

Manfred Dietrich Laubichler—Curriculum vitae

School of Life Sciences
 Arizona State University
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Education

University of Vienna, M. Sc. (Zoology), 1991. Thesis: Epistasis in two-locus two-allele systems: Gillespie-Turelli effects and epistatic dominance

Yale University, M. Phil. (Biology), 1993; **Ph.D.** (Biology), 1997. Thesis: Identifying Units of Selection: Conceptual and Methodological Issues

Princeton University, M.A. (History), 1998; **ABD (Ph.D.** Thesis: Between Philosophy and Experiment: A History of Theoretical Biology)

Area of Specialization and Interest

Theoretical Biology, Evolutionary Biology (Quantitative and Population Genetics), Evolutionary Developmental Biology, Complexity Theory, History of Biology, Cultural History of Science, Digital Humanities, Computational Methods, Philosophy of Biology

Professional Employment

- 2012 - Arizona State University: President's Professor of Theoretical Biology and History of Biology
- 2007 - Arizona State University: Full Professor of Theoretical Biology and History of Biology, School of Life Sciences and Centers for Biology and Society and Social Dynamics and Complexity; Affiliate: Department of Philosophy
- 2001 - 2007 Arizona State University: Assistant Professor, School of Life Sciences and Centers for Biology and Society and Social Dynamics and Complexity; Affiliate: Department of Philosophy

Awards and Professional Appointments

- 2012- External Faculty, Santa Fe Institute
- 2012- Director, Evolutionary Theory Core, Complex Adaptive Systems@ASU, Arizona State University
- 2011 - Associate Director, Origins Project, Arizona State University
- 2011 Special Recognition Award, ASU Parents Association
- 2009 Elected Fellow, American Association for the Advancement of Science
- 2009 - Advisory Committee, History and Philosophy of Science, MBL
- 2009/10 Appointed Fellow and Convener of a Research Group at the Wissenschaftskolleg zu Berlin for Academic Year 09/10
- 2009 - Adjunct Scientist, Marine Biological Laboratory, Woods Hole, MA
- 2009 - Director (Life Sciences), Center for Social Dynamics and Complexity, Arizona State University
- 2007 - Faculty Exemplar Award, President, Arizona State University
- 2007 Faculty Achievement Award, Young Investigator Research, Vice President and Provost, Arizona State University

- 2006 Dean's Distinguished Teaching Award, College of Liberal Arts and Sciences, Arizona State University
- 2006 - Founding Fellow, Arizona Arts, Science, and Technology Academy
- 2002 - Scientific Member and External Faculty, Konrad Lorenz Institute for Evolution and Cognition Research, Altenberg, Austria
- 2000-2001 The Charlotte Elizabeth Proctor Honorific Fellowship, Princeton University
- 1991-1996 G. Evelyn Hutchinson Prize, Yale Institute for Biospheric Studies

Publications

Research Publications

Books:

In process

11. W. Aird, **M.D. Laubichler** and J. Maienschein, Seeing Biological Systems, Harvard University Press (*under contract, completion late 2013*)
10. **M.D. Laubichler**, From Darwin to Gene Regulatory Networks: A History of Developmental Evolution (*completion of the ms expected by the end of 2013*)
9. **M.D. Laubichler**, Developmental Evolution: An Introduction (*A textbook for Oxford University Press, completion 2014*)
8. **M.D. Laubichler**, Die Rekonstruktion der Ursprünge (*completion late 2013*)
7. **M.D. Laubichler** (ed.). Theodor Boveri. Die Organismen als historische Wesen. Annotated translation and commentary (*manuscript completed, forthcoming in the Max Planck Research Library for the History and Development of Knowledge—digital open access and print on demand edition*)
6. **M.D. Laubichler**, P. Hammerstein, H.-J. Rheinberger (eds.). Regulation: Current and Historical Themes in Theoretical Biology (*manuscript completed forthcoming in the Max Planck Research Library for the History and Development of Knowledge—digital open access and print on demand edition*)

Published

5. **M.D. Laubichler** and J. Maienschein (eds.) (2009). Form and Function in Developmental Evolution. Cambridge University Press
4. W. Aird (editor.), **M.D. Laubichler** et al. (associate editors) (2007): Endothelial Biomedicine, Cambridge University Press
3. **M.D. Laubichler** and G.B. Müller (eds.) (2007) Modeling Biology. MIT Press
2. **M.D. Laubichler** and J. Maienschein (eds.) (2007): From Embryology to Evo-Devo: A History of Embryology in the 20th Century, MIT Press, Dibner Series
1. M.Hagner and **M.D. Laubichler** (eds.) (2006): Die Bedeutung des Allgemeinen in den Wissenschaften des 19. und 20. Jahrhunderts. Diaphanes Verlag, Zürich

Refereed Articles and Chapters in Edited Volumes:

Under review, commissioned, and in preparation:

97. **M.D. Laubichler**, R. Mocek and H.-J. Rheinberger *Alfred Kühn: Ein Forscherleben*
96. L. Jiang and **M.D. Laubichler**: *The Hayflick Limit and the Emergence of Cellular Aging Research*
95. M. Ulett, B. K Hall and **M.D. Laubichler**: *Defining Body Plans in Developmental Evolution: Historical and Conceptual Reflections*
94. **M.D. Laubichler**: *Regulatory Evolution: The History of a Concept*

93. **M.D. Laubichler:** *Historical Antecedants of a 1967 Theory for the Mechanism underlying Cytoplasmatic Localization in Embryos*
92. **M.D. Laubichler:** *Gene Regulatory Networks and the Conceptual Foundations for Developmental Evolution*, Journal of Experimental Zoology: Part B, Molecular and Developmental Evolution, (submitted)
91. **M.D. Laubichler:** *Models of Regulatory Evolution: From the Britten Davidson Model to Gene Regulatory Networks*, BioEssays, (commissioned)
90. **M.D. Laubichler:** *From Darwin to Developmental Evolution: What drives the evolution of morphology and behavior and why we need to understand development to answer this question?*, Endeavour, (commissioned)

In press

90. **M.D. Laubichler** *The four dimensional regulatory genome and the logic of developmental evolution*, in A. Minelli and T. Pradeu (eds.) Towards a Theory of Development, Oxford University Press
89. **M.D. Laubichler:** *From the Systemtheorie der Evolution to Gene Regulatory Networks: Reflections on the History of Developmental Evolution*, in A. Love (ed.) The Dahlem Conference in Context, Springer Verlag
88. J. Maienschein and **M.D. Laubichler**, *Exploring Development and Evolution on the Tangled Bank*, in P. Thompson (ed.), Festschrift for Michael Ruse, Cambridge University Press
87. **M.D. Laubichler:** *Homology as a bridge between evolutionary morphology, developmental evolution and phylogenetic systematics*, in A. Hamilton (ed.) History and Philosophy of Systematics, University of California Press

Published

86. **M.D. Laubichler**, J. Maienschein and J. Renn, *Computational Perspectives in the History of Science*, ISIS, **104**: 119-130
85. **M.D. Laubichler** and J. Maienschein: *Developmental Evolution*, in M. Ruse (ed.), The Cambridge Encyclopedia of Darwin and Evolutionary Thought, Cambridge University Press: pp. 375-382.
84. A. Wiek, M. Bernstein, **M.D. Laubichler**, G. Caniglia, B. Minter, D.J. Lang (2013). *A Global Classroom for Sustainability Education*, Creative Education **4**: 19-28.
83. O. Leimar, K. Hartfelder, **M.D. Laubichler**, R.E. Page (2012): *Development and Evolution of caste dimorphism in honey bees — a modeling approach*, Ecology and Evolution, **2**: 3098-3109.
82. **M.D. Laubichler**, *Future Challenges and Perspectives in the History of the Life Sciences: An Appreciation of the Rheinberger Model*, in L. Daston and J. Renn (eds.), Festkolloquium für Hans-Jörg Rheinberger, MPIWG Preprint Series, **433**: 29-36.
81. T.A Linksvayer, J. Fewell, J. Gadau and **M.D. Laubichler** (2012): *Developmental Evolution in Social Insects – Regulatory Networks from Genes to Societies*, Journal of Experimental Zoology: Part B, Molecular and Developmental Evolution, **318**: 159-169.
80. J. Maienschein and **M.D. Laubichler** (2012): *Charles Gillispie in the Digital Age*, in Jed Buchwald (ed.) A Master of Science History: Essays in Honor of Charles Coulston Gillispie, Springer Verlag, pp. 37-45.
79. R. Gorelick, **M.D. Laubichler**, and R. Massicotte (2011): *Asexuality and Epigenetic Variation*, in B. Hallgrímsson and B.K. Hall (eds.), Epigenetics: Linking Genotype and Phenotype in Development and Evolution, University of California Press, pp. 87-102.
78. D. Krakauer, J.P. Collins, J.C. Flack, W. Fontana **M.D. Laubichler**, S. Prohaska, P. Stadler and G. West (2011): *The Challenges and Scope of Theoretical Biology*, Journal of Theoretical Biology, **276**: 269-276
77. **M.D. Laubichler** (2011): *Embryonalentwicklung*, In Henning Schmidgen et al. (eds.) Eine Naturgeschichte für das 21. Jahrhundert. Homage a, zu Ehren von, in honor of

