Clara Bradley

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Research Interests

AOS   Philosophy of Physics, Philosophy of Science

AOC   Logic, Formal Epistemology, Social Epistemology

Employment

Jan 2025 –   **Lecturer, University College London**
Department of Philosophy

Education

2019 – 2024   **University of California, Irvine**
Department of Logic and Philosophy of Science
Ph.D. Philosophy (October 2024)

> Graduate Emphasis in Physics
> Dissertation: "Symmetry and Equivalence in the Constrained Hamiltonian Formalism"
> Advisor: James Owen Weatherall

2015 – 2019   **University of Bristol**
M.Sci. Physics and Philosophy
First-Class Honours

Publications

2025   **The Relationship Between Lagrangian and Hamiltonian Mechanics: The Irregular Case**
Philosophy of Physics, Forthcoming.

2023	**The Representational Role of Sophisticated Theories**
	Philosophy of Science, pp. 1–10. https://doi.org/10.1017/psa.2023.131.

2022	**Mathematical Responses to the Hole Argument: Then and Now**
	with James Owen Weatherall.
	Philosophy of Science, 89 (5):1223-1232. https://doi.org/10.1017/psa.2022.58.

2021	**The Non-Equivalence of Einstein and Lorentz**
	The British Journal for the Philosophy of Science, 72(4):1039-1059.
	https://doi.org/10.1093/bjps/axz014.
	Editors' Choice Article.

2020	**On Representational Redundacy, Surplus Structure, and the Hole Argument**
	with James Owen Weatherall.
	Foundations of Physics, 50:270–293. https://doi.org/10.1007/s10701-020-00330-y.

Works in Progress

Do First-Class Constraints Generate Gauge Transformations? A Geometric Resolution
Under Review [draft available].
Winner of the Justine Lambert Paper Prize

Excess Structure in the Constrained Hamiltonian Formalism
Under Review [draft available].

Are Reduction and Sophistication Always Viable Alternatives? (with James Owen Weatherall)
In Preparation [draft available].

Revisiting the 'Hole Argument' and the 'Problem of Time'
In Preparation.

The Many Independence Theses
In Preparation.

A paper on dynamic deliberation and game-theoretic solution concepts (with Calum McNamara)
In Preparation.

Invited Talks

June 2025	Revisiting the 'Hole Argument' and the 'Problem of Time'
	BLOC Workshop, KCL
May 2025	The Relationship Between Lagrangian and Hamiltonian Mechanics: The Irregular Case
	Popper Seminar, LSE
April 2025	The Relationship Between Lagrangian and Hamiltonian Mechanics: The Irregular Case
	CamPos, Cambridge
March 2025	Are Reduction and Sophistication Always Viable Alternatives?
	University of Bristol Research Seminar
March 2025	Are Reduction and Sophistication Always Viable Alternatives?
	Oxford Philosophy of Physics Seminar
May 2024	The Relationship Between Lagrangian and Hamiltonian Mechanics: The Irregular Case
	New Directions in the Foundations of Physics Conference
October 2023	The Relationship between Lagrangian and Hamiltonian Mechanics: The Irregular Case
	Symmetry and Structure Workshop, Irvine
May 2023	Do First-Class Constraints Generate Gauge Transformations? A Geometric Perspective
	Quantum Spacetime in the Cosmos Conference, Perimeter Institute
November 2022	Do First-Class Constraints Generate Gauge Transformations? A Geometric Perspective
	Foundations of Physics @ Harvard Series (Online)
February 2022	Partial Observables and Representational Redundancy
	University of Bristol Philosophy of Science Seminar (Online)
June 2019	The Non-Equivalence of Einstein and Lorentz
	Oxford Philosophy of Physics Group, Oxford
September 2018	The Non-Equivalence of Einstein and Lorentz
	UC Irvine Philosophy of Physics Research Group, Irvine

Refereed Talks

November 2024	The Extended Hamiltonian is Not Trivial
	PSA 29th Biennial Meeting, New Orleans
July 2023	Do First-Class Constraints Generate Gauge Transformations? A Geometric Perspective
	21st European Conference on Foundations of Physics, Bristol
November 2022	The Representational Role of Sophisticated Theories
	PSA 28th Biennial Meeting, Pittsburgh
November 2021	Mathematical Responses to the Hole Argument: Then and Now
	PSA 27th Biennial Meeting, Baltimore
October 2021	The Significance of Isomorphic Models
	20th European Conference on Foundations of Physics, Paris
July 2017	The Non-Equivalence of Einstein and Lorentz
	The British Society for the Philosophy of Science Annual Conference, Edinburgh

Teaching Experience

Lecturer, UCL

2025	Philosophy of Space and Time
2025	Formal Epistemology

Instructor of Record, UC Irvine

Fall 2023	Introduction to Logic
	Outstanding Teaching Award

Teaching Assistant, UC Irvine

Winter 2023	Philosophy of Sex (Cailin O'Connor)
Fall 2022	Computer-Based Research in the Social Sciences
Spring 2021, Spring 2022	The Good Life (James Owen Weatherall and Cailin O'Connor)
Winter 2021	Critical Reasoning (Daniel Herrmann)
Winter 2020	Scientific Inquiry (JB Manchak)

Guest Lecturer

Spring 2023   Structure and Equivalence, UC Santa Barbara (Thomas Barrett)

Awards, Grants and Recognition

2024   Outstanding Scholarship Award $500 (University of California, Irvine)

2024   Justine Lambert Paper Prize $1000 (University of California, Irvine)

2023   Outstanding Teaching Award for Introduction to Logic (University of California, Irvine)

2019–2025   Social Science Merit Scholarship (University of California, Irvine)

2019-2022   Provost Fellowship $20,000 (University of California, Irvine)

2019   Graduate Dean's Recruitment Fellowship $5000 (University of California, Irvine)

2019   Peter Fowler Memorial Prize for Continued Excellence (University of Bristol)

2019   Philosophy Finalist Prize (University of Bristol)

2018   Undergraduate Faculty of Science Award (University of Bristol)

Professional Service

August 2023   Panelist and Speaker at LPS Summer Diversity Program (UC Irvine)

2022–2023   LPS Graduate Representative (UC Irvine)

2018–2019   Administrator for the Center for Science and Philosophy (University of Bristol)

Journal Referee: *Philosophy of Science, The British Journal for the Philosophy of Science, Studies in History and Philosophy of Science, European Journal for the Philosophy of Science, Philosophy of Physics.*