

## MICHAEL R. DIETRICH

History and Philosophy of Science Department  
University of Pittsburgh  
Pittsburgh, PA 15260  
MDietrich@pitt.edu

### Education

Ph.D. Philosophy, University of California, San Diego, June 1991  
Graduate Course Work, Philosophy, University of Minnesota, 1985-86  
B.A., Philosophy and Biology, Virginia Tech, June 1985

### Academic Experience

University of Pittsburgh  
History and Philosophy of Science Department, Professor, 2017-present;  
Chair 2019-present.  
Gender, Sexuality, and Women's Studies, Affiliated Faculty, 2017-present.

Dartmouth College  
Department of Biological Sciences, Professor, 2009-2017, Associate Professor, 1998-2009

The University of Adelaide  
School of Humanities, Visiting Professor, June 2016-May 2020

Arizona State University  
Center for Biology and Society, Adjunct Professor, 2008-2015

Marine Biological Laboratory, Woods Hole, MA  
History and Philosophy of Science Program, Adjunct Senior Scientist, 2010-2014

Harvard University  
Museum of Comparative Zoology, Visiting Scholar, 1997-1999

Virginia Tech  
Science, Technology, and Society Program, Visiting Scholar, Spring 1998

University of California, Davis  
History and Philosophy of Science Program, Assistant Professor, 1990-1997; Associate  
Professor, 1997-1998

### Honors and Awards

Fellow, American Association for the Advancement of Science, Section L, October 2012.  
Chair of Section L, 2019-2020.  
Sargent Award for Visiting Scholars, Arnold Arboretum at Harvard University, 2017.  
Wentworth Fellow, 2010-2011, Dartmouth College.  
Douglas C. Floren Fellow, 2002-2003. Dartmouth College.  
Senior Mellon Research Fellow, American Philosophical Society, 1994.

## Publications

### Books and Anthologies

- (8) *Richard Goldschmidt's Heresies: A Biography of a Bad Reputation* (Chicago, IL: University of Chicago Press, Under Contract and In Preparation).
- (7) Michael R. Dietrich, Roberta Millstein, and Robert A. Skipper, Jr., *Survival of the Luckiest: Perspectives on Random Drift in Evolutionary Biology* (Chicago, IL: University of Chicago Press, In Preparation for 2021 submission).
- (6) *Nature Remade: Engineering Life from Gene Drives to Gaia*. Luis Campos, Michael R. Dietrich, Tiago Saraiva, Chris Young, editors. (Chicago, IL: University of Chicago Press, 2021).  
Reviewed in *Nature*.
- (5) *The Handbook of the Historiography of Biology*, Michael R. Dietrich, Mark E. Borrello, and Oren Harman, Eds. (Dordrecht: Springer, 2021).
- (4) *Dreamers, Visionaries, and Revolutionaries in the Life Sciences*. Oren Harman and Michael R. Dietrich, Editors. (Chicago, IL: University of Chicago Press, 2018).  
Translated into Chinese by Chongqing University Press.  
Reviewed in *Choice*, *History and Philosophy of the Life Sciences*, *Isis*, *Journal of the History of Biology*, *Nature*, *Perspectives on Science and Christian Faith*, *Quarterly Review of Biology*.
- (3) *Outsider Scientists: Routes to Innovation in Biology*. Oren Harman and Michael R. Dietrich, Editors. (Chicago, IL: University of Chicago Press, 2013).  
Reviewed in *The American Biology Teacher*, *BioScience*, *British Journal for the History of Science*, *Centaurus*, *Choice*, *Isis*, *Science and Education*, *The Scientist*.
- (2) *The Educated Eye: Visual Culture and Pedagogy in the Life Sciences*, Nancy Anderson and Michael R. Dietrich, Editors. (Hanover, NH: University Press of New England, 2012).  
Reviewed in *Argumentation and Advocacy*, *The British Journal for the History of Science*, *Isis*, *Journal of the History of Biology*.
- (1) *Rebels, Mavericks, and Heretics in Biology*. Oren Harman and Michael R. Dietrich, Editors. (New Haven, CT: Yale University Press, 2008).  
Reviewed in *The American Biology Teacher*, *The American Scientist*, *Biography*, *CBE Life Sciences Education*, *History and Philosophy of the Life Sciences*, *Human Genomics*, *Isis*, *Journal of the American Medical Association*, *Journal of the History of Biology*, *Life Science Education*, *Nature*, *The New Scientist*, *Perspectives in Biology and Medicine*, *PLOS Biology*, *Times Higher Education*.

### Refereed Articles and Chapters

- (51) Michael R. Dietrich, Oren Harman, and Ehud Lamm, "Richard Lewontin and the Complications of Linkage," *Studies in History and Philosophy of Science* 88 (2021), 237-244.
- (50) Luis Campos, Michael R. Dietrich, Tiago Saraiva, and Christian C. Young, "Engineering Life, Envisioning Worlds," *Nature Remade: Engineering Life from Gene Drives to Gaia*. Luis

- Campos, Michael R. Dietrich, Tiago Saraiva, Chris Young, editors. (Chicago, IL: University of Chicago Press, 2021).
- (49) Michael R. Dietrich, Mark E. Borrello, and Oren Harman, "New Perspectives on the Historiography of Biology," in *The Handbook of the Historiography of Biology*, Michael R. Dietrich, Mark E. Borrello, and Oren Harman, Eds. (Dordrecht: Springer, 2021).
- (48) "The Historiography of Genetics," in *The Handbook of the Historiography of Biology*, Michael R. Dietrich, Mark E. Borrello, and Oren Harman, Eds. (Dordrecht: Springer, 2021).
- (47) "What is the nature of scientific controversies in the biological sciences?," *Philosophy of Science for Biologists*. Kostas Komparakis and Tobias Uller, Editors (Cambridge: Cambridge University Press, 2020), 235-254.
- (46) Michael R. Dietrich, Rachel Ankeny, Nathan Crowe, Sara Green, and Sabina Leonelli, "How to Choose Your Research Organism," *Studies in History and Philosophy of Biological and Biomedical Sciences* 80 (2020). <https://doi.org/10.1016/j.shpsc.2019.101227>
- (45) Michael R. Dietrich, Nathan Crowe, and Rachel Ankeny, "Why Study Sex by the Sea?: Marine Organisms and the Problem of Fertilization and Cell Cleavage," in *Why Study Biology by the Sea?*, Jane Maienschein, Karl Matlin, and Rachel Ankeny, Eds. (Chicago: University of Chicago Press, 2020), 271-296.
- (44) Michael R. Dietrich and Phillip Honenberger, "Duhem's Problem Revisited: Logical Versus Epistemic Formulations and Solutions," *Synthese* 197 (2020): 337-354.
- (43) Scott Dietrich and Michael R. Dietrich, "Ernest 'Chinese' Wilson's Re-imagined Legacy in Sichuan," *Trans-Asia Photography Review* 9 (2019).  
<http://hdl.handle.net/2027/spo.7977573.0009.209>
- (42) Roberta Millstein, Michael R. Dietrich, and Robert Skipper, Jr., "The History of Evolutionary Thought Since 1930," *Oxford Bibliographies: Evolutionary Biology* (2019). DOI: 10.1093/OBO/9780199941728-0118.
- (41) Sara Green, Michael R. Dietrich, Sabina Leonelli, and Rachel A. Ankeny, "'Extreme' Organisms and the Problem of Generalization: Interpreting the Krogh Principle," *History and Philosophy of the Life Sciences* 40 (2018): 65. <https://doi.org/10.1007/s40656-018-0231-0>
- (40) Oren Harman and Michael R. Dietrich, "Perchance to Dream: Fostering Novelty in the Life Sciences," *Dreamers, Visionaries, and Revolutionaries in the Life Sciences*. Oren Harman and Michael R. Dietrich, Editors. (Chicago, IL: University of Chicago Press, 2018), 1-17.
- (39) Michael R. Dietrich and Laura L. Lovett, "From New Alchemy To Living Machines: John Todd's Dreams of Ecological Engineering," *Dreamers, Visionaries, and Revolutionaries in the Life Sciences*. Oren Harman and Michael R. Dietrich, Editors. (Chicago, IL: University of Chicago Press, 2018), 162-175.
- (38) "Experimenting with Sex: Four Approaches to the Genetics of Sex Reversal before 1950," *History and Philosophy of the Life Sciences* 38 (2016), 23-41.
- (37) Nathan Crowe, Michael R. Dietrich, Beverly Alomepe, Amelia Antrim, Bay Lauris ByrneSim, and Yi He, "The Diversification of Developmental Biology," *Studies in History and*

*Philosophy of Biological and Biomedical Sciences* 53 (2015), 1-15.

(36) "Explaining the "Pulse of Protoplasm": The Search for Molecular Mechanisms of Protoplasmic Streaming," *Journal of Integrative Plant Biology* 57 (2015), 14-22.

(35) Michael R. Dietrich, Rachel Ankeny, Patrick Chen, "Publication Trends in Model Organism Research," *Genetics* 198 (2014), 1-8.

(34) "Molecular Evolution" in *The Philosophy of Biology: A Companion for Educators*. Kostas Kampourakis, Editor, (Dordrecht: Springer Verlag, 2013), 239-248.