- Hans-Jörg Rheinberger, Max Planck Institut für Wissenschaftsgeschichte, pp. 80-82.
76. **M.D. Laubichler** (2010): *Modellorganismen*, In: Philipp Sarasin and Marianne Sommer (eds.), Evolution. Ein interdisziplinäres Handbuch, Metzler Verlag, pp. 189-195.
 75. **M.D. Laubichler** (2010): *Mathematik und Statistik*, In: Philipp Sarasin and Marianne Sommer (eds.), Evolution. Ein interdisziplinäres Handbuch, Metzler Verlag, pp. 180-185.
 74. **M.D. Laubichler** (2010): *Organismus*, In: Philipp Sarasin and Marianne Sommer (eds.), Evolution. Ein interdisziplinäres Handbuch, Metzler Verlag, pp. 42-44.
 73. **M.D. Laubichler** (2010): *Entwicklung*, In: Philipp Sarasin and Marianne Sommer (eds.), Evolution. Ein interdisziplinäres Handbuch, Metzler Verlag, pp. 16-18.
 72. J. Maienschein and **M.D. Laubichler** (2010): *The Embryo Project: An integrated approach to history, practices and social contexts of embryo research*, Journal of the History of Biology, 43: 1-16.
 71. **M.D. Laubichler**, J. Maienschein, and G. Yamashita (2009): *The Embryo Project and the Emergence of a Digital Infrastructure for History and Philosophy of Science*, Annals of the History and Philosophy of Biology, Volume 12, 79-96
 70. **M.D. Laubichler** (2009): *Evolutionary Developmental Biology Offers a Significant Challenge to the Neo-Darwinian Paradigm*, in F. Ayala and R. Arp (eds.) Contemporary Debates in Philosophy of Biology, Blackwell, pp: 199-212.
 69. **M.D. Laubichler** and Karl J. Niklas (2009): *The Morphological Tradition in German Paleontology: Otte Jaekel, Walter Zimmermann and Otto Schindewolf*, in David Sepkoski and Michael Ruse (eds.) The Paleobiological Revolution. Essays on the Growth of Modern Paleobiology, University of Chicago Press, pp. 279-300.
 68. **M.D. Laubichler** and J. Gadau (2009): *Social Insects as Models for Evo Devo*, in J. Gadau and J. Fewell (eds.): Organization of Insect Societies—From Genomes to Socio-Complexity. Harvard University Press, pp. 590-607.
 67. **M.D. Laubichler** and J. Maienschein (2009): *Evolution and Society*, in Evolution: The first four Billion Years, Michael Ruse and Joseph Travis (eds.), Harvard University Press, pp. 330-347.
 66. **M.D. Laubichler** (2009): *Form and Function in Evo Devo: A Conceptual and Historical Analysis*, in M.D. Laubichler and J. Maienschein (eds.) Form and Function in Evo Devo, Cambridge University Press, pp. 10-46.
 65. **M.D. Laubichler**, A. Hamilton, and J. Maienschein (2009). *Form and Function in Evo Devo: Introduction*, in M.D. Laubichler and J. Maienschein (eds.) Form and Function in Evo Devo, Cambridge University Press, pp. 1-9.
 64. B.K. Hall and **M.D. Laubichler** (2008): *Conrad H. Waddington: Towards a Theoretical Biology*, Biological Theory, 3: 233-237.
 63. W.A. Griffin, **M.D. Laubichler** and W. Callebaut (2008): *Agents, Modeling Processes, and the Allure of Prophecy*, Biological Theory, 3: 73-78
 62. **M.D. Laubichler** and E.H. Davidson (2008). *Boveri's long experiment: sea urchin merogons and the establishment of the role of nuclear chromosomes in development*, Developmental Biology, 314: 1-11
 61. J. Maienschein, **M.D. Laubichler** and A. Loettgers (2008): *How History Matters to Scientists*, Isis, 99: 341-349.
 60. **M.D. Laubichler** (2007): *The specter of the past. What the history of theoretical biology means today*, Biological Theory, 2: 131-133
 59. **M.D. Laubichler** (2007): *Evolutionary Developmental Biology*, in David Hull and Michael Ruse (eds.) Cambridge Companion to the Philosophy of Biology, Cambridge University Press, pp: 342-360.
 58. **M.D. Laubichler** and J. Maienschein (2007): *Embryos, Cells, Genes, and Organisms: A Few Reflections on the History of Evolutionary Developmental Biology*, in Robert

- Brandon and Roger Sansom (eds.) Integrating Evolution and Development: From Theory to Practice, MIT Press, pp: 1-24.
57. **M.D. Laubichler** (2007): *The regulatory genome: Eric Davidson at 70*. Bioessays, 29: 937-939.
 56. W. Aird and **M.D. Laubichler** (2007): Introductory Essay; Evolution, Comparative Biology and Development, in W. Aird (ed.) Endothelial Biomedicine. Cambridge University Press, pp. 23-28.
 55. **M.D. Laubichler**, W. Aird, and J. Maienschein (2007): *The Endothelium in History*, in W. Aird (ed.) Endothelial Biomedicine. Cambridge University Press, pp. 5-22.
 54. W. Aird, **M.D. Laubichler**, and J. Maienschein (2007): *Conclusion*, in W. Aird (ed.) Endothelial Biomedicine. Cambridge University Press, pp.1814-1815.
 53. **M.D. Laubichler**, G.B. Müller, and J. Collins and S. Gilbert (2007): *Modeling in EvoDevo: How to Integrate Development, Evolution, and Ecology*, in M.D. Laubichler and G.B. Müller (eds.), Modeling Biology: Structures, Behavior, Evolution, MIT Press, pp. 355-378.
 52. **M.D. Laubichler** and G.B. Müller (2007): *Models in Theoretical Biology*, in M.D. Laubichler and G.B. Müller (eds.), Modeling Biology: Structures, Behavior, Evolution, MIT Press, pp. 3-10.
 51. **M.D. Laubichler** (2007): *Tinkering: a historical evaluation*, in D. Lieberman (ed.), Tinkering: the microevolution of development. Novartis Foundation Symposium 284, Wiley, pp. 20-29.
 50. **M.D. Laubichler** (2007): *Does History Recapitulate Itself? Reflections on the Origins of Evolutionary Developmental Biology*, in M.D. Laubichler and J. Maienschein (eds.) (2007): From Embryology to Evo-Devo: A History of Embryology in the 20th Century, MIT Press, pp. 13-34.
 49. **M.D. Laubichler** and J. Maienschein (2007): *Introduction*, in M.D. Laubichler and J. Maienschein (eds.) (2007): From Embryology to Evo-Devo: A History of Embryology in the 20th Century, MIT Press, pp. 1-12.
 48. **M.D. Laubichler** (2007): *Die Virtuosität der Natur im Spiegel der Naturwissenschaft*, in N. Haas, R. Nägele, H.J. Rheinberger (eds.), Eggingen: Edition Isele, pp. 147-168.
 47. J. Gadau and **M.D. Laubichler** (2006): *Relatedness: Capturing Cohesion in Biological Systems*, Biological Theory, 1: 416-419.
 46. M. Hagner and **M.D. Laubichler** (2006): *Vorläufige Überlegungen zum Allgemeinen*, in M.Hagner and **M.D. Laubichler** (eds.) (2006): Der Hochsitz des Wissens; Das Allgemeine als wissenschaftlicher Wert, Diaphanes Verlag, Zürich, pp. 7-21.
 45. **M.D. Laubichler** (2006): *Biologie als selbstständige Grundwissenschaft und die allgemeinen Grundlagen des Lebens*, in M. Hagner and **M.D. Laubichler** (eds.) Der Hochsitz des Wissens; Das Allgemeine als wissenschaftlicher Wert, Diaphanes Verlag, Zürich, pp. 185-205.
 44. P. Hammerstein, E. Hagen, and **M.D. Laubichler** (2006): *Strategies: A Central Concept in Biological and Economic Theory*, Biological Theory, 1: 198-201.
 43. **M.D. Laubichler** and H.J. Rheinberger (2006): *August Weismann and Theoretical Biology*, Biological Theory, 1: 202-205.
 42. J.S. Robert, J. Maienschein, and **M.D. Laubichler** (2006): *Systems Bioethics and Stem Cell Biology*, Journal of Bioethical Inquiry 3: 19-31.
 41. **M.D. Laubichler**, P. Hammerstein, and E. Hagen (2005): *The Concept of Strategies and John Maynard Smith's Influence on Theoretical Biology*, Biology and Philosophy 20: 1041-1050.
 40. **M.D. Laubichler** (2005): *Heredity and Heritability*, in Jessica Pfeiffer and Sahorta Sarkar (eds.) The Philosophy of Science: An Encyclopedia, Routledge, pp: 352-256.

