

CURRICULUM VITAE
Michael Friedman

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Stanford University
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Education

BA: Queens College, 1969

PhD: Princeton University, 1973

Academic Positions

Assistant Professor of Philosophy, Harvard University, 1972-1975

Assistant Professor of Philosophy, University of Pennsylvania, 1975-1978

Associate Professor of Philosophy, University of Pennsylvania, 1978-1982

Associate Professor of Philosophy, University of Illinois at Chicago, 1982-1984

Professor of Philosophy, University of Illinois at Chicago, 1984-1994

Visiting Professor of Philosophy, Harvard University, Fall 1986

Visiting Professor of Philosophy, University of California-Berkeley, Fall 1987

Research Professor of the Humanities, University of Illinois at Chicago, 1988-1994

Honorary Professor of Philosophy, University of Western Ontario, 1988-

Gastprofessor, Universität Konstanz, Spring-Summer, 1994

Ruth N. Halls Professor of Arts and Humanities, Indiana University, 1994-2002

Professor of History and Philosophy of Science, Indiana University, 1994-2002

Professor of Philosophy, Indiana University, 1994-2002

Chair, Department of History and Philosophy of Science, Indiana University, 1995-2000

Frederick P. Rehmus Family Professor of Humanities, Stanford University, 2000-

Professor of Philosophy, Stanford University, 2000-

Co-Director, Program in History and Philosophy of Science and Technology, Stanford University, 2003-

Director, Patrick Suppes Center for the History and Philosophy of Science, Stanford University, 2004-2013

Visiting Scholar, supported by Humboldt Research Award, at the Max Planck Institute for the History of Science, Berlin, 2010-2011

Fellowships, Honors, and Awards

American Council of Learned Societies Fellowship, 1976-1977
Project: Wrote penultimate draft of *Foundations of Space Time Theories*

National Science Foundation Fellowship, Summers of 1983-1984
Project: The Logical Interpretation of Quantum Mechanics

Canada Council Visiting Foreign Scholars Fellowship, Spring 1984 at the University of Western Ontario
Project: Kant's Philosophy of Science

Institute for the Humanities, 1984-1985, University of Illinois at Chicago
Project: Scientific Objectivity in Historical Perspective

National Science Foundation Fellowship, Summer of 1985
Project: The Logical Interpretation of Quantum Mechanics
(Renewal of above NSF Fellowship)

1985 Franklin J. Matchette Prize of the American Philosophical Association
Awarded for *Foundations of Space-Time Theories*

George Santayana Fellow, Harvard University, Fall 1986

Senior University Scholars Award, University of Illinois, 1987-1990

1987 Lakatos Award in Philosophy of Science
Awarded for *Foundations of Space-Time Theories*

National Science Foundation Fellowship, 1988
Project: Kant's Philosophy of Science

John Simon Guggenheim Fellowship, 1988-1989
Project: Kant's Philosophy of Science

Visiting Humanities Fellow, Princeton University, Spring 1992

National Endowment for the Humanities Fellowship, 1992
Project: Kant's *Metaphysische Anfangsgründe der Naturwissenschaft*

Research Fellow, Zentrum für interdisziplinäre Forschung, Bielefeld, 1993
Project: Semantical Aspects of Space-Time Theories

Fellow of American Academy of Arts and Sciences, 1997-

Membre titulaire de l'Institut international de philosophie, 2001-

Fellow, Center for Advanced Study in the Behavioral Sciences, 2006-2007

Humboldt Research Award, Alexander von Humboldt Foundation, 2008
(Used at Max Planck Institute for the History of Science, 2010-2011)

Werner Heisenberg Lecture, Bavarian Academy of Sciences, 2009

Honorary Doctorate, University of Athens, 2009

Professional Service

Editorial Board of *Philosophy of Science*, 1985-

Associate Editor, *Philosophy of Science*, 1999-2008

Nominating Committee of the Philosophy of Science Association, 1986-1988

Governing Board of the Philosophy of Science Association, 1989-1994

Program Committee of the Central Division of the American Philosophical Association, 1986-1987, 1990-1991

National Science Foundation Review Panel, 1991-1995

Editorial Board of *Philosophy and Phenomenological Research*, 1995-

Editorial Board of *The Philosopher's Annual*, 1995-

President of the Central Division of the American Philosophical Association, 1996-1997

Editorial Board of *The Kantian Review*, 1997-

President of the Philosophy of Science Association, 1997-1999

Editorial Board of *Philosophiques*, 2001-

Editorial Board of Complete Edition of Works of Rudolf Carnap, Open Court Publishing Company, 2002-

American Academy of Arts and Sciences Project in the Humanities, 2003-2006

Publications

Books

Foundations of Space-Time Theories: Relativistic Physics and Philosophy of Science, Princeton University Press, 1983.

Kant and the Exact Sciences, Harvard University Press, 1992.

Reconsidering Logical Positivism. Cambridge University Press, 1999.

A Parting of the Ways: Carnap, Cassirer, and Heidegger. Open Court Publishing Company, 2000.

German translation: *Carnap · Cassirer · Heidegger; Geteilte Wege*. Fischer Verlag, 2004.

Italian translation: *La filosofia al bivio; Carnap, Cassirer, Heidegger*. Raffaello Cortina Editore, 2004.

Mandarin translation: *Fen dao er xing* [“to go in divergent ways”]. Peking University Press, 2010.

Dynamics of Reason: The 1999 Kant Lectures at Stanford University. CSLI Publications, 2001.

Italian translation: *Dinamiche della ragione. Le rivoluzioni scientifiche e il problema della razionalita*. Guerininini e Associati, 2006.

Korean translation: *I-seong-ui yeo-kak* [“dynamics of reason” or “dynamical reason”]. Seokwangsa Publishing Company, 2012.

Kant: Metaphysical Foundations of Natural Science. Translation with Introduction and Notes. Cambridge Texts in the History of Philosophy, Cambridge University Press, 2004.

The Kantian Legacy in Nineteenth-Century Science. Edited, with A. Nordmann. MIT Press, 2006.

The Cambridge Companion to Carnap. Edited, with R. Creath. Cambridge University Press, 2007.