(33) Oren Harman and Michael R. Dietrich, "Outsiders as Innovators in the Biological Sciences," *Outsider Scientists: Routes to Innovation in Biology*, Oren Harman and Michael R. Dietrich, Editors. (Chicago, IL: University of Chicago Press, 2013), 1-23.

(32) Michael R. Dietrich and Robert A. Skipper, Jr., "R. A. Fisher and the Foundations of Mathematical Genetics," *Outsider Scientists: Routes to Innovation in Biology*, Oren Harman and Michael R. Dietrich, Editors. (Chicago, IL: University of Chicago Press, 2013), 147-160.

(31) Michael R. Dietrich and Robert A. Skipper, Jr., "A Shifting Terrain: A Brief History of the Adaptive Landscape," *The Adaptive Landscape in Evolutionary Biology*, Erik Svensson & Ryan Calsbeek, Editors. (Oxford University Press, 2012), 3-15.

(30) Robert A. Skipper, Jr. and Michael R. Dietrich, "Sewall Wright's Adaptive Landscape: Philosophical Reflections on Heuristic Value," *The Adaptive Landscape in Evolutionary Biology*, Erik Svensson & Ryan Calsbeek, Editors. (Oxford University Press, 2012), 16-25.

(29) Nancy Anderson and Michael R. Dietrich, "Visual Lessons and the Life Sciences," *The Educated Eye: Visual Culture and Pedagogy in the Life Sciences*, Nancy Anderson and Michael R. Dietrich, Editors. (Hanover, NH: University Press of New England, 2012), 1-13.

(28) "Reinventing Richard Goldschmidt: Reputation, Memory, and Biography," *Journal of the History of Biology* 44 (2011), 693-712.

(27) Roberta L. Millstein, Robert A. Skipper, Jr., and Michael R. Dietrich, "(Mis)interpreting Mathematical Models of Drift: Drift as a Physical Process," *Philosophy and Theory in Biology* 1 (2009), 1-13. <http://hdl.handle.net/2027/spo.6959004.0001.002>.

(26) Kevin J. Peterson, Michael R. Dietrich, and Mark A. McPeck, "MicroRNAs and Metazoan Macroevolution: Insights into Canalization, Complexity, and the Cambrian Explosion," *Bioessays* 31 (2009), 736-747.

(25) "Microevolution and Macroevolution Are Governed by the Same Processes" in *Contemporary Debates in Philosophy of Biology*. Francisco J. Ayala and Robert Arp, Editors. (New York: Blackwell Publishing, 2009), pp. 169-179.

(24) Gregory K. Davis, Michael R. Dietrich, and David Jacobs, "Homeotic Mutants and the Assimilation of Developmental Genetics into the Evolutionary Synthesis," in Joe Cain and Michael Ruse, Eds., *Descended from Darwin: Insights into American Evolutionary Studies, 1900-1970* (Philadelphia: American Philosophical Society, Transactions of the American Philosophical Society, volume 99, part 1, 2009), pp. 133-154.

(23) Michael R. Dietrich and Roberta Millstein, "The Role of Causal Processes in the Neutral

and Nearly Neutral Theories," *Philosophy of Science* 75 (2008), 548-559.

(22) Oren Harman and Michael R. Dietrich, "On Rebels, Icons, and the Value of Dissent" in *Rebels, Mavericks, and Heretics in Biology*. Oren Harman and Michael R. Dietrich, Editors. (New Haven, CT: Yale University Press, 2008), pp. 1-19.

(21) "Striking the Hornet's Nest: Richard Goldschmidt's Rejection of the Particulate Gene" in *Rebels, Mavericks, and Heretics in Biology*. Oren Harman and Michael R. Dietrich, Editors. (New Haven, CT: Yale University Press, 2008), pp. 119-136.

(20) "Molecular Evolution," in *A Companion to Philosophy of Biology*, Sohotra Sarkar and Anya Plutynski, Eds. (Cambridge: Blackwell, 2008), pp. 157-168.

(19) Michael R. Dietrich and Brandi H. Tambasco, "Beyond the Boss and the Boys: Women and the Division of Labor in *Drosophila* Genetics in the United States, 1934-1970," *Journal of the History of Biology* 40 (2007), 509-528.

(18) Michael R. Dietrich and Robert Skipper, "Manipulating Underdetermination in Scientific Controversy: The Case of the Molecular Clock," *Perspectives on Science* 15 (2007), 295-326.

(17) "Representando el objeto de la controversia. El caso del reloj molecular (Representing the Object of Controversy: The Case of the Molecular Clock)," *Variedad Infinita Ciencia y Representación: Un Enfoque Histórico y Filosófico*, Edna Suarez Diaz, Ed. (Mexico City: Editorial Limusa, S. A. de C. V., 2007), pp. 351-366.

Reprinted as "Representing the Object of Controversy: The Case of the Molecular Clock," *History and Philosophy of the Life Sciences* 29 (2007), 23-38.

(16) "From Mendel to Molecules: A Brief History of Evolutionary Genetics," in *Evolutionary Genetics: Concepts and Case Studies*. Charles W. Fox and Jason B. Wolf, Eds. (New York: NY: Oxford University Press, 2006), pp. 3-13.

(15) "Three Perspectives on Neutrality and Drift in Molecular Evolution," *Philosophy of Science* 73 (2006), 666-677.

(14) Sandra Mitchell and Michael R. Dietrich, "Integration without Unification: An Argument for Pluralism in the Biological Sciences," *The American Naturalist* 168 (2006), S73-S79.

(13) "Richard Goldschmidt: Hopeful Monsters and Other "Heresies"," *Nature Reviews Genetics* 4 (2003), 68-74.

(12) Marsha Richmond and Michael R. Dietrich, "Richard Goldschmidt and the Crossing-Over Controversy," *Genetics* 161 (2002), 477-482.

(11) "The Problem of the Gene," *Comptes Rendus de l'Académie des Sciences de Paris* 323 (2000), 1139-1146.

(10) "Of Moths and Men: Theo Lang and the Persistence of Richard Goldschmidt's Theory of the Genetics of Homosexuality, 1916-1960," *History and Philosophy of the Life Sciences* 22 (2000), 217-245.

(9) "From Hopeful Monsters to Homeotic Effects: Richard Goldschmidt's Integration of Development, Evolution, and Genetics," *American Zoologist* 40 (2000), 28-37.

- (8) "From Gene to Genetic Hierarchy: Richard Goldschmidt and the Problem of the Gene," *The Concept of the Gene in Development and Evolution: Historical and Epistemological Perspectives*. Peter Beurton, Raphael Falk, and Hans-Jörg Rheinberger, eds. (Cambridge: Cambridge University Press, 2000), pp. 91-114.
- (7) "Paradox and Persuasion: Negotiating the Place of Molecular Evolution Within Evolutionary Biology," *Journal of the History of Biology* 31 (1998), 85-111.
- (6) "On the Mutability of Genes and Geneticists: The "Americanization" of Richard Goldschmidt and Victor Jollos," *Perspectives on Science* 4 (1996), 321-345.
- (5) "Monte Carlo Experiments and the Defense of Diffusion Models in Molecular Population Genetics," *Biology and Philosophy* 11 (1996), 339-356.
- (4) "Richard Goldschmidt's "Heresies" and the Evolutionary Synthesis," *Journal of the History of Biology*, 28 (1995), 431-461.
- (3) "The Origins of the Neutral Theory of Molecular Evolution," *Journal of the History of Biology*, 27 (1994), 21-59.
- (2) "Underdetermination and the Limits of Interpretative Flexibility," *Perspectives on Science*, vol. 1, no. 1 (1993), 109-126.
- (1) "Macromutation," in *Keywords in Evolutionary Biology*, E. F. Keller and E. A. Lloyd, eds. Cambridge, MA: Harvard University Press, 1992, pp. 194-201.

### Exhibitions

- (2) "The Educated Eye: Visual Pedagogy and the Life Sciences," Russo Gallery, Dartmouth College, February 20-April 15, 2012.
- (1) "Life Forms: Visual Lessons from Biology," Exhibition at the Hood Museum of Art, Co-curated with Nancy Anderson, Dartmouth College, April 15 - June 25, 2006.

### Digital History

- (4) History of the Marine Biological Laboratory Project (2010-2014). Contributor and Co-Director of the Community Archive Project. <http://history.archives.mbl.edu>  
Garland Allen, Michael R. Dietrich, and Florian Huber. 2016. "Victor Hamburger and Experimental Embryology." MBL History Project digital exhibit.  
<http://history.archives.mbl.edu/exploring/exhibits/viktor-hamburger-and-experimental-embryolog>
- (3) Dartmouth Historical Slide Collection (2012-2017). Administrator and contributor.  
<http://www.dartmouth.edu/~dietrich/SlideCollection/>
- (2) Viktor Hamburger Project, The Embryo Project (2007-2013). Administrator and contributor.  
<http://embryo.asu.edu>

(1) Perspectives on Molecular Evolution, History of Recent Science and Technology Project (2000-2005). Co-Director with John Beatty. Administrator, Editor, Designer, and Author. <http://authors.library.caltech.edu/5456/1/hrst.mit.edu/hrs/evolution/public/index.html>

### Non-refereed Publications

(30) "Richard C. Lewontin (1929-2021)," *Nature* 595 (2021), 489.