39. **M.D. Laubichler** (2005): *Systemtheoretische Organismuskonzeptionen*, in Ulrich Krohs und Georg Toepfer (eds.) Einführung in die Philosophie der Biologie, Frankfurt/Main: Suhrkamp Verlag, pp: 109-124.
38. **M.D. Laubichler** (2005): *Evolutionäre Entwicklungsbiologie*, in Ulrich Krohs und Georg Toepfer (eds.) Einführung in die Philosophie der Biologie, Frankfurt/Main: Suhrkamp Verlag, pp: 322-337.
37. **M.D. Laubichler** and J. Maienschein (2004) *Ontogeny, Anatomy, and the Problem of Homology: Carl Gegenbaur and the American Tradition of Cell Lineage Studies*, in U. Hoßfeld, L. Olsson, O. Breidbach G.S. Levit (eds.) Evolutionary Morphology: From Carl Gegenbaur to the Present, Fineday Press. pp: 132-142. [Russian Translation of 26]
36. **M.D. Laubichler** and H.-J. Rheinberger (2004): *Alfred Kühn and Developmental Evolution*, Journal of Experimental Zoology: Part B, 302B: 103-110.
35. **M.D. Laubichler** and J. Maienschein (2004): *Development*, in Maryanne Cline Horowitz (ed.), The New Dictionary of the History of Ideas, New York, Charles Scribner's Sons, Vol 2: pp: 570-574.
34. **M.D. Laubichler** and G.P. Wagner (2004): *Introduction to the 2001 Kowalevsky Medal Winner Symposium*, Journal of Experimental Zoology: Part B, 302B: 1-4.
33. G.P. Wagner and **M.D. Laubichler** (2004): *Rupert Riedl and the Re-Synthesis of Evolutionary and Developmental Biology*, Journal of Experimental Zoology: Part B, 302B: 92-102.
32. **M.D. Laubichler** (2004): *Universelle Biologie. Traum und Wirklichkeit*, in T. Weber (ed.) Science & Fiction II: Leben auf anderen Sternen, Fischer Verlag, pp: 163-180.
31. R. Gorelick and **M.D. Laubichler** (2004): *Decomposing Multi-locus Linkage Disequilibrium*. Genetics, 166: 1581-1583.
30. **M.D. Laubichler** (2003): *Carl Gegenbaur (1832-1903): Integrating Comparative Anatomy and Embryology*. Journal of Experimental Zoology: Part B Molecular and Developmental Evolution, 300B: 23-31.
29. **M.D. Laubichler** and G.P. Wagner (2003): *Editorial: A new series of vignettes on the history of evolutionary developmental biology*. Journal of Experimental Zoology: Part B Molecular and Developmental Evolution, 299: 1-2.
28. M.K.Chew and **M.D. Laubichler** (2003): *Natural Enemies: Metaphor or Misconception?*, Science, 301: 52-53.
27. **M.D. Laubichler** (2003): *Units and Levels of Selection in Developing Systems*, in Brian Hall and Wendy Olson (eds.) Keywords and Concepts in Evolutionary Developmental Biology, Cambridge, MA, Harvard University Press, pp:332-341.
26. **M.D. Laubichler** and Jane Maienschein (2003): *Ontogeny, Anatomy, and the Problem of Homology: Carl Gegenbaur and the American Tradition of Cell Lineage Studies*, Theory in Biosciences, 112: 194-203.
25. **M.D. Laubichler** (2002): *Anatomy and Physiology in the 19th century*, The History of Modern Science and Mathematics, Brian Baigrie (ed.) Vol 1: 199--213. New York: Charles Scribners.
24. **M.D. Laubichler** (2002): *An egg is and egg is an egg [Essay Review of Evelyn Fox Keller: Making Sense of Life]*, Cell, 111: 460-461.
23. **M.D. Laubichler** and S. Sarkar (2002): *Flies, Genes, and Brains: Oskar Vogt, Nicolai Timofeeff-Ressovsky, and the Origin of the Concepts of Penetrance and Expressivity in Classical genetics*, in L. Parker and R.A. Ankeny (eds.) Medical Genetics. Conceptual Foundations and Classic Questions, Dordrecht, Kluwer, pp: 63-85.
22. G.Geison and **M.D. Laubichler** (2001): *Reflections on the Role of Organismal and Cultural Variation in the History of the Biological Sciences*, Stud. Hist. Phil. Biol. & Biomed. Sci, 32: 1-29.

21. **M.D. Laubichler** and G.P. Wagner (2001): *How molecular is molecular developmental biology? A reply to Alex Rosenberg's Reductionism Redux: Computing the Embryo*, Biology and Philosophy, 16: 53-67.
20. **M.D. Laubichler** (2001): *Mit oder ohne Darwin? Die Bedeutung der Darwinschen Selektionstheorie in der Konzeption der Theoretischen Biologie von 1900 bis zum Zweiten Weltkrieg*, in R. Broemer & U. Hoßfeld (eds.) Darwinismus und/als Ideologie, Berlin, Verlag für Wissenschaft und Bildung, pp. 229-262.
19. **M.D. Laubichler** (2000): *The organism is dead. Long live the organism!* Perspectives on Science, 8: 286-315. [Essay Review]
18. **M.D. Laubichler** (2000): Homology in Development and the Development of the Homology Concept, American Zoologist, 40: 777-788.
17. G.P. Wagner, C. Chiu & **M.D. Laubichler** (2000): *Developmental Evolution as a Mechanistic Science: The Inference from Developmental Mechanisms to Evolutionary Processes*, American Zoologist, 40: 819-831.
16. **M.D. Laubichler** (2000): Introduction to the Symposium "The Organism in Philosophical Focus," Philosophy of Science, Supplement, 67: S256-259.
15. **M.D. Laubichler** and G.P. Wagner (2000): *Organism and Character Decomposition: Steps towards an Integrative Theory of Biology*, Philosophy of Science, Supplement 67: S289-300.
14. G.P. Wagner and **M.D. Laubichler** (2000): *Character Identification in Evolutionary Biology: The Role of the Organism*, in G.P. Wagner (ed.) The Character Concept in Evolutionary Biology, San Diego, Academic Press, pp. 141-163. [Reprint of 13.]
13. G.P. Wagner and **M.D. Laubichler** (2000): *Character Identification in Evolutionary Biology: The Role of the Organism*, Theory in Biosciences, 119: 20-40.
12. **M.D. Laubichler** (2000): *Oskar and Cecile Vogt: From the Neo-Cortex to Bumble Bees, an episode in the history of the biological character concept*, in G.P. Wagner (ed.) The Character Concept in Evolutionary Biology, San Diego, Academic Press, pp. 37-56.
11. **M.D. Laubichler** (1999): *Frankenstein in the land of Dichter and Denker. Essay on Science and Society*. Science, 286: 1859-1860
10. **M.D. Laubichler** and A.N.H. Creager (1999): *How Constructive is Deconstruction?*, Stud. Hist. Phil. Biol. & Biomed. Sci. 30: 129-142. [Essay Review]
9. **M.D. Laubichler** (1999): *A semiotic perspective on biological objects and functions*, Semiotica, 127: 415-432
8. G.P. Wagner, **M.D. Laubichler**, H. Bagheri-Chaichian (1998), *Genetic Measurement Theory of Epistatic Effects*. Genetica, 102/103: 569-580.
7. **M.D. Laubichler** (1997): *The semiotics of biological functions* in I. Rauch and G.F. Carr eds. Semiotics around the World, Mouton de Gruyter, pp. 953-956
6. **M.D. Laubichler** (1997): *Wittgensteinian Biology* in I. Rauch and G.F. Carr eds. Semiotics around the World, Mouton de Gruyter, pp. 957-960
5. **M.D. Laubichler** (1997): Introduction to Semiotics in Biology, European Journal for Semiotic Studies, pp. 248-250.
4. **M.D. Laubichler** (1997): *The nature of biological concepts* European Journal for Semiotic Studies, 9: 251-276
3. **M.D. Laubichler** (1997): *Reflections on Wittgenstein and Biology* European Journal for Semiotic Studies, 9: 377-386
2. **M.D. Laubichler** & G.P. Wagner (1995): *Wider den Revolutionszwang!* Ethik und Sozialwissenschaften, 6 (3): 333-335.
1. G.P. Wagner & **M.D. Laubichler** (1994): *Kontext und Organization*. Ethik und Sozialwissenschaften. 5 (2): 261-263

