

# David Danks

## *Curriculum Vitae*

### Contact Information

Department of Philosophy  
161 Baker Hall  
Carnegie Mellon University  
Pittsburgh, PA 15213

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*Web:* <http://www.hss.cmu.edu/philosophy/faculty-danks.php>

*Country of citizenship:* United States

### Academic Career

Carnegie Mellon University	
Professor of Philosophy & Psychology	2014 -
Head, Department of Philosophy	2014 -
Associate Professor of Philosophy & Psychology	2008 - 2014
Assistant Professor of Philosophy	2003 - 2008

#### *Associate & Adjunct appointments:*

Center for Philosophy of Science, University of Pittsburgh	
Associate fellow	2005 -
Center for Advanced Study of Language, University of Maryland	
Adjunct member	2008 -
Center for the Neural Basis of Cognition, Carnegie Mellon University	
Member	2014 -
Department of History & Philosophy of Science, University of Pittsburgh	
Adjunct faculty	2014 -

#### *Past appointments:*

Florida Institute for Human & Machine Cognition (UARI with Univ. of Florida system)	
Research Scientist	2001 - 2012
Philosophy Dept., Colorado College	
Visiting Assistant Professor (2 courses)	2002 - 2003

### Education

University of California, San Diego (La Jolla, Calif.)	
Philosophy Department (Ph.D., 6/2001; M.A., 12/1999)	1996 - 2001
Carnegie Mellon University (Pittsburgh, Pa.)	
Logic, Computation, and Methodology (visiting graduate student)	1998 - 1999
Princeton University (Princeton, N.J.)	
Major: Philosophy (A.B. <i>cum laude</i> , 5/1996)	1992 - 1996

## Publications

### Book:

- [1] Danks, D. (2014). [\*Unifying the mind: Cognitive representations as graphical models\*](#). Cambridge, MA: The MIT Press.
- Reviewed in [\*Notre Dame Philosophical Reviews\*](#) by Steven Horst (2014)

### Journal articles and book chapters:

- [37] Danks, D. (in press). Causal search, causal modeling, and the folk. In J. Sytma & J. W. Buckwalter (Eds.), *Blackwell companion to experimental philosophy*. Oxford: Wiley Blackwell.
- [36] Danks, D. (in press). Goal-dependence in (scientific) ontology. *Synthese*.
- [35] Danks, D. (in press). [A modern Pascal's wager for mass electronic surveillance](#). *Telos*.
- [34] Danks, D., & Danks, J. H. (in press). [Beyond machines: Humans in cyber operations, espionage, and conflict](#). In F. Allhoff, A. Henschke, & B. J. Strawser (Eds.), *Binary bullets: The ethics of cyberwarfare*. Oxford: Oxford University Press.
- [33] Danks, D., & Harrell, M. (in press). Chaos, causation, and describing dynamics. In C. K. Waters (Ed.), *Causal reasoning in biology*. Minneapolis: University of Minnesota Press.
- [32] Danks, D. (2014). [Learning](#). In K. Frankish & W. M. Ramsey (Eds.), *Cambridge handbook to artificial intelligence* (pp. 151-167). Cambridge: Cambridge University Press.
- [31] Danks, D., Rose, D., & Machery, E. (2014). [Demoralizing causation](#). *Philosophical Studies*, 171(2), 251-277.
- [30] Kummerfeld, E., & Danks, D. (2014). [Model change and methodological virtues in scientific inference](#). *Synthese*, 191(12), 2673-2693.
- [29] Danks, D. (2013). [Functions and cognitive bases for the concept of actual causation](#). *Erkenntnis*, 78(1), 111-128. DOI: 10.1007/s10670-013-9439-2
- [28] Danks, D., & Danks, J. H. (2013). [The moral permissibility of automated responses during cyberwarfare](#). *Journal of Military Ethics*, 12(1), 18-33.
- [27] Mayo-Wilson, C., Zollman, K., & Danks, D. (2013). [Wisdom of crowds vs. groupthink: Learning in groups and in isolation](#). *International Journal of Game Theory*, 42(3), 695-723.
- [26] Rose, D., & Danks, D. (2013). [In defense of a broad conception of experimental philosophy](#). *Metaphilosophy*, 44(4), 512-532.
- [25] Danks, D. (2012). Human causal learning. In N. Seel (Ed.), *Encyclopedia of the sciences of learning*. Springer.
- [24] Rose, D., & Danks, D. (2012). [Causation: Empirical trends and future directions](#). *Philosophy Compass*, 7(9), 643-653.
- [23] Danks, D., & Eberhardt, F. (2011). Integration in both directions: The need for an account of algorithmic rationality [Commentary]. *Brain & Behavioral Sciences*, 34, 197.
- [22] Eberhardt, F., & Danks, D. (2011). [Confirmation in the cognitive sciences: The problematic case of Bayesian models](#). *Minds and Machines*, 21(3), 389-410.
- [21] Mayo-Wilson, C., Zollman, K., & Danks, D. (2011). [The independence thesis: When individual and](#)

