Interactions with Nanotechnology,” Report to the NanoCenter’s External Advisory Board, Columbia, SC, 6 January 2005.
- 2004a “Comment,” session on “Philosophical Implications of Nanotechnology,” American Philosophical Association, Eastern Division, 28 December 2004.
- b “Response,” session on “Author Meets Critics: Davis Baird, author of *Thing Knowledge*,” American Philosophical Association, Eastern Division, 28 December 2004.
- c “Atomic Precision: Rowland’s Dictum and Nanotechnology,” Contribution to “Going Wrong: Errors, Failures, and Other Pitfalls in Scientific Practice,” Symposium, History of Science Society annual meeting, Austin, Texas, 20 November 2004.
- d with Ashley Shew, “The Mythology of Nanotechnology,” Center for Nanoscale Systems Symposium, Cornell University, 18 November 2004.
- e “Societal Interactions with Nanotechnology,” “Star of the West” Speaker Series, South Dakota School of Mines and Technology, 16 November 2004.
- f “Beyond ’Bots: Societal and Ethical Interactions of Nanotechnology,” NanoDays, Rice University, 29 October 2004.
- g “Nanotechnology and Ethics,” Panel Presentation at conference on “Ethics and the Life Sciences,” American Philosophical Association, University of Delaware, 24 October 2004.
- h “Converging Technologies, Diverging Values?,” Conference on “Ethics and the Life Sciences,” American Philosophical Association, University of Delaware, 24 October 2004.

- i “Where does Nano Come From?,” South Carolina Citizen’s School of Nanotechnology, University of South Carolina, Columbia, SC, 6 October 2004.
- j “Beyond ’Bots: Societal and Educational Implications of Nanotechnology, State of the Art, circa, Fall 2004,” Research Directions II, National Nanotechnology Initiative, Washington, D.C., 9 September 2004.
- k “The Precisions of Nanotechnology,” Brookhaven National Laboratory, Center for Functional Nanomaterials, Annual User Meeting, After Dinner Address, Upton, NY, 19 May 2004.
- l “Where did Nano Come From?,” Information Technology Council, Greater Columbia Chamber of Commerce, Columbia, SC, 11 May 2004.
- m “Technology and Culture,” South Carolina Department of Education Seminar, “From Software to the Digital Divide: Technology and Instruction,” Columbia, SC, 28 April 2004.
- n “Technological Convergence, Societal Divergence? A Comparison between the US and the EU on NBIC,” American Association for the Advancement of Science, Policy Forum, Washington, DC, 22 April 2004.
- o “Interdisciplinary Teaching,” Provost’s Faculty Teaching Seminar, University of South Carolina, Columbia, SC, 25 March 2004.
- p “Smalley v. Drexler: Bad Arguments All Around,” Contribution to a NanoCulture Roundtable, University of South Carolina, Columbia, SC, 22 March 2004.
- q “From Scopes to ’Bots: Introducing Nanotechnology,” Opening Lecture at the South Carolina Citizen’s School of Nanotechnology, University of South Carolina, Columbia, SC, 17 March 2004.
- r “<sup>nano</sup>Science and Technology Studies at USC’s NanoCenter: Program in Societal and Ethical Implications of Nanotechnology,” Report to the NanoCenter’s External Advisory Board, Columbia, SC, 9 January 2004.
- 2003a “Reel Responsibility: Two Questions for Andrew Light’s Reel Arguments,” American Philosophical Association, Eastern Division Meeting, Washington, DC, 28 December 2003.
- b “Navigating Nano Through Society,” plenary lecture, National Nanotechnology Initiative Workshop on Societal and Ethical Implications of Nanotechnology, Washington, DC, 3 December 2003.
- c with Ashley Shew, “The Mythology of Nanotechnology,” National Communication Association, Miami, FL, 23 November 2003.
- d poster presentation, “Navigating Nano through Time and Society,” USC NanoCenter “Symposium V: Molecular Electronics,” Columbia, SC, 21 November 2003.
- e with Chris Robinson, Steve Lynn, Rich Ray and Otávio Bueno, poster presentation, “Visual Images in Nano Science/Technology,” USC NanoCenter, “Symposium V: Molecular Electronics,” Columbia, SC, 21 November 2003.
- f “Navigating Nano through Time and Society,” Southern Technology Council, Oak Ridge, NC, 5 November 2003.
- g “Navigating Nano through Time and Society,” USC NanoCenter, Columbia, SC, 29 October 2003.
- h with Ashley Shew, “The Mythology of Nanotechnology,” Society for the Social Studies of Science, Annual Conference, Atlanta, Georgia, 16 October 2003.
- i with Ashley Shew, Workshop on “Probing the History of Scanning Tunneling Microscopy,” “Discovering the Nanoscale II,” Darmstadt, Germany, 9 October 2003.
- j with Ashley Shew, “The Mythology of Nanotechnology,” Centre Interuniversitaire de Recherche sur la Science et la Technologie, University of Quebec at Montreal, Montreal, Canada, 3 October 2003.
- k “One Word: Nanotechnology: On the future of the Society for Philosophy and Technology,” Society for Philosophy and Technology,” Park City, Utah, 9 July 2003.

