

# Danielle J. Williams

Curriculum Vitae

Mellon Postdoctoral Fellow  
Modeling Interdisciplinary Inquiry  
Washington University in St. Louis  
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St. Louis, MO 63130

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## EDUCATION

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University of California, Davis  
2023 Ph.D. in Philosophy  
Dissertation: 'Implementation & Interpretation: A Unified Account of Physical Computation'

University of California, Davis  
2019 MA in Philosophy  
Thesis: 'Existential Introduction and Justification for Believing'

California State University, Sacramento  
2016 BA in Philosophy (Ethics, Politics, & Law) – *Magna Cum Laude*  
Thesis: 'Organs for Sale: Markets Without Limits'

## AREAS OF SPECIALIZATION

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Philosophy of Mind, Computation, and The Cognitive Sciences (including AI), and Technology

## AREAS OF COMPETENCY

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Epistemology, Ethics

## ACADEMIC EMPLOYMENT

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Washington University in St. Louis (Fall 2023 – Current)  
Mellon Postdoctoral Fellow in Modeling Interdisciplinary Inquiry  
Department: Interdisciplinary Project in the Humanities

University of California, Davis (Fall 2017 – Spring 2023)  
Graduate Teaching Assistant  
Department of Philosophy

## VISITING SCHOLAR

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Australian National University, Department of Philosophy (Hosted by Colin Klein)

## HONORS & AWARDS

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- 2024 School of Ideas in Neuroscience, Invited Lecturer  
University of Warsaw, Poland
- 2022 Nomination: Outstanding Graduate Teaching Award  
Course: Minds, Brains, & Computers
- 2022 NSF Travel Grant  
Philosophy of Science Association | \$631.20
- 2022 John Templeton Foundation / Duke University Project Grant  
Computation & Systematicity in Human Behavior | \$17,720
- 2022 Duke University, Fellow  
Summer Seminars in Neuroscience & Philosophy | Fully Funded with \$1,000 honorarium
- 2020 Graduate Research Fellowship  
University of California, Davis | \$7,500
- 2016 Nammour Award  
California State University, Sacramento | \$100
- 2016 Perry Weddle Award  
California State University, Sacramento | \$100
- 2015- Phi Kappa Phi
- 2016 Invited Undergraduate Academic Honors Society

## PUBLICATIONS

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### Journal Articles:

Williams, Danielle J. (*forthcoming*). Two Senses of Medium Independence. *Mind & Language*

Williams, D. (2022). Markov Blankets: Realism and our ontological commitments. *Behavioral and Brain Sciences*, 45, E217. Doi:10.1017/S0140525X22000255

### Online:

Williams, D. (*forthcoming*). 'Mappings, mechanisms, and computational neuroscience.' *The Brains Blog*. DOI: 10.13140/RG.2.2.14986.68806

Williams, D. (2024). 'We've been here before: AI promised human-like machines – in 1958' in *The Conversation*

### Book Chapters:

Russin, J., McGrath, S., Williams, D., Elber-Dorozko, L. (*forthcoming*). 'From Frege to ChatGPT: Compositionality in Language, Cognition, and Deep Neural Networks' in *Neuroscience & Philosophy*, MIT Press'

Williams, D. and Piccinini, G. (2024) Philosophy and Technology. *In the Routledge Encyclopedia of Technology and the Humanities*.

Williams, D. and Drayson, Z. (2023) The nature of the predictive mind: Realism and instrumentalism in Bayesian cognitive science. In Tony Cheng, Ryoji Sato, and Jakob Hohwy (eds.) *Expected Experiences: The Predictive Mind in an Uncertain World*. Routledge.

### Manuscripts Under Review

1. 'How to be a realist about computational neuroscience' – *R&R with Synthese*
2. 'Burning the bridge: Why a theory of computational implementation is of no use to the cognitive sciences' – *Under review with Minds & Machines*

### Manuscripts in Progress

1. 'Three questions about physical computation'
2. 'An unclimbable ladder: the relationship between physical mechanisms and computational models'

PRESENTATIONS (♠ = invited, ♦ = peer reviewed, ♣ = presented by coauthor) \_\_\_\_\_

- ♠ (upcoming) Can the haptic realist accept that the brain is a computer?  
Author Meets Critic: "The Brain Abstracted" by Mazviita Chirimuuta  
Southern Society for Philosophy and Psychology, 2024
- ♦ (upcoming) Burning the bridge: why a theory of implementation is of no use to computational cognitive science  
Philosophy and Neuroscience at the Gulf, 2024
- ♠ What does a theory of computational implementation have to do with neuroscience?  
School of Ideas in Neuroscience, Nencki Open Lab, 2024  
University of Warsaw, Poland
- ♠ Why do we think of the brain as a computer?  
Nencki Open Lab Academy of Neuroscience, 2024  
University of Warsaw, Poland
- ♦ How to be a realist about computational neuroscience  
Society for Philosophy and Psychology, 2024
- ♠ We've Been Here Before"  
AI & Society Brunch, Washington University in St. Louis, 2024
- ♠ New Language of Thought | Same Critique  
Mini Conference on Modal Logic & Connectionism at the University of Houston
- ♦ Thinking about Levels  
115th Annual Meeting of the Southern Society for Philosophy and Psychology, 2024
- ♠ What philosophers can offer collaborative neural engineering  
California State University, Sacramento, 2024
- ♠ How to be a realist about computational neuroscience  
The Edinburgh University Cognitive Science Society Meeting, 2024
- ♠ Marr's levels are not levels of abstraction