(29) "The Johannes Holtfreter Papers at the Marine Biological Laboratory," *The Mendel Newsletter* 22 (2020), 12-16.

(28) Michael R. Dietrich and Scott Dietrich, "Ernest Henry Wilson: Plant Collector, Explorer, Photographer," *Pleasure Garden Magazine* (Autumn 2018), 18-21.

(27) "Sewall Wright," *Brenner's Encyclopedia of Genetics*, 3rd edition. Elsevier, 2018.

(26) "Looking Toward the Next Fifty Years at the *Journal of the History of Biology*" *Journal of the History of Biology* 50 (2017), 689-690.

(25) "The *Journal of the History of Biology* at 50," *Journal of the History of Biology* 50 (2017), 1-2.

(24) "The First Everett Mendelsohn Prize," *Journal of the History of Biology* 50 (2017), 3-4.

(23) "Introduction: Revisiting Garland Allen's Views on the History of the Life Sciences in the Twentieth Century," *Journal of the History of Biology* 49 (2016), 1-2.

(22) Michael R. Dietrich and Edna Suarez-Diaz, "History of Molecular Evolution," In Richard Kliman (ed.), *The Encyclopedia of Evolutionary Biology*, Volume 3 (Oxford: Academic Press, 2016), 55-60.

(21) "Inaugurating the Everett Mendelsohn Prize," *Journal of the History of Biology* 49 (2016), 1-2.

(20) Bay Lauris ByrneSim and Michael R. Dietrich, "Normal Tables," *The Embryo Project Encyclopedia*. (2013) <http://embryo.asu.edu/featured/1549>.

(19) "Editorial Introduction," *Journal of the History of Biology* 45 (2012), 1.

(18) "The Genetic Basis of Evolutionary Change," *Evolution: The First Four Billion Years*. Michael Ruse and Joe Travis, Eds., (Cambridge, MA: Harvard University Press, 2009), pp. 602-603.

(17) Oren Harman and Michael R. Dietrich, "Dynamic Dissent: Iconoclasts, both visionary and misguided, have advanced modern biology," *The Chronicle Review* 54 (July 11, 2008), B7-8.

(16) "Genetics," in *Oxford Encyclopedia of the Modern World*, Peter Stearns, Ed. (New York, NY: Oxford University Press, 2008).

(15) Michael R. Dietrich, "Johannes Holtfreter," *The New Dictionary of Scientific Biography* (New York, NY: Charles Scribner's Sons, 2007).

(14) Michael R. Dietrich and James F. Crow, "Motoo Kimura," *The New Dictionary of Scientific Biography* (New York, NY: Charles Scribner's Sons, 2007).

- (13) "A Just-So Story for Symbolic Thought?," in Walter Sinnott-Armstrong, Ed., *Moral Psychology, Volume 1: The Evolution of Morality: Adaptations and Innateness* (Cambridge, MA: MIT Press, 2007), 299-301.
- (12) "The History of Genetics Online," *The Mendel Newsletter* 15 (2006), 27-30.
- (11) "The President's Semi-annual Report," *ISHPSSB Newsletter*, 17: 1 (2005), 1-3.
- (10) "Foundations of Genetics at the Electronic Scholarly Publishing Project," *The Mendel Newsletter* 14 (2005), 13.
- (9) "The President's Semi-annual Report," *ISHPSSB Newsletter*, 16: 2 (2004.), 1-2.
- (8) "The President's Semi-annual Report," *ISHPSSB Newsletter*, 16: 1 (2004), 1-2.
- (7) "After Vienna: The President's Semi-annual Report," *ISHPSSB Newsletter*, December 2003., pp. 1-2.
- (6) "History of the Nature of the Gene," *Genetics*. Richard Robinson, Ed. (New York, NY: Macmillan Reference, 2002), 101-106.
- (5) "Online History: The History of Recent Science and Technology Project," *Recent Science Newsletter* 3 (2001), 9.
- (4) Michael R. Dietrich, C. Robertson McClung, and Mark A. McPeck, "Darwinian Evolution Across the Disciplines," *History and Philosophy of the Life Sciences* 23 (2001), 337-338.
- (3) "Introduction," *The Book of Science Days* by Anne Hance. (Davis, CA: The Printer, 2000), p. 6.
- (2) "Molecular Biology," *Routledge Encyclopedia of Philosophy*, Volume 6. Edward Craig, Ed. (London: Routledge, 1998), pp. 458-461.

Reprinted as "Molecular Biology," *Concise Routledge Encyclopedia of Philosophy*. (London: Routledge, 1999), p. 587.

- (1) "The Richard Benedict Goldschmidt Papers," *The Mendel Newsletter*, New Series 7 (1998), 13-15.

## Book Reviews

- (29) "Samanth Subramanian, *A Dominant Character: The Radical Science and Restless Politics of J.B.S. Haldane*," *American Scientist* (Nov-Dec 2020), 378-379.
- (28) "Mario A. Fares, Ed., *Natural Selection: Methods and Applications*," *The Quarterly Review of Biology* 92 (2017), 468.
- (27) "Nick Hopwood, *Haeckel's Embryos: Images, Evolution, and Fraud*," *The English Historical Review* 132 (2017), 246-247.
- (26) "Parsing Postgenomics: Essay Review of *Postgenomics*," *Studies in the History and Philosophy of the Biological and Biomedical Sciences* 59 (2016), 158-160.



- (25) "Susanne Heim, Carola Sachse, and Mark Walker, Editors, *The Kaiser Wilhelm Society under National Socialism*," *Central European History* 47 (2014), 448-450.
- (24) "Manfred Laubichler and Gerd B. Müller, Eds., *Modeling Biology: Structures, Behaviors, Evolution*," *History and Philosophy of the Life Sciences* 34 (2012), 503-504.
- (23) "Philip Thurtle, *The Emergence of Genetic Rationality*," *Journal of the History of Biology* 43 (2010), 621-622.
- (22) "Beyond *The Double Helix*: A Review of Robert Olby's *Francis Crick: Hunter of Life's Secrets*," *The Mendel Newsletter* 18 (2010), 22-24.
- (21) "Frederick Grinnell, *Everyday Practice of Science: Where Intuition and passion Meet Objectivity and Logic*," *The Quarterly Review of Biology* 84 (2009), 278.
- (20) "The Rise of the Classical Gene: Review of James Schwartz' *In Pursuit of the Gene*," *Evolution and Development* 11 (2009), 326-327.
- (19) "Francisco Ayala, *Darwin's Gift to Science and Religion*," *National Center for Science Education Newsletter* 28 (2008), 33-34.
- (18) "William Bechtel, *Discovering Cell Mechanisms: The Creation of Modern Cell Biology*," *Quarterly Review of Biology* 81 (2006) 392.
- (17) "Susan Lindee, *Moments of Truth in Genetic Medicine*," *New England Journal of Medicine* 354 (2006) 1965.
- (16) "Soraya de Chadarevian and Nick Hopwood, Eds., *Models: The Third Dimension of Science*," *Journal of the History of Biology* 39 (2006) 224-6.
- (15) "Two Men Who Invented Genetics: Essay Review of Oren Harman, *The Man Who Invented Chromosomes: The Life of Cyril Darlington* and Paul Berg and Maxine Singer, *George Beadle: An Uncommon Farmer*," *Minerva* 43 (2005), 429 - 433.
- (14) "David Rothenberg and Wandee J. Pryor, Eds., *Writing the Future: Progress and Evolution*," *Quarterly Review of Biology* 80 (2005), 119.
- (13) "Leah Ceccarelli, *Shaping Science with Rhetoric: The Cases of Dobzhansky, Schrodinger, and Wilson*," *Isis* 95 (2004), 470.
- (12) "Elof Axel Carlson, *Mendel's Legacy: The Origins of Classical Genetics*," *Journal of the History of Biology* 37 (2004), 590-591.
- (11) "Jody Hey, *Genes, Categories, and Species: The Evolutionary and Cognitive Causes of the Species Problem*," *Philosophy of Science* 71 (2004) 619-620.
- (10) "Jan Sapp, *Genesis: The Evolution of Biology*," *Quarterly Review of Biology*, 79 (2004): 305.
- (9) "The Postgenomic Shipwright: Antoine Danchin's *The Delphic Boat: What Genomes Tell Us*," *Nature Genetics*, 36 (2004), 318.
- (8) "Lewis I. Held, Jr., *Imaginal Discs: The Genetic and Cellular Logic of Pattern Formation*," *Mendel Newsletter* 13 (2004), 19.

- (7) "Embryology in Wax: Nick Hopwood's *Embryos in Wax*," *Trends in Genetics* 18 (2002) 658.
- (6) "Jennifer Terry, *An American Obsession: Science, Medicine and Homosexuality in Modern Society*," *History and Philosophy of the Life Sciences* 22 (2000), 446-447.
- (5) "R. J. Russell, W. R. Stoeger, S.J., and F. J. Ayala (eds.), *Evolutionary and Molecular Biology: Scientific Perspectives on Divine Action*," *History and Philosophy of the Life Sciences* 22 (2000), 126-127.
- (4) "V. B. Smocovitis, *Unifying Biology*," *Journal of the History of Biology* 31 (1998): 289-291.
- (3) "V. Orel, *Gregor Mendel: The First Geneticist*," *Isis* 89 (1998): 143-144.
- (2) "Anne Harrington, *Re-Enchanted Science*," *Historical Studies in the Physical and Biological Sciences* 27 (1997): 359.
- (1) "Elliot Sober, *Philosophy of Biology*," *Teaching Philosophy* 17 (1994): 375-377.

