

Sandra D. Mitchell
Curriculum vitae
2016

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EDUCATION

- Ph.D. History and Philosophy of Science, University of Pittsburgh 1987
- M.Sc. Logic, Philosophy and Scientific Method, The London School of Economics and Political Science, 1975
- B.A. Philosophy, Pitzer College, 1973

ACADEMIC APPOINTMENTS

Tenure-track Positions

- University of Pittsburgh, Department of History and Philosophy of Science, Professor 2000-present
- University of California, San Diego, Department of Philosophy, Assistant Professor and Associate Professor, 1989-2000
- The Ohio State University, Department of Philosophy, Lecturer and Assistant Professor, 1985-1989

Visiting Positions

- University of California at Santa Cruz, Department of Philosophy, Visiting Lecturer, spring Term, 1985
- The Ohio State University Medical School, Medical Humanities and Behavioral Sciences, Lecturer, 1987-1988
- Stanford University, Department of Philosophy, Visiting Scholar, fall term, 1988
- Zentrum für Interdisziplinäre Forschung, Universität Bielefeld, Germany, Research Fellow, 1991-1992
- Wissenschaftskolleg zu Berlin, Institute for Advanced Studies, Berlin, Germany, Fellow, 1993-1994
- Center for the Philosophy of Science, University of Pittsburgh, Fellow, fall term, 1999
- Max Planck Institute for the Study of Societies, Cologne, Germany, Fellow 2004-2005
- Witten/Herdecke University, Germany, Visiting Scholar, May 12-22, 2008
- Max Planck Institute for History of Science, Berlin, Germany, Visiting Scholar, 2010

PUBLICATIONS

Books

- Unsimple Truths: Science, Complexity and Policy*, University of Chicago Press, 2009
Komplexitäten. Warum wir erst anfangen, die Welt zu verstehen, translated by Sebastian Vogel, Suhrkamp Verlag, 2008
Biological Complexity and Integrative Pluralism, Cambridge University Press, 2003

Edited Volumes

- Symposia Papers, Proceedings of the 2002 Biennial Meeting of the Philosophy of Science Association *Philosophy of Science*, Volume 71, Number 5, 2004
Contributed Papers, Proceedings of the 2002 Biennial Meeting of the Philosophy of Science Association *Philosophy of Science*, Volume 70, Number 5, 2003
Ceteris Paribus Laws, (with John Earman and Clark Glymour), Kluwer Academic Publishers, 2002
Human by Nature: Between Biology and the Social Sciences, (with Peter Weingart, Peter Richerson and Sabine Maasen), Erlbaum Press, 1997

Refereed Journal Articles

- "Why after 50 Years are Protein X-ray Crystallographers Still in Business?" with Angela M. Gronenborn, *British Journal for the Philosophy of Science*, 2015
"Multilevel Research Strategies and Biological Systems", with Maureen A. O'Malley, Ingo Brigandt, Alan C. Love, John W. Crawford, Jack A. Gilbert, Rob Knight, and Forest Rohwer, *Philosophy of Science*, pp. 811-828, 2014
"Emergence: Logical, Functional and Dynamical Accounts" *Synthese*, pp. 171-186, 2012
"Determinism vs. Contingency: A False Dichotomy" *Origins of Life and Evolution of Biospheres*, pp. 4-5, 2010
"Exporting Causal Knowledge in Evolutionary and Developmental Biology" *Philosophy of Science*, pp. 697-706, 2008
"The Import of Uncertainty" *The Pluralist*, pp. 58-71, 2007
"Integration without Unification: An Argument for Pluralism in the Biological Sciences", with Michael R. Dietrich, *American Naturalist*, pp. S73-S79, 2006
"Modularity: More than a Buzzword" Essay Review, *Biological Theory*, pp. 98-101, 2005
"Why Integrative Pluralism?", *Emergence: Complexity & Organization*, pp. 81-91, 2004 (reprinted in *Emergence: Complexity & Organization: 2004 Annual, Vol. 6* edited by Kurt A. Richardson; Jeffrey A. Goldstein; Peter M. Allen; David Snowden, ISCE Publishing, pp. 181-191, 2006)
"Ceteris Paribus – An Inadequate Representation for Biological Contingency, *Erkenntnis* pp. 329-350, 2002
"Editorial" with John Earman and Clark Glymour, *Erkenntnis*, pp. 277-280, 2002
"Integrative Pluralism" *Biology and Philosophy*, pp. 55-70, 2002
"Dimensions of Scientific Law" *Philosophy of Science*, pp. 242-265, 2000
"Self organization and the evolution of division of labor" co-authored with Robert E. Page, Jr., *Apidologie*, pp. 101-120, 1998

