

February, 2012

## *Curriculum Vitae*

### **Michael Weisberg**

Department of Philosophy  
University of Pennsylvania  
433 Cohen Hall  
Philadelphia, PA 19104-6304  
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(267) 738-0676 (c)  
weisberg@phil.upenn.edu

### **EDUCATION**

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#### **Leland Stanford Junior University**

Ph.D. in Philosophy, 2003  
M.A. in Philosophy, 2002  
National Science Foundation Pre-doctoral Fellow

#### **University of California, San Diego**

B.S. Chemistry, B.A. Philosophy, 1999  
Honors with Highest Distinction in Philosophy

### **AREAS OF SPECIALIZATION**

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Philosophy of Science  
Philosophy of Biology  
Philosophy of Chemistry  
Public Understanding of Science

### **AREAS OF COMPETENCE**

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History of Philosophy of Science  
Cognitive Science and Philosophy of Mind  
Metaphysics and Epistemology  
Ethics of Science

## ACADEMIC APPOINTMENTS

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- 2003–present **University of Pennsylvania**  
Associate Professor of Philosophy (July 2009 – )  
Director of Graduate Studies (July 2011 – )  
Assistant Professor of Philosophy (July 2003 – June 2009)  
Member of the Graduate Group, History and Sociology of Science  
Affiliate Faculty, Institute for Research in Cognitive Science  
Affiliate Faculty, Center for Cognitive Neuroscience  
Consulting Scholar, Physical Anthropology Section, Penn Museum  
Faculty Fellow, Fisher-Hassenfeld College House (2005-2009)
- 2006–present **Center for Philosophy of Science, University of Pittsburgh**  
Associate
- 2006–present **Australia National University, Research School of Social Sciences**  
Philosophy Program Visitor (2006, 2009, 2012)  
Philosophy Fellow (2010)
- 2006–2007 **Chemical Heritage Foundation**  
Visiting Scholar

## GRANTS AND AWARDS

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- National Science Foundation Scholar Award SES-0957189 (\$173,205)  
National Science Foundation Scholar Award SES-0620887 (\$115,376)  
Stanford University Centennial Teaching Award (2002)  
National Science Foundation Pre-Doctoral Fellowship (1999-2003)

## PUBLICATIONS

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### Books

1. Kovac, J. and M. Weisberg, ed. (2012), *Roald Hoffmann on the Art, Science, and Philosophy of Chemistry*, Oxford University Press.
2. Weisberg, M. (2012), *Simulation and Similarity: Using Models to Understand the World*, forthcoming from Oxford University Press.

### Journal Articles

1. Kawahata, N. H., M. Weisberg, and M. Goodman (1999). "Synthesis of beta, beta-Dimethylated Amino Acids Utilizing the 9-Phenylfluorenyl Protecting Group." *Journal of Organic Chemistry*, 64, 4362–4369.\*

2. Weisberg, M. and R. Wood (2003). "Richard Rufus's Theory of Mixture." *Chemical Explanations: Characteristics, Development, Autonomy*, volume 988, *Annals of the New York Academy of Sciences*, 282–292.\*
3. Weisberg, M (2004). "Qualitative Theory and Chemical Explanation." *Philosophy of Science*, 71, 1071–1081.\*
4. Wood, R. and M. Weisberg (2004). "Interpreting Aristotle on Mixture: Problems of Elemental Composition from Philoponus to Cooper." *Studies in the History and Philosophy of Science*, 35, 681–706.\*
5. Weisberg, M (2006). "Robustness Analysis," *Philosophy of Science*, 73, 730–742.\*
6. Lombrozo, T., A. Shtulman, and M. Weisberg (2006). "The Intelligent Design Controversy: Lessons from Psychology and Education." *Trends in Cognitive Sciences*, 10, 56–57.\*
7. Weisberg, M (2006). "Forty Years of 'The Strategy': Levins on Model Building and Idealization," *Biology and Philosophy*, 21(5), 623–645.\*
8. Weisberg, M (2007). "Who is a Modeler?," *British Journal for Philosophy of Science*, 58, 207–233.\*
9. Weisberg, M. (2007) "Three Kinds of Idealization," *The Journal of Philosophy*, 104 (12) 639–59.\*
10. Weisberg, M. and K. Reisman (2008). "The Robust Volterra Principle," *Philosophy of Science*, 75, 106–131.\*
11. Weisberg, M. (2008) "Challenges to the Structural Conception of Bonding," *Philosophy of Science*, 75, 932–946.\*
12. Lombrozo, T., A. Thanukos, and M. Weisberg (2008). "The Importance of Understanding the Nature of Science for Accepting Evolution," *Evolution: Education and Outreach*, 1(3), 290-298.\*
13. Mathewson, J. and M. Weisberg (2009), "The Structure of Tradeoffs in Scientific Modeling," *Synthese*, 170.\*
14. Weisberg, M. and R. Muldoon (2009). "Epistemic Landscapes and the Division of Cognitive Labor," *Philosophy of Science*, 76, 225-252\*
15. Leiter, B. and M. Weisberg (2010). "Why Evolutionary Biology is (so far) Irrelevant to Legal Regulation," *Law and Philosophy*, 29, 31–74.\*

