

# Phillip Hintikka Kieval

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## Research

- AOS History & Philosophy of AI · Philosophy of Science · Philosophy of Cognitive Science
- AOC AI Ethics · Values in Science · American Pragmatism

## Education

- 2021– **PhD in History and Philosophy of Science**, *University of Cambridge*  
Supervisor: Marta Halina  
Advisor: Hasok Chang
- 2019–2021 **MA in Philosophy**, *University of Houston*
- 2015–2019 **BA in Philosophy**, *University of Houston*  
*Magna Cum Laude* with University Honors and Honors in Major.

## Visiting Fellowships

- 2024–2025 **Department of Philosophy**, *University of Michigan*  
Sponsor: Elizabeth Anderson

## Publications

- forthcoming **Kieval, P. H.** “Representation Learning without Representationalism: A Non-Representational Account of Deep Learning Models in Scientific Practice,” in *Philosophy of Science for Machine Learning: Core Ideas and New Perspectives*, eds., Durán, J. M. & Pozzi, G. Synthese Library.
- 2024 **Kieval, P. H.** “Artificial Achievements,” *Analysis*, 84(1): 32–41.
- 2022 **Kieval, P. H.** “Permission to believe is not permission to believe at will,” *Synthese*, 200(347): 1–12.
- 2022 **Kieval, P. H.** “Mapping representational mechanisms with deep neural networks,” *Synthese*, 200(196): 1–25.

## Experience

- 2022– **Student Fellow**, *Leverhulme Centre for the Future of Intelligence*, University of Cambridge

## Awards & Fellowships

- 2022 **Best Student Paper Award**, Issues in XAI4, *TU Delft*, Delft, Netherlands.
- 2021– **Gates Cambridge Scholarship**, *University of Cambridge*, Full-cost scholarship awarded to outstanding applicants from countries outside the UK to pursue a postgraduate degree in any subject available at the University of Cambridge.
- 2019-2021 **Graduate Teaching Assistantship**, Department of Philosophy, *University of Houston*.
- 2018-2019 **Mellon Research Scholars Fellowship**, Andrew W. Mellon Foundation.

## Presentations

### Refereed

- 15 November 2024 **"Deep Learning as Method-Learning,"** Philosophy of Science Association 2024, New Orleans, LA.
- 21 March 2024 **"Data modelling and exploratory concept formation in neuroscience,"** 2024 Annual Meeting of the Southern Society for Philosophy and Psychology.
- 24 Nov 2023 **Getting Real About Neural Data Science: Neural Manifolds and Exploratory Concept Formation in Cognitive Neuroscience,"** 1st Annual Web Conference of the International Society for the Philosophy of the Sciences of the Mind.
- 20 Oct 2023 **"Getting Real About Neural Data Science: Neural Manifolds and Exploratory Concept Formation in Cognitive Neuroscience,"** 7th International Conference on the History and Philosophy of Computing, *Warsaw University of Technology*.
- 6 May 2023 **"Varieties of Representational Risk in Medical AI,"** PhilInBioMed 4, *University of Cambridge*.
- 13 Nov 2022 **"Automated Exploration, Understanding, and Semantic Opacity,"** Philosophy of Science Association 2022, Pittsburgh, PA.
- 19 Oct 2022 **"Biased-by-design: why algorithms are necessarily value-laden"** Graduate Student Workshop on Philosophy of Machine Learning Max Planck Institute for Intelligent Systems, *University of Tübingen*.
- 11 Sept 2022 **"Getting Real about Neural Data Science"** Philosophy of Cognitive Neuroscience: Content, Self, and Cognitive Ontology 37th Annual Boulder Conference on the History and Philosophy of Science, *University of Colorado Boulder*.
- 3 June 2022 **"Biased-by-design: why algorithms are necessarily value-laden"** Ethical Issues in AI and Computing Conference Embedded EthiCS @ Harvard in partnership with Social & Ethical Responsibilities of Computing at MIT, *Harvard University*.
- 25 May 2022 **"Unsupervised Discoveries, Understanding, and Semantic Opacity,"** Issues in XAI #4 - Explanatory AI: Between ethics and epistemology, *TU Delft*.
- 13 May 2022 **"Unsupervised Discoveries, Understanding, and Semantic Opacity,"** Rotman Graduate Student Conference 2022: Models and Idealization Rotman Institute of Philosophy, *Western University*.