- [social epistemology diverge](#). *Philosophy of Science*, 78(4), 653-677.
- [20] Danks, D. (2010). Not different kinds, just special cases [Commentary]. *Behavioral and Brain Sciences*, 33(2/3), 208-209.
- [19] Danks, D., Fancsali, S., Glymour, C., & Scheines, R. (2010). Comorbid science? [Commentary]. *Behavioral and Brain Sciences*, 33(2/3), 153-155.
- [18] Danks, D., & Rose, D. (2010). Diversity in representations, uniformity in learning [Commentary]. *Behavioral and Brain Sciences*, 33, 90-91.
- [17] Glymour, C., Danks, D., Glymour, B., Eberhardt, F., Ramsey, J., Scheines, R., Spirtes, P., Teng, C. M., & Zhang, J. (2010). [Actual causation: A stone soup essay](#). *Synthese*, 175(2), 169-192.
- [16] Ramapriyan, H., Isaac, D., Yang, W., Bonnlander, B., & Danks, D. (2010). An intelligent archive testbed incorporating data mining. In L. Di & H. K. Ramapriyan (Eds.), *Standard-based data and information systems for earth observations* (pp. 165-188). Berlin: Springer-Verlag.
- [15] Danks, D. (2009). [The psychology of causal perception and reasoning](#). In H. Beebe, C. Hitchcock, & P. Menzies (Eds.), *Oxford handbook of causation* (pp. 447-470). Oxford: Oxford University Press.
- [14] Danks, D., & Eberhardt, F. (2009). [Conceptual problems in statistics, testing and experimentation](#). In J. Symons & F. Calvo (Eds.), *Routledge companion to the philosophy of psychology* (pp. 214-230). New York: Routledge.
- [13] Danks, D., & Eberhardt, F. (2009). [Explaining norms and norms explained](#) [Commentary]. *Behavioral and Brain Sciences*, 32 (1), 86-87.
- [12] Wimberly, F., Danks, D., Glymour, C., & Chu, T. (2009). [Problems for structure learning: Aggregation and computational complexity](#). In S. Das, S. M. Welch, D. Caragea, & W. H. Hsu (Eds.), *Computational methodologies in gene regulatory networks* (pp. 310-332). Hershey, PA: IGI Global Publishing.
- [11] Danks, D. (2008). [Rational analyses, instrumentalism, and implementations](#). In N. Chater & M. Oaksford (Eds.), *The probabilistic mind: Prospects for Bayesian cognitive science* (pp. 59-75). Oxford: Oxford University Press.
- [10] Jantzen, B., & Danks, D. (2008). [Biological codes and topological causation](#). *Philosophy of Science*, 75, 259-277.
- [9] Townsend, K. A., Wollstein, G., Danks, D., Sung, K. R., Ishikawa, H., Kagemann, L., Gabriele, M. L., & Schuman, J. S. (2008). Heidelberg Retina Tomography III machine learning classifiers for glaucoma detection. *British Journal of Ophthalmology*, 92, 814-818.
- [8] Danks, D. (2007). [Causal learning from observations and manipulations](#). In M. C. Lovett & P. Shah (Eds.), *Thinking with data* (pp. 359-388). New York: Lawrence Erlbaum Associates.
- [7] Danks, D. (2007). [Theory unification and graphical models in human categorization](#). In A. Gopnik & L. Schulz (Eds.), *Causal learning: Psychology, philosophy, and computation* (pp. 173-189). Oxford: Oxford University Press.
- [6] Glymour, C., & Danks, D. (2007). [Reasons as causes in Bayesian epistemology](#). *Journal of Philosophy*, 104(9), 464-474.
- [5] Scheines, R., Easterday, M., & Danks, D. (2007). Teaching the normative theory of causal reasoning. In A. Gopnik & L. Schulz (Eds.), *Causal learning: Psychology, philosophy, and computation*

