

# Heather Demarest

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## Areas of Specialization

Philosophy of Science, Metaphysics, and Philosophy of Physics

## Areas of Competence

Logic, Epistemology, and Philosophy of Language

## Employment

### University of Colorado, Boulder

Assistant Professor of Philosophy

2017-present

### University of Oklahoma

Assistant Professor of Philosophy

2013-2017

## Education

### Rutgers University

2013

PhD in Philosophy

Dissertation: *A Theory of Laws, Dispositions, and Chances*

Advisor: Barry Loewer

Committee: Jonathan Schaffer, Branden Fitelson, and Jenann Ismael

### Oxford University

2007

BPhil in Philosophy

Advisors: Timothy Williamson and John Hawthorne

### University of Colorado, Boulder

2004

BA in Philosophy, *Phi Beta Kappa, summa cum laude* with Allan Franklin

BA in Physics, *summa cum laude* with Noah Finkelstein

Minor in Mathematics

## Publications

“Humean Laws” with Isaac Wilhelm

*forthcoming*

*Philosophers’ Imprint*

“Laws of Nature in a Timeless, Holographic Universe” with Thomas Hertog

*forthcoming*

*Interface Focus*

“A New Metaphysics: Relativity, Time, and Causation”

*forthcoming*

In *Astronomy and Philosophy: Conceptual and Methodological Foundations*,

- Cambridge University Press, ed. Steven Dick
- “Persisting Despite the Relativistic Odds” 2025  
*Australasian Journal of Philosophy*, 1–16. doi.org/10.1080/00048402.2025.2517256
- “How (Not) to be a Pragmatic Humean” 2025  
*Synthese*, 205:168.
- “Time and Special Relativity” 2025  
 In *Routledge Companion to the Philosophy of Time*, chapter 30,  
 Francis, ed., Nina Emery
- “Reply to Root-Bernstein: Increasing complexity allows for the pervasiveness of low- 2024  
 complexity entities and is not anthropocentric,” with Michael Wong, Robert Hazen  
 Hazen, Carol Cleland, Jonathan Lunine, Stuart Bartlett, Henderson Cleaves, and  
 Anirudh Prabhu  
*Proceedings of the National Academy of Sciences* doi/10.1073/pnas.2406598121
- “On the Roles of Function and Selection in Evolving Systems,” with Michael Wong, 2023  
 Robert Hazen, Carol Cleland, Jonathan Lunine, Stuart Bartlett, Henderson Cleaves,  
 Anirudh Prabhu, and Daniel Arends Jr  
*Proceedings of the National Academy of Sciences* **120**(43): e2310223120
- “Generalizing the Problem of Humean Undermining” with Elizabeth Miller 2023  
 In *Humean Laws for Humean Agents*, Oxford University Press, eds., Michael Townsen Hicks,  
 Siegfried Jaag, and Christian Loew
- “Isolation, Not Locality,” with Michael Townsen Hicks 2021  
*Philosophy and Phenomenological Research*, **103**: 607–619.
- “Mentaculus Laws and Metaphysics” 2019  
*Principia* **23**(3): 387–399.
- “Similarity and Enjoyment Predict Continuation for Women in Philosophy” 2017  
*Analysis*, **77**(3): 525–541.
- “Powerful Properties, Powerless Laws” 2017  
 In *Causal Powers*, Oxford University Press, ed., Jonathan Jacobs.
- “Fission May Kill You (But Not for the Reasons You Thought)” 2016  
*Philosophy and Phenomenological Research*, **93**(3): 565–582.
- “The Universe Had One Chance” 2016  
*Philosophy of Science*, **83**(2): 248–264.
- “Fundamental Properties and the Laws of Nature” 2015  
*Philosophy Compass*, **10**(5): 334–344.
- “Do Counterfactuals Ground the Laws? A Critique of Lange” 2012  
*Philosophy of Science*, **79**(3): 333–344.