- l with Ashley Shew, "Probing the History of Scanning Tunneling Microscopy," Society for  
Philosophy and Technology," Park City, Utah, 8 July 2003.
- m "Five Cases for Case Studies," Techné Group Meeting," Park City, Utah, 6 July 2003.
- n "Need to Study Ethical and Societal Implications of Nanotechnology," Testimony to the  
U. S. Senate Committee on Commerce, Science and Transportation,"  
Washington, D. C., 1 May 2003.
- o "Comment: By Way of Four Soundbites and a Bit of Analysis," International  
Conference: "Going Wrong and Making It Right," Aigena, Greece,  
3 April 2003.
- p with Ashley Shew, "Probing the History of Scanning Tunneling Microscopy,"  
"Discovering the Nanoscale," Columbia, 21 March 2002.
- q "From Laboratory to Society: Developing an Informed Approach to Nanoscale Science  
and Technology," Department of Physics, University of South Florida, Tampa,  
Florida, 6 February 2003.
- r with David Berube, Joachim Schummer and Emily Henderson, poster presentation:  
"Societal Implications 10<sup>-9</sup>," National Nanotechnology Infrastructure Network  
Grant Proposal Conference, National Science Foundation, Washington, D. C.,  
31 January 2003.
- 2002a with Ashley Shew, "Probing the History of Scanning Tunneling Microscopy," Society for  
the History of Technology, Toronto, 18 October 2002.
- b "Detached Thing Knowledge," Technological Knowledge: Philosophical Reflections,  
Boxmeer, The Netherlands, 14 June 2002.
- c "The Internet and the Dissemination of Research," CLA Infotech 2002, University of  
South Carolina, 15 May 2002.
- d Contribution to "Four Philosophical Perspectives on Nanoscale Research," Philosophy,  
Physics, NanoCenter Cross-Disciplinary Research Presentation, University of  
South Carolina, 9 May 2002.
- e "Detached Thing Knowledge," Revisiting Discovery and Justification, Max-Planck  
Institute for the History of Science, WissenschaftsForum am Gendarmenmarkt,  
Berlin, 2 March 2002.
- 2001a "Objective and Subjective Epistemology of Technology," "Objects and Artifacts: A  
Topic in the Philosophy of Technology," Department of Philosophy, Virginia  
Polytechnic Institute and State University, Hotel Roanoke Conference Center,  
10 September 2001.
- b "Thing Knowledge: Function and Truth," Nature and Technology: 12<sup>th</sup> Biennial  
International Conference of the Society for Philosophy and Technology,  
Aberdeen, Scotland, 10 July 2001
- c "Comment on Wybo Houkes 'The Proper Use of Technological Artifacts: An Intentional  
View,'" Nature and Technology: 12<sup>th</sup> Biennial International Conference of the  
Society for Philosophy and Technology, Aberdeen, Scotland, 10 July 2001.
- d "Knowing Tools: A Materialist Epistemology for a Philosophy of Technology," The  
Tools Symposium: Technology and the Making of Humanity, University of  
Idaho, 3 May 2001.
- e "Conceptual Issues in Technology," Panelist, The Tools Symposium: Technology and the  
Making of Humanity, University of Idaho, 1 May 2001.
- f "Thing Knowledge: How Engineering Knows," South Carolina Society for Philosophy  
Annual Meeting, 3 March 2001.
- g "Thing Knowledge: How Engineering Knows," Marquette University Symposium on the  
Philosophy of Technology, 10 February 2001.
- 2000a "Thing Knowledge: How Engineers Know," A Gateway Engineering Education Seminar,  
School of Engineering and Information Technology, University of South  
Carolina, 24 October 2000.
- b "Chemical Instrumentation, Material Knowledge: Dimensions to the History of Baird  
Associates," IUHPS/DHS Commission on the History of Modern Chemistry:  
From the Test-tube to the Autoanalyzer: The Development of Chemical  
Instrumentation in the 20th Century, London, England, 11 August 2000.