Refereed Commentary, Letters, and Editorials

20. Y. Elkana, **M.D. Laubichler** and A. Wilkins (2010): *Call to Reshape University Curricula*, Nature 467: 788
19. **M.D. Laubichler** (2010). *Robert Lepage's Vision*, Wissenschaftskolleg zu Berlin, Jahrbuch 2009/2010, pp: 120-122.
18. **M.D. Laubichler** (2010): *Urknall? Darwin?*, Frankfurter Allgemeine Zeitung, 14. April 2010
17. **M.D. Laubichler** and W.Callebaut (2010): *The Moody's Virus Attacks the U.S. National Science Board*, Biological Theory, 5: 1-2
16. **M.D. Laubichler** and B.K. Hall (2008). *Conrad Hal Waddington: Forefather of Theoretical Evo Devo*, Biological Theory 3: 185-187
15. **M.D. Laubichler** (2008): *Doppelkompetenzen gefragt*, Frankfurter Allgemeine Zeitung, 28. August 2008
14. **M.D. Laubichler** and W.Callebaut (2008): *Formalizing Biology*, Biological Theory, 3: 1-2.
13. W. Callebaut and **M.D. Laubichler** (2007): *"General Biology" Old and New: The Challenges facing Biological Explanation*, Biological Theory, 2: 329-331.
12. **M.D. Laubichler** (2007): *Conference Report: Where is Theoretical Biology Heading?*, Biological Theory, 2: 210-212.
11. W. Callebaut and **M.D. Laubichler** (2007): *From Cells to Systems: Conceptual Abstractions of Biological Building Blocks*, Editorial, Biological Theory, 2:117-118.
10. W. Callebaut and **M.D. Laubichler** (2007): *Biocomplexity as a Challenge for Biological Theory: Editorial*, Biological Theory, 2: 1-2.
9. W. Callebaut, L. Carporeal, P. Hammerstein, **M.D. Laubichler**, G.B. Müller (2006): *D-618: Editorial*, Biological Theory, 1: 331-332.
8. W. Callebaut, L. Carporeal, P. Hammerstein, **M.D. Laubichler**, G.B. Müller (2006): *Origin of Life: Editorial*, Biological Theory, 1: 111.
7. W. Callebaut, L. Carporeal, P. Hammerstein, **M.D. Laubichler**, G.B. Müller (2006): *Risking Deeper Integration. Editorial*, Biological Theory, 1: 1-3.
6. **M.D. Laubichler**, G.B. Müller, W. Fontana, G.P. Wagner (2005): *Sacrificing Dialogue for Politics?*, Letters to the Editor, Science, 309: 1324.
5. **M.D. Laubichler** (2005): *Glaube an Design. Ritt den Kardinal der Teufel?*, Frankfurter Allgemeine Zeitung, 15.Juli 2005, p.33.
4. **M.D. Laubichler**, G.B. Müller, W. Fontana, G.P. Wagner (2005): *Schönborn gegen Darwin: Diskussionswürdige Kritik oder fundamentalistische Provokation? Kontra; Himmelschreiende Arroganz. Der Standard*, 13. Juli 2005, p.27.
3. M.K.Chew and **M.D. Laubichler** (2003): *Metaphors, Misuse, and Misconceptions*, Letters to the Editor, Science, 301: 1481-1482.
2. **M.D. Laubichler** (2000): *Science under the Nazis*, Letters to the Editor, Science, 287: 1931.
1. **M.D. Laubichler** & H.-J. Rheinberger (1999): *Unvermeidliche Kämpfe über Richtungen der Menschengzuchtung? – Eine Anmerkung zu Sloterdijk*, BioSpektrum, 5: 426

Translations

2. Seth, S. (2006): *Allgemeine Physik? Max Planck und die Gemeinschaft der theoretischen Physik, 1906-1914*, in M. Hagner and **M.D. Laubichler** (eds.) Der Hochsitz des Wissens; Das Allgemeine als wissenschaftlicher Wert, Diaphanes Verlag, Zürich, pp. 151-184 (together with Michael Hagner).
1. Nyhart, L.K. (2006): *Kundekunde, oder: Das Allgemeine im Museum*, in M. Hagner and **M.D. Laubichler** (eds.) Der Hochsitz des Wissens; Das Allgemeine als

wissenschaftlicher Wert, Diaphanes Verlag, Zürich, pp. 206-237 (together with Michael Hagner).

Refereed Encyclopedia Contributions

26. **M.D. Laubichler** (2013): Richard Goldschmidt, Brenner's Online Encyclopedia of Genetics, 2nd edition, in press
- 25-13. **M.D. Laubichler** (2009): *Dobzhansky/Genetics and the Origin of Species*, *Theodosius Dobzhansky—Biogramm*, *Schrödinger/What is Life?*, *Erwin Schrödinger—Biogramm*, *Konrad Lorenz—Biogramm*, *Lorenz/Die Rückseite des Spiegels*, *Uexküll/Theoretische Biologie*, *Jacob von Uexküll—Biogramm*, *Thompson/On Growth and Form*, *D'Arcy Thompson—Biogramm*, *Hölldobler/Wilson: The Ants*, *Bertold Hölldobler—Biogramm*, *E. O. Wilson—Biogramm*, in Heinz Ludwig Arnold (ed.), Kindlers Literatur Lexikon 3. vollständig neu bearbeitete Auflage, Metzler Verlag
- 12-7. **M.D. Laubichler** (2009): *Homology*, *Ivan Schmalhausen*, *August Weismann*, *Hugo de Vries*, *Richard Goldschmidt*, *Bernhard Rensch* in Evolution: The first four Billion Years, Michael Ruse and Joseph Travis (eds.), Harvard University Press
6. **M.D. Laubichler** (2003): *Ludwig von Bertalanffy*, in Lexikon bedeutender Naturwissenschaftler, Spektrum Akademischer Verlag, pp: 151-152
5. **M.D. Laubichler** (2001): *Oscar Hertwig*, in Encyclopedia of the Life Sciences, London: Nature Publishing Group, Vol 8: 617-618; www.els.net
4. **M.D. Laubichler** (1998): *Organism*, in Norton Dictionary of Modern Thought, 3rd edition, New York: W. W. Norton
3. **M.D. Laubichler** (1998): *Unit of Selection*, in Norton Dictionary of Modern Thought, 3rd edition, New York: W. W. Norton
2. **M.D. Laubichler** (1998): *Walter Gilbert*, in Biographical Encyclopedia of Scientists, edited by Richard Olson, New York: Marshall Cavendish Corp. pp: 509-511.
1. **M.D. Laubichler** (1998): *Sidney Altman*, in Biographical Encyclopedia of Scientists, edited by Richard Olson, New York: Marshall Cavendish Corp. pp: 15-17.

Book, Film and Theater Reviews

36. "Benefits and Perils of Synthesis," Review of Enrico Coen, *Cell to Civilizations*, Science, 338: 608 (2012).
35. "The Agora of Knowledge," *Review of Weltwissen*, Science, 330:451-452 (2010).
34. "Of Locusts and Scientists," *Review of Heuschrecken by Stephan Kaegi/Rimini Protokoll* (with G. Honegger), Science 327: 525-526 (2010)
33. Rudolf A. Raff, *Once we all had gills: growing up an evolutionist in an evolving world*, Quarterly Review of Biology, in press
32. Johann Wolfgang von Goethe, *The Metamorphosis of Plants*, Quarterly Review of Biology, in press
31. Sander Gliboff, *H.G. Bronn, Ernst Haeckel and the Origins of German Darwinism. A Study in Translation and Transformation*, Evolution and Development, in press
30. Alessandro Minelli, *Forms of Becoming. The Evolutionary Biology of Development*, Evolution and Development, in press
29. Robert J. Richards, *The Tragic Sense of Life*, Bulletin for the History of Medicine, 84:300-301 (2010).
28. "Learning from Errors," *Review of Mark Blumberg, Freaks of Nature*, Science, 324: 181-182 (2009)
27. "The many sides of science," Deborah Coen, *Vienna in the Age of Uncertainty: Science Liberalism and Private Life*, Science, 319: 412-413 (2008).
26. "The Borges challenge in biology," Kenneth M. Weiss and Anne V. Buchanan, *Genetics and the Logic of Evolution*, (with L. Pyne), BioEssays, 28: 768-69 (2006).