- "Pragmatic Laws", *Philosophy of Science (special issue)*, L. Darden (ed.) *PSA 1996: Part II, Symposia Papers*, pp. S468-S479, 1997
- "Function, Fitness and Disposition", *Biology and Philosophy*, pp. 39-54, 1995 (Reprinted in C. Allen, M. Bekoff and G. Lauder (Eds.): *Nature's Purposes: Analyses of Function and Design in Biology*, MIT Press, pp. 395-415, 1998)
- "Rough Waters Between Genes and Culture: An Anthropological and Philosophical View on *Coevolution*", with Monique Borgerhoff Mulder (a review article), *Biology and Philosophy*, pp. 471-48, 1994
- "Dispositions or Etiologies: A Comment on Bigelow and Pargetter", *Journal of Philosophy*, pp. 249-259, 1993
- "On Pluralism and Competition in Evolutionary Explanations", *American Zoologist*, pp. 135-144, 1992
- "The Causal Background for Functional Explanations", *International Studies in the Philosophy of Science*, pp. 213-230, 1989
- "Competing Units of Selection? - A Case of Symbiosis", *Philosophy of Science*, pp. 351-67, 1987

Book Chapters

- "Modes of Explanation: Complex Phenomena", in M. Lissack and A. Graber (eds.) *Modes of Explanation: Affordances for Action and Prediction*, Palgrave MacMillan, 2014
- "Complexity and Explanation in Social Science" in *Philosophy of the Social Sciences: Philosophical Theory and Scientific Practice*, edited by Chrysostomos Mantzavinos, Cambridge University Press, pp. 130-146, 2009
- "Explaining Complex Behavior" in K. Kendler and J. Parnas (eds), *Philosophical Issues in Psychiatry: Explanation, Phenomenology and Nosology*, Johns Hopkins Press, pp. 19-38, 2008
- "Taming Causal Complexity" in K. Kendler and J. Parnas (eds), *Philosophical Issues in Psychiatry: Explanation, Phenomenology and Nosology*, Johns Hopkins Press, pp. 125-131, 2008
- "Life is not so simple: the epistemology of Complexity" in *Jahrbuch 2003/2004* Wissenschaftskolleg zu Berlin, pp. 246-262, 2005
- "Anthropomorphism: Cross-species modeling" in R. Daston and G. Mitman (eds.) *Thinking with Animals*, Columbia University Press, 2005 (Reprinted in Susan Armstrong and Richard G. Botzler (eds.) *The Animal Ethics Reader*, Routledge 2008)
- "The Prescribed and Proscribed Values in Science Policy", in Peter Machamer and Gereon Wolters (eds.) *Science, Values and Objectivity*, University of Pittsburgh Press, pp.245-255, 2004
- "Contingent Generalizations: Lessons from Biology", in Renate Mayntz (ed.) *Akteure, Mechanismen, Modelle. Zur Theoriefähigkeit makro-sozialer Analysen*, Campus Verlag, Frankfurt, pp. 179-195, 2002
- "The Why's and How's of Interdisciplinarity", with Lorraine Daston, Gerd Gigerenzer, Nevin Sesardic and Peter Sloep, in *Human by Nature: Between Biology and the Social Sciences*, Erlbaum Press, pp. 103-150, 1997

- "The Superorganism Metaphor: Then and Now", in S. Maasen, E. Mendelsohn and P. Weingart (Eds.): *Biology as Society, Society as Biology: Metaphors*. Yearbook in the Sociology of Science, Kluwer Academic Publishers, pp. 231-48, 1995
- "The Units of Behavior in Evolutionary Explanations", in M. Bekoff and D. Jamieson (eds.) *Explanation and Interpretation in the Study of Animal Behavior: Comparative Perspectives*, Westview Press, pp. 63-83, 1990 (Reprinted in M. Bekoff and D. Jamieson (Eds.) *Readings in Animal Cognition*, MIT Press, pp. 129-142, 1996)

Conference Proceedings

- "On Norton Wise and Michael Heidelberger", in Thomas Sturm/Uljana Feest: *What (Good) is Historical Epistemology?* (Preprint No. 386) Max Planck Institute for History of Science. 2009.
- "Self Organization and Adaptation in Insect Societies" co-authored with Robert E. Page, Jr. in A. Fine, M. Forbes, and L. Wessels (eds.) *PSA 1990, Volume 2*, Philosophy of Science Association, East Lansing, Michigan, , pp. 289-298, 1991
- "Can Sociobiology Adapt to Cultural Selection?" in P. Machamer and A. Fine (Eds.) *PSA 1986, Volume 2*, Philosophy of Science Association, East Lansing, Michigan, pp. 87-96, 1987

Book Reviews

- "Paradigm shift, in perspective" Review of *Kuhn's Structure of Scientific Revolutions at Fifty*, Richards and Daston (eds.), *Science*, p. 1404, 25 March 2016.
- "The Hazards of Reductionism: Review of John Dupre: *Processes of Life*, *BioScience*, pp. 980-981, 2013
- "Review of Vittorio Hösle; Christian Illies (eds.) *Darwinism & Philosophy*, University of Notre Dame Press, 2005", *ISIS*, pp. 664-665, 2007
- "Bees as Superorganisms" (R.F.A. Moritz and E.E. Southwick), co-authored with Robert E. Page, Jr., *Trends in Ecology & Evolution*, pp. 265-266, 1993