- c “Outline of a Materialist Epistemology,” Toward a More Developed Philosophy of Scientific Experimentation, Amsterdam, The Netherlands, 15 June 2000.
- d “Organic Necessity: Thinking about Joe Pitt’s Thinking about Technology,” Author Meets Critics Session of the Society for Philosophy and Technology, American Philosophical Association, Central Division Meetings, 21 April 2000.
- e “Encapsulating Knowledge,” Joint Seminar in the History of 20th Century Science, Harvard University, 3 March 2000.
- f “Instrumentation and Objectivity: Psychometrics, Analytical Chemistry and the SAT,” Royal Academy of Science Colloquium, “Research Methodology,” Amsterdam, The Netherlands, 12 January 2000.
- 1999a “Spectrochemical Instrumentation and the Thing-y-ness of Things,” Institute for the History and Philosophy of Science and Technology, Toronto University, 1 December 1999.
- b “Material Knowing Through Models,” Department of Philosophy, Smith College, 11 November 1999.
- c “Baird Associates, 1937-1954, and the Philosophy of Spectrochemical Instrumentation,” Dibner Institute for the History of Science and Technology, M.I.T., Cambridge, 19 October 1999.
- d “Five Cases for Case Studies,” Fifth International History, Philosophy and Science Teaching Conference; Science as Culture, Como-Pavia, Italy, 17 September 1999.
- e “Models and Material Theories,” International Society for the Philosophy of Chemistry Summer Symposium on the Philosophy of Chemistry, University of South Carolina, Columbia, 31 July 1999.
- f Comment on Michael Heidelberger, “Extending Reality Through Experimentation,” South Carolina Society for Philosophy, Annual Meeting, Clemson University, 20 February 1999.
- 1998a “The Thing-y-ness of Things: Materiality and Spectrochemical Instrumentation, 1937-55,” Center for the Study of Science in Society Invited Colloquium, Virginia Polytechnic Institute and State University, 5 November 1998.
- b “Quality Control in Metal Production with Spectrochemical Analysis: Some Instrumental Developments: 1935-55,” Society for the History of Technology, Annual Meeting, Baltimore, Maryland, 16 October 1998.
- c “Instrument Knowledge & The History of Baird Associates.” Philosophy Department Brown Bag Lunch, University of South Carolina, 17 September 1998.
- d “Chemistry and Reduction in Light of Instruments,” International Society for the Philosophy of Chemistry Summer Symposium on the Philosophy of Chemistry and Biochemistry, Sidney Sussex College, Cambridge, England, 4 August 1998.
- e “The Thing-y-ness of Things: Materiality and Design, Lessons from Spectrochemical Instrumentation,” International Conference, “The Empirical Turn in the Philosophy of Technology,” Delft, Netherlands, 17 April 1998.
- 1997a “Encapsulating Knowledge: The Dow Chemical Direct Reader,” Pacific Division Annual Meeting of the Society for Applied Spectroscopy, Irvine, California, 22 October 1997.
- b “Encapsulating Knowledge: The Spectrometer,” Technology and the Future: X<sup>th</sup> International Conference of the Society for Philosophy and Technology, Düsseldorf, Germany, 24 September 1997.
- c “Encapsulating Knowledge: The Direct Reading Spectrometer,” USC Science Studies Group, 4 September 1997.
- d “Encapsulating Knowledge: The Direct Reading Spectrometer,” International Society for the Philosophy of Chemistry Summer Symposium on the Philosophy of Chemistry and Biochemistry, Bradford & Ilkley Community College, Ilkley, England, 10 July 1997.
- e Comment on Alan Sokal, “Science in the Real World: Physical Reality and its Social Deconstructions.” Department of Philosophy/Science Studies Group Symposium, 7 February 1997.

