



Mark Povich

Assistant Professor

Department of Philosophy

532 Lattimore Hall

Rochester, New York 14627-0078

Email: [mapovich@gmail.com](mailto:mapovich@gmail.com) Phone: (314) 713-4769

## EDUCATION

*Ph.D., Philosophy-Neuroscience-Psychology*

Washington University in St. Louis, St. Louis, MO

May 2017

*B.A., Philosophy*

Washington University in St. Louis, St. Louis, MO

December 2010

## AREAS OF SPECIALIZATION

Philosophy of science, philosophy of psychology, philosophy of mind.

## AREAS OF COMPETENCE

Philosophy of mathematics, philosophy of neuroscience, logic, ethics.

## PUBLICATIONS

### Books

1. (Forthcoming). Povich, Mark. *Rules to Infinity: The Normative Role of Mathematics in Scientific Explanation*. Oxford University Press.

### Articles and Book Chapters

14. (Forthcoming). Povich, Mark. "Mechanistic Explanation in Psychology," in *The SAGE Handbook of Theoretical Psychology*. (Eds.) Hank Stam and Huib Looren de Jong.

13. (Forthcoming). Povich, Mark. "(A Little) Quantified Modal Logic for Normativists," *Analysis*.

12. (2024). Povich, Mark. "A Conventionalist Account of Distinctively Mathematical Explanation," *Philosophical Problems in Science (Zagadnienia Filozoficzne W Nauce)*, (74), 171–223.

<https://doi.org/10.59203/zfn.74.648>.

11. (2023). Povich, Mark. "A Scheme Foiled: A Critique of Baron's Account of Extra-mathematical Explanation," *Mind*, 132(526), 479–492. <https://doi.org/10.1093/mind/fzac019>.
10. (2021). Craver, Carl F., Stuart Glennan, and Mark Povich. "Constitutive Relevance and Mutual Manipulability Revisited," *Synthese*, 199, 8807–8828. <https://doi.org/10.1007/s11229-021-03183-8>. (Correction to: Constitutive relevance & mutual manipulability revisited. *Synthese* 199, 8829 (2021). <https://doi.org/10.1007/s11229-021-03248-8>.)
9. (2021). Povich, Mark. "Information and Explanation: An Inconsistent Triad and Solution," *European Journal for the Philosophy of Science*, 11(2), 43. <https://doi.org/10.1007/s13194-021-00368-3>
8. (2021). Povich, Mark. "The Narrow Ontic Counterfactual Account of Distinctively Mathematical Explanation," *British Journal for the Philosophy of Science*, 72(2), 511–543. <https://doi.org/10.1093/bjps/axz008>
7. (2020). Povich, Mark. "Modality and Constitution in Distinctively Mathematical Explanations," *European Journal for the Philosophy of Science*, 10(3), 28. <https://doi.org/10.1007/s13194-020-00292-y>
6. (2019). Povich, Mark. "Model-Based Cognitive Neuroscience: Multifield Mechanistic Integration in Practice," *Theory & Psychology*, 29(5), 640–656. <https://doi.org/10.1177/0959354319863880>
5. (2018). Povich, Mark. "Social Knowledge and Supervenience Revisited," *Erkenntnis*, 83, 1033–43. <https://doi.org/10.1007/s10670-017-9926-y>
4. (2018). Povich, Mark. "Minimal Models and the Generalized Ontic Conception of Scientific Explanation," *British Journal for the Philosophy of Science*, 69, 117–37. <https://doi.org/10.1093/bjps/axw019>
3. (2017). Craver, Carl F. and Mark Povich. "The Directionality of Distinctively Mathematical Explanations," *Studies in History and Philosophy of Science Part A*, 63, 31–8. <https://doi.org/10.1016/j.shpsa.2017.04.005>

2. (2017). Povich, Mark and Carl F. Craver. "Mechanistic Levels, Reduction, and Emergence," in *The Routledge Handbook of Mechanisms and Mechanical Philosophy*. (Eds.) Stuart Glennan and Phyllis Illari, 185–97.

1. (2015). Povich, Mark. "Mechanisms and Model-Based Functional Magnetic Resonance Imaging," *Philosophy of Science*, 82, 1035–46. <https://doi.org/10.1086/683438>

### Book Reviews

2. (Forthcoming). Povich, Mark. "Review of *Mechanisms in Science: Method or Metaphysics?* by Stavros Ioannidis and Stathis Psillos," *Philosophy of Science*. <https://doi.org/10.1017/psa.2023.84>

1. (2018). Povich, Mark and Carl F. Craver. "Review of Marc Lange's *Because Without Cause: Non-Causal Explanations in Science and Mathematics*," *Philosophical Review*, 127, 422–6.

<https://doi.org/10.1215/00318108-6718870>

### WORK IN PROGRESS

Povich, Mark and Burnston, Dan. "A Fully Inferentialist Account of Scientific Representation." Under review.

Povich, Mark. "Can There Be an Ontic Account of Distinctively Mathematical Explanation?" Under review.

Povich, Mark. "Linnebo on Sufficiency and Analyticity". Under review.