Discourse on a New Method: Reinvigorating the Marriage of History and Philosophy of Science. Ed. M. Domski and M. Dickson. Open Court Publishing Company, 2010. (Essays related to my work with a monograph-length concluding essay of mine.)

*Kant’s Construction of Nature: A Reading of the **Metaphysical Foundations of Natural Science***. Cambridge University Press, 2013.

A Post-Kuhnian Philosophy of Science. Spinoza Lectures. Van Gorcum, 2014.

Forthcoming

Collected Works of Rudolf Carnap, Volume I: Early Writings. Edited, with A. W. Carus, Wolfgang Kienzler, and Sven Schlotter. Open Court Publishing Company.

In Progress

The Legacy of Kant in the Philosophy of Science. Oxford University Press, under contract.

Concentrates on how the original Kantian conception of natural science was successively transformed in the work of both scientists and philosophers after Kant. Begins with the confrontation between the *Naturphilosophie* of Schelling and the New-Kantianism of Helmholtz at the beginning of the nineteenth century and traces out how this dialectic was continued throughout the nineteenth and early twentieth centuries.

Scientific Philosophy and the Dynamics of Reason. Oxford University Press, under contract.

A post-Kuhnian approach to the philosophy of science oriented around the relationship between the history of science and the history of philosophy. Concentrates especially on the relationship between philosophy and the mathematical and physical sciences in the period from Kant in the late eighteenth century (in relation to Newtonian mathematical physics) and the development of logical empiricism in the early twentieth century (in relationship to Einsteinian physics). Extending the ideas first developed in my *Dynamics of Reason* (2001), I argue that the objectivity and rationality of scientific progress can be articulated and defended using a dynamical and historicized version of the Kantian a priori. I also forge a connection this (scientific and philosophical) narrative in intellectual history with wider themes in cultural and political history, culminating in a discussion of the relationship between science, religion, and democracy from the late eighteenth century to the present.

Articles (refereed papers designated with an asterisk)

*(With C. Glymour) "If Quanta Had Logic," *Journal of Philosophical Logic* 1 (1972): 16-28.

*"Grünbaum on the Conventionality of Geometry," *Synthese* 24 (1972): 219-235. Reprinted in P. Suppes, ed., *Space, Time and Geometry*, Reidel, 1974.

*(With J. Earman) "The Nature and Status of Newton's Law of Inertia,"

Philosophy of Science 40 (1973): 329-359.

*"Explanation and Scientific Understanding," *Journal of Philosophy* 71 (1974):5-19.
Reprinted in J. Pitt, ed., *Theories of Explanation*, Oxford University Press, 1987.
Reprinted--in German translation--in G. Schurz, ed., *Erklären und Verstehen in der Wissenschaft*, Oldenbourg Verlag, 1988.

*"Relativity Principles, Absolute Objects, and Symmetry Groups," in P. Suppes, ed.,
loc. cit.

*"Physicalism and the Indeterminacy of Translation," *Nous* 9 (1975): 353-374.

*"Simultaneity in Newtonian Mechanics and Special Relativity," in J. Earman, C. Glymour, and J. Stachel, eds., *Minnesota Studies in Philosophy of Science*, Vol. VIII, University of Minnesota Press, 1977.

*(With H. Putnam) "Quantum Logic, Conditional Probability, and Interference,"
Dialectica 32 (1978): 305-315.

*"Truth and Confirmation," *Journal of Philosophy* 76 (1979): 361-382.
Reprinted in H. Kornblith, ed., *Naturalizing Epistemology*, MIT Press, 1985.

*"Theoretical Explanation," in R. Healey, ed., *Reduction, Time and Reality*, Cambridge University Press, 1981.

*(With W. Demopoulos) "Bertrand Russell's *The Analysis of Matter*," *Philosophy of Science* 52 (1985): 621-639.
Reprinted in C. Savage and C. Anderson, eds., *Rereading Russell*, University of Minnesota Press, 1989.

*"Kant's Theory of Geometry," *The Philosophical Review* 94 (1985): 455-506.
Reprinted in *The Philosopher's Annual* 8 (1985): 114-165.
Reprinted in C. Posy, ed., *Kant's Philosophy of Mathematics*, Kluwer Academic Publishers, 1992.

*"The Metaphysical Foundations of Newtonian Science," in R. Butts, ed., *Kant's Philosophy of Physical Science*, Reidel, 1986.
Reprinted in *The Philosopher's Annual* 9 (1986): 52-87.

*"Carnap's *Aufbau* Reconsidered," *Nous*, 21 (1987): 521-545.
Reprinted in *The Philosopher's Annual* 10 (1987): 19-44.

*"Logical Truth and Analyticity in Carnap's *Logical Syntax of Language*," in W. Aspray and P. Kitcher, eds., *History and Philosophy of Modern Mathematics*, University of Minnesota Press, 1988.

*"Kant on Space, the Understanding, and the Law of Gravitation: *Prolegomena* §38," *The Monist* 72 (1989): 236-284.

"Kant on Laws of Nature and the Foundations of Newtonian Science," in G. Funke and T. Seebohm, eds., *Proceedings of the Sixth International Kant Congress*, vol. II/2, University Press of America, 1989.

*"Kant and Newton: Why Gravity is Essential to Matter," in P. Bricker and R. Hughes, eds., *Philosophical Perspectives on Newtonian Science*, MIT Press, 1990

*"Kant on Concepts and Intuitions in the Mathematical Sciences," *Synthese* 84 (1990): 213-257.

"Form and Content," in P. Yourgrau, ed., *Demonstratives*, Oxford University Press, 1990.

*"The Re-Evaluation of Logical Positivism," *Journal of Philosophy* 88 (1991): 505-519.

Reprinted in S. Sarkar, ed., *The Legacy of the Vienna Circle* (Vol. 6 of *Science and Philosophy in the Twentieth Century*), Garland, 1996.

*"Causal Laws and the Foundations of Natural Science," in P. Guyer, ed., *The Cambridge Companion to Kant*, Cambridge University Press, 1992.