Other Publications

- "Peace is Boring" *Pittsburgh Post-Gazette*, Saturday Poem, January 24, 2015
- "Complex, Historical, Self-reflexive: Expect the Unexpected!" with Wolfgang Streeck *MPIfG Working Paper 09/15*, 2009
- "Unfälle und Unerwartetes erwarten" with Wolfgang Streeck, *Handelsblatt*, November 20, 2009
- "Idiosyncratic Paradigms and the Revival of the Superorganism", co-authored with Robert E. Page, Jr., *Report NR. 26/92 of the Research Group on Biological Foundations of Human Culture*, Bielefeld, Germany, 1992

AWARDS AND HONORS

- 2014, Medal of the Università Campus Bio-Medico di Roma
- 2013, Distinguished Alumni Award, Pitzer College

INVITED TALKS/CONFERENCE PARTICIPATION

2010-2016

- Invited Lecture: Ohio University History and Philosophy of Science Series, 2016
“Perspectivism, Pluralism and Pragmatism: Lessons from Protein Science”, April 1
- Invited Lecture: Quo Vadis Science? Campus Bio-Medico, Rome, Italy 2016
“Beyond Simplicity: Integrating Knowledge in a Complex World”, March 4
- Invited Lecture: Gran Sasso Science Institute, L’Aquila, Italy, 2016
“Unsimple Truths: How Complexity Changes our view of Nature and Science”,
March 1
- Graduate Master Classes, Gran Sasso Science Institute, L’Aquila, Italy, 2016
“Emergence and Robustness”, February 29
“Case Studies and Complexity in Policy”, March 2
“Perspectivism”, March 3
- Workshop: Robustness in Neurological Systems, November 13-15, Center for the
Philosophy of Science, University of Pittsburgh, 2015
“Robustness in contemporary science and philosophy”, November 13
- Conference: Hempel and Beyond, September 18-19, University of Cologne, Germany, 2015
“Perspectives, Representation and Integration”, September 19
- Conference: International Society for History, Philosophy, and Social Science of Biology
Biennial Meeting, July 5-July 10, University of Quebec in Montreal, Canada, 2015
“Robustness and Emergence: Explainable Novelty”, June 6
- Workshop: Pragmatism at the intersection of Metaphysics and Philosophy of Science,
Centre for the Study of Mind in Nature, University of Oslo, Oslo, Norway, 2015
“Perspectivism, Pluralism and Pragmatism: Lessons from Protein Science” June 5
- Graduate Master Class, University College London 2015
“Emergence: logical, functional and dynamical”, May 29
- Invited Public Lecture: University College London, 2015
“Partial and Perspectival: Arguments for Model Pluralism”, May 28
- Workshop: Bogenfest, A workshop in Honor of Jim Bogen, Center for Philosophy of Science,
University of Pittsburgh, 2015
“Multiple Empirical Models: How Integration Helps” March 28
- Invited lecture: Science and Society Group, Arizona State University, Tempe, AZ 2015
“Why After 50 Years are Protein X-ray Crystallographers Still in Business? March 3
- Conference: Symposium on Perspectivism, Philosophy of Science Association, Biennial
Meeting, Chicago, IL, 2014
“Perspectives, Representation, and Integration” November 6-9
- Workshop: Emergence and Reduction in Science, Institute for History and Philosophy of
Sciences and Technology, Paris, France, 2014
“Robustness and Emergence” October 23-25
- Workshop: Interdisciplinary Workshop on Robustness in Biological Systems, Campus Bio-
Medico, Rome, Italy 2014
“Challenges of Robustness for Causal Explanation” October 14-16

Public Lecture: The Royal Institution, London, UK, 2014
 “Unsimple Truths: How Biological Complexity Changes our view of Nature and Science” June 10

Workshop: Carnegie Cognitive Astrophysics Workshop, Lake Arrowhead, CA, 2014
 “Complexity and Integrative Pluralism” May 15

Workshop: New Directions for a Pragmatic Metaphysics for the Philosophy of Science, Simon Fraser University, Vancouver, Canada, 2014
 “Pragmatic Laws: challenges for ‘mere correlations’ and ‘literal counterfactuals’” April 24-26

Invited lecture: Stanford Graduate School of Education, 2014
 “Beyond Simplicity: Integrating Knowledge in a Complex World” January 16

Invited lecture: Stanford Complexity Group, Stanford University, California, 2014
 “Representation, Partiality and Pragmatism or, Why after 50 years are X-ray Crystallographers Still in Business” January 15

Invited lecture: Education’s Digital Futures, Stanford Graduate School of Education, 2014
 “Teaching and Learning as Complex Systems” January 14

Invited lecture: Università Campus Bio-Medico di Roma, Italy, 2013
 “Biological Complexity and Integrative Pluralism” December 16

Invited lecture, Honors College, University of Pittsburgh, 2013
 “What is a biological function? What does it explain?” November 8

Invited lecture: Department of Philosophy Lecture Series, University of Connecticut, 2013
 “Representation, Partiality and Pragmatism or, Why after 50 years are X-ray Crystallographers Still in Business” October 18

Invited lecture: Pitzer College, Claremont, California, 2013
 “Representation, Partiality and Pragmatism or, Why after 50 years are X-ray Crystallographers Still in Business” September 26