25. Matthias Dörries (ed.), *Michael Frayn's Copenhagen in Debate*, *ISIS*, 98: 401-402 (2007)
24. Hans-Jörg Rheinberger, *Epistemologie des Konkreten: Studien zur Geschichte der modernen Biologie*, *Journal of the History of Biology*, 39: 415-17 (2006).
23. "Does Evo Devo Equal Regulatory Evolution?," Sean Carroll, *Endless Forms Most Beautiful: The New Science of Evo Devo and the Making of the Animal Kingdom* and Sean Carroll, Jennifer Grenier, and Scott Weatherbee, *From DNA to Diversity: Molecular Genetics and the Evolution of Animal Design (2nd edition)*, *Biological Theory*, pp: 102-103 (2006).
22. "A Constrained View of Evo-Devo's Roots," Ron Amundson, *The Changing Role of the Embryo in Evolutionary Thought*, *Science*, 309: 1020-1021 (2005).
21. "Art Forms in Nature," David Lebrun, *Proteus: A Nineteenth Century Vision*, *Science*, 308: 1746 (2005).
20. Marcel Weber, *Philosophy of Experimental Biology*, *Quarterly Review of Biology*, 80: 343-344 (2005).
19. Soraya de Chadarevian and Nick Hopwood (eds.), *Models: The Third Dimension of Science*, *British Journal for the History of Science*, 39: 596-597 (2006).
18. Oren Harman, *The Man who invented the Chromosome: A Life of Cyril Darlington*, *Journal of the History of Medicine and Allied Sciences*, 60: 520-522 (2005).
17. Thomas Junker, *Die zweite Darwinsche Revolution: Geschichte des Synthetischen Darwinismus in Deutschland 1924 bis 1950*, *ISIS*, 97: 172 (2006).
16. Thomas Junker, *Geschichte der Biologie*, *History and Philosophy of the Life Sciences*, in press
15. "Tragedy Averted" Theodore Porter, *Karl Pearson: The Scientific Life in a Statistical Age*, *Science*, 304: 1747-1748 (2004).
14. Ernst Peter Fischer / Klaus Wiegandt (Hg.): *Evolution. Geschichte und Zukunft des Lebens*, Frankfurt/Main: Fischer Taschenbuch Verlag 2003 , in: **sehpunkte** 4 (2004), Nr. 4 [15.04.2004], URL: <<http://www.sehpunkte.historicum.net/2004/04/3341.html>>
13. "A Premodern Synthesis," Robert J. Richards, *The Romantic Conception of Life*, *Science*, 299: 516-517 (2003).
12. Ulrich Sucker, *Das Kaiser Wilhelm Institut für Biologie* , *Journal of the History of Biology*, 36: 620-622 (2003).
11. Sean B. Carroll, Jennifer Greenier, Scott Weatherbee, *From DNA to Diversity: Molecular Genetics and the Evolution of Animal Design*, in *Perspectives in Biology and Medicine*, 46: 148-153 (2003).
10. Frederick B. Churchill and Helmut Risler (eds.), *August Weismann: Ausgewählte Briefe und Dokumente/ Selected Letters and Documents with and essay by Frederick Churchill (2 vols.)*, in *Journal of the History of Biology*, 35: 196-198. (2002)
9. Laura Otis, *Membranes: Metaphors of Invasion in Nineteenth-Century Literature, Science, and Politics*, in *The Journal of Interdisciplinary History*, 32: 287-288 (2001)
8. Brigitte Hoppe (ed.), *Biology Integrating Scientific Fundamentals. Contributions to the History of Interrelations between Biology, Chemistry, and Physics from the 18th to the 20th Centuries*, in *ISIS*, 92: 761-762 (2001)
7. Michael Hagner, *Homo Cerebralis. Vom Seelenorgan zum Gehirn*, in *ISIS*, 91: 140-141 (2000)
6. Robert Proctor, *The Nazi War on Cancer*, in *Journal of the History of Biology*, 32: 561-563 (1999)
5. "Seeing is believing, but what do we see?," Henry Harris, *The Birth of the Cell*, in *Science*, 284: 58 (1999)
4. Ilse Jahn (ed.), *Geschichte der Biologie: Theorien, Methoden, Institutionen, Kurzbiographien*, in *Journal of the History of Biology*, 32: 407-410 (1999)
3. Knut Schmidt-Nielsen, *The Camel's Nose*, in *ISIS*, 90: 622-624 (1999)

2. Helga Satzinger, *Die Geschichte der genetisch orientierten Hirnforschung von Cecile und Oskar Vogt*, in *ISIS*, 90: 394-395 (1999)
1. Thomas Junker & Eve-Marie Engels (eds.), *Die Entstehung der Synthetischen Theorie: Beiträge zur Geschichte der Evolutionsbiologie in Deutschland 1930-1950*, in *Archives Internationales D'Histoire des Sciences*, 49: 431-432 (1999).

Editorial Work and Service to Professional Societies

- Founding Associate Editor of *Biological Theory* (2004—present)
- Associate Editor, *Journal of Experimental Zoology: Part B (Molecular and Developmental Evolution)* (2006—present)
- Subject Editor for the Series “Vignettes in the History of Evolutionary Developmental Biology,” *Journal of Experimental Zoology: Part B (Molecular and Developmental Evolution)* (2004—present)
- Editorial Board, Archive for the History of Exact Sciences (2008 – present)
- Editorial Board, Archimedes (2009 – present)
- Editorial Board, Max Planck Research Library for the History and Development of Knowledge (2010 — present)
- Member of the Council, International Society for the History, Philosophy, and Social Studies of Biology (2009-2013)
- Program Co-Chair, International Society for the History, Philosophy, and Social Studies of Biology (2007-2009)
- Editorial Board, *Journal of Experimental Zoology: Part B (Molecular and Developmental Evolution)* (2004-2006)
- Editorial Board, *Journal of the History of Biology* (2002—2008)
- Advisory Board, *History & Philosophy of the Life Sciences* (2003—2006)

Fellowships

1998-2001	Summer Research Grant, Princeton University
1998-2001	Post-Doctoral Fellowship, Max Planck Institute for the History of Science (Summer 1998, 2000, 2001, and Fall of 1999)
1996-2000	University Fellowship, Princeton University
1995-1996	Price Teaching Award Fellowship, Yale University
1991-1995	University Fellowship, Yale University
1991-1992	Dissertation Stipend, Fulbright Commission and Bundesministerium für Wissenschaft und Forschung, Austria

Grants Awarded

Extramural:

- NSF-INSPIRE: A digital HPS Infrastructure for Biodiversity Research (599K, co-PI, 9/12-8/14)
- Mercator Foundation: Global Classroom—A collaboration between ASU and Leuphana University (750K Euros, PI, 6/12-5/16)
- NSF-SBE: Establishing an STS Informatics Infrastructure and Training Program (98K, co-PI)
- NSF-SBE: *SGTR: The Embryo Project Training and Research* (537K, co-PI)
- NSF-SBE: *Professional Redevelopment Grant for Grant Yamashita* (90K, PI)
- NSF-SBE: *Supplement II to the Embryo Project* (104K, co-PI, 10/09-12/10)
- NSF-SBE *Supplement I to the Embryo Project* (44K, co-PI, 03/09-12/09)
- NSF: CAREER: *Twentieth Century Theories of Development in Context* (400K, PI, 07/2007-06/2011)
- NSF: HSD *The Embryo Project: Agents of Scientific Change* (748K, co-PI, 1/2007 to 12/2010)

- NSF: IGERT: An Arts, Sciences and Engineering Research and Education Initiative for Experiential Media, \$3M, supporting faculty, (2005-2011)
- NSF: Center for Nanotechnology in Society (CNS_ASU), \$6,2M, participating faculty, (2005-2009)
- Fellowship Grant, Max Planck Institute for the History of Science— Awarded for the following periods: May to July 2006, ~\$10,000; May to July 2005, ~\$10,000; January to July 2004, ~\$25,000; May to July 2003, ~\$10,000; May to July 2002, ~\$10,000.
- Konrad Lorenz Institute: Grant for the Symposium “The Waddington Centennial and the Legacy of Theoretical Biology”(Co-PI with Brian Hall) \$30,000, (2005)
- Max Planck Institute for the History of Science and Sonderforschungsbereich Theoretische Biologie, Grant for the Conference “Regulation: Historical and Current Themes in Theoretical Biology” June 10 to June 15 (Co-PI with Peter Hammerstein and Hans-Jörg Rheinberger), ~\$30,000, (2004).
- Dibner Institute: Grant for the Dibner Seminar, the Dibner Workshop, and a Volume in the MIT Press Dibner Series “From Embryology to Evo Devo,” (Co-PI with Jane Maienschein) \$50,000, (2002)
- Konrad Lorenz Institute: Grant for the Symposium “The Vivarium Centennial,” at the Austrian Academy of Sciences and the KLI (Co-PI with Gerd Müller) \$30,000, (2002)
- Max Planck Institute for the History of Science, Grant for the Workshop “Die Bedeutung des Allgemeinen in den Wissenschaften des 19. und 20. Jahrhunderts (Co-PI with Michael Hagner), ~\$10,000, (2002)

Arizona State University:

- Institute for Humanities Research, Research Incentive Award for Computational History and Philosophy of Science, Spring 2012, \$25,000.
- Institute for Humanities Research, Research Incentive Award for the Embryo Project, Fall 2005, \$9,137
- OVPR Research Incentive for the Embryo Project Computing Equipment, Fall 2005, \$7004.
- SOLS Initiatives Grant for the Embryo Project Computing Equipment, Fall 2005, \$4,000
- SOLS Initiatives Grant for a planning workshop for the Embryo Project, Spring 2005, \$5,000.
- Grant from the College of Liberal Arts and Sciences for the Southwest Colloquium in the History and Philosophy of the Life Sciences, Spring 2002, \$10,000
- Multi-Investigator Proposal Development Grant “Visualization of morphological and gene expression patterns during tetrapod limb development and the creation of a dynamic database for limb development in the context of the GIS system” with Alan Rawls, \$20,000
- RIA for Creation of a dynamic database of morphological and gene expression patterns for tetrapod limb development, \$16,000
- Research Incentive for the Creation of a dynamic modeling platform and database for morphological and gene expression patterns, \$35,000.
- In addition, I receive research and conference travel support from the Center for Biology and Society at Arizona State University