*"Philosophy and the Exact Sciences: Logical Positivism as a Case Study," in J. Earman, ed., *Inference, Explanation, and Other Frustrations: Essays in the Philosophy of Science*, University of California Press, 1992.

*"Epistemology in the *Aufbau*," *Synthese* 93 (1992): 15-57.

Reprinted in S. Sarkar, ed., *The Emergence of Logical Positivism* (Vol. 1 of *Science and Philosophy in the Twentieth Century*), Garland, 1996.

*"Regulative and Constitutive," *Southern Journal of Philosophy* 30 (1992): 73-102.

*"Remarks on the History of Science and the History of Philosophy," in P. Horwich, ed., *World Changes: Thomas Kuhn and the Philosophy of Science*, MIT Press, 1992.

*"Carnap and A Priori Truth," in D. Bell and W. Vossenkuhl, eds., *Wissenschaft und Subjektivität*, Akademie Verlag, 1992.

“Author’s Response” (to Essay Review of *Kant and the Exact Sciences* by Pierre Kerzberg) *Metascience* 1 (1993): 9-16.

“Comments on Scheffer’s Paper” in U. Majer and H.-J. Schmidt, eds., *Semantical Aspects of Space-Time Theories*, Wissenschaftsverlag, 1994.

*“Geometry, Convention, and the Relativized A Priori,” in W. Salmon and G. Wolters, eds., *Logic, Language, and the Structure of Scientific Theories*, University of Pittsburgh Press, 1994.

Reprinted in *The Philosopher’s Annual* 18 (1994).

*“Kant and the Twentieth Century,” in P. Parrini, ed., *Kant and Contemporary Epistemology*, Kluwer, 1994.

*“Poincaré’s Conventionalism and the Logical Positivists,” *Foundations of Science* 1 (1995-6): 299-314.

Also appearing in J-L. Greffe, G. Heinzmann, and Kuno Lorentz, eds., *Henri Poincaré: Science and Philosophy*, Akademie Verlag, 1996.

*“Carnap and Weyl on the Foundations of Geometry and Relativity Theory,” *Erkenntnis* 42 (1995): 247-260.

Also appearing in U. Majer and H.-J. Schmidt, eds., *Reflections on Space-Time*, Kluwer Academic Publishers, 1995.

“Matter and Material Substance in Kant’s Philosophy of Nature,” in H. Robinson, ed., *Proceedings of the Eighth International Kant Congress*, Volume I, Marquette University Press, 1995.

*“Objectivity and History,” *Erkenntnis* 44 (1996): 379-395.

*“Overcoming Metaphysics: Carnap and Heidegger,” in R. Giere and A. Richardson, eds., *Origins of Logical Empiricism*, University of Minnesota Press, 1996.

*“Exorcising the Philosophical Tradition,” *The Philosophical Review* 105 (1996): 427-467.

Reprinted in N. Smith, ed., *Reading McDowell*. Routledge, 2002.

*“Carnap and Wittgenstein’s *Tractatus*,” in W. Tait, ed., *Early Analytic Philosophy*, Open Court, 1997.

*“Descartes on the Real Existence of Matter,” *Topoi* 16 (1997): 1-10.

“Philosophical Naturalism,” *Proceeding and Addresses of The American Philosophical Association* 71 (1997): 7-21 (Presidential Address of the Central Division).

*“Helmholtz’s *Zeichentheorie* and Schlick’s *Allgemeine Erkenntnislehre*: Early Logical Empiricism and its Nineteenth Century Background,” *Philosophical Topics* 5 (1997): 19-50.

“Kantian Themes in Contemporary Philosophy,” *Proceedings of the Aristotelian Society, Supplementary Volume* 72 (1998): 111-129.

*“On the Sociology of Scientific Knowledge and its Philosophical Agenda,” *Studies in History and Philosophy of Science* 29 (1998): 239-271.

“Logical Positivism, Philosophy of,” *The Routledge Encyclopedia of Philosophy*, Routledge, 1998.

*“Geometry, Construction, and Intuition in Kant and his Successors,” in G. Scher and R. Tieszen, eds., *Between Logic and Intuition: Essays in Honor of Charles Parsons*, Cambridge University Press, 2000.
Reprinted in *The Philosopher’s Annual* 22 (2001).

*“Transcendental Philosophy and A Priori Knowledge: A Neo-Kantian Perspective,” in P. Boghossian and C. Peacocke, eds., *New Essays on the A Priori*, Oxford University Press, 2000.

*“Logical Form and the Order of Nature,” *Archiv für Geschichte der Philosophie* 82 (2000): 202-215.

*“Hempel and the Vienna Circle,” in J. Fetzer, ed., *Science, Explanation, and Rationality: The Philosophy of Carl G. Hempel*, Oxford University Press, 2000.

*“Matter and Motion in the *Metaphysical Foundations* and the first *Critique*,” in E. Watkins, ed., *Kant and the Sciences*, Oxford University Press, 2001.

*“Tolerance and Analyticity in Carnap’s Philosophy of Mathematics,” in J. Floyd and S. Shieh, eds., *Future Pasts*, Oxford University Press, 2001.

*“Physics, Philosophy, and the Foundations of Geometry,” *Dialogos* 79 (2002): 121-142.

*“Geometry as a Branch of Physics: Background and Context for Einstein’s ‘Geometry and Experience’,” in D. Malament, ed., *Reading Natural Philosophy: Essays in the History and Philosophy of Science and Mathematics*, Open Court Publishing Company, 2002.

*“Kant, Kuhn, and the Rationality of Science,” *Philosophy of Science* 69 (2002): 171-190.
Reprinted in *The Philosopher’s Annual*, 2003.

*“Carnap, Cassirer, and Heidegger: The Davos Disputation and Twentieth Century Philosophy,” *European Journal of Philosophy* 3 (2002): 263-274.

*“Kuhn and Logical Empiricism,” in T. Nickles, ed., *Thomas Kuhn*, Cambridge University Press, 2003.

*“Transcendental Philosophy and Mathematical Physics,” *Studies in History and Philosophy of Science* 34 (2003): 29-43.

*“Eckart Förster and Kant’s *Opus postumum*,” *Inquiry* 40 (2003): 215-227.