- 1996a “Scientific Instrument Making, Epistemology and the Conflict between Gift and Commodity Economies.” Technology, Economic Development and Sustainability: IX International Conference of the Society for Philosophy and Technology, Puebla, Mexico, 30 October 1996.
- b “Gift versus Commodity Economies: Surrogate Motherhood and Market-Based Reform.” Money & Medicine: Mother’s Milk or Witches’ Brew?: A symposium for physicians, bioethicists, health administrators and interested others, Columbia, SC, 4 October 1996.
- 1995 “Instrumentation and Objectivity.” South Carolina Society for Philosophy Annual Meeting, 25 February 1995.
- 1994a “Meaning in a Material Medium.” Philosophy of Science Association Biennial Meeting 16 October 1994.
- b “Instrumentation and Objectivity,” International Summer School on the Philosophy of Chemistry and Biochemistry, Bradford & Ilkley Community College, Ilkley, England, 12 July 1994.
- c “Ethics and Science.” University of South Carolina at Spartanburg, Class Presentation 31 January 1994.
- 1993a “Instrumentation and Objectivity (Work in Progress),” Philosophy Department Brown Bag Lunch, University of South Carolina, 7 December 1993.
- b “Instrumentation and Objectivity,” Philosophy Department Invited Colloquium, Virginia Polytechnic Institute and State University, 18 November 1993.
- c “Scientific Instrument Making: The Birth of Baird Associates and the Conflict Between Gift and Exchange Economies,” Center for the Study of Science in Society Invited Colloquium, Virginia Polytechnic Institute and State University, 17 November 1993.
- d “What is Philosophy of Science?” Contribution to a Panel Discussion, Philosophy and Physics Colloquium Series, University of South Carolina, 24 March 1993.
- e “Analytical Chemistry and the ‘Big’ Scientific Instrumentation Revolution.” Philosophy Department Colloquium, University of South Carolina, 3 March 1993.
- 1992a “Commentary: Instruments as Cognitive Filters” Interdisciplinary Conference: Functional Neuroimaging: Looking at the Mind, MGH-NMR Center, Harvard Medical School, 4 November 1992.
- b “Facts-Well-Put.” Philosophy Department Brown Bag Lunch, University of South Carolina, 25 February 1992.
- 1991 with Alfred Nordmann. “Striking Phenomenon Instruments: On the Relative Autonomy of Facts-well-Put.” The Society for Philosophy and Technology V<sup>th</sup> International Conference, 10 March 1991.
- 1990a “A Brief Lecture Report on Diane Forsythe’s “The Meaning of ‘Work’ in Artificial Intelligence: An Anthropological View of Knowledge Engineering.”” Contribution to a Panel Discussion on Artificial Intelligence, Philosophy and Physics Colloquium Series, University of South Carolina, 7 November 1990.
- b “Analytical Chemistry and a ‘Second’ Scientific Revolution.” University of Maryland, Committee on the History and Philosophy of Science Invited Colloquium, 20 September 1990.
- c “Was There a Scientific Revolution in Analytical Chemistry During the Period 1920-1950?” X<sup>th</sup> Scientific Instruments Symposium, Smithsonian Institution, Washington, D.C., 21 September 1990.
- d “Scientific Instruments as Elements of Scientific Knowledge: John Smeaton’s Model Waterwheel and Benjamin Franklin’s Pulse Glass.” South Carolina Society for Philosophy Annual Meeting, 26 February 1990.
- e “Scientific Instruments, Scientific Progress and the Cyclotron.” College of Charleston, Department of Philosophy Invited Colloquium, 22 February 1990.
- f “Epistemology and Instruments: E. O. Lawrence’s Cyclotron.” Philosophy and Physics Colloquia Series, University of South Carolina, 31 January 1990.