Conference: International Society for the History, Philosophy and Social Studies of Biology, Montpellier, France, 2013
 “Relations of Models of Protein Folding” July 11

Keynote Lecture: British Society for the Philosophy of Science Annual Meeting, Exeter, UK, 2013
 “Representation, Partiality and Pragmatism” July 5

Symposium: Laws in the Life Science, American Philosophical Association, Eastern Division Annual Meeting, Atlanta, Georgia 2012
 “Physical and Biological Laws: A Difference Of Degree” December 28

Conference: Between Biology and Physics: Reduction, Emergence and Complexity, The Van Leer Jerusalem Institute, Tel Aviv and Jerusalem, Israel 2012
 “Physical and Biological Laws – A Difference of Degree” December 17-20

Symposium: Molecules, Organisms, Systems: Developing a Multi-level Integrated Insights Into Biological Processes, Philosophy of Science Association Biennial Meeting, 2012
 “Integrative Strategies in Explanations of Protein Folding” November 13-15

49th University of Cincinnati Philosophy Colloquium: Socially Engaged Philosophy of Science, University of Cincinnati, 2012

“GMOS and Policy in a Complex, Diverse World” October 11-13
 Workshop: Causation And Laws In The Special Sciences: Metaphysical Foundations,
 University of Konstanz, Germany, 2012

“Biological laws: contingency and stability” September 21-22
 Conference: Evidence and Causality in the Sciences, University of Kent, Canterbury, UK,
 2012

“Evidence of Complex Causes” September 5-7
 Invited lecture, Industry Studies Association Annual Meeting, Pittsburgh, PA, 2012

“When (and Why) Context Matters” May 30
 Philosophy Department Lecture Series, University of Sydney, Australia, 2012

“Emergence” May 9
 Conference on Integration in Biology and Medicine” University of Sydney, Australia, 2012

“Explanatory integration and integrative pluralism” May 3
 Invited lecture: Committee on the Conceptual Foundations of Science Lecture Series.
 University of Chicago, 2012

“Representation Pluralism: the Case of Protein Folding” April 6

Invited lecture: Philosophy Department Lecture Series, University of California, San Diego,
 2012

“Integrative Pluralism: The case of Protein Folding” March 4
 American Association for the Advancement of Science, Annual Meeting, Vancouver, Canada,
 2012

“GMOs and Policy in a Complex World” February 16-20
 Workshop: Working Group on Institutional Change, Max Planck Institute for the Study of
 Societies, Cologne, Germany, 2012

“Evolution and Social Science” January 20-21

Workshop on Reasoning with Cases in the Social Sciences, Center for the Philosophy of
 Science, University of Pittsburgh, 2011

“Why Context Matters” November 11
 Lecture Series, Center for the Philosophy of Science, University of Pittsburgh, 2011

“Integrative Pluralism: The case of Protein Folding” November 4
 Lecture Series, Rotman Institute of Philosophy, University of Western Ontario 2011

“GMOs and Policy in a Complex World” September 30
 Workshop: Integration in contemporary biology: philosophical perspectives on the
 dynamics of interdisciplinarity, University of Minnesota 2011

“Integrative Pluralism: The case of Protein Folding” September 24
 Biennial meeting of the International Society for the History, Philosophy and Social Studies
 of Biology, University of Utah, 2011

“Integrative Pluralism: The case of Protein Folding” July 14

Philosophy Department Colloquium Series, University of Cologne, 2011

“Integrative Pluralism: The case of Protein Folding” July 6
 Keynote Lecture, Society for the Philosophy of Science in Practice, Exeter, UK 2011

“Integrative Pluralism: The case of Protein Folding” June 24

Philosophy Department Lecture, London School of Economics, UK, 2011

“Integrative Pluralism: The case of Protein Folding” June 20

Les Mécaniciens: Salon des Refusés, Center for Philosophy of Science, University of Pittsburgh, 2011

“Causes, Regularity and Context” April 9

Inaugural public lecture, Institute for Values in Science and Policy, Simon Fraser University, Vancouver, Canada 2011

“Policy in the face of complexity and deep uncertainty: Genetically Modified Organisms” March 9

Keynote speaker at First European Advanced Seminar in the Philosophy of the Life Sciences, Causation and Disease in the Postgenomic Era, Brocher Foundation, Geneva, Switzerland 2010

“Philosophical Reflections on Robustness and Gene-Environment Interaction in Complex Disease” September 11

Philosophy Colloquium, University of Bielefeld, 2010

“Policy in the face of complexity and deep uncertainty” May 19

Center for Cultural Analysis, Rutgers University, 2010

Seminar on Evidence and Explanation in Science and the Arts April 21

Gordon Conference: Genes and Behavior. Ventura, California, 2010

Participant March 14-19

University of Calgary Philosophy Colloquium Series, 2010

“Emergence: Philosophy Meets Science” March 5

Mini-workshop on Unsimple Truths: Science, Complexity and Policy, Center for Philosophy of Science, University of Pittsburgh, 2010