- 23 April 2022 **"Unsupervised Discoveries, Understanding, and Semantic Opacity,"** 4th Annual Scientific Understanding and Representation (SURE) Workshop, *Fordham University*.
- 16 Dec 2021 **"Unsupervised Discoveries, Understanding, and Semantic Opacity,"** Philosophy in Informatics VI, Department of History and Philosophy of Science, Faculty of Philosophy, *Pontifical University of John Paul II in Krakow*.
- 2 Oct 2021 **"Artificial Achievements,"** Rice-UH Graduate Conference, *Rice University*.
- Invited**
- 13 May 2023 **"Towards Trustworthy Machine Learning: Reliability and the Value of Uncertainty,"** Gates Day of Research 2023, *University of Cambridge*.
- 22 June 2022 **"Getting Real about Neural Data Science,"** LCFI Kinds of Intelligence Work in Progress Retreat, Leverhulme Centre for the Future of Intelligence, *University of Cambridge*.
- 7 May 2022 **"Biased-by-design: why algorithms are necessarily value-laden,"** Gates Day of Research 2022, *University of Cambridge*.
- 2 Feb 2022 **"Unsupervised Discoveries and Semantic Opacity in Data-driven Neuroscience,"** Poldrack Lab, Department of Psychology, *Stanford University*.

## Teaching

### University of Cambridge

- Spring 2023 **Supervisor**, Introduction to History and Philosophy of Science
- Winter 2023 **Supervisor**, Introduction to History and Philosophy of Science
- Fall 2022 **Supervisor**, Introduction to History and Philosophy of Science
- Winter 2022 **Supervisor**, Ethics and Politics of Technology

### University of Houston

- Spring 2021 **Teaching Assistant**, Logic I
- Fall 2020 **Teaching Assistant**, Introduction to Philosophy
- Summer 2020 **Grading Assistant**, Introduction to Philosophy
- Summer 2020 **Grading Assistant**, Philosophy and the Arts
- Spring 2020 **Teaching Assistant**, Logic I
- Fall 2019 **Teaching Assistant**, Logic I

## Professional Activities

### Diversity and Inclusion

- 2022 **Committee Member**, Wellness, Inclusion, Diversity, and Equity (WIDE) Committee, Leverhulme Centre for the Future of Intelligence, *University of Cambridge*.
- 2021-2022 **Organizing Committee**, Minorities and Philosophy (MAP), Department of History and Philosophy of Science, *University of Cambridge*.

- April 2021 **Co-Organizer**, BIPOC Philosophical Film Series with UH Minorities and Philosophy (MAP) (Funding secured from the Media and the Moving Image Initiative (MMI)), *University of Houston*.
- 2020 **Co-Founder**, University of Houston Chapter of Minorities and Philosophy (MAP)
- March 2018 **Participant**, COMPASS: Undergraduate Philosophy Workshop, University of Texas at Austin Chapter of Minorities and Philosophy (MAP)

### Service and Mentorship

- 2023-2024 **Co-Organizer**, 6th Annual Scientific Understanding and Representation (SURE) Workshop, *LSE & University of Cambridge*.
- 2023 **Co-Organizer**, Lingnan-Cambridge Workshop on AI in Science, *University of Cambridge*.
- 2023-2024 **PhD Student Representative**, Department of History and Philosophy of Science, *University of Cambridge*
- 2022-2024 **Co-Organizer**, Jobseekers' Coffee, Department of History and Philosophy of Science, *University of Cambridge*
- 2022-2024 **Organizer**, HPS Workshop, Department of History and Philosophy of Science, *University of Cambridge*.
- 2021-2022 **Co-Director**, Learning for Purpose Programme, Gates Cambridge Scholars Council, *University of Cambridge*

### Refereeing

- *Cognitive Systems Research*
- *Erkenntnis*
- *Ethics and Information Technology*
- *Philosophy of Science*
- *Synthese*
- *WIREs Cognitive Science*

### Languages

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|---------|-------------------------|
| English | Native Speaker          |
| Spanish | B2 (Upper Intermediate) |
| Python  | Intermediate            |

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## References

### Marta Halina

- University Associate Professor in the Philosophy of Cognitive Science
- Department of History and Philosophy of Science
- University of Cambridge
- mh801@cam.ac.uk

### Hasok Chang

- Hans Rausing Professor of History and Philosophy of Science
- Department of History and Philosophy of Science
- University of Cambridge
- hc372@cam.ac.uk

### Cameron Buckner (External)

- Professor and Donald F. Cronin Endowed Chair in the Humanities
- Department of Philosophy
- University of Florida
- cameron.buckner@ufl.edu