(pp. 119-138). Oxford: Oxford University Press.

- [4] Danks, D. (2005). [Scientific coherence and the fusion of experimental results](#). *The British Journal for the Philosophy of Science*, 56, 791-807.
- [3] Danks, D. (2005). [The supposed competition between theories of human causal inference](#). *Philosophical Psychology*, 18 (2), 259-272.
- [2] Gopnik, A., Glymour, C., Sobel, D. M., Schulz, L. E., Kushnir, T., & Danks, D. (2004). [A theory of causal learning in children: Causal maps and Bayes nets](#). *Psychological Review*, 111 (1), 3-32.
- [1] Danks, D. (2003). [Equilibria of the Rescorla-Wagner model](#). *Journal of Mathematical Psychology*, 47, 109-121.

*Peer-reviewed conference proceedings:*

- [24] Danks, D., & Plis, S. (in press). [Learning causal structure from undersampled time series](#). In *JMLR: Workshop and Conference Proceedings*.
- [23] Wellen, S., & Danks, D. (2014). [Learning with a purpose: The influence of goals](#). In P. Bello, M. Guarini, M. McShane, & B. Scassellati (Eds.), *Proceedings of the 36<sup>th</sup> annual conference of the cognitive science society* (pp. 1766-1771). Austin, TX: Cognitive Science Society.
- [22] Kummerfeld, E., & Danks, D. (2013). [Tracking time-varying graphical structure](#). In C.J.C. Burges, L. Bottou, M. Welling, Z. Ghahramani, & K.Q. Weinberger (Eds.), *Advances in neural information processing systems 26*. La Jolla, CA: The NIPS Foundation.
- [21] Danks, D. (2013). [Moving from levels & reduction to dimensions & constraints](#). In M. Knauff, M. Pauen, N. Sebanz, & I. Wachsmuth (Eds.), *Proceedings of the 35<sup>th</sup> annual conference of the cognitive science society* (pp. 2124-2129). Austin, TX: Cognitive Science Society.
- [20] Nevins, J. E., Danks, D., Wollstein, G., Ishikawa, H., Kagemann, L., Sigal, I. A., & Schuman, J. S. (2013). Machine classifier clustering of ocular structure measurements poorly corresponds with longitudinal functional performance in glaucoma. *Association for Research in Vision and Ophthalmology (ARVO) 2013*.
- [19] Wellen, S., & Danks, D. (2012). Actor-observer asymmetries in judgments of intentional actions. In N. Miyake, D. Peebles, & R. P. Cooper (Eds.), *Proceedings of the 34<sup>th</sup> annual conference of the cognitive science society* (pp. 2523-2528). Austin, TX: Cognitive Science Society.
- [18] Wellen, S., & Danks, D. (2012). [Learning causal structure through local prediction-error learning](#). In N. Miyake, D. Peebles, & R. P. Cooper (Eds.), *Proceedings of the 34<sup>th</sup> annual conference of the cognitive science society* (pp. 2529-2534). Austin, TX: Cognitive Science Society.
- [17] Tillman, R. E., Danks, D., & Glymour, C. (2008). [Integrating locally learned causal structures with overlapping variables](#). In D. Koller, D. Schuurmans, Y. Bengio, & L. Bottou (Eds.), *Advances in neural information processing systems 21* (pp. 1665-1672). La Jolla, CA: The NIPS Foundation.
- [16] Nichols, W., & Danks, D. (2007). [Decision making using learned causal structures](#). In D. S. McNamara & J. G. Trafton (Eds.), *Proceedings of the 29th annual meeting of the cognitive science society* (pp. 1343-1348). Austin, TX: Cognitive Science Society.
- [15] Townsend, K. A., Wollstein, G., Danks, D., Sung, K., Ishikawa H., Kagemann, L., Gabriele, M. L., & Schuman, J. S. (2007). Heidelberg Retina Tomography 3 machine learning classifiers for glaucoma detection. *Association for Research in Vision and Ophthalmology (ARVO) 2007*.