“Response to Critics” February 3

2000-2009

Pitt-Paris II: Emergence and Reduction in the Sciences Workshop, Center for Philosophy of Science, University of Pittsburgh, 2009

“Dynamic Emergence” December 11-13

Philosophy of Science Biennial Meeting, Pittsburgh, PA 2009

(Organizer and chair) “Philosophy of Science in the Public Domain, Bending Science: Legal, Historical, and Philosophical Concerns” November 7

Philosophy of Science Biennial Meeting, Pittsburgh, PA 2009

“How to Represent, and Act in Contexts of Deep Uncertainty” November 7

Darwin in the 21st Century Conference, John J. Reilly Center for Science, Technology, and Values and the Science, Theology, and the Ontological Quest (STOQ) Project, University of Notre Dame, 2009

“Evolution and the Mechanisms of Complexity” November 1-3

Peterfest: A Workshop in Honor of Peter Machamer, Center for Philosophy of Science, University of Pittsburgh, 2009

“Pragmatic Laws and Mechanisms” October 24

International Society for the History, Philosophy and Social Studies of Science, Brisbane, Australia, 2009

“Emergence: Logical, Functional and Scientific” July 12-15
Workshop on Causality in Complex Networks, Australian Office of Defense, Mt. Tamborine,
Queensland, 2009

“Causality in Genetic Regulatory Networks” July 6-10
Public Lecture, San Sebastian Aquarium, San Sebastian, Spain 2009

“Darwin and Complexity” May 22
Conference on Open Questions in the Origin of Life, San Sebastian, Spain, 2009

“Contingency vs. Necessity: a False Dichotomy” May 19-23
The Program in History & Philosophy of Science & Technology, Stanford University, Palo
Alto, CA., 2009

“Emergence: Between Science and Philosophy” April 16
AAAS Annual Meeting, Chicago, IL. 2009

“Ineliminable Uncertainty and Challenges to Policy” February 15

Deutsch-Amerikanisches Institut in Heidelberg, Germany, 2008

“Beyond Simplicity” October 19

Gordon Conference on “Genes and Behavior”, Il Ciocco Lucca (Barga), Italy, 2008
Participant, February 24-29

University of Gent, Belgium. 2008

“Emergence and Function” March 14

Seminar Series, Sloan Foundation, New York, 2008

“The Different Roles of Context in Science” March 31

9th Course of the International School on Complexity, Erice, Sicily, 2008

“Emergence in the physical and biological world: A notion in search of clarification”
April 12-16

Press Conference, Suhrkamp Verlag, Berlin, Germany, May 15, 2008,

Invited Lecture “Beyond Simplicity” Research Seminar, Witten-Herdecke University,
Witten, Germany, May 19, 2008.

Lecture “Emergence: Between Science and Philosophy” Forum Scientiarum der Universität
Tübingen, June 3, 2008

Invited speaker “Adaptation and Complexity”, for conference: Adaptationism in Biology and
Psychology, Joint Conference on Adaptationism in Biology and Psychology sponsored by
Institut d'histoire et de philosophie des sciences et des technique and HPS and Center for
Philosophy of Science, University of Pittsburgh. Paris, France June 4-5, 2008.

Invited speaker, Workshop, “Philosophy of Science and Evidence-Based Policy”, June 27-28,
2008, Virginia Tech University.

Invited commentator, Conference “What (Good) is Historical Epistemology”, July 24-26,
2008, Max Planck Institute fur Wissenschaftsgeschichte, Berlin, Germany.

Lecture Series/Graduate Summer School, “Lectures in Philosophy of Biology”, Tsinghua
University, Beijing, China, August 18-22, 2008.

Invited Keynote Speaker at Conference “Data - Phenomena - Theories: What’s the notion of
a scientific phenomenon good for?” University of Heidelberg, Germany, September 11-13,
2008.

Invited lecture, “Beyond Simplicity”, Mt. Holyoke College, Massachusetts October 3, 2008,

Discussion of my paper "Emergence" at The Five College Consortium in Philosophy (Mt. Holyoke, Amherst College, Hampshire College, Smith College, UMass Amherst) October 4, 2008

Organizer and speaker: "Emergence: Philosophy Meets Science" in the Chicago Humanities Festival: <http://www.chfestival.org/index.cfm?fa=fallfest.progdtl&pid=2817> October 11, 2008,

1990-1999

Lunchtime Lecture, Center for the Philosophy of Science, University of Pittsburgh, 1999

"Pluralism and Complexity" September 28

Lecture, Department of History and Philosophy of Science, University of Pittsburgh, 1999

"Dimensions of Scientific Law" April 15

Debating Essentialism: 9th Annual Philosophy Conference, UC Riverside, 1999

"Essentialism and the Evolution of Language" March 25

American Philosophical Association, Eastern Division Meeting, Washington, D.C., 1998

"Dimensions of Scientific Law" December 29

San Diego Women's Center Forum, University of California, La Jolla, California, 1998

"Is there a "Female/Feminist" Way to do Science?" May 19

10th Anniversary Conference, Humanities Research Institute, UC Irvine, 1998

"Shifting Standards of Assertability in Science and Policy" April 2

Understanding the Practices of Science Conference, Science Studies Conference, University of California, San Diego, La Jolla, California, 1998