16. Muldoon, R. and M. Weisberg (2010). "Robustness and Idealization in Models of Cognitive Labor," *Synthese*, 183, 161–174.\*
17. Weisberg, M. and P. Needham (2010), "Matter, Structure, and Change: Aspects of Philosophy of Chemistry in the 21st Century," *Philosophy Compass*, 5, 927–937.\*
18. Muldoon, R., T. Smith, and M. Weisberg (2012). "Segregation That No One Seeks," *Philosophy of Science*, 79, 38–62.\*
19. Weisberg, M., "Target-directed Modeling," forthcoming in *The Modern Schoolman*.\*

### Book Chapters and Encyclopedia Articles

1. Weisberg, M (2005). "Water is Not H<sub>2</sub>O." *Philosophy of Chemistry: Synthesis of a New Discipline*. Eds. D. Baird, et al. New York: Springer, 337-345.\*
2. Weisberg, M (2005). "The Key to Electricity." *The Autobiography of Benjamin Franklin*. Penn Reading Project Edition. Ed. Peter Conn. Philadelphia: University of Pennsylvania Press, 159-162.
3. Weisberg, M (2009). "New Approaches to the Division of Cognitive Labor." *New Waves in Philosophy of Science*, Ed. P.D. Magnus and Jacob Busch. New York: Palgrave Macmillan.\*
4. Weisberg, M., P. Needham, and R. Hendry (2011), "Philosophy of Chemistry," *The Stanford Encyclopedia of Philosophy* (Spring 2011 Edition), Edward N. Zalta (ed.),  
<<http://plato.stanford.edu/archives/spr2011/entries/chemistry/>>.\*
5. Weisberg, M. (2012) "Chemical Modeling," *Handbook for Philosophy of Chemistry* (pp. 355–363), R. Hendry, P. Needham, and A. Woody (Eds.). Amsterdam: Elsevier.\*

### Essays and Book Reviews

1. "Why Not a Philosophy of Chemistry?" Review of *Of Minds and Molecules*, *American Scientist*, 89 (6), November 2001.
2. Review of *Science, Truth, and Democracy*, by Philip Kitcher. *Angewandte Chemie* 2000, 114 (16), 3189-3190 (German) and *Angewandte Chemie International Edition in English* 2002, 41 (16) 3064-3066.

3. “Chemistry and the Scientific Method” Review of *Chemical Discovery and the Logicians’ Program* by Jerome A. Berson. *Chemical and Engineering News*, 82 (12), 2004.
4. Review of *In Mendel’s Mirror*, by Philip Kitcher, *The Philosophical Review*, 119, 2005, 419–423.
5. “Darwin’s Bash.” *The Philadelphia Inquirer*, February 12, 2006.
6. “Richard Levins’ Philosophy of Science [editor’s introduction],” *Biology and Philosophy*, 21(5) 2006, 603–605.

#### **Under Review and In Preparation**

1. Weisberg, M. “Getting Serious about Similarity,” under review at *Philosophy of Science*.
2. Weisberg, M. and K. Johnson, “Exploring Realistic Epistemic Landscapes,” in preparation.
3. Monge, J. and M. Weisberg (co-curators), exhibit on Race and Human Diversity, University Pennsylvania Museum of Archeology and Anthropology.

