Mary Letey

email + website + gscholar

Education

Now	**Harvard University**
	PhD Candidate in Applied Mathematics with the Pehlevan Group
2023	**Perimeter Institute**
	MSc in Theoretical Physics
2022	**University of Cambridge**
	BA Honours in Mathematics

Publications & Preprints

2024	Yue Lu, **Mary Letey**, Jacob Zavatone-Veth, Anindita Maiti, Cengiz Pehlevan
	Asymptotic theory of in-context learning by linear attention; arxiv Preprint
2022	**Mary Letey**, Zak Shumaylov, Fruzsina Agocs, Will Handley, Mike Hobson, Anthony Lasenby
	Quantum initial conditions for curved inflating universes; Physical Review D Article

Research & Work Experience

2023	**Montreal Institute for Learning Algorithms (Mila)** with Professor Siamak Ravanbakhsh
	Using continuous kernel CNNs to generalise neural operators of continuous input functions.
	Perimeter Insitute for Theoretical Physics with Professor Latham Boyle
	Master's thesis — we study reflective symmetry in Lorentzian geometries and demonstrate
	substantial differences between discrete symmetry in Euclidean and Lorentzian spaces.
2022	**Kavli Institute for Cosmology, University of Cambridge** with Dr Will Handley
	We study inflation in spatially-curved universes, where quantisation by standard methods is impossible.
	We introduce a new curvature perturbation variable that follows a standard wave equation, which can
	be quantised with known robust methods.

Awards

2024	**Clare Marie Doris Innovation Fund**	
	Harvard University	
2023	**Graduate Prize Fellowship**	**Summer Research Bursary**
	Harvard University	Mila (Montreal), 4000CAD
2022	**International Scholar Award**	**Summer Research Bursary**
	Perimeter Institute, 45000CAD	Royal Society, 3000GPB

Community & Sport

2021 — Now	**Tutor** with Blue Education and U2Tuition, for maths, physics, and admissions
2021	**Senior Coxswain** for Cambridge City Rowing Club and Lady Margaret Boat Club
2020 — 2022	**Publicity Officer** for the St Johns College Mathematics Society
2019 — 2021	**Founder & President** of the St Johns College Entrepreneurs' Club