*“Ernst Cassirer,” *The Stanford Encyclopedia of Philosophy*, 2004, revised 2011 (<http://plato.stanford.edu/entries/cassirer/>).

*“Carnap and the Evolution of the A Priori,” in S. Awodey and C. Klein, eds., *Carnap Brought Home: The View from Jena*. Open Court Publishing Company, 2004.

“Integrating History of Philosophy with History of Science after Kant,” in J. Schneewind, ed., *Teaching the New Histories of Philosophy*. Center for Human Values, Princeton University, 2004.

*“Ernst Cassirer and the Philosophy of Science,” in G. Gutting, ed., *Continental Philosophy of Science*. Blackwell Publishing, 2005.

*“Kant on Science and Experience,” in C. Mercer and E. O’Neill, eds., *Early Modern Philosophy: Mind, Matter, and Metaphysics*. Oxford University Press, 2005.

*“Ernst Cassirer and Contemporary Philosophy of Science,” *Angelaki* 10 (2005): 119-128.

- *“Carnap and Quine: Twentieth-Century Echoes of Kant and Hume,” *Philosophical Topics* 33 (2005) (appeared in 2008).
- *“Kant—*Naturphilosophie*—Electromagnetism,” in M. Friedman and A. Nordmann, eds., *The Kantian Legacy in Nineteenth-Century Science*. MIT Press, 2006. Also appearing in R. Brain, R. Cohen, and O. Knudson, eds., *Hans-Christian Oersted and the Romantic Legacy in Science*. Springer, 2007.
- *“Philosophy of Natural Science,” in P. Guyer, ed., *The Cambridge Companion to Kant and Modern Philosophy*. Cambridge University Press, 2006.
- “Comments on Nancy Cartwright: Against ‘The System’,” in C. Engel and L. Daston, eds., *Is there Value in Inconsistency?* Nomos Verlag, 2006.
- *“Kant, Skepticism, and Idealism,” *Inquiry* 49 (2006): 26-43.
- *(with D. Føllesdal) “The Rise of American Philosophy in the Twentieth Century,” *Daedalus* Spring (2006): 116-126. (American Academy of Arts and Sciences Project in the Humanities)
- *“Metaphysical Foundations of Natural Science,” in G. Bird, ed., *A Companion to Kant*. Blackwell Publishing, 2006.
- *“Coordination, Constitution, and Convention: The Evolution of the A Priori in Logical Empiricism,” in A. Richardson and T. Uebel, eds., *The Cambridge Companion to Logical Empiricism*. Cambridge University Press, 2007.
- *“Understanding Space-Time,” *Studies in History and Philosophy of Modern Physics* 38 (2007): 216-225.
- *“Introduction: Carnap’s Revolution in Philosophy,” in M. Friedman and R. Creath, eds., *The Cambridge Companion to Carnap*. Cambridge University Press, 2007.
- *“The *Aufbau* and the Rejection of Metaphysics,” in M. Friedman and R. Creath, eds., *The Cambridge Companion to Carnap*. Cambridge University Press, 2007.
- *“Descartes and Galileo: Copernicanism and the Metaphysical Foundations of Physics,” in J. Broughton and J. Carriero, eds., *A Companion to Descartes*. Blackwell Publishing, 2008.

*(with G. De Pierris) "Kant and Hume on Causality," *The Stanford Encyclopedia of Philosophy*, 2008.

(<http://plato.stanford.edu/entries/kant-hume-causality/>).

*"Space, Time, and Geometry: Einstein and Logical Empiricism," in P. Galison, G. Holton, and S. Schweber, eds., *Einstein for the 21st Century*. Princeton University Press, 2008.

*"History and Philosophy of Science in a New Key," *Isis* 99 (2008): 125-134.

*"Ernst Cassirer and Thomas Kuhn: The Neo-Kantian Tradition in History and Philosophy of Science," *The Philosophical Forum* 39 (2008): 239-252.

*"Wissenschaftslogik: The role of logic in the philosophy of science," *Synthese* 164 (2008): 385-400.

*"Einstein, Kant, and the A Priori," in M. Massimi, ed., *Kant and Philosophy of Science Today*. Cambridge University Press, 2008.

*"Newton and Kant on Absolute Space: From Theology to Transcendental Philosophy," in M. Bitbol, P. Kerszberg, and J. Petitot, eds., *Constituting Objectivity: Transcendental Perspectives on Modern Physics*. Springer, 2009.

*"Einstein, Kant, and the Relativized A Priori," in M. Bitbol, P. Kerszberg, and J. Petitot, eds., *Constituting Objectivity: Transcendental Perspectives on Modern Physics*. Springer, 2009.

"Kant, Kuhn, e la Racionalidade da Ciência," *Philosophos* 14 (2009): 175-209. (Portuguese translation)

*"A Post-Kuhnian Approach to the History and Philosophy of Science," *The Monist* 93 (2010): 497-517.

*(with T. Ryckman) "Analytic and Continental Traditions: Frege, Husserl, Carnap, and Heidegger," in K. Ansell-Pearson and A. Schrift, eds., *The History of Continental Philosophy; vol. 3: The New Century*. Acumen, 2010.

* "Einstein, Kant, and the A Priori," in M. Suárez, M. Dorato, and M. Redei, eds., *EPSA Philosophical Issues in the Sciences*. Springer, 2010.