Talks, Panels, and Lectures

2012

- “Evolutionstheorie 4.0,” Seminar at the Free University, Berlin, December 2012
- “Die Wiederentdeckung des Organismus in der Biologie des 21. Jahrhunderts,” Workshop “Organismus—die Erklärung der Lebendigkeit,” Humboldt University, Berlin, December 2012
- “Reading Kuhn as a Biologist,” Workshop on the History of the History of Science, Max Planck Institute for the History of Science, Berlin, October 2012

- “Understanding the Developmental Mechanisms of Phenotypic Evolution: From Boveri to Synthetic Experimental Evolution,” University of Würzburg, October 2012
 - “Understanding the Developmental Mechanisms of Phenotypic Evolution,” University of Chicago, Evolutionary Morphology Seminar Series, October 2012
 - “Tools for Digital and Computational HPS,” Digital HPS Meeting, Cambridge, UK, September 2012
 - “Systems Biology Before Systems Biology: The Case of Gene Regulatory Networks,” Isch Off year Workshop, ISB, Seattle, August 2012
 - “The Case of Eric Davidson’s Gene Regulatory Networks, From Idea to Revolutionary Science,” MBL HPS workshop, July 2012
 - “Developmental Evolution and Cancer. Some Reflections,” ASU-USC Cancer and Complex Adaptive Systems Theory Workshop, June 2012
 - “The regulatory genome in developmental evolution and biosemiotics,” Aarhus University, Denmark, May 2012
 - “Computational History and Philosophy of Science,” Marine Biological Laboratory, April 2012
 - “How Conceptual, Computational and Experimental Advances Transform the Life Sciences of the 21st Century,” Ben Gurion University, Israel, March 2012
 - “Computational History and Philosophy of Science and the Digital Humanities,” Institute for Humanities Research, Arizona State University, February 2012
 - “Developmental Evolution of the Superorganism: A Hierarchical Expansion of the Gene Regulatory Network Perspective,” University of Chicago, February 2012
 - “Mechanistic Explanations of Phenotypic Evolution: Historical and Conceptual Reflections,” University of Chicago, February 2012
- 2011
- “Synthetische Experimentelle Evolution – Die Brücke zwischen Evolution und Design,” Synthetische Biologie. Leben – Kunst, Berlin-Brandenburg Academy of Sciences, December 2011
 - “The generative powers of nature,” Bodies in Action & Symbolic Forms, Humboldt University zu Berlin, November 2011
 - “Reconstructing Ancestors: The Lessons from Developmental Evolution,” Deep Metazoan Phylogeny, Ludwig-Maximilians University, Munich, October 2011
 - “A Poet’s Vision of Nature’s Creativity: Johann Wolfgang von Goethe’s Conception of Morphology and Georg Büchner’s “third way” between Idealism and Empiricism” International Society for the History, Philosophy and Social Studies of Biology, July 2011
 - “Commentary, Evo Devo and Explanatory Integration” International Society for the History, Philosophy and Social Studies of Biology, July 2011
 - “Innovation in Biological, Social and Technological Systems,” Zentrum für Interdisziplinäre Forschung, Bielefeld, July 2011
 - “Gene Regulatory Networks,” ASU-MBL History of Biology Seminar, May 2011
 - “Boveri’s long experiments,” ASU-MBL History of Biology Seminar, May 2011
 - “The Role of History for Science,” AAAS Webinar, April 2011
 - “Bioinformatics of the Text,” Workshop on Computational Cultural Evolution, SFI, March 2011
 - “Developmental Evolution as a Mechanistic Science”, University of Minnesota, February 2011
 - “Biologie als Geschichte. Geschichte als Biologie”, Festkolloquium für Hans-Jörg Rheinberger, Max Planck Institute für Wissenschaftsgeschichte, January 2011

- “How developmental evolution became a mechanistic science: from regulatory to synthetic experimental evolution,” UC Irvine, November 2010
 - “Gene Regulatory Networks and the Conceptual Foundations of Developmental Evolution,” Redpath Museum, McGill University, Montreal, November 2010
 - “Interdisciplinary Collaboration in Innovative Science and Engineering Fields—NSF Workshop,” Boston University, November 2010
 - “Reconstructing Ancestors,” Lecture to Sigma XI, Tempe, AZ, October 2010
 - “Developmental Evolution as a Mechanistic Science: Conceptual and Philosophical Reflections on an Alternative and Complementary Narrative of the History of Evolutionary Biology,” &HPS Workshop, Indiana University, September 2010
 - “Die bildliche Rekonstruktion der Ursprünge: Gastrea, LUCA, Urbilateria,” Lecture at Workshop on Sichtbare Form, Humboldt University, Berlin, September 2010
 - “Gene Regulatory Networks and the Conceptual Foundations of Developmental Evolution: A Brief History,” Max Planck Institute for the History of Science, Berlin July 2010
 - “Skalierungsprobleme in der Biologie,” Workshop Paper, Wissenschaftskolleg zu Berlin, June 2010
 - “How developmental evolution became a mechanistic science: from regulatory to synthetic experimental evolution,” Ben Gurion University, Israel, June 2010
 - “Visualisierungsstrategien in der Embryologie,” Lecture Humboldt University, Berlin, May 2010
 - “Die Gesellschaft der Heuschrecken — zum Verhältnis von Naturwissenschaft und Theater,” Panel Discussion, Hebbel am Ufer Theater, Berlin, April 2010
 - “The Embryo Project—exploring the history of embryology in its varied contexts,” Lecture, Humboldt University Berlin, March 2010
 - “Digital HPS Consortium,” MBL, February 2010 (organized and ran an international workshop)
 - “Developmental Evolution of the Superorganism,” Wissenschaftskolleg zu Berlin, January 2010 (organized and ran an international workshop)
 - “Von Ameisen und Ihren Forschern,” Abendkolloquium, Wissenschaftskolleg zu Berlin, January 2010 (with Bert Hölldobler)
 - “From Darwin to Davidson: Episodes in the History of a Mechanistic Theory of Development and Evolution,” Colloquium, Wissenschaftskolleg zu Berlin, January 2010
- 2009
- “Organisms, Systems, and Networks: Overlapping Paradigms to Explain Complexity in 20th-Century Biology,” History of Science Society, Annual Meeting
 - “From Boveri to Davidson and Back: Episodes in the History of a Mechanistic Theory of Evolution and Development,” University of Toronto, November 2009
 - “Steps towards a Mechanistic Theory of Developmental Evolution,” University of Alberta, Edmonton, November 2009
 - “From Lamarck to Darwin and Beyond: Episodes in the History of a Mechanistic Theory of Phenotypic Evolution, University of Oslo, October 2009
 - “Biodiversity Informatics,” Panel Discussion, MBL September 2009
 - “From Darwin to Davidson: Episodes in the History of a Mechanistic Theory of Development and Evolution,” Invited Lecture, Presidential Symposium Society for Developmental Biology, San Francisco, July 2009
 - “From Darwin to Davidson: Episodes in the History of a Mechanistic Theory of Development and Evolution,” International Society for the History, Philosophy, and Social Studies of Biology, Brisbane, July 2009

- “Quo vadis Ish?,” Organizer and Moderator of a Panel Discussion at the 2009 Meeting of the International Society for the History, Philosophy, and Social Studies of Biology, Brisbane, July 2009
 - “Theory in Biology,” ASU-MBL Seminar in the History of Biology, Organizer, May 2009
 - “Digital History of Science,” Workshop Organizer and Panelist, MBL, April 2009
 - “The Regulatory Gene,” Workshop on “The Complexities of the Gene Concept”, Santa Fe Institute, March 2009
 - Workshop on “The Knowledge of Doing” (Discussant), Max Planck Institute for the History of Science, March 2009
 - Boveri’s Long Experiment, Wayne State University, February 2009
 - Evolutionary Medicine, Sprit of the Senses, Phoenix, February 2009
 - Darwin: Geschichte für die Gegenwart, University of Braunschweig, February 2009
 - “Science as a Complex Adaptive System,” Workshop on “The Emergence of New Sciences,” Max Planck Institute for the History of Science, January 2009
 - Workshop on “Traditions-Transmission-Circulation of Knowledge” (Discussant), Max Planck Institute for the History of Science, January 2009
- 2008
- Boveri’s Long Experiment, Washington University, St. Louis, October 2008
 - Workshop on Digital HPS and the Embryo Project, MBL, October 2008
 - History of Science from the Point of View of A Scientist, Max Planck Institute for the History of Science, Berlin, July 2008
 - Boveri’s Long Experiment, Universität Würzburg, June 2008
 - History of Embryology, MBL-ASU History of Biology Seminar, May 2008
 - Workshop on Group Selection, CSDC, ASU, March 2008
 - Gene Regulatory Networks, Spirit of Senses, Phoenix, March 2008
 - Embryo Project Workshop on Morphogenesis, ASU March 2008
 - Walter Zimmermann: Theoretical Biology, Morphology and Systematics, Workshop on the History and Philosophy of Systematics, February 2008
- 2007
- Chalk talk, Center for Biological Physics, ASU, "Charles Darwin", (December 2007).
 - CSDC Dynamical Discussion, CSDC/ASU, "Gene Regulatory Networks and the Problem of Innovation", (November 2007).
 - International Society for the History, Philosophy and Social Studies of Biology, Meeting/Annual Meeting, Exeter, "Gene Regulatory Networks and the Dialectics of Reduction", (July 2007).
 - International Society for the History, Philosophy and Social Studies of Biology, Meeting/Annual Meeting, Exeter, "Gene Regulatory Networks; Historical and Epistemological Reflections", (July 2007).
 - Initiativkolleg "The Sciences in Historical Context", Lecture, University of Vienna, "Boveri's Merogone Experiment and Spemann's Interpretation of a Fantastical Experiment", (June 2007).
 - Institutskolloquium, University of Leipzig, "Social Insects as a Model System for Evo Devo and the Future of the Gene Concept", (June 2007).
 - ASU - MBL Seeminar in the History of Biology, "The Specter of the Past: What the History of (Theoretical) Biology Means Today?", (May 2007).
 - Embryo Project Workshop, Workshop, Scholarship/Research, ASU/MBL, MBL Woods Hole, "Discussion and Organization", International, Academic, Invited, (May 2007).
 - Seven Pines Symposium, Stillwater, MN, "Social Insects as a Model System for Evo Devo and a Brief History of Emergence in Biology", (May 2007).

