

Patrick Fraser

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AOS: Philosophy of physics, metaphysics, philosophy of science.

AOC: Philosophy of language, logic, epistemology.

Education

in progress **Ph.D. in Philosophy, University of Toronto**

Committee: Michael Miller (Chair), Jessica Wilson, Cheryl Misak, Trevor Teitel.

Dissertation: *Quantum theories and physical content*.

fall 2025 **Visiting Scholar, University of Michigan**

Host: Laura Ruetsche.

2022 **M.A. in Philosophy, University of Toronto**

Concentration in philosophy of science.

2021 **B.Sc. (Hons) in Physics and Philosophy, University of Toronto**

Awarded with High Distinction.

Physics and philosophy (joint specialist); math (major); history and philosophy of science (minor).

Writing

Peer-Reviewed Publications

accepted "A kinematic derivation of the Born rule" *Philosophy of Science*.

accepted "The Kochen-Specker theorem with determinables and determinates" *Philosophy of Science* (with Mike Miller).

2026 "Reconstructing the quantum world" *Philosophy of Physics*, 4(1): 15, 1–19.

2025 "From classical to quantum indeterminacy, and back" *Philosophy of Science*, 92 (5), 1–11 (with Mike Miller).

2023 "Quantum epistemology and constructivism" *Journal of Philosophical Logic*, 52 (6), 1561–1574 (with Nuriya Nurgalieva and Lúcia del Río).

2021 "Taming fluctuations for Gaussian states in loop quantum cosmology" *Physical Review D*, 103 (8), 086014.

Book Reviews

forthcoming Review of *Beyond the Quantum* (2025) by Antony Valentini, *Foundations of Physics*.

Works in Progress

revise & resubmit "Natural quantum properties?"

revise & resubmit "Quantity valuation in algebraic quantum theories."

under review "Determinable-based metaphysical indeterminacy and classical logic."

under review "Classical logic and quantum properties" (with Mike Miller and Jessica Wilson).

under review "'And' on Hilbert space" (with Emily Patterson and Mike Miller).

"A Ramseyan expressivist theory of conditionals."

"What, in the world, is a violation of causal faithfulness?"

Presentations

Talks (*=invited)

"A kinematic derivation of the Born rule."

2026 *Philosophy of Science Association Meeting*, San Diego, USA.

2026 *Society for the Metaphysics of Science Meeting*, University of Toronto.

"Quantity valuation in algebraic quantum theory."

2026 *Foundations of Physics Conference*, UC Irvine.

2025 *LMP Graduate Conference*, Western University.

"Natural quantum properties?"

*2025 *Department of Philosophy*, University of Michigan.

2025 *Society for the Metaphysics of Science Meeting*, Università della Svizzera Italiana.

"Reconstructing the quantum world."

2025 *100 Years of Quantum*, Perimeter Institute for Theoretical Physics.

2024 *LMP Graduate Conference*, Western University.

"Classical logic and quantum properties" (with Mike Miller and Jessica Wilson).

*2025 *Workshop on Quantum Indeterminacy*, Mugena, Switzerland.

"From classical to quantum indeterminacy, and back" (with Mike Miller).

2024 *Philosophy of Science Association Meeting*, New Orleans, USA.

2024 *Society for the Metaphysics of Science Meeting*, Online.

"LLM collapse as rule-following failure" (with Julia Minarik).

2024 *Ontario Mind Group*, Toronto.

2024 *45th International Wittgenstein Symposium*, Kirchberg am Wechsel, Austria.

"Knowledge-how and the semantics of physical theories."

2024 *Pragmatism and Philosophy of Science*, Rotman Institute of Philosophy.

"What, in the world, is a violation of causal faithfulness?"

2024 *Causalworlds*, Perimeter Institute for Theoretical Physics.

"Precision and quantum mechanical indeterminacy" (with Mike Miller).

*2023 *Discreteness and Precision in Physics*, IHPST Paris.

"Why quantum theory?"

2023 *Canadian Philosophical Association Annual Meeting*, York University.

"Dayton and Goliath: D. C. Miller's 'disproof' of special relativity" (with Jamie Shaw).

2023 *Canadian Society for History and Philosophy of Science Association*, York University.

"Violations of causal faithfulness are not measure zero" (with Mike Miller).

2022 *Philosophy of Science Association Meeting*, Pittsburgh, USA (Poster).

"The logical structure of the operational theory landscape."

2022 *Quantum Epistemology Beyond Quantum Measurement*, Pack Forest, USA.

*2021 *Institute for Theoretical Physics*, Innsbruck, Austria.

2021 *Institute for Quantum Optics and Quantum Information*, Vienna, Austria.

- “Feyerabend on the quantum theory of measurement: A reassessment” (with Daniel Kuby).
 2022 *TiLPS History of Analytic Philosophy Workshop*, Tilburg University.
 *2021 *Minnesota Center for Philosophy of Science*, Online.
 “Isomorphism is not representation.”
 2022 *Canadian Philosophical Association Annual Meeting*, Online.
 “A no-go theorem for quantum knowledge” (with Nuriya Nurgalieva and Lúdia del Rio)
 *2022 *Centre for Quantum Information and Quantum Control*, Online.
 2021 *Foundations of Physics Conference*, École Normale Supérieure.
 “How classical are Gaussian states in loop quantum cosmology?”
 2021 *16th Marcel Grossmann Meeting*, Online.