*Review: "Laws of Nature"* (2018) eds. Walter Ott and Lydia Patton, Oxford University Press 2018  
*Notre Dame Philosophical Reviews.*

## Presentations

- "Macrostates, Natural Kinds, and Statistical Mechanics"  
*Colloquium* University of Illinois, Urbana-Champaign 2026  
*Lecture* National University of Singapore 2025  
*Colloquium*, University of California, Irvine 2025  
*Natural Philosophy Seminar*, Johns Hopkins University 2025  
*Mini Workshop on Information, Selection, and Evolution*, Carnegie Institution, Washington DC 2025
- "Resisting the Second Law of Thermodynamics"  
*LanCog Metaphysics Workshop*, University of Lisbon 2025
- "Bringing the Mentaculus to Life"  
*Barryfest*, Rutgers University 2025  
*SPAWN Workshop: Laws of Nature*, Syracuse University 2023
- "Characterizing Complexity"  
*Jowett Society Lecture*, Oxford University 2025  
*Metaphysics Workshop*, Princeton University 2025
- "What is a Law of Nature and Do We Need Another One?"  
*Workshop on Information, Selection, and Evolution*, Carnegie Institution, Washington DC 2024
- "Personal Identity and Coherence in Spacetime"  
*Workshop on Mind and Value*, Cornell University 2024
- "A Time-Asymmetric Law of Increasing Complexity"  
*International Association for the Philosophy of Time*, Lugano, Switzerland 2024
- "Complexity, Entropy, and the Direction of Time"  
*Philosophy of Time Naturalized*, Wake Forest University 2024
- "Potency Best Systems and the Generation of New Powers"  
*Powers, Processes, and Persistence*, University of Siegen, Germany 2024
- "Low Probability, Surprisingness, and Anomalies"  
*Rethinking Anomalies in Science*, University of Pittsburgh 2023
- "Ontology for the Best System"  
*Humeanism Conference*, Johns Hopkins University 2023
- "Are the Laws of Nature Useful?"  
*Laws of Nature, Explanation, and Understanding Conference*, North Carolina State University 2022

- “Persisting Against the (Spatiotemporal) Odds”  
*Colloquium*, University of Massachusetts, Amherst 2022  
*International Association for the Philosophy of Time 7th Annual Conference*, Barcelona 2022
- “Does Complexity Require a Temporally Asymmetric Law?”  
*Workshop on Complexity and Time*, Carnegie Institution for Science, Washington DC 2022
- “Against Pragmatic Humean Accounts of Laws”  
*Society for the Metaphysics of Science* (online) 2021
- “Relativistic Causation”  
*Causation, Modality, and Explanation*, Simon Fraser University (online) 2020
- “Mentaculus Counterfactuals” with Elizabeth Miller  
*Workshop on Humeanism*, Harvard University 2019
- “Flowing Alone”  
*Workshop on Time and Explanation*, CPT and FraMEPhys, Milan 2018
- Comments on Casey McCoy’s, “The Universe Never Had a Chance: A Critique of Demarest”  
*Fourth Annual Conference*, Society for the Metaphysics of Science, Milan 2018
- “Nonlocal Science” with Michael Townsend Hicks  
*Conference on History and Metaphysics of Laws*, Central European University, Budapest 2018
- “Relativistic Persons: What special and general relativity can tell us about who we are”  
*Morris Colloquium: The Self and Its Realizations*, University of Colorado, Boulder 2018
- “Women in Philosophy”  
*Colorado Summer Seminar in Philosophy*, University of Colorado 2017–2021, 2023–2024
- “In Defense of a Modal Best System”  
*International Workshop: Properties and Laws*, University of Dusseldorf 2018
- “Consequences of Relativistic Frame-Dependence”  
*Pacific APA* 2018  
*Colloquium*, Center for Philosophy of Time, Milan 2018  
*Metro Area Philosophers of Science*, New York University 2017
- “Special Relativity and Consciousness”  
*Undergraduate Philosophy Club*, University of Colorado, Boulder 2017
- “It Matters how You Slice it: Special Relativity and Causation”  
*1st New England Workshop on Philosophy of Time*, Rhode Island College 2017  
*Mentoring Workshop for Pre-tenure Women Faculty in Philosophy*, University of Utah 2017
- Panel on Time and Causation  
*International Association for the Philosophy of Time*, Wake Forest University, NC 2016
- “What is Bad About the Lack of Diversity in Philosophy? Implicit Bias and Efforts  
to Recruit and Retain Philosophers from Underrepresented Groups”