- * “Ernst Cassirer and Thomas Kuhn,” in R. Makkreel and S. Luft, eds., *Neo-Kantianism in Contemporary Philosophy*. Indiana University Press, 2010.
- * “Carnap and Theoretical Terms: Structuralism without Metaphysics,” *Synthese* 180 (2011): 249-263.
- * “Extending the Dynamics of Reason,” *Erkenntnis* 75 (2011): 431-444.
- * “Rational Reconstruction, Explication, and the Rejection of Metaphysics,” in P. Wagner, ed., *Carnap’s Ideal of Explication and Naturalism*. Palgrave Macmillan, 2012.
- * “Reconsidering the dynamics of reason,” *Studies in History and Philosophy of Science* 43 (2012): 47-53.
- * “Philosophie der Naturwissenschaft im Idealismus und Neukantianismus,” in F. Rush and J. Stolzenberg, eds., *Internationales Jahrbuch der Deutschen Idealismus*, vol. 8. Walter de Gruyter, 2012.
- * “Scientific Philosophy from Helmholtz to Carnap and Quine,” in R. Creath, ed., *Rudolf Carnap and the Legacy of Logical Empiricism*. Springer, 2012.
- * “Newton and Kant on Absolute Space,” in A. Janiak and E. Schliesser, eds., *Interpreting Newton: Critical Essays*. Cambridge University Press, 2012.
- * “Kuhn and Philosophy,” *Modern Intellectual History* 9 (2012): 77-88.
- * “Kant on Geometry and Spatial Intuition,” *Synthese* 186 (2012): 231-255.
- * “Carnap’s Philosophical Neutrality Between Realism and Instrumentalism,” in M. Frappier, D. H. Brown, and R. DiSalle, eds., *Analysis and Interpretation in the Exact Sciences*, Springer, 2012.
- * “Newton and Kant: Quantity of Matter in the *Metaphysical Foundations of Natural Science*,” *Southern Journal of Philosophy* 50 (2012): 482-503.
- * “The *Prolegomena* and Natural Science,” in H. Lyre and O. Schliemann, eds., *Kants Prolegomena. Ein kooperativer Kommentar*. Klostermann, 2012.
- * “Transcendental Philosophy and Modern Physics: Neo-Kantianism, Logical Empiricism, and Phenomenology,” in M. Frauchinger, ed., *Reference*,

Rationality, and Phenomenology: Themes from Follesdal, Ontos Verlag, 2013.

* “Neo-Kantianism, Scientific Realism, and Modern Physics,” in D. Ross, J. Ladyman, and H. Kincaid, eds., *Scientific Metaphysics*, Oxford University Press, 2013.

Contribution to *Intellectual History: 5 Questions*, in M. H. Jeppesen, F. Stjernfelt, and M. Thorup, eds. Automatic Press, 2013.

Interview with Georg Schiemer, *The Reasoner*, Volume 7, Number 5 (2013): 52-54.

“Philosophy of Natural Science in Idealism and Neo-Kantianism,” in K. Ameriks, ed., *The Impact of Idealism: The Legacy of Post-Kantian German Thought*, vol. 1, *Philosophy and Natural Science*, Cambridge University Press, 2013.

Critical Studies and Long Reviews

Of H. Putnam, *Philosophical Papers*, *Philosophical Review* 86 (1977): 545-556.

Of B. van Fraassen, *The Scientific Image*, *Journal of Philosophy* 79 (1982): 274-283.

Of M. Schlick, *Philosophical Papers*, *Philosophy of Science* 50 (1983): 498-514.

Of R. Torretti, *Relativity and Geometry*, *Nous* 18 (1984): 653-664.

Of J. Proust, *Questions of Form: Logic and the Analytic Proposition from Kant to Carnap*, *Nous* 26 (1992): 532-542.

Short Reviews

Of G. Nerlich, *The Shape of Space*, *Philosophia* 8 (1979): 825-829.

Of H. Field, *Science Without Numbers*, *Philosophy of Science* 48 (1981): 505-506.

Of R. Simon, *Sports and Social Values*, *Ethics* 96 (1986): 886-887.

Of K. Menger, *Reminiscences of the Vienna Circle and the Mathematical Colloquium*, *Isis* 86 (1995): 675-676.

Of T. Holden, *The Architecture of Matter: Galileo to Kant*, *Times Literary Supplement* (2005).

Distinguished Lectureships, Addresses, and Colloquia

First Annual Seybert Lecture, University of Pennsylvania, 1994

Whitehead Lecture, Harvard University, 1997

Distinguished Visitor, Haverford College, 1997

Presidential Address to the Central Division of the American Philosophical Association, 1997

Distinguished Speaker in Series, "Science and Defining the Human," Northwestern University, 1997

Stice Lecture, University of Washington, 1997

Distinguished Visitor, University of California at Riverside, 1997

Jacobson Lecture, University of London, 1998

Hall Lecture, University of Iowa, 1998

Simon Lectures, University of Toronto, 1998

Colloquium on "Kant and the Exact Sciences," University of Oslo, 1998

Werkmeister Lecture, Florida State University, 1998

Hempel Lectures, Princeton University, 1999

Kant Lectures, Stanford University, 1999

Fifth Annual Göttinger Kolloquium, University of Göttingen, 1999

Plenary Address, Ninth International Kant Congress, Berlin, 2000

Keynote Address and Eighth Annual Vienna Circle Lecture, HOPOS (History of the Philosophy of Science) Conference, Vienna, 2000

Presidential Address to the Philosophy of Science Association, 2000

O'Neil Lectures in the History of Philosophy, University of New Mexico, 2001

Ernan McMullin Perspectives Lecture, University of Notre Dame, 2001

Gail Stine Lecture, Wayne State University, 2002

Reichenbach Lecture, University of California at Los Angeles, 2002

Harris Lecture, California Institute of Technology, 2003

Distinguished Visitor, University of California at Santa Cruz, 2004

Moritz Schlick Lecture, University of Rostock, 2004

“Synthesis and the Growth of Knowledge,” conference in my honor, University of South Carolina, 2004

First Annual Wing-Chun Wong Memorial Lecture, Towson State University, 2004

E. W. Beth and Vienna Circle Lecture, University of Amsterdam, 2004

Alberto Coffa Lecture, Indiana University, 2005

Steiner Lecture, St. John's College-Santa Fe, 2006

Howard Stein Lecture in Philosophy of Science, University of Chicago, 2006

“Dynamics of Reason,” conference in my honor, Carlsberg Academy, Copenhagen, 2006.

Four lecture series, Collège de France, Paris, 2007.

Plenary Lecture, First Annual Meeting of the European Philosophy of Science Association, Madrid, 2007.

“Reconsidering the Dynamics of Reason,” conference in my honor, Madrid, 2007.

Plenary Lecture, Conference on Theoretical Frameworks and Underdetermination, Düsseldorf, 2008.

Stillman Drake Lecture, Canadian Society for History and Philosophy of Science, Vancouver, 2008.