Comments

- “EEL for the Everettian” by Ray Pedersen and Sam Fletcher.
 2026 *Society for the Metaphysics of Science Meeting*, University of Toronto.
 “Is the quantum reconstruction program compatible with the ontological model framework” by Mario Hubert.
 2025 *Society for the Metaphysics of Science Meeting*, Università della Svizzera Italiana.
 “Material plenitude for Fineans” by Antonio Freiles.
 2024 *Toronto Graduate Philosophy Conference*, University of Toronto.
 “Potential infinity and constant domain models” by Alessandro Giglia.
 2023 *Toronto Graduate Philosophy Conference*, University of Toronto.
 “Scientific explanation in context: the case of explanatory asymmetry” by Andrew Wayne.
 2023 *Canadian Philosophical Association Meeting*, York University.
 “The quantum universe as a collection of partial views of itself” by Lee Smolin.
 2021 *Quantum Information Structure of Spacetime Seminar*, Online.

Awards

Grants & Research Awards

- 2025 Michael Smith Foreign Study Supplement, SSHRC, \$6,000.
 2023–2026 Canada Graduate Scholarship Doctoral Award, SSHRC, \$115,000.
 2022, 2026 Ontario Graduate Scholarship, *Faculty of Arts and Sciences*, \$15,000 each.
 2022 Philosophy of Science Award, *Department of Philosophy*, \$1,332.
 2022, 2023, 2024 Ian Hacking Graduate Travel Award, *Department of Philosophy*, \$800 each.
 2021 Canada Graduate Scholarship Masters Award, SSHRC, \$17,500.
 2020 Undergraduate Student Research Award, NSERC, \$9,000.
 2019 Jackman Scholar Award, *Jackman Humanities Institute*, \$1,000.

Teaching Awards

- 2025 Faculty of Arts & Science Superior Teaching Award (Departmental Nomination).
 2025 Martha Lile Love Teaching Award (Honourable Mention), *Department of Philosophy*.

Other Honours & Awards

- 2024 Gordon Cheesbrough Graduate Fellowship, *Department of Philosophy*, \$798.
- 2023 Michael J. Herman Graduate Fellowship, *Department of Philosophy*, \$3,055.
- 2022 Frederick Hudd Scholarship, *Massey College*, \$1,500.
- 2022 John MacRory Fellowship, *School of Graduate Studies*, \$5,000.
- 2018 John L Horwood Memorial Scholarship, *Victoria College*, \$1,000.
- 2017 Salvatore & Marion Brancaccio Scholarship, *Victoria College*, \$1,000.

Teaching Experience

Course Instructor

- 2026 PHL232: Knowledge and Reality.
- 2024 PHL356: Philosophy of Physics.

Teaching Assistant

- 2023 PHL333: Epistemology.
- 2022, 2026 PHL246: Probability and Inductive Logic.
- 2022 HPS222: Science, Paradoxes, and Knowledge.
- 2021, 2023, 2026 PHL245: Modern Symbolic Logic.
- 2020 HPS390: History of Mathematics Before 1700.
- 2018, 2019, 2021 HPS100: Introduction to History and Philosophy of Science.

Workshops and Summer Schools

- 2023 *Foundations Under the Midnight Sun*, Tromsø, Norway.
- 2023 *Quantum Information Structure of Spacetime Summer School*, Marcoux, France.
- 2022 *Quantum Epistemology Beyond Quantum Measurement*, Pack Forest, USA.
- 2022 *Sejny Summer Institute*, Basic Research Community for Physics, Sejny, Poland.
- 2022 *Quantum Information Structure of Spacetime*, Western University.
- 2020 *Midwest Summer School in Philosophy of Physics*, University of Notre Dame, Online.
- 2019 *Foundational Problems in Black Hole Thermodynamics*, University of Cambridge.
- 2019 *Solstice of Foundations: Quantum Foundations Summer School*, ETH Zurich.
- 2017 *Quantum Key Distribution Summer School*, Institute for Quantum Computing.

Service

- refereeing *British Journal for Philosophy of Science* (4); *Erkenntnis*; *European Journal for Philosophy of Science*; *Foundations of Physics*; *International Studies in the Philosophy of Science*; *Journal of Logic and Computation*; *Mind*; *Noûs*; *Philosophy and Phenomenological Research*; *Philosophical Inquiry*; *Philosophical Studies*; *Philosophy of Science* (2); *Quantum*; *Studies in History and Philosophy of Science* (3); *Synthese*.
- 2023 **Co-Chair**, *Scientific Understanding and Representation Workshop*, University of Toronto.
- 2022–2024 **Graduate Peer Mentor**, Department of Philosophy, University of Toronto.
- 2019, 2026 **Volunteer**, *Science Rendezvous*, University of Toronto.
- 2019 **Volunteer**, *Society for the Metaphysics of Science Meeting*, University of Toronto.

Affiliations

- 2025– **Member**, Philosophy of Physics Society.
- 2024– **Member**, Society for the Metaphysics of Science.
- 2024– **Member**, Philosophy of Science Association.
- 2023– **Member**, Basic Research Community for Physics.
- 2022– **Member**, American Philosophical Association.
- 2022– **Member**, Canadian Philosophical Association.
- 2024–2026 **Associate Graduate Student**, Perimeter Institute for Theoretical Physics.
- 2022–2025 **Junior Fellow**, Massey College.

References

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