- [14] Zhu, H., & Danks, D. (2007). [Task influences on category learning](#). In D. S. McNamara & J. G. Trafton (Eds.), *Proceedings of the 29th annual meeting of the cognitive science society* (pp. 1677-1682). Austin, TX: Cognitive Science Society.
- [13] Danks, D. (2006). [\(Not\) learning a complex \(but learnable\) category](#). In R. Sun & N. Miyake (Eds.), *Proceedings of the 28th annual meeting of the cognitive science society* (pp. 1186-1191). Mahwah, NJ: Lawrence Erlbaum Associates.
- [12] Danks, D., & Schwartz, S. (2006). [Effects of causal strength on learning from biased sequences](#). In R. Sun & N. Miyake (Eds.), *Proceedings of the 28th annual meeting of the cognitive science society* (pp. 1180-1185). Mahwah, NJ: Lawrence Erlbaum Associates.
- [11] Ramapriyan, H. K., Isaac, D., Yang, W., Bonnländer, B., & Danks, D. (2006). An intelligent archive testbed incorporating data mining lessons and observations. In *Proceedings of the IEEE geoscience and remote sensing symposium* (pp. 3482-3485).
- [10] Danks, D., & Schwartz, S. (2005). [Causal learning from biased sequences](#). In B. G. Bara, L. Barsalou, & M. Bucciarelli (Eds.), *Proceedings of the 27th annual meeting of the cognitive science society* (pp. 542-547). Mahwah, NJ: Lawrence Erlbaum Associates.
- [9] Bunch, L., Breedy, M., Bradshaw, J. M., Carvalho, M., Danks, D., & Suri, N. (2004). Flexible automated monitoring and notification for complex processes. In F.-Y. Wang (Ed.), *Proceedings of the IEEE international conference on networking, sensing, and control* (pp. 443-448). Tucson, AZ.
- [8] Danks, D. (2004). [Constraint-based human causal learning](#). In M. Lovett, C. Schunn, C. Lebiere, & P. Munro (Eds.), *Proceedings of the 6th international conference on cognitive modeling (ICCM-2004)* (pp. 342-343). Mahwah, NJ: Lawrence Erlbaum Associates.
- [7] Danks, D., Glymour, C., & Spirtes, P. (2003). The computational and experimental complexity of gene perturbations for regulatory network search. In W. H. Hsu, R. Joehanes, and C. D. Page (Eds.), *Proceedings of IJCAI workshop on learning graphical models for computational genomics* (pp. 22-31).
- [6] Danks, D., Griffiths, T. L., & Tenenbaum, J. B. (2003). [Dynamical causal learning](#). In S. Becker, S. Thrun, & K. Obermayer (Eds.), *Advances in neural information processing systems 15* (pp. 67-74). Cambridge, MA: MIT Press.
- [5] Hewett, R., & Danks, D. (2003). Integration of learning with probabilistic and compact relational models. In *Proceedings of the 3rd predictive methods conference*. Newport Beach, CA.
- [4] Kushnir, T., Gopnik, A., Schulz, L. E., & Danks, D. (2003). [Inferring hidden causes](#). In R. Alterman & D. Kirsh (Eds.), *Proceedings of the 25th annual meeting of the cognitive science society* (pp. 699-703). Boston: Cognitive Science Society.
- [3] Danks, D. (2002). [Learning the causal structure of overlapping variable sets](#). In S. Lange, K. Satoh, & C. H. Smith (Eds.), *Discovery science: Proceedings of the 5th international conference* (pp. 178-191). Berlin: Springer-Verlag.
- [2] Danks, D., & Glymour, C. (2001). Linearity properties of Bayes nets with binary variables. In J. Breese & D. Koller (Eds.), *Uncertainty in artificial intelligence: Proceedings of the 17th conference (UAI-2001)* (pp. 98-104). San Francisco: Morgan Kaufmann.
- [1] Wheeler, W., Danks, D., Ramsey, J., Scheines, R., Smith, J., & Thompson, A. (2001). Developing and deploying online courses with Jcourse. In *Proceedings of the association of the advancement of computing in education (AACE)*.