### Works In Progress

Michael R. Dietrich, Rachel Ankeny, Mark A. McPeck, and Aesha Duong, "The Diveristy of Research Organisms and the Translational Turn in the Biological Sciences, 1975-2015." (In Preparation).

"Johannes Holtfreter and the Mechanics of Gastrulation" (In preparation).

Scott Dietrich and Michael R. Dietrich, *The Photography of Ernest Henry Wilson*. (In preparation).

Michael R. Dietrich, Marina DiMarco, and Jeffrey Schwartz, Editors. *Ancestry: Evidence, Inference, and Identity* (In preparation).

### Dissertation

"Theory and Experiment in Molecular Population Genetics." University of California, San Diego, 1991. Professor Philip Kitcher, Chair.

### Collaborators

Beverley Alomepe  
Nancy Anderson  
Rachel Ankeny  
Amelia Antrim  
Mark Borrello  
Bay Lauris ByrneSim  
Luis Campos  
Patrick Chen  
Mazviita Chirimuuta  
James F. Crow  
Nathan Crowe  
Gregory Davis

Scott Dietrich  
Marina DiMarco  
Aesha Duongs  
Sara Green  
Oren Harman  
Yi He  
Philip Honenberger  
David Jacobs  
Ehud Lamm  
Sabina Leonelli  
Laura L. Lovett  
C. Robertson McClung

Mark A. McPeck  
Roberta Millstein  
Sandra Mitchell  
Kevin J. Peterson  
Marsha Richmond  
Tiago Saraiva  
Jeff Schwartz  
Robert A. Skipper, Jr.  
Edna Suarez-Diaz  
Brandi H. Tambasco  
Christian C. Young

### Presentations

- (139) "From Darwin to Genetics: Agriculture and the New Science of Heredity," Gulbenkian Institute of Science, Oeiras, Portugal. September 2021.
- (138) "Experimental Systems in Genetics," Gulbenkian Institute of Science, Oeiras, Portugal. September 2021.
- (137) "Genes in Development," Gulbenkian Institute of Science, Oeiras, Portugal. September 2021.
- (136) "Evolutionary History and the Revival of Richard Goldschmidt's Heresies," Gulbenkian Institute of Science, Oeiras, Portugal. September 2021.
- (135) "Research Biodiversity and the Presumption of Generality in the Life Sciences," International Society for the History, Philosophy, and Social Study of Biology, Cold Spring Harbor, NY. July 12-19, 2021.
- (134) "Understanding Scientific Controversy," PSP5: A Summer Program in Philosophy of Science for Underrepresented Groups, University of Pittsburgh, July 2021.
- (133) "*In risu veritas*: Marginalia on Codex Entropia," Art Works in the Age of Biotechnology, North Carolina State University and University of Pittsburgh, March 16, 2021.
- (132) "The Politics of Embryology: Johannes Holtfreter's Flight from Nazi Germany," Center for Philosophy of Science, University of Pittsburgh, Pittsburgh, PA. September 15, 2020.
- (131) "Legitimizing Genetics: Agriculture, Eugenics, and the New Science of Heredity," Gulbenkian Institute of Science, Oeiras, Portugal. September 7, 2020.
- (130) "*Drosophila* and Beyond: Experimental Systems in Genetics," Gulbenkian Institute of Science, Oeiras, Portugal. September 8, 2020.
- (129) "Genes in Action: The History of Development and Genetics," Gulbenkian Institute of Science, Oeiras, Portugal. September 9, 2020.
- (128) "Better than Darwin: The Rise and Fall of the Evolutionary Synthesis," Gulbenkian Institute of Science, Oeiras, Portugal. September 10, 2020.
- (127) "Hopeful Monsters: EvoDevo and the Revival of Richard Goldschmidt's Heresies," Gulbenkian Institute of Science, Oeiras, Portugal. September 11, 2020.
- (126) "Automation and Inference: The Case of DNA Evolution," Human Genetics Department, University of Pittsburgh, Pittsburgh, PA. January 2020.
- (125) "Empires of the Fly: The Globalization of *Drosophila* Genetics," New Trends in the Historiography of Genetics. Van Leer Institute, Jerusalem, Israel, November 2019.
- (124) "Scientific Controversy," Philosophy Summer Program, University of Pittsburgh, Pittsburgh, July 2019.

(123) Michael R. Dietrich and Nathan Crowe, "Mapping the Organismal Landscape in Developmental Biology," *Animals Unbounded*, University of Exeter, Exeter, England. July 2019.

(122) Michael R. Dietrich and Nathan Crowe, "Creating Chimeras: Ethics and Monster-Making in Developmental Biology," *International Society for the History, Philosophy and Social Studies of Biology*, Oslo, Norway. July 2019.

(121) "When Chimeras Become Monsters," University of Adelaide, Adelaide, Australia. July 2019.

(120) "The Politics of Embryology: Johannes Holtfreter's Flight from Nazi Germany," E. B. Wilson Friday Evening Lecture, Marine Biological Laboratory, Woods Hole, MA. June 2019.

(119) Michael R. Dietrich and Nathan Crowe, "The Organismal Landscape in Developmental Biology," *History of Science Society*, Seattle, WA. November 2018.

(118) Michael R. Dietrich and Nathan Crowe, "Repertoires and the Problem of Piecemeal Change: The Case of Spemann's Network," *Philosophy of Science Association*, Seattle, WA. November 2018.

(117) "Reviving the Hopeful Monster: Richard Goldschmidt and Saltational Evolution," *Genetics and Development Seminar*, Department of Biology, University of West Virginia, October 2018.

(116) "The Politics of Embryology: Johannes Holtfreter's Flight from Nazi Germany," *Van Leer Institute*, Jerusalem, Israel, March 2018.

(115) "Finding the Right Organism for the Job: Organism Choice in the History of the Life Sciences," *Bar Ilan University*, Tel Aviv, Israel, March 2018.

(114) "Perspectives on the Molecularization of Biology," *International History and Philosophy of Science Graduate Program*, Israel, March 2018.

(113) "Reviving the Hopeful Monster: Richard Goldschmidt and Saltational Evolution," *Center for Philosophy of Science*, University of Pittsburgh, February 2018.

(112) "Computational History and the Future of Reading and Publishing in the History of Science," *International Congress for the History of Science and Technology*, Rio De Janeiro, Brazil, July 2017.

(111) "Why Study Sex by the Sea?: Marine Organisms and the Problems of Fertilization and Cell Cleavage," *ISHPSSB*, Sao Paulo, Brazil. July 2017.

(110) "Developmental Chimeras and Organismal Identity," *MBL History Seminar*, Woods Hole, MA. May 2017.

(109) "DNA Evolution and the Multi-Model Regress in Molecular Systematics," *History and Philosophy of Science Department*, University of Pittsburgh, February 2017.

(108) "Why Study Sex by the Sea?: Marine Organisms and the Problem of Fertilization and Cell Cleavage," *Gulbenkian Institute of Science*, Oeiras, Portugal. January 2017.

- (107) "Genetics, Eugenics, and Evolution: A Series of Four Lectures," Gulbenkian Institute of Science, Oeiras, Portugal. January 2017.
- (106) "Organism Choice and Its Implications," Challenging Assumptions: Integrating the Life Sciences with History and Philosophy of Science - A McDonnell Foundation Workshop at the Marine Biological Laboratory, Woods Hole, MA. November 2016.
- (105) "Marine Organisms in the History of Developmental Biology," History of Biology Seminar, Marine Biological Laboratory, Woods Hole, MA. May 2016.
- (104) "Johannes Holtfreter and the Politics of Gastrulation," Gulbenkian Institute of Science, Oeiras, Portugal. January 2016.
- (103) "Genes, Development, and Evolution: A Series of Four Lectures," Gulbenkian Institute of Science, Oeiras, Portugal. January 2016.
- (102) "From Genetics to Genomics: A Series of Five Lectures," The Second Tsinghua Seminar for History and Philosophy of the Life Sciences, Institute of Science, Technology, and Society, Tsinghua University, Beijing, China. August 18-22, 2015.
- (101) "DNA Evolution and the Multi-Model Regress in Molecular Systematics," Dalhousie University, Halifax, Canada, August 2015.
- (100) "Finding the Pulse of Protoplasm: The Search for Mechanisms of Protoplasmic Streaming," International Society for the History, Philosophy, and Social Studies of Biology, Montreal, Canada, July 2015.
- (99) "DNA Evolution and the Multi-Model Regress," Gulbenkian Institute of Science, Oeiras, Portugal. January 2015.
- (98) "Evolution and Development in Historical Perspective: A Series of Three Lectures," Gulbenkian Institute of Science, Oeiras, Portugal. January 2015.
- (97) "Finding the Pulse of Protoplasm: The Search for Mechanisms of Protoplasmic Streaming," Updating Cowdry at the MBL, Marine Biological Laboratory, Woods Hole, MA. October 2104.
- (96) "The Rise of Developmental Biology: Research Diversification and Discipline Formation, After the Second World War," Washington University, St. Louis, October 2014.
- (95) "The Molecular Transformation of Evolutionary Biology," Bioinformatics and Evolutionary Genomics Group, University of Lyon, France, April 2014.
- (94) "Models, Methods, and Inference in Molecular Evolution," Semovi: Rhône-Alpes Seminar in Biological Modeling, Lyon, France, April 2014.
- (93) "Viktor Hamburger and Embryological Traditions at MBL," Marine Biological Laboratory, Woods Hole, MA. August 2013.
- (92) "New Methods in Digital History," International Society for the History and Philosophy of Biology, Montpellier, France, July 2013.