- 1989 “Scientific Instruments as Elements of Scientific Knowledge: John Smeaton’s Model Waterwheel and Benjamin Franklin’s Pulse Glass.” History and Philosophy of Science Colloquium, Stanford University, 25 May 1989.
- 1988a “Comment on Arthur Falk’s ‘Is C. I. Lewis’ Epistemology Bayesian?’” Eastern Division of the American Philosophical Association Annual Meeting, 30 December 1988.
- b “Five Theses on Instrumental Realism.” Philosophy of Science Association Biennial Meeting, 28 October 1988.
- c “Comment on Steve Yates’ ‘The Current Status of the Incommensurability Thesis’” South Carolina Society for Philosophy Annual Meeting, 19 February 1988.
- d “Scientific Instruments, Scientific Progress and the Cyclotron.” Invited Colloquium, Clemson University Philosophy Department, 10 February 1988.
- e with Richard Otte. “Emergent Probabilities.” Pacific Division of the American Philosophical Association Annual Meeting, 25 March 1988.
- 1987 “Tinkering.” Presidential Address at the South Carolina Society for Philosophy Annual Meeting, 30 January 1987.
- 1986a “Instruments, History and the Philosophy of Science.” Graduate Student Colloquium, Department of Philosophy, University of South Carolina, 28 October 1986.
- b “Instruments on the Cusp of Science and Technology: The Indicator Diagram.” Society for the History of Technology, Annual Meeting, 23 October 1986.
- c “Factor Analysis does not Produce Hypotheses.” Southern Society for Philosophy and Psychology, Annual Meeting, 28 March 1986.
- 1985a “Exploratory Factor Analysis, Instruments and the Logic of Discovery.” Department of Statistics Colloquium, University of South Carolina, 26 September 1985.
- b “Science and Values.” South Carolina Scholars Forum, Monthly Meeting, 25 March 1985.
- c “Comment on Richard Otte’s ‘Indeterminism and Counterfactual Analyses of Causation.’” Pacific Division of the American Philosophical Association Annual Meeting, 23 March 1985.
- d “Hacking’s Realism.” South Carolina Society for Philosophy Annual Meeting, 23 February 1985.
- 1984a “Tests of Significance Violate the Rule of Implication.” Philosophy of Science Association Biennial Meeting, 19 October 1984.
- b “Tests of Significance Violate the Rule of Implication.” Southern Society for Philosophy and Psychology Annual Meeting, 20 April 1984.
- c “Karl Pearson: Inventor of Correlation and Spurious Correlation.” Department of Educational Foundations Invited Colloquium, College of Education, Georgia State University, 16 February 1984.
- d “Logical Oddities with Tests of Significance.” Department of Educational Foundations Invited Working Seminar, College of Education, Georgia State University, 17 February 1984.
- e “What is Philosophy of Science?” South Carolina Scholars Invited Talk, 9 February 1984.
- 1983 “The Invention of the Karl Pearson Product Moment Correlation Coefficient: Entering a Universe of Chance.” South Carolina Chapter of the American Statistical Association Quarterly Meeting, 2 December 1983.
- 1982a “How to Commit the Gambler’s Fallacy and Get Away with It.” Society for Exact Philosophy Annual Meeting, 20 February 1982.
- b “Conceptions of Scientific Law and Progress in Science.” Center for Philosophy of Science, University of Pittsburgh, First Annual Conference in the Philosophy of Science, 16 October 1982.
- c with Richard Otte. “How to Commit the Gambler’s Fallacy and Get Away with It.” Philosophy of Science Association Biennial Meeting, 30 October 1982.
- 1981a “The Fisher/Pearson Chi-Squared Controversy: A Turning Point for Inductive Inference.” Department of Philosophy Colloquium, University of Arizona, 12 November 1981.

- b “The Fisher/Pearson Chi-Squared Controversy.” Lawrence Livermore Laboratory Lecture Series, 10 May 1981.