"Scientific Controversies and Their Resolution" March 6

Southern California Philosophy Conference, Irvine, California, 1997

"Pragmatic Laws" October 10

Philosophy Department Colloquium Series, UC Riverside, California, 1997

"Pragmatic Laws" May 21

The Center for the Philosophy of the Natural and Social Sciences, Colloquium Series, London School of Economics, London, England, 1997

"Pragmatic Laws" March 24

Philosophy Department Colloquium Series, UC San Diego, La Jolla, California, 1997

"Pragmatic Laws" January 7

Philosophy of Science Association Biennial Meetings, Cleveland, Ohio, 1996

"Pragmatic Laws" November 3

Symposium on "The Evolution of Social Insects" at the International Congress for Systematics and Evolutionary Biology V, Budapest, Hungary, 1996

"Forms of Complexity" August 19

Philosophy Department Colloquium Series, University of South Florida, Tampa, 1996

"Biological Complexity and Theoretical Pluralism" April 12

Philosophy Colloquium Series, California Institute of Technology, Pasadena, 1996

"Biological Complexity and Theoretical Pluralism" February 23

A.R. Louch Workshop, Claremont Graduate School, California, 1995
 "Evolutionary Biology and Human Culture" November 17
 Alumni Lecture, Department of History and Philosophy of Science, University of Pittsburgh, Pittsburgh, Pennsylvania, 1995
 "Biological Complexity and Theoretical Pluralism" October 20
 Science Studies Colloquium, UC San Diego, La Jolla, California, 1995
 "Biodiversity: Science and Policy" September 21
 International Society for the History, Philosophy, and Social Studies of Biology, Louvain, Belgium, 1995
 "Complexity and Pluralism" July 18
 Minnesota Center for the Philosophy of Science Colloquium Series, Minneapolis, Minnesota, 1995
 "Biological Complexity and Theoretical Pluralism" April 21
 American Philosophical Association, Pacific Division Meetings, San Francisco, California, 1995
 "Dupre's *The Disorder of Things*" April 1
 The Center for the Philosophy of the Natural and Social Sciences, London School of Economics Workshop: Biodiversity: Philosophical, Biological and Social Scientific Perspectives, London, England, 1995
 "Biodiversity: Science, Policy and Ethics" March 3

Philosophy Colloquium, Hamburg University, Hamburg, Germany, 1994
 "The Disunity of Science" May 21
 Workshop on Global Governance: The Natural Science Paradigm, Centre for the Study of Global Governance, London School of Economics, London, England, 1994
 Discussant May 6
 Einstein Forum Conference on Komplexitäten, Potsdam, Germany, 1994
 "Complexity and Pluralism" April 22
 Schwerpunktforchung Wissenschaftsgeschichte und Wissenschaftstheorie, Berlin, Germany, 1994
 "Pluralism in Biology" March 25
 Science Studies Colloquium, Trondheim University, Trondheim, Norway, 1994
 "Pluralism in Biology" March 7
 Science Studies Colloquium, Oslo University, Oslo, Norway, 1994
 "Pluralism in Biology" March 4
 Philosophy Department Colloquium, Frei Universität, Berlin, Germany, 1994
 "Fitness, Function, and Disposition" January 13

American Society of Entomologists, Annual Meeting, Baltimore, Maryland, 1993
 "Integrating Systems: Superorganism and Social Insects" December 27
 International Society for the History, Philosophy, and Social Studies of Biology, Brandeis, Massachusetts, 1993
 "Types of Pluralism" July 15
 Biology and the Social Sciences Conference, London School of Economics, England, 1993

"Adaptation in Biology and Anthropology" June 24
Southern California Philosophy of Science Meeting, Solana Beach, California, 1993
"Function, Fitness and Disposition" June 10
Cincinnati Annual Philosophy Colloquium, Cincinnati, Ohio, 1993
"Evolution and Development: The Superorganism" May 22
Philosophy Colloquium, Arizona State University, Tempe, Arizona, 1993
"Function, Fitness and Disposition" March 10

Dibner Institute in the History of Science Summer Workshop: "Individuality – Understanding Units and Levels of Organization in Biology", Marine Biology Laboratory, Woods Hole, Massachusetts, 1992

"Units and Levels of Organization: a Philosophical Approach" and
"Superorganism in Historical and Contemporary Contexts" August 2-9
Research Group in Science Studies, University of Bielefeld, Bielefeld, Germany, 1992

"Superorganisms, Biological and Historical Critique" July 7
Biologisches Kolloquium, University of Bielefeld, Bielefeld, Germany, 1992

"The Superorganism in Biology" July 1
Conference on *The Transfer of Images and Metaphors Between Biology and the Social Sciences*, Zentrum Fur Interdisziplinare Forschung, Bielefeld, Germany, 1992

"Superorganism: Then and Now" June 24
Beijing International Conference on Philosophy of Science: Realism and Antirealism, Beijing, China, 1992

"Types of Pluralism" June 15
Institute fur Wissenschaftsgeschichte, Der Georg-August-Universitat, Goettingen, Germany, 1992

