

Mary Letey

email + website + gscholar

Education

Now	Harvard University	PhD Student, Applied Mathematics	Supervised by Prof. Cengiz Pehlevan
2023	Perimeter Institute	MSc, Theoretical Physics	Supervised by Prof. Latham Boyle
2022	University of Cambridge	BA Honours, Mathematics	

Publications & Preprints

2024	Yue M. Lu, Mary Letey , Jacob Zavatore-Veth, Anindita Maiti, Cengiz Pehlevan Asymptotic theory of in-context learning by linear attention, Preprint , <i>submitted to PNAS</i>
2022	Mary Letey , Zak Shumaylov, Fruzsina Agocs, Will Handley, Mike Hobson, Anthony Lasenby Quantum initial conditions for curved inflating universes, Physical Review D

Talks & Posters

2024	Workshop paper at Neurips Mathematics of Modern Machine Learning Poster at Princeton ML Theory Summer School and DIMACS Modelling Randomness workshop Opening talk about in context learning at Kempner Institute
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Research & Work Experience

2025	Teaching Fellow — Harvard Applied Mathematics Department
2023	MSc Intern — Montreal Institute for Learning Algorithms (MILA) — Supervised by Prof. Siamak Ravanbakhsh Studied extensions of equivariance to neural operators acting on continuous input functions. Research Assistant — Perimeter Institute for Theoretical Physics — Supervised by Prof. Latham Boyle Studied reflection groups acting on Lorentzian geometries to classify spacetime discretisations — <i>Master's thesis</i> .
2022	Research Assistant — Perimeter Institute Quantum Intelligence Lab (PIQuIL) — Supervised by Prof. Roger Melko Investigated noise sensitivity for physics-informed neural network simulations of neutral atom arrays. Summer Fellow — Kavli Institute for Cosmology, University of Cambridge — Supervised by Dr. Will Handley Extended inflation calculations to universes with spatial curvature; defined novel perturbation variable for quantisation.
2020	Intern — Embryo Ventures Boosted startup engagement fivefold through strategic outreach, 1-1 interviews with founders, and community pitches. Research Intern — Iguana Investments Studied algorithmic optimisations and presented their affect on investment strategy.

Awards & Funding

2024	Clare Marie Doris Innovation Fund	Harvard University
2023	Graduate Prize Fellowship	Harvard University
	Summer Research Bursary	McGill University, \$4,000
2022	International Scholar Award	Perimeter Institute, \$45,000
	Summer Research Bursary	Royal Society, £3,000

Community & Sport

21 — 24	Tutor with Blue Education and U2 Tuition for maths, physics, and admissions
21 — 22	Senior Coxswain for Cambridge City Rowing Club and Lady Margaret Boat Club
20 — 22	Publicity Officer for the St Johns College Mathematics Society
19 — 21	Founder & President of the St Johns College Entrepreneurs' Club