- (91) Nathan Crowe and Michael R. Dietrich, "From Embryology to Developmental Biology: The Diversification of a Biological Field," International Society for the History and Philosophy of Biology, Montpellier, France, July 2013.
- (90) "Outsider Science: Routes to Innovation in Biology," Dartmouth Club of the Pioneer Valley, South Hadley, MA, May 2013.
- (89) "The Future of Publishing," Joint Atlantic Seminar for the History of Biology, Woods Hole, MA, April 2013.
- (88) "Beyond the Boss and the Boys: The Gendered Division of Labor in Genetics and Developmental Biology," Five College Feminist Science Studies Colloquium, Amherst, MA, February 2013.
- (87) "Model Choice and Method Selection in Molecular Evolution," European Advanced Seminar in the Philosophy of the Life Sciences: In Vivo, ex Vivo, in Vitro, in Silico: Models in the Life Sciences. Brocher Foundation, Geneva, Switzerland, September 10-14, 2012.
- (86) "Publication, Citation and Funding Trends in Genetics," with Rachel Ankeny. Model Organisms Meet Digital HPS. Marine Biological Laboratory, Woods Hole, MA. April 2012.
- (85) "Rebels, Heretics, and Outsiders: Perspectives on the History of Modern Biology," Department of History, University of Massachusetts, Amherst, January 2012.
- (84) "Toward a Multidisciplinary Research Ethics," with Aine Donovan, Matariki Research Workshop, Tübingen, Germany, October 2011.
- (83) Invited Commentary, "Making Sense of Aging with Cells, Molecules, and Development," Arizona State University, Tempe, AZ, September 2011.
- (82) "Reversing the Direction of Time: The Rise of the Coalescent in Population Genetics," International Society for the History, Philosophy, and Social Studies of Biology, University of Utah, Salt Lake City, UT, July 2011.
- (81) "Trends in Model Organism Research," History and Philosophy of Biology in the Desert Conference, Arizona State University, Tempe, AZ, February 2011.
- (80) "Model, Method, and Inference in Molecular Evolution," School of Life Sciences, Arizona State University, Tempe, AZ, February 2011.
- (79) "Hopeful Monsters: EvoDevo and the Revival of Richard Goldschmidt's Heresies," Department of Biology, University of Massachusetts, Amherst, MA, October 2010.
- (78) "Richard Goldschmidt's Revival: Evo-Devo, Then and Now," &HPS: Integrated History and Philosophy of Science, Indiana University, Bloomington, IN, September 2010.
- (77) "DNA Collections and the Classification of Human Diversity," MBL-ASU History of Biology Seminar, Woods Hole, MA, May 2010.
- (76) "Model Choice and Method Selection in Molecular Evolution," Philosophy Department, University of Cincinnati, Cincinnati, OH, January 2010.

(75) "Francis Crick and the Rise of Molecular Biology: Critical Commentary on Robert Olby's *Francis Crick*," History and Philosophy of Science Department, University of Pittsburgh, Pittsburgh, PA, November 2009.

(74) "From Goldschmidt to Gould and Back," University of Toronto, Toronto, Ontario, November 2009.

(73) "The Molecular Transformation of Evolutionary Biology," Dalhousie University, Halifax, Nova Scotia, October 2009.

(72) "Scientific Biography and the Problem of Vindication," International Society for the History, Philosophy, and Social Studies of Biology, Brisbane, Australia, July 2009.

(71) "The Death of Panselctionism," Invited Symposium, Society for Molecular Biology and Evolution, Iowa City, Iowa. June 2009.

(70) "Model Choice and Method Selection in Molecular Evolution," MBL-ASU History of Biology Seminar, Woods Hole, MA, May 2009.

(69) "Hopeful Monsters: Richard Goldschmidt and Evolutionary Thought in the Twentieth Century," Darwiniana Symposium, University of Cincinnati, May 2009.

(68) "Johannes Holtfreter and the Politics of Gastrulation," Biology Department, Skidmore College, Saratoga, NY, March 2009.

(67) "The Neutralist/Selectionist Controversy and Its Legacy," National Institute of Genetics, Mishima, Japan. November 2008.

(66) "Motoo Kimura and the End of Panselctionism," Biology Studies in East Asia, University of Kobe, Japan. November 2008.

(65) Roberta L. Millstein, Robert A. Skipper, Jr., and Michael R. Dietrich, "(Mis)interpreting Mathematical Models of Drift: Drift as a Physical Process," Philosophy of Science Association, Pittsburgh, PA. November 2008.

(64) "Toward a Social History of *Drosophila* Genetics," Future Directions in Genetics, Washington University, St. Louis, MO, August 2008.

(63) "Modeling Molecular Evolution: DNA and the Rise of Nucleotide Substitution Models," Making Sequences Matter, Yale University, June 2008.

(62) "The Role of Visual Representations in Embryology," Embryos in Historical Context, ASU Seminar in the History of Biology at the Marine Biological Laboratory at Woods Hole, May 2008.

(61) "Beyond Transplantation: Viktor Hamburger and Walter Landauer, and the Rise of Developmental Genetics of Creeper," History of Science Society, Washington, DC, November 2007.

(60) "Innovation and the Value of Dissent" with Oren Harman, International Society for the History, Philosophy, and Social Studies of Biology, Exeter, England, July 2007.

- (59) "Johannes Holtfreter and the Politics of Gastrulation," History and Philosophy of Science Colloquium Series, Washington University in St. Louis, St. Louis, MO, April 2007.
- (58) "Modeling Nucleotide Substitution," Department of Biology Colloquium, Florida State University, Tallahassee, FL, December 2006.
- (57) Michael R. Dietrich and Roberta Millstein, "The Role of Causal Processes in the Neutral and Nearly Neutral Theories," Philosophy of Science Association Meeting, Vancouver, BC, November 2006.
- (56) "William Patten and the Pedagogy of Evolution in the 1920s," Department of History, University of Massachusetts, Amherst, MA, October 2006.
- (55) "Making Digital History: Putting the History of Recent Science and Technology Online," STEM Education Program, University of Massachusetts, Amherst, MA, February 2006.
- (54) "The Rise and Fall of Panselectionism," Center for the Philosophy of Science, University of Pittsburgh, Pittsburgh, PA, December 2005.
- (53) "Modeling Nucleotide Substitution: Finding the Best Model for the Data in Molecular Evolution," ISHPSSB, Guelph, Ontario, July 2005.
- (52) "Biology in Exile: Johannes Holtfreter and the Politics of Gastrulation," The Burian-McNabb Lecture. Virginia Tech, April 2005.
- (51) "Nothing Left to Chance?: The Place of Random Drift in the Neutralist/Selectionist Controversy," Philosophy of Science Association, Austin, TX. November 2004.
- (50) "Reviving the Hopeful Monster: Richard Goldschmidt and Saltational Evolution," History of Science Society, Austin, TX November 2004.
- (49) Michael Dietrich, David Jacobs, and Greg Davis, "Homeotic Mutation and the Failure of the First Developmental Synthesis," Descended from Darwin: insights into American evolutionary studies, 1925-1950, American Philosophical Society, Philadelphia, PA, October 2004.
- (48) "Modeling and Testing Molecular Evolution," Dibner Biology Seminar, Marine Biological Laboratory, Woods Hole, MA. May 2004.
- (47) "The Molecular Clock as Boundary Concept," History of Science Program, Smith College, Northampton, MA, February 2004
- (46) "Keeping Time: The Molecular Clock as Boundary Concept," History of Science Program, University of Minnesota, February 2004.
- (45) "Constructing the Molecular Clock: The Role of Idealization in Representation," Conference in Scientific Representation, UNAM, Mexico September 2003.
- (44) "Approaches to Scientific Controversy in Twentieth Century Biology," History and Philosophy of Science Department, UNAM, Mexico, September 2003.
- (43) "Beyond the "Boss and the Boys": Women and the Growth of Drosophila Genetics in the United States, 191-1970," with Brandi Hevalow, International Society for History, Philosophy, and Social Study of Biology, Vienna, Austria, July 2003.