- Laubichler, M. D., Thorpe, M. F., Science Cafe, Phoenix Science Museum, "Reductionism and Emergence in Science", (April 2007).
 - Times of Cloning, Workshop, Max Planck Institute for the History of Science, Berlin, "What's so special about Spemann's "fantastical experiment"?", (March 2007).
 - Readings in ComplexityCSDC/ASU, "Gene Regulatory Networks: An Introduction", (February 2007).
- 2006
- "Character Identity Networks in Social Insects: An Evo Devo Perspective," Talk at the Philosophy of Developmental Biology Workgroup in Vancouver, November 2006
 - "History of Theoretical Biology," Keynote Lecture, Symposium "Where is Theoretical Biology heading?" at Humboldt University, Berlin, October 2006
 - "Metaphors in science: can't live with them, can't live without them," Invited Talk at the European Science Forum in Munich, July 2006
 - "*Tinkering: a historical evaluation*" Invited paper at the Novartis Foundation Symposium 284: "Tinkering: the microevolution of development," London, July 2006
 - "Organisms, Gradients, Fields and Networks: Towards an Epistemology of Modeling Development," Invited paper at the Symposium "The making up of organisms: Mapping the future of biological models and theories," Paris, Ecole Normale Superieure, June 2006
 - "Philosophy between Theoretical Biology and Anthropology: Ernst Cassirer as a Model Interdisciplinary Thinker," Talk at the Department of History—History of Science Colloquium, UCLA, April 2006
 - "Overcoming a Gene-centered View: Epigenetics, Development and their Implications," Talk at the Center for Genetics and Society, UCLA, April 2006
 - "Social Insects as a Model System for Evo Devo," Talk at the Konrad Lorenz Institute for Evolution and Cognition Research, Altenberg, Austria, February 2006
 - "Ernst Cassirer and Theoretical Biology: Closer than you think." Departmental Seminar, Department of the History and Philosophy of Science, Indiana University, January 2006
- 2005
- "Hans Jonas and Ernst Cassirer. Theoretical Biology, Philosophical Anthropology, and the Search for and Integrated Theory of Life," Paper, Judaism and the Phenomenon of Life: The Legacy of Hans Jonas, November 2005
 - "Die Virtuosität der Natur im Spiegel der Naturwissenschaften," Invited Lecture, Liechtensteiner Exkurse VI, September 2005
 - "Research Agendas in Theoretical Biology," Paper at the 13th Altenberg Workshop in Theoretical Biology, Altenberg, Austria, September 2005
 - "Biological Databases and Information Networks," Invited Lecture, 9th Ischia Summer School in the History of Biology, Stazione Zoologica Napoli, June 2005
 - "Goethe vivat! The Morphological Tradition in 20th Century Theoretical Biology," Invited talk, Werkmeister Conference in History and Philosophy of Science, March 2005
 - "Heredity and Development as Related Problems — August Weisman and the Origin of Theoretical Biology," Invited Talk at the Conference "The Cultural History of Heredity," Max Planck Institute for the History of Science, Berlin, January 2005
- 2004
- "Universal Biology: Dream or Reality," Talk at the History of Science Meeting, Austin, TX, November 2004.
 - "*The Sea Urchin's Challenge. The Problem of Regulation in Entwicklungsmechanik and Theoretical Biology*," Talk at the Interdisciplinary Conference "Regulation: Historical and Current Themes in Theoretical Biology," Berlin-Brandenburg Academy of Sciences, June 2004.

- “Ideas about Regulation in Developmental Mechanics, Developmental Physiology, and Cytology,” Talk at the Interdisciplinary Conference “Regulation: Historical and Current Themes in Theoretical Biology,” Berlin-Brandenburg Academy of Sciences, June 2004.
 - “Ernst Cassirer: Theoretical Biology, Philosophical Anthropology and the Search for an Integrated Theory of Life and Culture,” Talk at the University of Tartu, Estonia, May 2004.
 - “Exotic Invasive Species as a Model System for Ecology,” Talk at the 2nd Southwest Colloquium in the History and Philosophy of the Life Sciences, University of Texas at Austin, March 2004.
 - “Ernst Cassirer and Theoretical Biology,” Institute Colloquium, Max Planck Institute for the History of Science, Berlin, February 2004.
 - “The Machinery of the Genes and Alfred Kühn’s Physiological Developmental Genetics,” Departmental Colloquium, Max Planck Institute for the History of Science, Berlin, January 2004.
- 2003
- “Goethe vivat! The morphological tradition in theoretical biology during the first decades of the 20th century,” Paper at the International symposium Form and Function and the Museo la Ciencia, Barcelona, Spain, March 2003
 - “A look back at Watson and Crick: Their discovery and how it changed science,” University of Arizona Phoenix Campus, April 2003
 - “Lessons from the Past, A Brief History of the Gene,” Lecture presented in a Lecture Series to Arizona State University Donors, April 2003
 - “The Role of History of Biology in a Biology and Society Program,” Lecture at the Education Workshop at the Meeting of the International Society for the History, Philosophy, and Social Studies of Biology, Vienna, Austria, July 2003
 - “Between Philosophy and Experiment: Styles of Research in Theoretical Biology,” Talk at the Meeting of the International Society for the History, Philosophy, and Social Studies of Biology, Vienna, Austria, July 2003
 - “The Integrated Virtual Laboratory: Digital History of Biology,” Panel and Presentation at the Meeting of the International Society for the History, Philosophy, and Social Studies of Biology, Vienna, Austria, July 2003
 - “The Future and Past of Theoretical Biology,” Keynote Lecture, Sonderforschungsbereich Theoretische Biologie, Humboldt University, Berlin, October 2003
 - “Das Wirkgetriebe der Gene: Alfred Kühn’s Physiological Genetics,” Talk at the Annual meeting of the History of Science Society, Cambridge, MA, November 2003
- 2002
- “Regulation from Driesch to Davidson,” Paper at the Dibner Workshop “From Embryology to Evo-Devo,” MIT Dibner Institute, October 2002
 - “The Viennese Roots of Theoretical Biology,” Paper at the Altenberg Workshop, Austrian Academy of Sciences, September 2002
 - “Theoretical Biology in the 21st Century,” Panel at the Sonderforschungsbereich Theoretische Biologie, Humboldt University, Berlin, July 2002
 - “Theoretische Biologie und die allgemeinen Grundlagen des Lebens,” Paper at the workshop “Die Bedeutung des Allgemeinen in den Wissenschaften des 19. und 20. Jahrhunderts,” Max Planck Institute for the History of Science, Berlin, June 2002
 - “A rose is but a rose is but a rose but how do we know what a rose is? The problem of character identification in developmental biology,” Paper at the 3rd meeting of the International Philosophy of Development Group, University of Texas at Austin, April 2002
- 2001