#### **TEACHING**

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##### **University of Pennsylvania, 2003-present**

Topics in Metaphysics  
 Topics in Philosophy of Science  
 Philosophy of Biology  
 Evolution of Scientific Thought / Intro to HPS  
 Evolution, Altruism, and Human Nature  
 Philosophy of Social Science  
 Graduate Proseminar  
 Introduction to Philosophy

##### **Ph.D. Thesis Supervisor**

Matthew Bateman (current)  
 Alkistis Elliott-Graves (current)  
 Emily Parke (current)

##### **Ph.D. Committee Member**

Matthew Katz (defended AY2008)  
Scott Edgar (defended AY2009)  
Doug Weck (current)

**Undergraduate Research and/or Thesis Advisor**

Shivana Naidoo (AY 2004)  
Rosemary McKenna (AY 2005)  
Samuel Bookler (AY 2006)  
Eric King (AY 2006)  
Jack Cohen (AY 2006)  
Jaclyn Link (AY 2006)  
Anna Tuchman (AY2007)  
Daniel Singer (AY2007, AY2008)  
Joshua Matz (AY 2008)  
Martin Bouda (AY 2008)  
Benjamin Naecker (AY2009)  
Marc Werner (AY2009)  
Varun Balan (AY2009)  
Jennifer Marsh (AY2009)  
Jonathan Packer (AY2010)  
Alaina Pirraglia (AY2010)  
Kevin Huntington (AY2011)  
Jeffrey Ho (AY2011)  
Kory Johnson (AY2011)

**MLA Thesis Advisor**

Max Kimbrough

**Instructor, Stanford University 2001-2003**

Seminar for *The Dualist* (Stanford's undergraduate journal of philosophy)

**Teaching Assistant, Stanford University, 2000-2002**

Introduction to History and Philosophy of Science  
Philosophy of Biology  
Mind, Matter, and Meaning (writing in the major course)

**Teaching Assistant, UC San Diego, 1996-1999**

Organic Chemistry  
General Chemistry for non-science majors  
Organic Chemistry for non-science majors  
Warren College Scholars Seminar

## COLLOQUIA AND PRESENTATIONS

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1. "Jean Perrin and Molecular Reality"  
UCSD History of Chemistry Summer Colloquium July, 1998  
Stanford Undergraduate Philosophy Association, Winter 2001
2. "Water is Not H<sub>2</sub>O"  
International Society for Philosophy of Chemistry, August, 1999  
UCSD History of Chemistry Summer Colloquium July, 1999  
Berkeley–Stanford Graduate Philosophy Conference, June 2001
3. "Can Quine 'Quine' Similarity?"  
International Society for the Philosophy of Chemistry, August 2001  
Berkeley–Stanford Graduate Philosophy Conference, May 2000
4. "Reaction Mechanisms and Underdetermination"  
American Chemical Society, August 2001
5. "Has Neurath's Raft Sprung a Leak? An Assessment of Friedman's Challenge to Epistemological Holism"  
Berkeley–Stanford Graduate Philosophy Conference, May 2002
6. "Richard Rufus' Theory of Mixture"  
International Society for Philosophy of Chemistry, August 2002
7. "Qualitative Theory and Chemical Explanation"  
Philosophy of Science Association, November 2002
8. "Tradeoffs in Biological Modelling"  
International Society for History, Philosophy, and Social Study of Biology,  
July 2003
9. "Modeling in Chemistry"  
International Society for Philosophy of Chemistry, August 2004
10. "Who is a Modeler?"  
Institute for Research in Cognitive Science, September 2004  
Indiana University HPS Department, October 2004  
Center for Philosophy of Science (Pittsburgh), November 2004
11. "Darwin's Theories of Evolution"  
Ursinus College, March 2005  
Washington and Lee University, April 2006