<i>13<sup>th</sup> Northwest Student Philosophy Conference</i> , Special Lecture, Western Washington	2015
“Fission May Kill You (But Not for the Reasons You Thought)”	
<i>13<sup>th</sup> Annual Northwest Student Philosophy Conference</i> , Keynote, Western Washington	2015
<i>Back at the Ranch</i> Metaphysics Conference, Tucson, AZ	2015
<i>Colloquium</i> , University of Colorado, Boulder	2015
<i>Midwest Annual Workshop on Metaphysics</i>	2014
“Fundamental Chance”	
<i>Mathematics Department, Analysis and Convexity Seminar</i> , The University of Oklahoma	2016
<i>Necessity Conference</i> , The University of Nebraska-Lincoln	2013
<i>Colloquium</i> , The University of Georgia	2013
<i>Colloquium</i> , The University of Oklahoma	2013
<i>Colloquium</i> , Purdue University	2013
“Fundamental Chance and the Mentaculus”	
<i>Ernst Mach Workshop: Issues in Physicalism</i> , Prague	2012
“Dispositional Best System Accounts of Laws”	
St. Louis University, <i>Putting Powers to Work</i>	2011
“Justifying the Lebesgue Measure”	
<i>Graduate Conference on Nature and Structure</i> , SUNY, Buffalo <i>Nature and Structure</i>	2007

## Honors and Awards

Kayden Research Award	2025
Travel funding to give Jowett Lecture at Oxford	
Carnegie Foundation & Templeton Grant, “Information, Selection, and Evolution”	2024–2027
One month of summer salary for three years to explore the relationship between complexity and time, and to develop a philosophically coherent concept of a temporally asymmetrical law of nature describing increasing functional information (Co-PI)	
Umeå Universitet Research Grant, “Why are the Physical Laws so Useful?”	2024–2027
One month of summer salary for three years to argue against pragmatic conceptions of the laws, and to examine how non-pragmatic theories of laws could explain the usefulness of laws (Co-PI)	
Faculty Fellow for Quality Teaching Initiative: Education through Technology	2021–2022
Stipend to explore inclusive, goal oriented, and scholarly teaching as well as multiple measures of evaluation and to create a plan to lead the Philosophy Department in developing teaching quality standards and measures during the 2021-22 AY	
President’s Fund for the Humanities Grant	2019
Grant to help CU’s Committee on the History and Philosophy of Science fund the annual	

conference of the <i>International Association for the Philosophy of Time</i> in 2019	
Research and Innovation Office Conference Grant	2019
Grant to help CU's Committee on the History and Philosophy of Science fund the annual conference of the <i>International Association for the Philosophy of Time</i> in 2019	
Dean's Summer Grant	2018
Summer salary for early career research	
Course Development Grant (University of Oklahoma)	2016
Faculty Fellow Award (University of Oklahoma)	2015
College of Arts and Sciences Career Development Grant (University of Oklahoma)	2015
Arts and Sciences Junior Faculty Summer Fellowships (University of Oklahoma)	2014, 2015
SAS Excellence Fellowship (Rutgers)	2007–2008, 2012–2013
Mellon Summer Grants (Rutgers)	2011, 2012
Jacob K. Javits Fellowship (Rutgers)	2008–2012
Clarendon Scholarship (Oxford)	2005–2007
Fawkes Memorial Scholarship (Oxford)	2005–2007
Overseas Research Student Award (Oxford)	2005–2007
<i>Phi Beta Kappa</i> Merit Scholarship	2004