Werner Heisenberg Lecture, Bavarian Academy of Sciences, Munich, 2009.

Syposium in my honor; on the occasion of receiving an honorary doctorate, University of Athens, 2009.

Plenary Lecture, Conference on the Future of Philosophy of Science, University of Tilburg, The Netherlands, 2010

Keynote Address, Conference on Carnap and the Legacy of Logical Empiricism, University of Vienna, 2010

Keynote Address, Conference on Integrated History and Philosophy of Science, 50th Anniversary of the History and Philosophy of Science Department at Indiana University, 2010

Pentacost Lectures, University of Bielefeld, Germany, 2011

“The Relativized A Priori, Constitutive Principles, and Conventions,” Conference in my honor, University of Bristol, UK, 2011

Spinoza Lectures, University of Amsterdam, The Netherlands, 2012

Keynote Address, Eastern Study Group of the North American Kant Society, Princeton University, 2012

Keynote Address, First International Meeting of the Society for the Study of the History of Analytic Philosophy, McMaster University, Canada, 2012

“*Kant and the Exact Sciences Twenty Years Later*,” Special Symposium in my honor, International Meeting of HOPOS (society for the History of the Philosophy of Science), Halifax, Canada, 2012

Tanner Lectures, University of California-Berkeley, 2012

Tamara Horowitz Lecture, University of Pittsburgh, 2012

Kleiner Colloquium, University of Athens, Georgia, 2013

Book Session on *Kant's Construction of Nature*, Second Biennial Meeting of the North American Kant Society, Cornell, 2013

Keynote Address, Conferences on Influences on the *Aufbau* and Carnap on Logic, Munich, Germany, 2013

Keynote Address, Conference on Topics in Early Modern Philosophy, Virginia Polytechnic University, 2013

Book Session on *Kant's Construction of Nature*, New England Colloquium on Early Modern Philosophy, Brown University, 2014

Berliner Kantkurs: Kant's Construction of Nature, Humboldt Universität zu Berlin, 2014

Keynote Address, Second Singapore Workshop on Integrated History and Philosophy of Science in Practice, Nanyang Technological University, 2014

Distinguished Public Lectures: A Post-Kuhnian Approach to the History and Philosophy of Science, Nanyang Technological University, Singapore, 2014

Invited Colloquia (since 2000)

"On the Idea of a Scientific Philosophy," HOPOS Conference (as Keynote Address and Vienna Circle Lecture), Summer 2000

"Kant, Kuhn, and the Rationality of Science," Philosophy of Science Association Meetings (as Presidential Address), Fall 2000; University of Notre Dame (as McMullin Perspectives Lecture), Spring 2001; Kansas State University, Fall 2001.

"A Turning Point in Philosophy: Carnap-Cassirer-Heidegger," Georgetown University, Spring 2000; University of South Florida, 2002.

"Kant on Science and Experience," Ninth International Kant Congress in Berlin (as Plenary Lecture), Spring 2000; University of New Mexico (as second O'Neill Lecture), Spring 2001; University of Florence, Spring 2001.

"The A Priori in Physical Theory," University of Western Ontario, Fall 2000.

“The Legacy of Ernst Mach: Pragmatism and Logical Empiricism,” Boston University, Fall 2000.

“The Davos Debate and Twentieth Century Philosophy,” Eastern Division Meetings of the American Philosophical Association, Fall 2000.

“Transcendental Philosophy and Mathematical Physics,” University of New Mexico (as first O’Neill Lecture), Spring 2001; University of Florence, Spring 2001; Boston University, Spring 2001; University of Illinois at Chicago, Spring 2001; University of Puerto Rico, Fall 2001.

“Physics, Philosophy, and the Foundations of Geometry,” Central Division Meetings of the American Philosophical Association, Spring 2001; University of Puerto Rico, Fall 2001; University of Western Ontario, Spring 2002.

“The Evolution of the A Priori in Logical Empiricism,” University of Vienna, Summer 2001.

“Carnap and the Evolution of the A Priori,” University of Jena, Fall 2001; University of Western Ontario, Spring 2002.

“Kant’s Final Synthesis,” Eastern Division Meetings of the American Philosophical Association, Fall 2001.

“‘Two Dogmas’ and the Philosophy of Science,” Eastern Division Meetings of the American Philosophical Association, Fall 2001.

“Ernst Cassirer and the Philosophy of Science,” Notre Dame, Fall 2002.

“Kant – *Naturphilosophie* – Electromagnetism,” Harvard University, Spring 2002.

“Scientific Philosophy and the Dynamics of Reason,” University of California-Los Angeles (as Reichenbach Lecture), Spring 2002; University of North Carolina at Chapel Hill (Chapel Hill Colloquium), Fall 2003; University of California-Santa Cruz, Spring 2004.

“Carnap, Cassirer, and Heidegger: The Davos Disputation and Twentieth Century Philosophy,” Einstein Forum: Berlin, Summer 2002; University of Pisa, Spring 2004.

“Einstein and the Logical Empiricists,” California Institute of Technology (as Harris Lecture), Spring 2003; University of California-Berkeley, Spring 2004; Collège de France, Spring 2004; University of Rostock, Summer 2004.

“Kant’s Philosophy of Science and Theory of Matter,” Two lecture series. University of Western Ontario, Fall 2003.

“Ernst Cassirer and Contemporary Philosophy of Science,” University of Warwick, Fall 2003.

“Kant, Skepticism, and Idealism,” University of California at Berkeley (Pacific Study Group of the North American Kant Society), Fall 2003; Emory University, Spring 2004; Central Division Meetings of the American Philosophical Association, Spring 2004, University of Rostock, Summer 2004; Kant bis Hegel conference, University of Pittsburgh, Spring 2005.

“Science, History, and Transcendental Phenomenology in Husserl’s *Crisis*,” Pacific Division Meetings of the American Philosophical Association, Spring 2004; Max Planck Institute for the History of Science, Berlin, Summer 2004.

“Wissenschaftliche Philosophie und die Dynamik der Vernunft,” University of Rostock (as Moritz Schlick Lecture), Summer 2004.