Povich, Mark. "Skirting Gödel: A Different Conventionalist Response to the Arithmetization of Syntax."

Povich, Mark. "An Expressivist Defense of Countermathematics".

Povich, Mark. "Semantic Independence: A Normativist Explanation of the Strength of Necessity".

Lee, Sangil, Mark Povich, Ryan Hoopes, Joel Myerson, and Leonard Green. "The Effect of Symbolic Information on Delay Discounting of Real Liquid Rewards".

## CONFERENCE TALKS AND PRESENTATIONS

“A Fully Inferentialist Account of Scientific Representation”. (with Dan Burnston). The International Society for the History, Philosophy, and Social Studies of Biology (ISHPSSB) conference in Toronto, Canada. July 9-15, 2023.

“A Fully Inferentialist Account of Scientific Representation”. (with Dan Burnston). The 5th Scientific Understanding and Representation (SURE) conference in Toronto, Canada. May 19-20, 2023.

“The Normative Role of Mathematics in Scientific Explanation”. Colloquium at University of Victoria. November 18, 2022.

“The Expressive Role of Mathematics in Scientific Explanation”. Colloquium at University of Rochester. April 23, 2021.

“A Normativist Account of Distinctively Mathematical Explanation”. 27<sup>th</sup> Biennial Meeting of the Philosophy of Science Association in Baltimore, MD. November 19-22, 2020. Rescheduled to November 14, 2021.

“Mechanistic Explanation in the Cognitive and Life Sciences”. Workshop on Compositional Explanation in Biology and the Neurosciences. Seton Hall University, South Orange, New Jersey. October 25-26, 2019.

“Models and Mechanisms in Cognitive Science”. Mechanisms in Indiana – A Roundtable and Workshop. Butler University, Indianapolis, Indiana. March 22-23, 2019.

“Comments on William D'Alessandro's 'Viewing-as Explanations and Ontic Dependence'.” American Philosophical Association Eastern Division Meeting in New York, NY. January 7-10, 2019.

“The Narrow Counterfactual Account of Distinctively Mathematical Explanation”. (Poster). 26<sup>th</sup> Biennial Meeting of the Philosophy of Science Association in Seattle, WA. November 1-4, 2018.

“The Directionality of Distinctively Mathematical Explanations” (co-authored with and presented by Carl Craver). Colloquium at Macquarie University, Sydney, Australia. October 24, 2017.

“Comments on Emily Prychitko’s ‘Establishing Constitutive Relevance in Mechanisms’.” The Society for Metaphysics of Science at Fordham University. October 5-7, 2017.

“Model and World: Generalizing the Ontic Conception of Scientific Explanation”. Colloquium at Washington University in St. Louis. April 13, 2017.

“Information and Explanation: An Inconsistent Triad”. (Poster). 25<sup>th</sup> Biennial Meeting of the Philosophy of Science Association in Atlanta, GA. November 3-5, 2016.

“Implications of Robustness for the Theory of Explanation”. (Poster). Robustness in Neurological Systems Conference, Center for Philosophy of Science, University of Pittsburgh. November 14, 2015.

“Accuracy and Explanation in Minimal Models”. Saint Louis Area Philosophy of Science Association (SLAPSA) conference in St. Louis, MO. February 28, 2015.

“Mechanisms and Model-Based fMRI”. 24<sup>th</sup> Biennial Meeting of the Philosophy of Science Association in Chicago, IL. November 7, 2014.

“The Effect of Symbolic Information on Delay Discounting of Real Liquid Rewards”. Sangil Lee, Mark A. Povich, Joel Myerson, and Leonard Green. (Poster). Society for the Quantitative Analyses of Behavior (SQAB) 36th Annual Meeting in Minneapolis, MN. May 23-25, 2013.

## **TEACHING EXPERIENCE**

### *Visiting Assistant Professor*

University of Rochester, Rochester, NY Fall 2020 – Spring 2021  
 Courses: Philosophy of Brain and Cognitive Science (Fall 2020); Logic (Fall 2020); Philosophy of Science (Fall 2020).

Tulane University, New Orleans, LA Fall 2019 – Spring 2020  
 Courses: Introduction to Philosophy (Fall 2019); Foundations of Cognitive Science (Fall 2019); Mind, Machines, and Experience (Spring 2020); Consciousness (Spring 2020).

*Lecturer*

Washington University in St. Louis, St. Louis, MO

Fall 2017 – Spring 2019

Courses: Present Moral Problems (Spring 2019); Great Philosophers (Fall 2017, Fall 2018); Introduction to Cognitive Science (Spring 2018, Fall 2018, Spring 2019); Philosophy of Scientific Reasoning (Spring 2018); Philosophy-Neuroscience-Psychology Reading Class on Behaviorism (Spring 2018); Inquiry into the Cognitive Sciences (Fall 2017).

*Graduate Teaching Assistant*

Washington University in St. Louis, St. Louis, MO

Fall 2012 – Spring 2016

Courses: Introduction to Cognitive Science; Philosophy of Language; Mind, Brain, and Behavior; Present Moral Problems; Problems in Philosophy.