Book reviews and technical reports:

- [4] Danks, D. (in press). Review of *The mind in nature* (C. B. Martin). *The Review of Metaphysics*.
- [3] Danks, D. (2014). Review of *Perception, causation, & objectivity* (J. Roessler, H. Lerman, & N. Eilan, Eds.). *Mind*, 123(490), 635-639.
- [2] Danks, D. (2005). Review of *Natural-born cyborgs: Minds, technologies, and the future of human intelligence* (A. Clark). *Philosophical Psychology*, 18 (3), 383-387.
- [1] Danks, D. (2002). Review of *Graphical models: Foundations of neural computation* (M. I. Jordan & T. J. Sejnowski, Eds.). *Pattern Analysis and Applications*, 5 (4), 401-402.
- [5] Kummerfeld, E., & Danks, D. (2010). Online causal structure learning. Technical report CMU-PHIL-189. December 9, 2010.
- [4] Mayo-Wilson, C., Zollman, K., & Danks, D. (2010). Wisdom of the crowds vs. Groupthink: Learning in groups and in isolation. Technical report CMU-PHIL-188. November 30, 2010.
- [3] Chu, T., Danks, D., & Glymour, C. (2005). Data-driven methods for nonlinear Granger causality: Climate teleconnection mechanisms. Technical report CMU-PHIL-171. June 7, 2005.
- [2] Danks, D. (2004). Psychological theories of categorization as probabilistic models. Technical report CMU-PHIL-157. July 15, 2004.
- [1] Danks, D. (2003). Learning integrated structure from distributed databases with overlapping variables. Technical report CMU-PHIL-149. October 28, 2003.

**Professional Presentations**

80 professional presentations to date (25 peer-reviewed; 55 invited); full list available upon request

**Fellowships, Awards, and Grants**

External:

<i>Center for Causal Modeling and Discovery of Biomedical Knowledge from Big Data</i> National Institutes of Health \$1,682,229 (CMU theory group total) for four years [co-I. with C. Glymour & P. Spirtes]	2014-18
<i>Learning Causal Structure from Complex Time Series Data</i> National Science Foundation \$217,497 (CMU total) for three years [co-P.I. with S. Plis (Mind Research Network)]	2013-16
<i>Integrating Causal Cognition, Concepts, and Decision-making</i> James S. McDonnell Foundation Scholar Award \$600,000 (direct costs) for six years [sole P.I.]	2008-14
<i>Case Studies of Causal Discovery with Model Search</i> National Science Foundation \$45,000 (total) for one year [co-P.I. with R. Scheines]	2012-13

<i>Causal learning: Computational Learning Mechanisms and Cognitive Development</i>	2005-10
James S. McDonnell Foundation Collaborative Initiative	
\$2.25 million (direct costs) for five years [one of 12 core members (Lead: A. Gopnik)]	
<i>The Bayesian Network Lens</i>	2002-03
James S. McDonnell Foundation grant	
\$49,615 (direct costs) for one year [sole P.I.]	