"Metaphors and Theories: The Revival of Superorganism Theory in American Biology"
May 26
Zentrum fur Interdisziplinare Forschung Public Colloquium Series, Bielefeld, Germany, 1992

"The Superorganism Metaphor for Social Insects" May 21
Philosophy Department Colloquium Series, UC San Diego, La Jolla, California, 1992

"Fitness, Functions and Dispositions" April 3
Philosophy Department Colloquium, The London School of Economics and Political Science, London, England, 1992

"Fitness, Functions and Dispositions" March 10

Department of Philosophy Colloquium Series, University of Bielefeld, Bielefeld, Germany, 1991

"Fitness, Functions and Dispositions" December 3
Conference on *The Biological Basis of Human Culture*, Zentrum fur Interdisziplinare Forschung, University of Bielefeld, Bielefeld, Germany, 1991

"Metaphysics in Scientific Context: Superorganism Theory" May 2
Author, Helen Longino, meets critics symposium, American Philosophical Association, Pacific Division Meetings, San Francisco, 1991

"Contextual Knowledge" March 28

Symposium on Development and Macroevolution, *Annual Meeting of American Society of Zoologists*, San Antonio, Texas, 1990

"The Argument from Homology" December 29

Department of Biology, *University of Freiburg*, Freiburg, Germany, 1990

"On Integrating Explanations in Evolutionary and Developmental Biology"
December 3

Conference on The Biological Basis of Human Culture, *Zentrum fur Interdisciplinaire Forschung*, University of Bielefeld, Bielefeld, Germany, 1990

"On Integrating Explanations in Evolutionary and Developmental Biology"
November 26

Philosophy Consortium, *The Claremont Colleges*, Claremont, California, 1990

"Biological Categories: Rape in Humans and other Species" April 19

American Philosophical Association, Pacific Division Meetings, Los Angeles, California, 1990

"Are Species Individuals" March 29

1980-1989

Philosophy Department Colloquium, University of Colorado, Boulder, Colorado, 1989

"Functions, Fitness and Dispositions" February 2

Biology Department Colloquium, Kenyon College, Kenyon, Ohio, 1989

"Functions, Fitness and Dispositions" March 16

International Society for the History, Philosophy and Social Studies of Biology Meeting,
University of Western Ontario, London, Canada, 1989

"Functions, Fitness and Dispositions" June 22

Conference on Development and Evolution, The Santa Fe Institute, New Mexico, 1989

"On Integrating Explanations in Evolutionary and Developmental Biology"
November 1

Human Biology and Anthropology Seminar, Stanford University, Palo Alto, California, 1988

"Functional Complementarity: Explanations in Biology and Cultural Anthropology"
December 2

History and Philosophy of Science Seminar, Stanford University, Palo Alto, California, 1988

"Functions, Fitness and Dispositions" November 10

Institut für Biologie III Colloquium, Albert-Ludwigs-Universität Freiburg, Germany, 1988

"Causal Models in Explanations in Evolutionary Biology" September 1

Philosophy Department Colloquium, The Free University of Amsterdam, Amsterdam,
Holland, 1988

"Issues in Comparative Analysis: The Case of Biological Rape" August 30

XVIII World Philosophical Congress, Brighton, England, 1988

"Biological and Cultural Constraints - A Question of Explanatory Priority" August 22

Philosophy Department Colloquium, Rutgers University, New Brunswick, New Jersey, 1988

"The Causal Background of Functional Explanations" April 21

Philosophy of Science Conference, The Inter-University Centre of Postgraduate Studies,
Dubrovnik, Yugoslavia, 1988

"The Causal Background of Functional Explanations" April 4 - 15

Entomology Department Colloquium, The Ohio State University, Columbus Ohio, 1988

"Natural Selection: Causal Process and Evolutionary Consequences" March 1
Philosophy Round Table, The College of Wooster, Wooster, Ohio, 1988
"Rape in Scorpion Flies and Humans" February 9

VIII International Congress of Logic, Methodology and Philosophy of Science, Section IX:
Foundations of Biological Sciences, Moscow, U.S.S.R., 1987
"Are Sociobiological Adaptation Explanations Legitimate?" August 17-22

Ohio State Logic Colloquium, Columbus, Ohio, 1986
"Can Sociobiology Adapt to the Presence of Cultural Selection?" October 24
Philosophy of Science Association Biennial Meeting, Pittsburgh, Pennsylvania, 1986
"Can Sociobiology Adapt to the Presence of Cultural Selection?" October 14
American Philosophical Association, Pacific Division, Los Angeles, California, 1986
"Levels of Selection and Molecular Genetics" (comments on paper by John Campbell)
March 27

Philosophy Colloquium, Pitzer College, Claremont, California 1985
"Natural Selection - a Two-Step Process" April 19

SERVICE TO THE PROFESSION

Professional Organizations

American Association for the Advancement of Science
2016: Elected Fellow
2012-2018: Scientific Program Committee for Annual Meetings
2011-2015: Member-at-Large, Section L: History and Philosophy of Science
2012: Symposium Organizer "Global Knowledge: The Challenge of Diversity and
Localism" Vancouver, BC, Canada