Washington University in St. Louis, 2023

- ♠ Representation and computation in the study of language and mind  
Philosophy Conference in Dubrovnik, Croatia, 2023  
*(Unable to attend due to postdoc relocation timeline)*
- ♠ Foundations of Computation  
Philosophy Conference & Workshop at the Australian National University  
*(Unable to attend due to postdoc relocation timeline)*
- ♦ Anti-anti individualism about computational implementation  
Southern Society for Philosophy and Psychology, 2023
- ♦ Physical signatures of computation – Symposium  
Paper: Implementation, interpretation, and triviality in theories of physical computation  
Philosophy of Science Association Biennial Meeting, 2022
- ♠ Computation in psychology and neuroscience  
Philosophy Colloquium Series, Chico State University, 2022
- ♦ There cannot be a mechanism only theory of computation  
37<sup>th</sup> Annual CHPS Conference, Philosophy of Cognitive Neuroscience: Content, Self, and  
Cognitive Ontology, 2022
- ♦ What a theory of computation can't be if the brain is a computer  
Philosophy and Neuroscience at the Gulf, 5<sup>th</sup> Annual Meeting of the Deep South  
Philosophy and Neuroscience Workgroup, 2022
- ♦ ♣ Marr, instrumentalism and Bayesian Cognitive Science  
96<sup>th</sup> Joint Session of the Aristotelian Society of the Mind Association, 2022
- ♦ There cannot be a mechanism only theory of computation  
Rotman Graduate Student Conference, Rotman Institute of Philosophy, 2022
- ♦ Minds, understanding, and artificial intelligence  
UC Davis Undergraduate Philosophy Conference, 2016
- ♦ McCausal Impotence: How your chicken sandwich matters  
Nammour Symposium, 2016
- ♦ Knowledge as justified true belief  
Pacific University Undergraduate Philosophy Conference, 2016
- ♦ Gettier's Problem: the problem with the Gettier Problem  
Perry Weddle Colloquium, 2016

## POSTERS

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Implementation, individuation, and triviality in computational theories  
The Society for Philosophy and Psychology, 2022

The mechanistic account of computation and the implementation relation  
The American Philosophical Association, Central Division Meeting, 2022

## COMMENTARIES

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- ♠ Predictive Processing's Flirt with Transcendental Idealism  
Neural Mechanisms Online, 2024

- ♣ Is Computation Essentially Medium-Independent? (Symposium)  
Society for the Metaphysics of Science  
American Philosophical Association, Central Division Meeting, 2024
- Neural Network Modeling as Task Analysis, Not Mechanistic Explanation  
American Philosophical Association, Central Division Meeting, 2024
- ♣ The Physical Signatures of Computation: A Robust Mapping Account  
St. Louis Area Philosophy of Science Association Book Symposium, 2024
- ♣ Generative AI Panel Discussion  
AI Digital Health Summit, Washington University in St. Louis, 2023
- Why we cannot resolve the scientific realism debate  
American Philosophical Association, Central Division Meeting, 2023
- What justifies the model-to-mechanisms mapping requirement?  
American Philosophical Association, Central Division Meeting, 2022
- ♣ Computation with Neural Manifolds  
Neural Mechanisms Online, 2021
- Opening up the Openness of Joint Attention  
American Philosophical Association, Eastern Division Meeting, 2021
- ♣ Morality Derived from Social Evolution  
Pacific University Undergraduate Philosophy Conference, 2016
- ♣ Marriage in a Liberal Democracy: Continuing the Discussion  
California State University, Sacramento Ethics Colloquia Series, 2016

## PROFESSIONAL SERVICE

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Refereeing: Minds & Machines

Synthese

British Journal for Philosophy of Science

Philosophical Psychology

Mind & Language

WIREs Cognitive Science

CUP Elements in Philosophy of Science

Conference

Committees: 7<sup>th</sup> International Conference on the History & Philosophy of Computing, 2023

Organizing: Berkeley-Stanford-Davis Philosophy Conference, 2022

AI, Technology, & Society Conference at Washington University

*Planning in progress, 2025*

Societies

Society for Philosophy & Neuroscience (SPAN)

Founding Member

## TEACHING EXPERIENCE

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Washington University in St. Louis  
Methodologies in Cognitive Science (Interactive, lab-based course)  
Thought & Feeling (Interdisciplinary course on affect and the mind) (upper division)

University of California, Davis  
Philosophy of Mind (upper division)  
Minds, Brains, & Computers  
Introduction to Cognitive Science

University of California, Davis (Teaching Assistant)  
Introduction to Cognitive Science  
Minds, Brains, & Computers  
Introduction to Philosophy of Biology  
Philosophical Perspectives on Sexuality  
Introduction to Philosophy

Sacramento State University (Teaching Assistant)  
Introduction to Ethics

## REFERENCES

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Carl Craver  
Professor of Philosophy and Philosophy-Neuroscience-Psychology  
Washington University in St. Louis  
Department of Philosophy  
ccraver@wustl.edu

Zoe Drayson  
Associate Professor of Philosophy  
Department of Philosophy and Cognitive Science  
University of California, Davis  
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Corey J. Maley  
Associate Professor of Philosophy  
Department of Philosophy  
Purdue University  
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