“Kant’s Philosophy of Natural Science,” Towson State University (as Wing-Chun Wong Memorial Lecture), Fall 2004.

“Transcendental Philosophy and Modern Physics,” Society for Phenomenology and Existential Philosophy, Fall 2004; Pacific Division Meetings of the American Philosophical Association, Spring 2005.

“Die Davoser Debatte und die Philosophie im 20. Jahrhundert,” University of Vienna, Fall 2004 (on the occasion of the publication of the German translation of *A Parting of the Ways*).

“Einstein and Incommensurability,” Conference on New Directions in the Philosophy of Science, University of California-Santa Barbara, Winter 2005.

“Scientific Revolutions and the Dynamics of Reason,” Sociedad Argentina de Análisis Filosófico, Buenos Aires, Summer 2005.

“Space, Time, and Geometry,” International Einstein Centennial, Berlin, Winter 2005; International Einstein Centennial, Jerusalem, Spring 2005; Eastern Division Meetings of the American Philosophical Association, Fall 2005.

“Tolerance, Intuition, and Empiricism,” Conference on Carnap’s *Logical Syntax of Language*, Institute for History and Philosophy of Science, Paris, Fall 2005.

“Kant’s Metaphysical Foundations of Natural Science,” University of California-Los Angeles, Fall 2005.

“Descartes and Galileo: Copernicanism and the Metaphysical Foundations of Physics,” Indiana University (as Alberto Coffa Lecture), Fall 2005; University of Illinois at Chicago, Spring 2006; University of British Columbia (as Stillman Drake Lecture), Spring 2008.

“Kant, Einstein, and the Dynamics of Reason,” St. John’s College-Santa Fe (as Steiner Lecture), Spring 2006.

“Carnap and Quine: Twentieth-Century Echoes of Kant and Hume,” University of Chicago (as Howard Stein Lecture), Spring 2006; University of Tokyo, Spring 2007; Columbia University, Spring 2007; University of Southern California, Spring 2008.

“Transcendental Philosophy and Modern Physics: Neo-Kantianism, Logical Empiricism, and Phenomenology,” Lauener Foundation Symposium, Bern, Switzerland, Summer 2006.

“Newton and Kant on Absolute Space: From Theology to Transcendental Philosophy,” NYU Conference on History of Modern Philosophy, Fall 2006; University of Tokyo, Spring 2007; Yale University, Spring 2007; University of Leiden, Summer 2007.

“Cassirer and Contemporary Post-Kuhnian Philosophy of Science,” Conference on “Reading Ernst Cassirer from the Present,” Trondheim, Norway, Fall 2006.

“History, Philosophy, and the Dynamics of Reason,” Conference on “Dynamics of Reason” (in my honor), Copenhagen, Fall 2006.

“*Wissenschaftslogik: The Role of Logic in Philosophy of Science*,”
Conference in honor of William Craig, University of California-Berkeley,
Spring 2007.

“Einstein and the Relativized A Priori,” Workshop on Philosophical and
Formal Approaches to Modern Physics, Foundation les Treilles, Spring 2007;
Ecole Normale Superior, Summer 2007; University College London, Summer
2007.

“Carnap, Cassirer, and Heidegger: The Davos Disputation and Twentieth-
Century Philosophy,” Four Lecture Series, Collège de France, Summer 2007.

“The Dynamics of Reason Reconsidered,” Ecole Polytechnique, Summer
2007; London School of Economics, Summer 2007; Workshop on Dynamics
of Reason (in my honor), Madrid, Fall 2007.

“Carnap on Theoretical Terms: Structuralism without Metaphysics,”
University of Düsseldorf, Spring 2008; University of Western Ontario,
Spring 2008; University of Munich, Summer 2011; Macmaster University,
Summer 2012.

“Extending the Dynamics of Reason: Generalizing a Post-Kuhnian Approach
to the History and Philosophy of Science,” Max Planck Institute for the
History of Science, Berlin, Summer 2008.

“Kant on Geometry and Spatial Intuition,” Workshop on Diagrams in
Mathematics, CNRS, Paris, Fall 2008; Conference on Kant’s Philosophy of
Mathematics, Jerusalem, Spring 2009.

“Einstein and the A Priori,” Notre Dame University, Spring 2009; Central
Division Meeting of the American Philosophical Association, Spring 2010.

“Wandering Significance and the Dynamics of Reason,” University of
Alabama, Birmingham, Fall 2009.

“Scientific Rationality After Kuhn,” Siemens Foundation, Munich, Spring
2009 (as Werner Heisenberg Lecture); University of Arizona, Spring 2009;
University of California San-Diego, Fall 2009; University of Athens (on the
occasion of receiving an honorary doctorate), Fall 2009; Columbia
University, Spring 2010; University of Bielefeld (as first Pentacost Lecture),
Summer 2011.

“A Post-Kuhnian Approach to the History and Philosophy of Science,” Workshop on New Directions in History and Philosophy of Science, Bergamo, Italy, Fall 2009; Conference on the Future of Philosophy of Science (as Plenary Lecture), Tilburg University, The Netherlands, Spring 2010; Amsterdam University, Spring 2010; Indiana University (as Keynote Address) Fall 2010; University of California-Irvine, Winter 2010; University of Konstanz, Summer 2011; University of Bielefeld (as second Pentacost Lecture), Summer 2011; Nanyang Technological University (as first Distinguished Public Lecture), Summer 2014.

“Quine and Scientific Philosophy,” Pacific Division Meeting of the American Philosophical Association, San Francisco, Spring 2010.

“Scientific Philosophy from Helmholtz to Quine,” Workshop on Scientific Philosophy: Past and Future, Tilburg University, The Netherlands, Spring 2010.

“Scientific Philosophy from Helmholtz to Carnap and Quine,” Conference on Carnap and the Legacy of Logical Empiricism (as Keynote Address), University of Vienna, Spring 2010.

“Kant on Space and Geometry,” Columbia University, Fall 2010.

“The *Prolegomena* and Natural Science,” Workshop on the *Prolegomena*, Göttingen, Spring 2011.