## Teaching and Advising

Philosophy and the Sciences (honors, 35, and 70 students)	2017, 2022, 2024
History and Philosophy of Physics	2021, 2022, 2025
Introduction to Philosophy (35, 75, and 150 students)	2014, 2015, 2016, 2019, 2020, 2024, 2025
Metaphysics Survey and Seminar	2013, 2017, 2018, 2019, 2020, 2024
Philosophy of Time Seminar	2014, 2019, 2021
Metaphysics of Laws of Nature at CEU Summer School, Budapest	2018, 2022
Critical Thinking and Writing in Philosophy	2018
Philosophy of Physics and Cosmology	2014, 2016, 2017
Self and Identity	2013, 2015, 2016
Philosophy of Physics	2012
Current Moral and Social Issues	2011
Introduction to Logic	2011
Introduction to Metaphysics	2010
Philosophy of Literature	2009
Dissertation Committee Member (5 completed, 3 in-progress)	2019, 2020, 2023, 2024, 2025
Masters Thesis Committee Member (4 completed)	2021, 2022, 2023

Honors Thesis Advisor (4 completed) 2018, 2019, 2020

## Service

### Professional Service

Society for the Metaphysics of Science Program Committee Member	2023
Society for the Metaphysics of Science Council Member	2017–2021
International Association for the Philosophy of Time Board of Advisors	2018–2023
International Association for the Philosophy of Time Conference Organizer	2019

### Journal, Book, and Grant Referee for:

*Philosophical Review, Mind, Nous, Philosophy of Science, British Journal for the Philosophy of Science, European Journal for the Philosophy of Science, Journal for General Philosophy of Science, Philosopher's Imprint, Philosophical Studies, Synthese, Philosophical Quarterly, Analysis, American Philosophical Quarterly, Pacific Philosophical Quarterly, Erkenntis, Ergo, Journal of the American Philosophical Association, Thought, Dialectica, Topoi, Philosophical Papers, Oxford University Press (Book Proposal), Routledge/Taylor & Francis (Book Proposal), National Science Foundation (Grant Proposal), European Research Council (Grant Proposal)*

### University Service

Chair of Committee on the History and Philosophy of Science (CHPS)	2017–2025
Organizer of CU Boulder's CHPS Conference	2017, 2018, 2019, 2025
Center for the Study of Origins Core Faculty Member	2021–2022
Mentor for graduate and undergraduate students in philosophy	2018–2024
Climate Committee Member	2017–2025
Chair of Quality Teaching Initiative Committee	2021–2022
Department Liaison for Hellems Renovation	2021–2025
Hiring Committee Member	2018, 2025
Graduate Admissions Committee Member	2021, 2024, 2025
Executive Council Committee Member	2020–2021
Evaluation of Interventions to Retain Women in Philosophy (Design and Implementation)	2014–2016
Initiatives for Undergraduate Inclusiveness and Community-Building (Creator and Organizer)	2014–2016
Recruitment and Diversity Committee	2014–2017
Undergraduate Studies Committee	2013–2017
Rutgers-Columbia-NYU Philosophy of Cosmology Project (Organizer)	2012–2013
Rutgers Graduate Summary Workshop (Creator and Organizer)	2012

Climate Committee for Underrepresented Groups (Graduate Representative)	2011–2012
Graduate Student Climate Survey (Chief Designer and Implementer)	2012
Departmental Colloquia (Organizer)	2011–2012
Philosophy of Science Reading Group (Organizer)	2007–2011
Philosophy of Cosmology, Quantum Theory, and Time Conference (Organizer)	2010
Foundations of Statistical Mechanics Conference (Organizer)	2009
Metaphysics Meets Physics on the Banks of the Raritan Conference (Organizer)	2008