**OTHER SERVICE AND ACTIVITY**

Refereeing: *Analysis, British Journal for the Philosophy of Science, Erkenntnis, Foundations of Science, Inquiry, Journal of Philosophy, Mind, Philosopher's Imprint, Philosophia Mathematica, Philosophical Psychology, The Philosophical Quarterly, Philosophical Studies, Philosophy of Science, Studies in History and Philosophy of Science, Synthese, Tereoma, Thought, TopiCS in Cognitive Science, Topoi.*

Member and researcher in Dr. Leonard Green's Behavioral Economics Laboratory, 2010–2018. My research investigated why humans exhibit a phenomenon called the amount effect (i.e., larger rewards are discounted less steeply), whereas nonhuman animals do not.

Graduate Student Senator (representative of the Philosophy-Neuroscience-Psychology Program to the Graduate Student Senate), Washington University in St. Louis, 2012–2016. Responsibilities included monthly meetings to discuss issues affecting graduate students, including healthcare and housing.

Coordinator of the PB&Joy Food Drive, a community service event of the Gephardt Institute for Civic and Community Engagement at Washington University in St. Louis, Spring 2014 and Spring 2015. I coordinated the location and pickup of a bin in which various goods could be donated.

Co-founder (with Christiane Merritt) of the Feminist Philosophy Reading Group, Washington University in St. Louis, 2013–2016. We met weekly to discuss readings in feminist philosophy. Past readings

included *Out from the Shadows: Analytical Feminist Contributions to Traditional Philosophy* and *Neurofeminism: Issues at the Intersection of Feminist Theory and Cognitive Science*.

Founding member of the Washington University in St. Louis chapter of Minorities and Philosophy (MAP) and COMPASS.

Volunteer for the Philosophy of Science Association's Women's Caucus.

Speaker at Marvin Elementary School's career day, April 2018 and April 2019.

Judge for the Graduate Research Symposium, Spring 2014 and Spring 2015.

Sustaining member of and volunteer for the St. Louis Workers' Education Society, a local 501(c)(3) nonprofit specializing in community-labor relations.

Philosophy Instructor in Washington University's Middle School Summer Challenge, 2019.

## **COURSEWORK**

### **Philosophy of Science**

Philosophy of Science; Conceptual Foundations of Modern Science; Advanced Philosophy of Science; Advanced Philosophy of Science – Causation Seminar; Philosophy of Neuroscience; Philosophy of Biological Science; Philosophy of Biology; Culture, Cognition, and Human Kinds.

### **Psychology and Neuroscience**

Human Evolutionary Psychology; Genes, Environment, and Human Behavior; Perception, Thought, and Action; Functional Neuroimaging Methods; Behavioral Psychology Reading Group; Research Designs and Methods; Retrieval Processes in Human Memory; Imagery and Memory; Advanced Cognitive Psychology; Advanced Cognitive, Computational, and Systems Neuroscience; Language and Cognitive Development; Introduction to Neuroethology; Culture and Environment; Biological Neural Computation; Introduction to the Cognitive Sciences.

### **Philosophy of Biology**

Human Evolutionary Psychology; Genes, Environment, and Human Behavior; Introduction to

Neuroethology; Culture and Environment; Philosophy of Biological Science; Philosophy of Biology; Culture, Cognition, and Human Kinds; Mind, Culture, and Evolution.

### **Philosophy of Mind**

Philosophy of Mind; Theories of Concepts; Self-Knowledge Seminar; Mind, Culture, and Evolution.

### **Feminist Philosophy**

Introduction to Sexuality Studies; Advanced Feminist Theory.

### **Ethics**

Normative Ethical Theories; 20<sup>th</sup> Century Metaethics.

### **MISCELLANEOUS**

Entries in the Online Encyclopedia of Integer Sequences: <https://oeis.org/A309983>,  
<https://oeis.org/A319556>.

### **REFERENCES**

#### **Carl Craver** (advisor)

Professor, Philosophy and Philosophy-Neuroscience-Psychology

Washington University in St. Louis

E-mail: [ccraver@wustl.edu](mailto:ccraver@wustl.edu)

Phone: 314-935-7146

#### **John Heil**

Professor, Philosophy

Washington University in St. Louis

E-mail: [jh@wustl.edu](mailto:jh@wustl.edu)

Phone: 314-935-5427

#### **Stuart Glennan**

Professor, Philosophy

Butler University

E-mail: [sglennan@butler.edu](mailto:sglennan@butler.edu)

Phone: 317-940-9890

#### **Anya Plutynski**

Associate Professor, Philosophy

Washington University in St. Louis

E-mail: [aplutyns@wustl.edu](mailto:aplutyns@wustl.edu)

#### **Paul Audi**

Associate Professor, Philosophy

University of Rochester

E-mail: [paul.audi@rochester.edu](mailto:paul.audi@rochester.edu)



Phone: 314-935-8036

Phone: 585-275-4105

**Marc Lange**

Theda Perdue Distinguished Professor, Department Chair, Philosophy  
University of North Carolina at Chapel Hill

E-mail: [mlange@email.unc.edu](mailto:mlange@email.unc.edu)

Phone: 919-962-3324