12. Evolution and Intelligent Design (varia)
  - Anti-Defamation League Civil Rights Committee, Spring 2005
  - Spruce College House, Spring 2005
  - Penn Science Cafe, September 2005
  - Fisher-Hasenfeld College House, October 2005
  - Philomethan Society, October 2005
  - Penn ACLU, November 2005
  - King's Court College House, November 2005
  - BBC World Service TV, December 2005
  - BBC Channel 4 TV News, December 2005
  - BBC World Service Radio, December 2005
  - BBC "Up All Night" Radio Program, December 2005
13. "Robustness Analysis"
  - Department of Biology, University of Pennsylvania, November 2004
  - Philosophy of Science Association Meeting, November 2004
  - ISHPSSB, Guelph, Ontario, July 2005
  - Sage School of Philosophy, Cornell University, March 2006
14. Comments on "Mereological and Modal Features of Substance Properties"
  - International Society for Philosophy of Chemistry, August 2005
15. "Idealization and the Ends of Science"
  - University of Pennsylvania, September 2005
  - Washington and Lee University, April 2006
16. "A Rift in Quantum Chemistry?"
  - Department of History and Sociology of Science, University of Pennsylvania, October 2005
17. "Evolution, Intelligent Design, and Public Misconceptions about Science"
  - Program on Ethics and Public Life, Cornell University, March 2006
  - Washington and Lee University, April 2006
  - Penn School of Arts and Sciences Alumni event, May 2006
  - Pre-performance talk at "Great Tennessee Monkey Trial," Annenberg Center, April 2007
  - Free Thought Society, May 2007
18. "Tradeoffs and Idealization in Biological Model Building"
  - Instituto de Investigaciones Filosóficas, Universidad Nacional Autónoma de México, June 2006



19. “Robust Properties of Chemical Bonds”  
Stockholm University, May 2006  
Philosophy of Science Association, November 2006
20. “Robustness Analysis and the Volterra Principle”  
Australasian Association of Philosophy, Canberra, Australia, July 2006  
London School of Economics, March 2007  
University of Bristol, March 2007
21. “Are Chemical Bonds Real?”  
Research School of Social Sciences, Australia National University, August 2006  
Center for Philosophy of Science (Pittsburgh), February 2007  
Duke University, January 2012
22. “Science, Faith, and Darwin” panel  
Co-panelists: The Honorable John E. Jones III, Michael Shermer, Eric Rothchild, Stephen Harvey  
The Franklin Institute, December 2006
23. Commentary on Philip Kitcher’s Prometheus Lecture “Darwin and Democracy”  
Eastern APA, December 2006
24. “Three Kinds of Idealization”  
University of Durham, February 2007  
Minnesota Center for Philosophy of Science, October 2007
25. “Simplicity and Generality in Biological Modeling”  
ISHPSSB, Exeter, UK, July 2007  
Models and Simulations 2, Tilburg University, October 2007
26. “Three Challenges to the Structural Conception of Bonding”  
International Society for the Philosophy of Chemistry, San Francisco, August 2007
27. “Distinctly Chemical Explanations”  
American Chemical Society Presidential Symposium  
Honoring Roald Hoffmann, August 2007
28. “Representational Ideals”  
Tilburg University, October 2007

29. “Models for Modeling Matter”  
Durham University, March 2008
30. “Epistemic Landscapes and the Division of Cognitive Labor”  
Tufts University, April 2008 Penn Workshop on Formal Methods in  
Philosophy, May 2008
31. “The Death of Similarity?” with Deena Skolnick Weisberg  
Society for Philosophy and Psychology, June 2008
32. “Deploying Highly Idealized Models”  
Universidad Autónoma Metropolitana–Iztapalapa, Mexico, July 2008  
University of Alabama at Huntsville, October 2008  
APA Central Division, February 2009  
Franklin and Marshall College, April 2009
33. “Value and Significance on Epistemic Landscapes”  
PSA 2008, Pittsburgh, PA, November 2008
34. “Explaining with (Possibly) Non-referring Bonds”  
EPSA 2009, Amsterdam, November 2009
35. “Maths and Fictions”  
University of London, Institute for Philosophy, March 2009
36. “Models for Modeling”  
London School of Economics, March 2008  
San Francisco State University, March 2009  
Australia National University, August 2009  
University of Missouri, February 2010
37. “Three Sex Biology and Other Models Without Targets”  
University of Helsinki, May 2009  
ISHPSSB, Brisbane Australia, July 2009  
Southern Methodist University, November 2009  
St. Louis University, March 2010  
University Paris 1 Pantheon-Sorbonne, March 2010
38. “Evolution at 150”  
Society for Philosophy and Psychology, June 2009
39. “Ecological Models of Cognitive Labor”  
University of Pennsylvania Biology Department, November 2009