- (42) "Keeping Time: Probability, Mechanisms, and the Molecular Clock," Committee for Philosophy and the Sciences, University of Maryland, College Park, MD, April 2003.
- (41) Panel Chair and Discussant, "The New Web of History: Crafting History of Science and Technology Online," Dibner Institute, MIT, March 2003.
- (40) "Disciplinary Spaces in 20th-Century Life Sciences," Invited Commentary, History of Science Society, Milwaukee, WI, November 2002.
- (39) "Stirring the Hornet's Nest: Approaches to Scientific Controversy in Twentieth Century Biology," History and Philosophy of Science Department, Indiana University, March 2002.
- (38) "Induced Change: Johannes Holtfreter and the Politics of Gastrulation," History and Philosophy of Science Department, Indiana University, March 2002.
- (37) "Making Time: Molecular Clocks and the Constitution of Statistical Objects," Sapientia Lecture Series, Philosophy Department, Dartmouth College, December 2001.
- (36) "Homeotic Mutants and the Failure of the First Developmental Synthesis," International Society for History, Philosophy, and Social Study of Biology, Quinnipiac, CT, July 2001.
- (35) "Dispersion and Constancy: Explaining the Molecular Clock," How Do Levels in Science Relate? 37th Annual Philosophy Colloquium, University of Cincinnati, May 2001.
- (34) "Induced Change: Johannes Holtfreter and the Politics of Gastrulation," Science and Technology Studies Colloquium, University of California, Davis, April 2001.
- (33) "Johannes Holtfreter and the Politics of Gastrulation," History of Science Society, Vancouver, November 2000.
- (32) "Of Moths and Men: Theo Lang and the Genetics of Homosexuality in Germany 1916-1960," Department of History and Sociology of Science, University of Pennsylvania, September 2000.
- (31) "Dispersing the Molecular Clock," Microbial Variation and Evolution: Historical Aspects and perspectives, Stazione Zoologica Anton Dohrn, Naples, May 2000.
- (30) "Surveying the Terrain: Commentary on Robert Skipper's Understanding the Adaptive Landscape," American Philosophical Association, Central Division, Chicago, April 2000.
- (29) "Evolution and the Abuse of Science," Creation, Creation Science, and Evolution: 75 Years After Scopes, University of Tennessee, Chattanooga, April 2000.
- (28) "The Problem of the Gene," Rediscovery of Mendel's Laws, Académie des Sciences, Institut de France, Paris, March 2000.
- (27) "From Hopeful Monsters to Homeotic Effects: Richard Goldschmidt's Integration of Development, Evolution, and Genetics," Society for Integrative and Comparative Biology, Atlanta, GA, January 2000.

- (26) "Who Discovered Neutral Molecular Evolution?" International Society for the History, Philosophy, and Social Studies of Biology, Oaxaca, Mexico, July 1999.
- (25) "The Genetic Construction of Homosexuality in Germany," Department of Sociology and Anthropology Seminar, University of Tennessee, Chattanooga, March, 1999.
- (24) "Induced Change: Assessing the Impact of Emigration of German Developmental Biologists," Northeastern Regional meeting of the Society for Developmental Biology, Wood's Hole, March 1999.
- (23) "Crossing the Molecular Divide," Department of Biology Seminar, University of Tennessee, Chattanooga, January 1999.
- (22) "A Tale of Two Traditions: The Neutral Theory and the Origins of Molecular Evolution," Biology Department, Dartmouth College, February 1998.
- (21) "The Role of Reduction in the Origins of Molecular Evolution," Philosophy Department, Virginia Tech, January 1998.
- (20) "The Origins of the Neutral Theory of Molecular Evolution," Population Biology Seminar, Harvard University, October 1997.
- (19) "The Molecular/Morphological Paradox," Lewontin Laboratory Seminar, Harvard University, November 1997.
- (18) "Of Moths and Men: The Genetics of Homosexuality in Germany, 1916-1941," Life Sciences Working Group, Harvard University, December 1997.
- (17) "The Genetics of Nationhood: The History of Human Genetics in Israel," Davis Humanities Institute, April 1997.
- (16) "From Gene to Genetic Hierarchy," Max Plank Institute for History of Science, Berlin. October 1996.
- (15) "Gender, Ethnicity, and Science," Science and Society: Making Connections, University of California, Davis, May 1996.
- (14) "Contrary Sexuality: Genetic Approaches to Homosexuality in Germany, 1916-1946," Davis Humanities Institute, University of California, Davis. December 1995.
- (13) "Geneticists in Exile: The Americanization of Richard Goldschmidt and Victor Jollos," History of Science and Technology Program, University of California, Berkeley, 1995.
- (12) "On the Mutability of Genes and Geneticists: The Americanization of Richard Goldschmidt and Victor Jollos," International Society for the History Philosophy and Social Studies of the Biological Sciences, 1995.
- (11) "On the Mutability of Genes and Geneticists," Science, Technology and Society Program, Virginia Tech, 1995.
- (10) "Unnatural Experiments for Idealized Models," Philosophy Department, Virginia Tech, 1995.

(9) "Regulating Nonmodernism: Comments on Bruno Latour's We Have Never Been Modern," Society for the Social Studies of Science, 1994.

(8) "The Uses of History of Science," Is There Any Practical Value of the History or Philosophy of Science for the Research Scientist?, University of California, Berkeley, 1994.

(7) "Monte Carlo Experiments and the Defense of Diffusion Models in Molecular Population Genetics," International Society for the History Philosophy and Social Studies of the Biological Sciences, 1993.

(6) "The Origins of the Neutral Theory of Molecular Evolution," West Coast History of Science Society, 1993.

(5) "Richard Goldschmidt's Heresies and the Evolutionary Synthesis," History of Science and Technology, University of California, Berkeley, 1992.

(4) "The Origins of the Neutral Theory," International Society for the History Philosophy and Social Studies of the Biological Sciences, 1991.

(3) "Richard Goldschmidt's Heresies," International Society for the History Philosophy and Social Studies of the Biological Sciences, 1991.

(2) "In Pursuit of the Neutral Theory," Philosophy Department, University of California, Davis, 1990.

(1) "Richard Goldschmidt's Evolutionary Genetics," International Society for the History, Philosophy and Social Studies of the Biological Sciences 1989.

### **Grants (awarded)**

Mari Webel, Thuy Bui, Michael R. Dietrich, Sarah Krier, Matiangai Sirleaf, Wilbert van Panhuis, "The History and Future of the "Neglected Tropical Diseases" – Integrating Qualitative and Quantitative Research to Improve Public Health Outcomes," Pitt Momentum Fund Teaming Grant, University of Pittsburgh, \$59,914.00. Funded 2020-2021.

Lara Putnam, Michael Colaresi, Michael R. Dietrich, Melanie Hughes, Ruth Mostern, Alison Langmead, Randall Walsh, and Annette Vee, "Information Ecosystems: Creating Data (and Absence) From the Quantitative to the Digital Age," Andrew W. Mellon Foundation's Sawyer Seminar on the Comparative Study of Cultures, University of Pittsburgh, \$225,000.00. Funded 2019-2021.

Mari Webel, Michael R. Dietrich, and Matiangai Sirleaf, Co-PIs, "Understanding the Development and Impact of Neglected Diseases, 1950-present." Social Sciences Research Initiative Grant, University of Pittsburgh. \$25,000.00. Funded 2017-2019.

Michael R. Dietrich and Scott Dietrich, Co-PIs, "The Photography of Ernest Henry Wilson," Sargent Award for Visiting Scholars, Arnold Arboretum at Harvard University, \$2,700.00, Funded, 2017-2018.

Michael R. Dietrich, PI, "Biologists and Philosophers," Postdoctoral Research Grant for Phillip Honenberger, National Science Foundation. \$175,000.00. Funded, 2016-2018.

Co-PI, Rachel Ankeny, Michael R. Dietrich, and Sabine Leonelli, "Organisms and Us: How Living Things Help Us to Understand Our World," Australian Research Council Discovery Grant. \$313,686.00. Funded, 2015-2020. Travel and research support provided for MRD.

Subcontractor, "Establishing an STS Informatics Infrastructure and Training Program," National Science Foundation, 2011-2012, \$100,000.00. Jane Maienschein, PI. Research stipend provided for MRD.

Co-PI, "SGTR: The Embryo Project Training and Research," National Science Foundation, 2010-2014. \$536,711.00. Research stipend provided for MRD.

Collaborator, Embryo Project, 2007-2010, National Science Foundation, Arizona State University. Jane Maienschein, PI. \$750,000.00 total. Travel and research costs provided for MRD.

Center for Biology and Society Grant from Arizona State University. May 2008. ASU Seminar in the History of Biology at the Marine Biological Laboratory at Woods Hole. Travel and housing costs provided for MRD.

Director, Humanities Institute for 2005-2006, Dartmouth College, "Visual Culture and Pedagogy in Medicine and the Life Sciences," \$145,000.00.

Sloan Foundation and Dibner Fund, 2000-2005, Jed Buchwald, PI. "History of Recent Science and Technology on the Web: Perspectives on Molecular Evolution," Co-Investigator with John Beatty, \$2.7 Million total, \$250,000 allocated to the Molecular Evolution section, \$50,000.00 in salary, equipment, and travel for MRD.

Davis Humanities Institute, Research Cluster, 1996-1998, "Migration Studies of Science," with James Griesemer and John Stanfield. \$5,000.00.

Teaching Resource Center Course Development Grant, U.C. Davis, 1997, "Seminar and Course Development for Science, Technology, and Medicine Studies," \$4,058.00.

Davis Humanities Institute Fellow, 1996-1997, "The Genetics of Nationhood: Human Genetics in Israel, 1956-1976," \$1,300.00.

Faculty Research Grants, U. C. Davis, 1996 -1997, "From Gene to Genetic Hierarchy: Richard Goldschmidt and the Problem of the Gene," \$1,020.00.