- “Fin-de-Siecle Origins of Theoretical Biology,” Paper presented at the Annual Meeting of the History of Science Society, Denver, November 2001
 - “Science on the Stage” paper presented at the Princeton Workshop on Science and Theater, Princeton University, October 2001
 - “Gerry Geison, in memoriam” Princeton University, October 2001
 - “Symbolic Forms, Excentricity, and ‘Mängelwesen’: The Role of Biology in the Philosophical Anthropology of Cassirer, Plessner, and Gehlen,” Paper, University of Chicago, May 2001
 - “Between Philosophy and Experiment: Fin-de Siecle Origins of Theoretical Biology and the Problem of Development,” Lecture, Department of Biology, Arizona State University, March 2001
 - “Context Matters: Reflections on the Unit of Selection and Other Biological Concepts,” Lecture, Altenberg Seminar in Theoretical Biology, University of Vienna, March 2001
 - “Between Philosophy and Experiment, the Emergence of Theoretical Biology during the Early Decades of the 20th Century,” Lecture, Konrad Lorenz Institute für Evolutions- und Kognitionsforschung, Altenberg, March 2001
- 2000
- “Allgemeine Biologie: Between Conceptual Unification and Popular Synthesis of the Life Sciences,” Lecture, Department for the History of Science, Harvard University, December 2000
 - “From a Developmental Point of View: Theories of Development in the Conception of Theoretical Biology,” Paper presented at the Annual Meeting of the History of Science Society in Vancouver, November 2000
 - “The ‘General’ and the ‘Theoretical’: Reflections on the Origin of Theoretical Biology,” Lecture, Department of Ecology and Evolutionary Biology, Yale University, September 2000
 - “Der Organismusbegriff in der modernen Biologie,” Lecture, Department of Philosophy, Humboldt University, Berlin, July 2000
 - “Cassirer and Uexküll: Symbolic Forms, Theoretical Biology, and Politics,” Paper delivered at the Symposium on Biology and Philosophy at the 3rd International Conference on the History of Philosophy of Science (HOPOS) in Vienna, Austria, July 2000
 - “Homology in Development and the Development of the Homology Concept,” Paper delivered at the *Symposium on Evolutionary Developmental Biology: Paradigms, Problems and Prospects* at the Meeting of the Society of Integrative and Comparative Biology, Atlanta, January 2000
- 1999
- “Zur Frühgeschichte der Theoretischen Biologie” Lecture at the Innovationskolleg Theoretische Biologie, Humboldt University, Berlin, November 1999
 - “Of Frogs, Flies, Dogs, Mice and Man: Reflections on the Role of Organismal Variation in the History of Biology,” Abteilungskolloquium, Max Planck Institute for the History of Science, Berlin, November 1999
 - “Allgemeine Biologie: Between Conceptual Unification and Popular Synthesis of the Life Sciences” Lecture, Max Planck Institute for the History of Science, Berlin, October 1999
 - “Allgemeine Biologie: Between Conceptual Unification and Popular Synthesis of the Life Sciences,” Paper at the Joint Atlantic Seminar in the History of Biology, Philadelphia, April 1999
- 1998

- “Organism and Character Decomposition: Steps towards an Integrative Theory of Biology,” Paper with Günter Wagner, Biennial Meeting of the Philosophy of Science Association, Kansas City, November 1998
 - “Oskar and Cecile Vogt: From the Neo-Cortex to Bumble Bees, an episode in the history of the biological character concept,” Paper at the Joint Atlantic Seminar in the History of Biology, Baltimore, April 1998
- 1997
- “Is there an Organism in this Room?,” Paper, Meeting of the International Society for the History, Philosophy and Social Studies of Biology, Seattle, with Günter Wagner, July 1997
 - “Organisms in Context,” Paper, Meeting of the International Society for the History, Philosophy and Social Studies of Biology, Seattle, with Gerry Geison, July 1997
- 1995
- “The Riddle of Context Dependency,” Paper, Meeting of the International Society for the History, Philosophy and Social Studies of Biology, Leuven, July 1995
 - “Crossing Boundaries: Oskar And Cecile Vogt, Brain Research and Genetics,” Paper, Meeting of the International Society for the History, Philosophy and Social Studies of Biology, Leuven, July 1995
- 1994
- “Wittgensteinian Biology” Paper, 5th Congress of the International Association for Semiotic Studies, Berkeley, June 1994
 - “The Semiotics of Biological Functions,” Paper, 5th Congress of the International Association for Semiotic Studies, Berkeley, June 1994.
- 1993
- “Biosemiotics: A new way of looking at biological Phenomena?,” Paper, Meeting of the International Society for the History, Philosophy and Social Studies of Biology, Brandeis University, July 1993

Ad hoc Reviewer

Journals (Biology—60+) for: Nature Review Genetics, Evolution and Development, Journal of Experimental Zoology Part B: Molecular Developmental Evolution, Trends in Ecology & Evolution, Ecosystems, Journal of Theoretical Biology, Acta Biotheoretica, Biological Theory, BioScience

Journals (History and Philosophy of Science— 25+) for: Journal of the History of Biology, Biology and Philosophy, Philosophy of Science, Studies in the History and Philosophy of Science, History and Philosophy of the Life Sciences, International Journal for the Philosophy of Science

University Presses and Publishers (20+) for: Cambridge University Press, MIT Press, Harvard University Press, Yale University Press, Princeton University Press, Springer Verlag/Kluwer Academic Publishers, W.W. Norton, Sinauer, Enslow Publishers, University of Washington Press

Funding Agencies and Research Institutes (15+) for: Wiener Wissenschafts-, Forschungs-, und Technologiefonds, Austria, Canadian Institute for Health Research, Konrad Lorenz Institute for Evolution and Cognition Research, Max Planck Institute for the History of Science, National Science Foundation

Students

Ph.D. Students Advisor, current students

- Guido Canigla (SOLS, 2010 - present)
- Erick Peirson (SOLS, 2010 - present)

- Kate MacCord (HPS, 2010 - present)
- Steven Elliott (SOLS, 2009 - present)
- Lijing Jiang (SOLS, 2009 - present)
- Julia Damerow (SOLS, 2009 – present)
- Matthew Laubacher (History, 2006 - present)
- Mark Ulett (SOLS, 2008 – present)

Completed Ph.D. Theses (Advisor)

- Root Gorelick, (2001-2004), Ph.D. awarded 2004. Held a AAAS Fellowship in Washington, D.C., now Assistant Professor of Biology at Carleton University, Ontario, Canada)
- Matt Chew (2001-2006), Ph.D. awarded in 2006. Now Lecturer Barrett, The Honors College and Assistant Research Professor, ASU
- Stephen Dilley (2005-2007, Philosophy), Ph.D. awarded 2007. Now Assistant Professor of Philosophy at St. Edwards University, Austin, TX.
- Lydia Pyne (SOLS, 2005-2008, co-advisor with Jane Maienschein)

Completed Theses (Advisor)

- Matt Shindell, (2001-2004, co-advisor with Jane Maienschein, currently in the Ph.D. program in History of Science at UC San Diego)
- Marea Bagetta, (2002-2004), currently on leave from the Ph.D. program in SOLS
- Jessica Underwood (2003-2006), currently attending the Law School at DePaul University
- Jennifer Minneci (2006-2008)

Honors Student Thesis Advisor

I advised 10+ Honors Theses at ASU and served on another 15+ committees. I also supervised 10+ undergraduate student research projects

Service at Arizona State University

- Biology & Society Program Steering Committee (2001-)
- Steering Committee Center for Social Dynamics and Complexity (2004-2009)
- Director (Life Sciences), Center for Social Dynamics and Complexity (2009 -)
- Member, Strategic Planning Committee, SOLS (2008-2009)
- Member, Origins Initiative, ASU (2009 -)
- Member, Complex Adaptive Systems Initiative, (2009 -)
- SOLS Graduate Programs Committee (2005-)
- Director, Graduate Program in Biology, SOLS (2007-2009)
- SOLS Facilities Committee (2005-2006)
- SOLS Undergraduate Programs Committee (2004-2005)
- Ad-Hoc Committee Graduate Concentration in Theoretical Biology (2004-)
- Search Committee Philosophy of Biology (2004-2005)
- Search Committee Philosophy of Biology (2005-2006)
- Search Committee Bioinformatics (2004-2005)
- Graduate Admissions Committee (2003-2004)
- Ad-Hoc Undergraduate Programs Reorganization Committee, School of Life Sciences (2003)

Collaborators:

My main ongoing collaborators are: (1) *International*: Hans-Jörg Rheinberger, director of the Max Planck Institute (MPI) for the History of Science in Berlin (papers and books on the

Conceptual History of Theoretical and Developmental Biology, the Embryo Project, the Encyclopedia in the History of the Life Sciences), Christina Brandt, MPI Berlin (Embryo Project), Henning Schmidgen, MPI Berlin (Encyclopedia in the History of the Life Sciences), Peter Hammerstein, Chair of the Institute for Theoretical Biology at the Humboldt University, Berlin (Conceptual Foundations of Theoretical Biology), Gerd Müller, University of Vienna and Konrad Lorenz Institute for Evolution and Cognition Research (Conceptual Problems in Theoretical and Evolutionary Developmental Biology), Werner Callebaut, Universiteit Hasselt, Belgium and KLI (Biological Theory), Rasmus Winther, UNAM, Mexico (Conceptual Problems of Evolutionary Developmental Biology), Brian Hall, Dalhousie University, Canada (History of Evolutionary Developmental Biology), Michael Hagner, ETH Zürich (Cultural History of Science), Peter Stadler, Bioinformatics, Leipzig (Theoretical Biology); (2) *National*: Günter Wagner, Yale University (Theoretical Biology and Evolutionary Developmental Biology), Eric Davidson (Caltech), and several members of the Embryo Project Network and the Social Insect as Model System for Evo Devo Project, (3) *local at ASU*: my collaborators are in the Centers for Social Dynamics and Complexity and Biology and Society, the Social Insect Study Group, the History and Philosophy of Science Program, the Center for Science Policy and Outcomes, the Arts, Media, and Engineering Program (IGERT), and the School of Theater and Film (Science and Theater initiatives).