Society for Philosophy and Psychology, June 2010

Sydney University, August 2010

40. "Getting Serious about Similarity"  
Thought Experiments and Simulations Workshop, IHPST, Paris, March 2010  
Australia National University, August 2010  
University of California, San Diego, October 2010  
Philosophy of Science Association, November 2010  
Duke University, December 2010  
University of Utah, February 2011  
University of Chicago, June 2011
41. "Prebiotic Epistemology"  
Philosophy of Biology at Dolphin Beach, August 2010
42. "Homochirality Before the Origin of Life"  
International Society for the History, Philosophy, and Social Studies of  
Biology, July 2011
43. "Why is There So Little Chemistry in Our Culture?"  
Presidential Symposium, International Union for Pure and Applied  
Chemistry, July 2011

## **SERVICE AND PROFESSIONAL ACTIVITIES** \_\_\_\_\_

### **Service to the University and the School of Arts and Sciences**

1. Penn Social Responsibility Advisory Committee (AY 12)
2. Faculty Grievance Commission (AY 10 - 12)
3. Member, Integrated Studies Planning Committee (AY10 - )
4. Member, SP2 Dean Re-appointment Committee (AY09)
5. Faculty Fellow, Fisher-Hassenfeld College House (2005 - 2009 )
6. Co-chair, Penn's Year of Evolution (2005 - 2009)
7. Chair, The Evolution Project at Penn Museum (2005 - 2009 )
8. Pre-major advisor, College of Arts and Sciences (AY05 - )
9. Member, Penn Reading Project selection committee (AY07) and committee  
chair (AY08)

10. Member, SP2 Dean Re-appointment Committee (AY09)

#### **Service to the Department of Philosophy**

1. Search Committee Chair (AY12)
2. Search Committee (AY05, AY06)
3. Admissions Committee (AY04, AY05, AY08)
4. Library Committee (AY08, AY09)
5. Colloquium Committee (AY05, AY06, AY10)

#### **Service to the Profession**

1. Associate editor, *Episteme* (2010 - ).
2. Member of the advisory Committee, *Understanding Science*, UC Museum of Paleontology (2006 - ).
3. Member of the editorial board, *Foundations of Chemistry* (2005 - )
4. Member of the executive committee, International Society for the Philosophy of Chemistry (2005 - 2008)
5. Member of the program committee, *Philosophy of Science Association Meeting 2006*
6. Organizer, “New Models of the Social Structure of Science,” PSA 2008
7. Co-organizer “Strategies of Modeling in Biology and Chemistry,” PSA 2004
8. Co-organizer “Causation and Explanation in Chemistry,” PSA 2002
9. Organizer, “The Strategy of Model Building: 1966-2005,” Greater Philadelphia Philosophy Consortium, April 2005.
10. Member of American Philosophical Association, International Society for History, Philosophy, and Social Study of Biology, International Society for the Philosophy of Chemistry, and the Society for Philosophy and Psychology.

11. Ad hoc referee for *Philosophy of Science*, *British Journal for the Philosophy of Science*, *Biology and Philosophy*, *International Studies in the Philosophy of Science*, *Foundations of Chemistry*, *Annals of the New York Academy of Sciences*, *Philosophy of the Social Sciences*, *Critica*, *Synthese*, Acumen Press, Princeton University Press, Oxford University Press, and the National Science Foundation.

#### REFERENCES

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Susan Meyer, Penn	(215) 898-8950	smeyer@phil.upenn.edu
Peter Godfrey-Smith, CUNY		p.godfrey.smith@gmail.com
Michael Strevens, NYU		strevens@nyu.edu
Philip Kitcher, Columbia	(212) 854-4884	psk16@columbia.edu
Roald Hoffmann, Cornell (Chemistry)	(607) 255-3419	rh34@cornell.edu