Internal:

Wimmer Faculty Fellow (one of four)	2007
Travel grant from Berkman Faculty Development Fund to attend	2004
2004 International Congress of Psychology (\$2,511, direct costs)	
<i>Building Webs of Causal Knowledge</i> (CMU Falk fellowship)	2003-05
\$3,840 (direct costs) [sole P.I.]	
UCSD Philosophy Department Dissertation Fellowship	2000-01
UCSD Humanities Research Fellowship	1996-97

**Professional Service**

Internal to CMU:

Director, Laboratory for Empirical Approaches to Philosophy (LEAP)	2006-present
Faculty advisory committee, Institute for Strategic Analysis	2014-present
Advisory group, Center for the Arts in Society	2014-present
Advisory committee ( <i>ex officio</i> ), Humanities Center	2014-present
Director of Graduate Studies, Philosophy Department	2009-2014
(sabbatical in 2011-2012)	
Budget and Financial Affairs committee	2009-2014
(sabbatical in 2011-2012)	
Institutional Review Board	Member: 2004-2014
(sabbatical in 2011-2012)	Chair: 2009-2014
Summer School in Logic and Formal Epistemology	Instructor: 2006-08, 14
	Co-director: 2008-2011
Faculty Senate	Senator from Philosophy: 2008-2011
	Member-at-large of Executive Committee: 2008-2010
University Education Committee	Vice-Chair: 2010-2011
Graduate Student Teaching Award selection committee	2010
Director of Graduate Admissions, Philosophy Department	2006-2009
Member, Organizing committee for Humanities Lecture Series	2007-2008

External:

Advisory Board ( <i>ex officio</i> ), Center for Philosophy of Science (Pitt)	2014-present
Consultant, Foundation for Innovative New Diagnostics	2012-present
Advisory Board, Understanding Human Cognition program, James S. McDonnell Foundation	2010-present

Editorial Board, <i>Minds &amp; Machines</i>	2010-present
Nominating Editor, <i>The Philosopher's Annual</i>	2008-present
Instructor, North American Summer School in Logic, Language, & Information	2014
Commentator for James Woodward, UNC-Chapel Hill Colloquium	2011
Academic appraisal consultant (i.e., Advisory board member) Cognitive Science, Carleton University (Ottawa, Canada)	2010
Commentator, 9 <sup>th</sup> Pitt-CMU Graduate Student Philosophy Conference	2007

#### Workshop & Symposium organization:

- Co-organizer of workshop on “Case Studies of Causal Discovery with Model Search” (Oct. 25-27, 2013)
- Organizer of Special Session at 2012 AI & Mathematics conference on “Causal Learning from Complex Data Structures” (Jan. 9-11, 2012)
- Organizer of Symposium at 2009 Eastern Psychological Association Annual Meeting on “Causal Reasoning and Decision-Making” (March 5-8, 2009)
- Organizer of Workshop for McDonnell Causal Learning Collaborative on “Problems of Variable Definition and Selection” (Nov. 5-6, 2008)
- Organizer and Moderator for Symposium at 2007 James S. McDonnell Foundation Annual Program Meeting on “Worth a thousand words? The ups and downs of using photos, film, and the outputs from imaging tools as primary data” (June 4-6, 2007)
- Co-organizer of Workshop at NIPS-2004 on “Structured Data and Representations in Probabilistic Models for Categorization” (Dec. 18, 2004)
- Organizer of Workshop on “Would the World Look Different if We Viewed It through a Bayes Net Lens” on behalf of the James S. McDonnell Foundation (Jan. 9-11, 2003)