### Selected Media Appearances

- 2010 Quoted in “University Honors Colleges Pitch the ‘Liberal-Arts College Experience,’” Peter Schmidt, *Chronicle of Higher Education*, 5 March 2010.
- 2006a Featured on “Speaking of Schools,” National Public Radio, WLTX, Monday, 13 March 2006.
- b Featured in “USC Team Studying Emerging Science” James Hammond, *The State*, Tuesday, 3 January 2006, p. A1.
- 2005 Interviewed at opening of “It’s a Nano World” at Edventure Museum, Columbia, SC, on “Live With Lucas,” WIS TV, Columbia, SC, 1 February 2005.
- 2004a Quoted in “Nanotech Group’s Invitations Declined: Critics Say Effort Glosses Over Risks,” Rick Weiss, *Washington Post*, Thursday, 28 October 2004, p. A04.
- b Quoted in “Scholars Probe Nanotechnology’s Promise and Its Potential Problems,” Toni Feder, *Physics Today*, June 2004. Available at <http://www.physicstoday.org/vol-57/iss-6/p30.html>.
- c Quoted in “Nanotech Poses Big Unknown to Science; As World Shrinks, Concerns Multiply,” Rick Weiss, *Washington Post*, Sunday, 1 February 2004, p. A01.
- 2003a Guest on “Science Friday,” National Public Radio, 26 September 2003. Available at [http://www.sciencefriday.com/pages/2003/Sep/hour2\\_092603.html](http://www.sciencefriday.com/pages/2003/Sep/hour2_092603.html).
- b Quoted in “SC School gets Nanotech Grant” Associated Press release, *ABC News*, 5 September 2004, [http://abcnews.go.com/wire/US/ap20030905\\_314.html](http://abcnews.go.com/wire/US/ap20030905_314.html).
- c Guest on “Walter Edgar’s Journal,” South Carolina ETV Radio, 18 April 2003.
- 2002 Quoted in “The Tightening Job Market,” Scott Smallwood, *Chronicle of Higher Education*, 11 January 2002.

### Courses Taught

- American Pragmatism*: an upper division undergraduate course on American pragmatism, approached historically with initial focus on the founders, C.S. Peirce, W. James and J. Dewey, followed by more recent work contributing to the pragmatist line of thought, including, R. Rorty, H. Putnam and C. West. (Clark University, Philosophy 265).
- Foundations of Inquiry in Natural Science (Honors)*: an undergraduate introduction to basic concepts underlying inquiry in the natural sciences; students are taught distinctions between general approaches to inquiry—natural history, analysis, experimentation, creating phenomena—and, through a series of interview assignments and field trips, about the sites and activities of scientists. (Taught with the aid of Catherine Murphy, Department of Chemistry and Biochemistry, University of South Carolina, South Carolina College Course 285A).
- The Gift, On the Philosophy of Exchange (Honors & Graduate Seminar versions)*: a seminar devoted to issues of gift exchange; readings taken from anthropology, sociology, history and philosophy. (University of South Carolina, South Carolina College Course 485; Philosophy 761).
- Philosophy of Technology (Honors)*: an undergraduate introduction to issues in the philosophy of technology; students are taught to appreciate relations between technology, science and society through a discussion of readings in the history and philosophy of technology and through a series of field trips to examine local sites of technological importance. (University of South Carolina, South Carolina College Course 380).
- Ethics of Science and Technology*: an undergraduate introduction to the interaction between ethical judgements and scientific research; case studies include the recombinant DNA debate of the 1970s, the development of nuclear weapons, and intelligence testing research. (University of South Carolina, Philosophy 317).
- History and Philosophy of Science*: an undergraduate introduction to the philosophy and history of science; particular attention paid to the contributions of Hempel, Popper, Kuhn, Lakatos and Hacking. (University of South Carolina, Philosophy 315).

*Philosophy of Science*: an advanced undergraduate and graduate seminar covering several related topics including, instrumentation, explanation, causality, the role of mathematics and logic, measurement, determinism, reductionism, and the place of history in science. (University of South Carolina, Philosophy 512).

*Philosophical Foundations of Nursing Science*: a graduate course taught to first year Nursing Science Ph.D. students on the variety of views held by philosophers about science. (University of South Carolina, Nursing 800).

*Analytical Reasoning*: an undergraduate introduction to methods of rational inquiry, including deductive and inductive inference, human biases and how to manage them, reading and study skills. (Clark University, Philosophy 103).

*Introduction to Inductive Inference*: an undergraduate introduction to methods of inductive inference emphasizing statistical inference. *Honors*: an undergraduate introduction to the history and foundations of statistical inference and the nature of probability. (University of South Carolina, Philosophy 111).

*Introduction to Philosophy*: an undergraduate introduction to philosophy; course taught as a large lecture course with smaller discussion sub-sections led by graduate teaching assistants. The course covers the history of philosophy. (University of South Carolina, Philosophy 102)