National Science Foundation Research Grant, 1994-1996, "Richard B. Goldschmidt: The Making of a Scientific Heretic," \$30,000.00.

Junior Faculty Research Fellowship, U.C. Davis, 1992.

Teaching Resource Center Course Development Grant, U.C. Davis, 1992.

New Faculty Research Grant, U.C. Davis, 1991-92.

Graduate Fellowship, U. C. San Diego, 1990-1991.

Graduate Fellowship, University of Minnesota, 1985-86.

## Teaching Experience

### University of Pittsburgh (Professor)

HPS 613: Medicine and Morality (Fall 2018, Spring 2021)  
 HPS 618: Scientific Controversies (Spring 2019, Fall 2020)  
 HPS 626: Development of Modern Biology (Spring 2018, Fall 2019)  
 HPS 2000: Teaching Practicum (Fall 2021)  
 HPS 2103: History and Philosophy of Science, With John Norton (Spring 2022)  
 HPS 2159: Feminist Philosophy of Science (Fall 2021)  
 HPS 2502: History of Science 1, With Paolo Palmieri (Spring 2020)  
 HPS 2503: History of Science 2, With Mazviita Chirimuuta (Spring 2019)  
 HPS 2504: History of Genetics (Fall 2018)  
 HPS 2571: Going Molecular (Fall 2017)  
 HPS 2657: Philosophy of Biology (Spring 2017)

### Dartmouth College (Professor)

Biology 1: History of Modern Biology  
 Biology 5: Philosophy of Biology  
 Biology 7: The Science of Sex  
 Biology 9: Independent Study in History and Philosophy of Biology  
 Biology 11: The Life Sciences: Why Have Sex? (with Elizabeth Smith)  
 Biology 11: The Life Sciences: Biology in the News (with Mark McPeck)  
 Biology 15: Genetic Variation and Evolution  
 Biology 24: Processes of Evolution  
 Biology 36: History of Genetics  
 Biology 48: Principles of Evolutionary Medicine  
 Biology 60: Processes of Evolution  
 Biology 70: History of Genetics  
 Biology 110: Scientific Integrity and Research Ethics  
 Biology 125: The Nature and Process of Science (with Matt Ayers)  
 CoCo 8: Sexuality and Science (with Veronika Feuchtner) (cross listed with WGST)

### University of California, Davis (Professor)

HPS 130B: History of Modern Biology  
 HPS 131: Darwin  
 HPS 150: Gender and Science  
 HPS 180: Special Topics in HPS  
 Genetics Graduate Group 291: History of Genetics  
 Philosophy 31: Appraising Scientific Reasoning  
 Philosophy 108: Philosophy of Biology  
 Philosophy 190: Special Topics in Philosophy  
 Philosophy 204: Philosophy of Science Seminar

### University of California, San Diego (Teaching Assistant)

Humanities 1: The Ancient World.  
 Humanities 2: Rome and the Middle Ages.  
 Humanities 3: The Renaissance.  
 Humanities 4: The Enlightenment.  
 Humanities 5: Modernity.  
 History 168: Problems in the History of Greek, Medieval, and Renaissance Science

Philosophy 27: Ethics and Society  
 Philosophy 101: Symbolic Logic I  
 Philosophy 162: Philosophy of Law

### Undergraduate Advising

#### Presidential Scholars Program, Dartmouth College

Robin Levine, History of Biology at Dartmouth College, 2000-2001.  
 Kjell Ericson, History of Biology at Dartmouth College, 2001-2002.  
 David Horowitz, The Globalization of *Drosophila* Genetics, 2002-2003.

#### Women in Science Program, Dartmouth College

Jing Lin, Beyond the Boss and the Boys: Women in *Drosophila* Genetics, 2001-2002.  
 Brandi Hevalow, Beyond the Boss and the Boys: Women in *Drosophila* Genetics, 2001-2002.  
 Lindsey Fitzgerald, Women in American *Drosophila* Genetics, 2007-2008.  
 Emily Boggs, The Problem of Model Choice in Molecular Evolution, 2008-2009  
 Bay ByrneSim, The History of Visualization in Developmental Biology, 2011-2012  
 Yi He, The Diversification of Developmental Biology, 2013-2014  
 Beverly Alomepe, The Diversification of Developmental Biology, 2013-2014

#### Research Assistants

Jessica Lyons, Electrophoresis Citation Analysis, 2002.  
 Brandi Hevalow, Women in *Drosophila* Genetics, 2002-2003.  
 Sarah Fierce, Tests of the Neutral Theory of Molecular Evolution, 2003.  
 Rebecca Wall, Women in American *Drosophila* Genetics, 2007-2008.  
 Patrick Chen, Trends in Model Organism Research, 2010-2011.  
 Bay ByrneSim, From Embryology to Developmental Biology, 2012-2013.  
 Amelia Antrim, From Embryology to Developmental Biology, 2012-2013.  
 Gina Watts, Mapping Wilson's China, Spring 2020.

#### Independent Study Students

Robin Levine, Hannah Croasdale and the History of Biology at Dartmouth, Spring 2002.  
 Roxanne Khamsi, Sex Determination and Maternal Influence, Spring 2003.  
 Braden Lang, The Origins of Golden Rice, Spring 2006.  
 Ayesha Appa, Science and Sex Differences, Spring 2007  
 (Co-advised with Annelise Orleck, History Department).  
 Chenai Nettey, Science and Sexuality, Spring 2008 (WGST 85)  
 Jane Cowan, Scientific Research on Biomedical Limitations of Military Women, Fall 2008  
 Alison Peterson, Sex Differences and Science, Fall 2008 (WGST 85)  
 Heewon Kim, Sex Differences and Science, Winter 2010.  
 Matthew Forman, History of Biology, Winter 2010 (Biol 9)  
 Patrick Chen, History of Evolution and Genetics, Summer 2010 (Biol 9)  
 Rachel Burney, History and Philosophy of Genetics, Spring 2020.

#### Honors Students

David Horowitz, Dartmouth College, 2003-2004. (Chair) Undergraduate Thesis: The Globalization of *Drosophila* Genetics (Unpublished).  
 Kale Bongers, Dartmouth College, 2006-2007. (Committee member) Undergraduate Thesis: Scientific power: A History of *Vibrio cholerae* Ecology. (Unpublished)  
 Margaret Farrell, University of Pittsburgh, 2018. (Committee member) Undergraduate Thesis: On the Evolution of the Species Concept: Darwin's Species Realism. (Unpublished)  
 Iolanda Netos, University of Pittsburgh, 2018-2019. (Chair) Undergraduate Thesis:

*Weaponising controversy: a demarcation of illegitimate dissent.* (Unpublished)

### Graduate Advising

Masters Committee Member for:

Scott Callan, "The Political Implications of the "Selfish gene"," MALS Program, Dartmouth College, 2004.

Alexis Mourenza, "The possibility of altruistic motivation in non-human primates," MALS Program, Dartmouth College, 2007.

Ph.D. Committee Member for:

Scott Merlino, Department of Philosophy, U. C. Davis, 1996.

Nancy Shaffer, Department of Philosophy, U. C. Davis, 1996.

Elizabeth Forester, Department of Philosophy, U. C. Davis, 1998.

Wendy Kline, Department of History, U. C. Davis, 1998.

Robert Skipper, Department of Philosophy, University of Maryland, 2000.

Denise Steele, Ecology and Evolutionary Biology, Dartmouth College, 2005-2007.

Ross Sage, History of Science Program, Yale University, 2007-2011.

Vivek Venkataraman, Ecology and Evolutionary Biology, Dartmouth College, 2011-2016.

Debora Goedert, Ecology, Evolution, Ecosystems, and Society, Dartmouth College, 2015-2017.

Karina Burns, University of Adelaide, 2016-2021.

Dana Matthiessen, University of Pittsburgh, 2019-present

Nedah Nemati, University of Pittsburgh, 2020-present.

Ph.D. Outside Examiner for:

Andrew Grimshaw, Deakin University, Australia, 2001.

Ph.D. Advisor or Co-Advisor for:

George Borg, (co-advisor with John Norton) University of Pittsburgh, 2018-2020, "Science, Labor, and Scientific Progress."

Jacob Neal, (co-advisor with James Woodward), "Protein Structure, Dynamics, and Functions: A Philosophical Account of Representation and Explanation in Structural Biology," University of Pittsburgh, 2018-2021.

Katie Morrow, (co-advisor with Colin Allen), "Function in Ecology: Concepts, Values, and Management," University of Pittsburgh, 2019-present.

Marina DiMarco, "Biosocial Science," University of Pittsburgh, 2020-present.

### University Service

Chair, History and Philosophy of Science Department, University of Pittsburgh, 2019-2021.

Member, Graduate Curriculum Working Group, History and Philosophy of Science Department, University of Pittsburgh, 2020-2021.

Co-Chair, Pittsburgh Science and Technology Studies Alliance, 2020-present.

Chair, Salmon Fund Committee, University of Pittsburgh, 2019-2021.

Chair, Salmon Lecture Committee, University of Pittsburgh, 2019-2021.

Member, Diversity, Equity and Inclusion Committee, History and Philosophy of Science Department, University of Pittsburgh, 2019-present.

Director of Graduate Studies, History and Philosophy of Science Department, University of Pittsburgh, 2018-2019.