#### Journal reviewing (multiple times for most):

*American Philosophical Quarterly; Applied Artificial Intelligence; Behavioural Processes; British Journal for Philosophy of Science; Canadian Journal of Experimental Psychology; Cognition; Cognitive Psychology; Cognitive Science; Connection Science; Dialectica; Episteme; European Journal for Philosophy of Science; European Review of Philosophy; International Journal of Intelligent Systems; Journal of Educational and Behavioral Statistics; Journal of Experimental Psychology: General; Journal of Experimental Psychology: Learning, Memory, Cognition; Journal of Machine Learning Research; Journal of Mathematical Psychology; Memory & Cognition; Mind; Minds & Machines; Philosophia Mathematica; Philosophical Psychology; Philosophy of Science; Proc. of the National Academy of Sciences (PNAS); Psychological Bulletin; Psychological Reports; Psychological Review; Psychological Science; Psychonomic Bulletin and Review; Studies in History and Philosophy of Science; Synthese; Thinking & Reasoning; Topics in Cognitive Science (TopiCS); Trends in Cognitive Science*

#### Grant proposal reviewing:

- National Science Foundation (4 programs: Perception, Action, & Cognition; Decision Risk & Management Science; Science, Technology, & Society; Cognitive Neuroscience)
- Varieties of Understanding research program (Templeton funded)
- Netherlands Organisation for Scientific Research (NWO)
- University of Crete

#### Conference reviewing:

- European Philosophy of Science Association (Program Committee: 2014-15)



Annual Conference of the Cognitive Science Society (2003-14; Program Committee: 2012-14)  
 “Models and Decisions” (6<sup>th</sup> Munich-Sydney-Tilburg conference, 2013; Program Committee)  
 Society for Philosophy & Psychology Conference (2009-10, 2012)  
 Neural Information Processing Systems (2005-10)  
 Philosophy of Science Association Biannual Meeting (Program Committee: 2009-10)  
 Conference on Uncertainty in Artificial Intelligence (2003; Program Committee: 2004-06)  
 Conference on Computing and Philosophy (2005; 07)  
 Pacific Symposium on Biocomputing (2004-05)  
 AAAI National Conference on Artificial Intelligence (2004)

## Teaching Experience

### Carnegie Mellon University

<i>Computational Models of Cognition (Graduate seminar)</i>	[F-09]
<i>Current Topics in Philosophy of Science (Graduate seminar)</i>	[F-07]
<i>Graphical Models in Cognitive Science (Graduate seminar)</i>	[S-06]
<i>Philosophical Foundations (Core graduate seminar)</i>	[S-08; S-09; S-10; F-12 & S-13]
<i>The Nature of Reason</i>	[F-04; F-08]
<i>Nietzsche</i>	[S-05; S-07; F-09; S-11; S-14]
<i>Normativity in Cognitive Psychology (Graduate seminar)</i>	[S-04]
<i>Philosophy and Psychology</i>	[S-04; S-06; S-07; F-08]
<i>Philosophy of Biology</i>	[S-05; S-08]
<i>Philosophy of Mind</i>	[F-03; F-04; F-05]
<i>Probability and Artificial Intelligence</i>	[F-07]
<i>Thinking about Thinking (Freshman seminar)</i>	[S-13]

### Colorado College

<i>Philosophy of Biology</i>	[S-03]
<i>Philosophy of Mind</i>	[F-02]

## Thesis Advising and Committee Participation

### Primary Advisor

Joanna Tamburino (M.S., Logic & Computation, 2004)  
 Thesis: *Emotional learning: How we implicitly learn to feel*

Benjamin Jantzen (M.A., Philosophy, 2006)  
 Thesis: *Biological codes: An explication via a formal extension of classical coding theory*

Kevin Jarrett (M.S., Logic & Computation, 2006)  
 Thesis: *Fine-grained selection communication and the hippocampus*

Huichun Zhu (M.S., Logic & Computation, 2006)  
 Thesis: *Effects of category application on category learning*

William Nichols (M.S., Logic, Computation, & Methodology, 2007)  
 Thesis: *Causal learning and decision making: An empirical approach*