National Science Foundation
2004: Committee of Visitors, Science and Technology Studies
1997-2000: Proposal Review Panel, Science and Technology Studies

Philosophy of Science Association
2016-2018: President (elected)
2013-2014: Founding co-director, Joint Caucus for Socially Engaged Philosophers
and Historians of Science
2007-2011: Governing Board Member (elected)
2004-2006 Committee on Restructuring
2002: Program Chair, Biennial Meeting
1998-2002: Governing Board Member (elected)
1994-1996: Nominating Committee, (elected)

International Society for the History, Philosophy and Social Studies of Biology,
2005-2009: Governing Board (elected)
1993-1994: Nominating Committee (appointed)
1995: Symposium Organizer "Complexity and Biology" Louvain, Belgium

American Council of Learned Societies
2008: Dissertation Completion Grant Review Panel

Editorial Boards

2011-2015: *New Directions in the Philosophy of Science*, series Palgrave MacMillan
2006-2015: *The Pluralist*
2008-2012: *History and Philosophy of the Life Sciences*
1994-2002, 2004-2015: *Philosophy of Science*

Journal Referee

Philosophy of Science, Biology and Philosophy, Journal for Theoretical Biology, BioScience, British Journal for the Philosophy of Science, ISIS, Evolution and Human Behavior

University of Pittsburgh Service

Dietrich School Diversity Committee, 2013-2015
Provost's Advisory Committee on Women's Concerns, 2011-2014
Organizing Committee: Provost's Chairs Retreat, 2011
Industry and University Projects Development Committee, 2006-2007
Carnap Archive Committee, University of Pittsburgh Library, 2005-2015
Humanities Council, 2005-2015
Tenure Council, 2003-2005
Committee on Academic Integrity, 2000-2002

Department Chair, Department of History and Philosophy of Science, 2005-2015
Chair of Search Committee, Department of History and Philosophy of Science 2002-2003 and 2004-2005
Director of Graduate Studies, Department of History and Philosophy of Science 2001-2002, 2003-2004

Associate Director, Center for Philosophy of Science, 2000-2004
Advisory Board, Center for Philosophy of Science, 2005-2015

Organizing Committee, 7th Meeting of the Pittsburgh-Konstanz Colloquium
Topic: Causation: Historical and Contemporary Perspectives: Konstanz, Germany, May 25-29, 2005
Organizer "Workshop on Elliot Sober's Evidence and Evolution, March 2007.
Organizer "Mini-workshop on Sandra Mitchell's Unsimple Truths: Science, Complexity and Policy, February 2010
Co-Organizer "Workshop on Reasoning with Cases in the Social Sciences," Center for the Philosophy of Science, University of Pittsburgh, November 11-12, 2011

Workshop/Summer School Organization

- Co-Organizer "Workshop on Robustness in Neurological Systems," November 13-15, Center for the Philosophy of Science, University of Pittsburgh 2015
- Co-Organizer "Workshop on Robustness in Biological Systems," Campus Bio-Medico, Rome, October 14-16, 2014
- Co-Organizer "Workshop on Reasoning with Cases in the Social Sciences," Center for the Philosophy of Science, University of Pittsburgh, November 11-12, 2011
- Organizing committee of MIDAS/Center for Philosophy of Science conference on modeling and simulation April 1-3, 2011
- Organizer "Mini-workshop on Sandra Mitchell's *Unsimple Truths: Science, Complexity and Policy*, February 2010
- Organizer "Emergence, Between Science and Philosophy", Chicago Humanities Festival, October 11, 2008
- Organizer "Workshop on Elliot Sober's *Evidence and Evolution*, March 2007
- Organizer Symposium on "'Exporting Causal Knowledge in Biology" Philosophy of Science Association Meetings, Vancouver, B.C. November 2006
- Organizing Committee, 7th Meeting of the Pittsburgh-Konstanz Colloquium, Causation: Historical and Contemporary Perspectives: Konstanz, Germany, May 25-29, 2005
- Organizer/Instructor Max Planck Institute for the Study of Societies, Cologne, Germany, Summer School "Philosophy of Social Science", June 14 – June 25, 2004
- Co-Organizer "Modeling complexity across levels: social insect societies as multilevel integrated systems." Workshop at The Santa Fe Institute, May 22-26, 2002
- Co-Organizer Symposium on "The Evolution of Social Insects" at the International Congress for Systematics and Evolutionary Biology V, Budapest, Hungary, August 19, 1996
- Organizer The Center for the Philosophy of the Natural and Social Sciences, London School of Economics Workshop: Biodiversity: Philosophical, Biological and Social Scientific Perspectives, London, England, March 3, 1995
- Co-Organizer Dibner Institute in the History of Science Summer Workshop, "Individuality - Understanding Units and Levels of Organization in Biology", Marine Biology Laboratory, Woods Hole, Massachusetts, August 2-9, 1992

Other Service

- Co-Developer, Instant HPS, short video "Is Race Real"
<https://www.youtube.com/watch?v=dwGuF9umTo>