Member, Tenure Council, University of Pittsburgh, 2017-2021.  
 Graduate Admissions Co-Director, History and Philosophy of Science Department,  
 University of Pittsburgh, 2017-2018  
 Chair, Council on the Libraries, Dartmouth College, 2016-2017.  
 Chair, College Course Committee, Dartmouth College, 2016-2017.  
 Member, Committee Advisory to the Chair, Department of Biological Sciences,  
 2014-2017.  
 Member, Council on the Libraries, Dartmouth College, 2015-2016.  
 Member, College Course Committee, Dartmouth College, 2015-2016.  
 Member, Committee on Graduate Fellowships, Dartmouth College, 2010-2012  
 Member, Evolutionary Genomics Search Committee, Department of Biological  
 Sciences, Dartmouth College, 2011-2012  
 Member, Steering Committee, Women's Studies Program, Dartmouth College, 1999,  
 2000, 2003, 2009, 2010.  
 Member, Library Council, Dartmouth College, Fall 2007, Fall 2008.  
 Member, Evolutionary Biology Search Committee, Dartmouth College, 2007-2008.  
 Member, Personnel Committee, Women's and Gender Studies Program, Dartmouth  
 College 2007-2008.  
 Member, Council on Honorary Degrees, Dartmouth College 2006-2007  
 Member, Evolutionary Genomics Search Committee, Department of Biological  
 Sciences, Dartmouth College, 2003-2004  
 Library Representative, Department of Biological Sciences, Dartmouth College 2003-7  
 Faculty Advisory Board, Ethics Institute, Dartmouth College, 2002-2007  
 Advisory Committee, Humanities Center, Dartmouth College, 2000-2003  
 Evolutionary Biology Search Committee, Department of Biology, Dartmouth College,  
 2001-2002.  
 Chair, Senior Fellowship Committee, Dartmouth College, 2000, 2001-2002  
 Senior Fellowship Committee, Dartmouth College, 1998-2000  
 Luce Professor Search Committee, Dartmouth College, 2000-2002.  
 Evolutionary Genetics Search Committee, Department of Biology, Dartmouth College,  
 1999-2000  
 Organizational Committee, Darwinian Evolution Across the Disciplines Symposium,  
 Dartmouth College, 1998-1999  
 History and Philosophy of Science Program Committee, U. C. Davis, 1990-1998  
 Minor Advisor, History and Philosophy of Science Program, U. C. Davis, 1991-1998  
 Chair, Colloquia Committee, History and Philosophy of Science, U. C. Davis,  
 1993-1998  
 History of Science Search Committee, Department of History, U. C. Davis, 1996-1997  
 History of Science Search Committee, Department of History, U. C. Davis, 1995-1996  
 Race, Ethnicity, and Immigration Studies Steering Committee, U. C. Davis, 1995-1998  
 Independent Majors Committee, College of Letters and Sciences, U. C. Davis, 1994-1998  
 Honors and Fellowship Committee, Philosophy Department, U. C. Davis, 1991-1993  
 Colloquium Committee, Philosophy Department, U. C. Davis, 1990-1993  
 Graduate Admissions Committee, Philosophy Department, U. C. Davis, 1990-1993

### **Professional Service**

Editorial Board, University of Pittsburgh Press, 2018-Present.  
 Chair-Elect, Section L, American Association for the Advancement of Science, 2018-2019  
 Chair, Section L, American Association for the Advancement of Science, 2019-2020  
 Retiring Chair, Section L, American Association for the Advancement of Science, 2020-  
 2021  
 Editor-in-Chief, *Journal of the History of Biology*, 2012-2017.



General Editor, *The Mendel Newsletter*, May 2000- Present.

Program Committee, Learning from Empirical Approaches to History and Philosophy of Science, University of Pittsburgh, 2017-2018.

Nominations Committee, International Society for the History, Philosophy, and Social Studies of Biology, 2017-2019.

Operations Committee, International Society for the History, Philosophy, and Social Studies of Biology, 2015-2019.

Hull Prize Committee, International Society for the History, Philosophy, and Social Studies of Biology, 2009-2015.

Publication Committee, International Society for the History, Philosophy, and Social Studies of Biology, 2013-2017.

Co-Director, Community Archive Project, Marine Biological Laboratory, Woods Hole, MA, May-August 2013.

Course Director, "Visualization in the Life Sciences," ASU Seminar in the History of Biology at the Marine Biological Laboratory at Woods Hole, May 2012.

Associate Editor, *Journal of the History of Biology*, 2007-2011.

Advisory Committee Member, History and Philosophy of Science Project, Marine Biological Laboratory, Woods Hole, MA, 2009-2010.

Advisory Board Member, Sources and Studies in the History of Mathematics and the Physical Sciences series, Springer Verlag, 2009-Present.

Editorial Board Member, Archimedes: New Studies in the History and Philosophy of Science and Technology series. Springer Verlag, 2009- Present.

Chair, Publication Committee, International Society for the History, Philosophy, and Social Studies of Biology, 2009-2011.

Consultant, Pocumtuck Valley Memorial Association, September 2008.

Course Co-organizer, "Embryos in Historical Context," ASU Seminar in the History of Biology at the Marine Biological Laboratory at Woods Hole, May 2008.

Past-President, International Society for the History, Philosophy, and Social Studies of Biology, 2005-2007.

President, International Society for the History, Philosophy, and Social Studies of Biology, 2003-2005.

Course Co-Director, "Perspectives on Molecular Evolution," Dibner Seminar in the History of Biology at the Marine Biological Laboratory at Woods Hole, May 2004.

Advisory Board, Electronic Scholarly Publishing, 2004-present.

President-Elect, International Society for the History, Philosophy, and Social Studies of Biology, 2001-2003.

Member, Program Committee for the 2001 meeting of International Society for the History, Philosophy, and Social Studies of Biology in New Haven, CT, 1999-2001.

Member, Oversight Committee, International Society for the History, Philosophy, and Social Studies of Biology, 2000-2001.

Chair, Program Committee for the 1999 meeting of International Society for the History, Philosophy, and Social Studies of Biology in Oaxaca, Mexico, 1997-1999.

Executive Committee, International Society for the History, Philosophy, and Social Studies of Biology, 1990-2, 1997-1999, 1999-2001.

Advisory Board, Explorit Science Center, Davis, CA, 1996-1998.

### **Community Service**

Town Meeting Member, Elected, Precinct 5, Amherst, MA, 2013-2014, 2015-2017.

Volunteer, Rivers of Steel, Carrie Furnace, Rankin, PA, 2020-present.

### **Referee or Reviewer**

<i>Acta Biotheoretica</i>	<i>Journal of the History of Biology</i>
<i>American Art</i>	<i>Kairos: A Journal of Philosophy and Science</i>
American Association for the Advancement of Science	<i>Microbiology and Molecular Biology Review</i>
American Philosophical Society	MIT Press
<i>Archives of Natural History</i>	<i>Mitochondrial DNA Part A</i>
<i>Berichte zur Wissenschaftsgeschichte</i>	National Science Foundation
<i>Biological Reviews</i>	<i>Nature Reviews Genetics</i>
<i>Biological Theory</i>	<i>Oxford Bibliographies</i>
<i>Biology and Philosophy</i>	Oxford University Press
<i>BioSocieties</i>	<i>Perspectives on Science</i>
Blackwell Publishing	Philadelphia Area Consortium for the History of Science
<i>British Journal for the History of Science</i>	<i>Philosophical Psychology</i>
<i>British Journal for the Philosophy of Science</i>	<i>Philosophy of Science</i>
Cambridge University Press	<i>Philosophy, Theory, and Practice in Biology</i>
<i>Centaurus</i>	Princeton University Press
Columbia University Press	The Research Council of Norway
<i>Development</i>	Research Foundation Flanders
<i>Dynamis: Acta Hispanica ad Medicinae Scientiarumque Historiam Illustrandam</i>	<i>Science in Context</i>
Enslow Publishers	Social Science and Humanities Research Council of Canada
<i>Entomologia Experimentalis et Applicata</i>	<i>Social Studies of Science</i>
<i>Evolutionary Anthropology</i>	Springer
The Field Museum of Natural History	Stanford University Press
<i>Genetics</i>	<i>Studies in the History and Philosophy of Science, C</i>
Harvard University Press	<i>Studies in History and Philosophy of the Natural Sciences</i>
<i>Headache: The Journal of Head and Face Pain</i>	<i>Synthese</i>
<i>História, Ciências, Saúde - Manguinhos</i>	<i>Teaching Philosophy</i>
<i>Historical Studies in the Natural Sciences</i>	University of California Press
<i>History and Philosophy of the Life Sciences</i>	University of Chicago Press
<i>History of the Human Sciences</i>	University of Pittsburgh Press
<i>Human Genetics</i>	University of Washington Press
Humanities in the European Research Area	University Press of New England
<i>Isis</i>	The Wellcome Trust
<i>Journal of Biosciences</i>	World Book Encyclopedia
<i>Journal of Experimental Zoology Part B: Molecular and Developmental Evolution</i>	

### **Membership in Professional Organizations**

American Association for the Advancement of Science  
 History of Science Society  
 International Society for the History, Philosophy, and Social Studies of Biology  
 Philosophy of Science Association  
 Sigma Xi

**REFERENCES** available upon request.