Ari Klein (Undergraduate honors thesis, Philosophy, 2008)  
 Thesis: *Locke and Nietzsche: God as the distinction between two epistemological perspectives*

Daniel Malkiel (M.S., Logic, Computation, & Methodology, 2009)

Thesis: *Bandit problems in professional sports*

Jayna Bonfini (M.A., Philosophy, 2010)  
 Thesis: *Bottomed out: Grounding activities in causal perception*

Erich Kummerfeld (M.S., Logic, Computation, & Methodology, 2011)  
 Thesis: *Causal dynamism and causal epistemology: A tale of cars and fish*

David Rose (M.S., Logic, Computation, & Methodology, 2011)  
 Thesis: *Against the standard view of actual causation*

Patrick Beukema (M.S., Logic, Computation, & Methodology, 2011)  
 Thesis: *Causal inference with a recurrent neural network*

Conor Mayo-Wilson (Ph.D., Logic, Computation, & Methodology, 2012)  
 Thesis: *Combining causal theories and dividing scientific labor*

Stephen Fancsali (Ph.D., Logic, Computation, & Methodology, 2013; joint with R. Scheines)  
 Thesis: *Constructing variables that support causal inference*

David Zornik (M.S., Logic, Computation, & Methodology, 2013; joint with M. Simons)  
 Thesis: *Concept, definitions, and inheritance: Interpreting the atoms of lexical decomposition*

Adam Brodie (M.S., Logic, Computation, & Methodology, 2014)  
 Thesis: *Identifying endogenous latent causal structure under linearity and sparsity assumptions*

Patricia Rich (Ph.D., Logic, Computation, & Methodology, in progress; joint with K. Zollman)

Elizabeth Silver (Ph.D., Logic, Computation, & Methodology, in progress; joint with P. Spirtes)

Sarah Wellen (Ph.D., Logic, Computation, & Methodology, in progress)

Committee member / Second reader

Umit Guvenc (Ph.D., Engineering & Public Policy, 2005)

James Soto (M.S., Logic & Computation, 2005)

Francis Cartieri (Senior honors thesis, History & Philosophy of Science (Pitt), 2009)

Michael Freenor (M.S., Logic, Computation, & Methodology, 2009)

Conor Mayo-Wilson (M.S., Logic, Computation, & Methodology, 2009)

Arthur Tu (M.S., Logic, Computation, & Methodology, 2009)

Karin Howe (M.S., Logic, Computation, & Methodology, 2010)

Nathan Lubchenco (M.S., Logic, Computation, & Methodology, 2010)

James Tremblay (M.S., Logic, Computation, & Methodology, 2010)

Jonah Schupbach (Ph.D., History & Philosophy of Science (Pitt), 2011)

Rob Tillman (Ph.D., Logic, Computation, & Methodology, 2011)

Alex Davis (Ph.D., Social & Decision Sciences, 2012)

Ruth Poproski (Ph.D., Logic, Computation, & Methodology, 2012)

Alan Jern (Ph.D., Psychology, 2013)

Adam Brodie (Ph.D., Logic, Computation, & Methodology, in progress)

Michael Dacey (Ph.D., Philosophy-Neuroscience-Psychology (Wash U.), in progress)

Taku Iwatsuki (Ph.D., History & Philosophy of Science (Pitt), in progress)

Lei Jiang (Ph.D., History & Philosophy of Science (Pitt), in progress)

Erich Kummerfeld (Ph.D., Logic, Computation, & Methodology, in progress)

Joseph McCaffrey (Ph.D., History & Philosophy of Science (Pitt), in progress)

**Dissertation**

*The Epistemology of Causal Judgment*

Committee: Clark Glymour (chair; Philosophy, UCSD & CMU), Patricia Churchland

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### **Professional Organizations**

Cognitive Science Society  
Philosophy of Science Association  
Society for Philosophy & Psychology  
American Philosophical Association  
Association for Psychological Science