“Mathematical Science, Naturalism, and Normativity,” Pacific Division Meeting of the American Philosophical Association, San Diego, Spring 2011; University of Bielefeld (as third Pentacoste Lecture), Summer 2011; University of Munich, Summer 2011; Technical University of Berlin, Summer 2011; Keynote Address at the Stanford/Berkeley/UC Davis Graduate Student Conference, Spring 2012; University of Pittsburgh (as Tamara Horowitz Lecture), Fall 2012; University of Athens-Georgia (as Kleiner Colloquium), Spring 2012; Nanyang Technological University (as second Distinguished Public Lecture), Summer 2014.

“Einstein and Constitutivity,” University of Bristol (conference in my honor), Summer 2011.

“Suppes on Science and Philosophy,” Celebration in Honor of Patrick Suppes’s 90th Birthday, CSLI, Winter 2012.

“A Post-Kuhnian Approach to the History and Philosophy of Science,” Two Lecture Series, as Spinoza Lectures at the University of Amsterdam, Spring 2012.

“Quantity of Matter in the *Metaphysical Foundations of Natural Science*,” Caltech, Spring 2012.

“Sensibility and Understanding in the B Deduction,” Keynote Address: Eastern Study Group of the North American Kant Society, Princeton University, Spring 2012.

“Kant on Space, Geometry, and Scientific Experience,” University of Western Ontario, Spring 2012.

“Reconsidering Kant and the Exact Sciences,” at Special Symposium in my honor, HOPOS Meeting, Halifax, Canada, Summer 2012.

“Kant on Space, Geometry, and the Possibility of Experience,” Max Planck Institute for the History of Science, Summer 2012.

“Carnap and Kuhn on Science and Philosophy,” University of Pittsburgh, Fall 2012.

“Space in Kantian Idealism,” Duke University, Spring 2012; Virginia Polytechnic University (as Keynote Address), Fall 2013; Humboldt Universität zu Berlin, Summer 2014.

“Laws of Nature and Causal Necessity,” First International Workshop on Kant and the Laws of Nature, Edinburgh, Summer 2013.

“From Intuition to Tolerance in Carnap’s Philosophy of Mathematics,” University of Munich (as Keynote Lecture at Carnap Conferences), Summer 2013.

“From Intuition to Tolerance in Carnap’s Philosophy of Mathematics,” International Conference on the Work of Charles Parsons, Tel Aviv University and Van Leer Jerusalem Institute, Fall 2013.

“Empirical Concepts, Mathematical Concepts, and the Categories,” Conference on Kant’s Conception of Empirical Knowledge,” Hebrew University of Jerusalem and the Israel Institute for Advanced Studies, Fall 2013.

“Kant on the Mechanical Determination of Quantity of Matter,” Max Planck Institute for the History of Science, Summer 2014; Nanyang Technological University (as Keynote Address), Summer 2014.

Panel Discussant on Kant and the Laws of Nature, Workshop on Kant and the Laws of Physics, Cambridge University, Summer 2014.

Doctoral Dissertations Directed (since 1990)

Alan Richardson, University of Illinois at Chicago, 1990. Presently Professor of Philosophy, University of British Columbia. (Revised version of dissertation published as *Carnap's Construction of the World*, Cambridge University Press, 1998.)

David Sullivan, University of Illinois at Chicago, 1990. Presently Professor of Philosophy (and Chair of the Department), Metropolitan State College.

Alison Laywine, University of Chicago, 1991. Presently Associate Professor of Philosophy, McGill University. (Revised version of dissertation published as *Kant's Early Metaphysics and the Origins of the Critical Philosophy*, Ridgeview, 1993.)

Daniel Warren, Harvard University, 1994. Presently Associate Professor of Philosophy (with tenure), University of California-Berkeley. (Dissertation published as *Reality and Impenetrability in Kant's Philosophy of Nature*, Routledge, 2001.)

Martin Schönfeld, Indiana University, 1995. Presently Associate Professor of Philosophy (with tenure), University of South Florida. (Revised version of dissertation published as *The Philosophy of the Young Kant*, Oxford University Press, 2000.)

Eric Winsberg, Indiana University, 1999. Presently Associate Professor of Philosophy (with tenure), University of South Florida.

Charles Twardy, Indiana University, 1999. Presently Research Fellow, Monash University.

Paul Pojman, Indiana University, 2000. Deceased.

James Mattingly, Indiana University, 2001. Presently Associate Professor of Philosophy (with tenure), Georgetown University.

Andrew Janiak, Indiana University, 2001. Presently Associate Professor of Philosophy (with tenure), Duke University.

Scott Tanona, Indiana University, 2002. Presently Associate Professor of Philosophy (with tenure), Kansas State University.

Gregg Osborne, University of Chicago, 2001. Presently Associate Professor of Philosophy (with tenure), Washington and Jefferson College.

Yoiche Kaniike, Indiana University, 2002. Presently Associate Fellow, Center for Philosophy, University of Tokyo.

Richard Corry, Indiana University, 2003. Presently Associate Professor of Philosophy (with tenure), University of Tasmania.

Mary Domski, Indiana University, 2003. Presently Associate Professor of Philosophy (with tenure), University of New Mexico.

Audrey Yap, Stanford University, 2006. Presently Associate Professor of Philosophy (with tenure), University of Victoria.

Angela Potochnik, Stanford University, 2007. Presently Associate Professor of Philosophy (with tenure), University of Cincinnati.

Darren Bradley, Stanford University, 2007. Presently Post-Doctoral Fellow, Australian National University.

Ludmila Guenova, Stanford University, 2008. Presently Assistant Professor of Philosophy, Wesleyan University.

Quayshawn Spencer, Stanford University, 2009. Presently Assistant Professor of Philosophy, University of Pennsylvania.

Teru Miyake, Stanford University, 2011. Presently Assistant Professor of Philosophy, Nanyang Technological University, Singapore.

Huaping Lu-Adler, University of California-Davis, 2012 (co-directed along with Henry Allison, emeritus). Presently Assistant Professor of Philosophy, Georgetown University.

Sally Riordan, Stanford University, 2013. Presently Research Fellow, Department of History and Philosophy of Science, Cambridge.

Praveen Shanbhag, Stanford University, 2014. Presently Independent Software Developer.