
Ayngaran Thavanesan, Ph.D.

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EXPERIENCE

EPFL (Lab. for Theoretical Fundamental Physics) & CERN - Switzerland Aug. 2025 - Present
Postdoctoral Research Scientist, *Mentors*: Prof. Victor Gorbenko, Prof. Shota Komatsu

DAMTP - University of Cambridge, UK Jul. 2025 - Aug. 2025
Postdoctoral Research Scientist, *Mentor*: Prof. Aron C. Wall

EDUCATION

DAMTP - University of Cambridge, UK 2020 - 2025
Jesus College, University of Cambridge 2021 - 2025
PhD in Applied Mathematics & Theoretical Physics
Thesis: ‘The Phase of the Cosmological Wavefunction’
Thesis advisor: Prof. Aron C. Wall

School of Physics and Astronomy, Queen Mary University of London, UK 2018 - 2019
MSc in Astrophysics & Theoretical Physics
MSc: Distinction (Rank: 1/25)
Master’s Thesis: ‘Modelling Cosmological Perturbations in Metric Theories of Gravity’ (*Dr. Timothy Clifton*)
The Drapers’ Company Prize

Emmanuel College, University of Cambridge, UK 2015 - 2018
BA (Hons) in Natural Sciences
Rowley Mainhood Prize, Senior Exhibitioner Election

SELECTED PUBLICATIONS

* = Author list alphabetised

10 publications; an up-to-date list and additional information can be found on [arXiv](#) and on my [website](#).

Thavanesan, A., Werth, D., Handley, W. "Analytical approximations for curved primordial power spectra", published in *Physical Review D* ([Phys.Rev.D 103 \(2021\) 2, 023519](#)).

*Goodhew, H., **Thavanesan, A.**, Wall, A.C. "The Cosmological CPT Theorem", published in *SciPost Physics* ([SciPost Phys. 20 \(2026\) 049](#)).

Thavanesan, A. "No-go Theorem for Cosmological Parity Violation", ([arXiv:2501.06383](#)), accepted for publication in *Journal of Cosmology and Astroparticle Physics*.

***Thavanesan, A.** and Wall, A.C. "Kosmic Field Theories: Towards Holographic Duals for Unitary String Cosmologies", ([arXiv:2510.21701](#)), accepted for publication in *JHEP*.

*Araujo-Regado, G., **Thavanesan, A.**, Wall, A.C. "Holographic Cosmology at Finite Time", published in *JHEP* ([JHEP 04 \(2026\) 121](#)).

*Msolla, E. and **Thavanesan, A.**, "Analytical approximations for curved primordial tensor spectra", published in *Physical Review D* ([Phys.Rev.D 113 \(2026\) 8, 083528](#)).

TECHNICAL SKILLS

Computing Languages	Python, C++, Java, HTML, Mathematica
OS	Linux, Windows, Mac OS
Programmes & Tools	L ^A T _E X, MATLAB, CLASS, CAMB, UltraNest , healpy, Gnuplot, anesthetic
Languages	English (Native), Tamil (Mother tongue), German (Professional), French (Basic)

SELECTED AWARDS AND PRIZES

Kavli Institute for Theoretical Physics Graduate Fellowship <i>6-month fellowship at KITP; mentored by Prof. Clifford Johnson & Dr. Mykhaylo Usatyuk.</i>	Oct. 2024 USA
Smith-Knight & Rayleigh-Knight Prize <i>Awarded for outstanding and striking research results by Cambridge Mathematics Department.</i>	Mar. 2023 Cambridge
Jesus College David & Susan Hibbitt Scholarship (3 years) [declined] <i>Awarded £42000 for PhD position at University of Cambridge by Jesus College, Cambridge.</i>	Jun. 2021 Cambridge
Institute of Physics (IOP) Bell Burnell Graduate Scholarship (3.5 years) <i>Awarded ~£40000 for PhD position at University of Cambridge by the UK's Institute of Physics.</i>	Apr. 2021 Cambridge
Cavendish Scholarship (3.5 years) <i>Awarded ~£90000 for PhD position at University of Cambridge by the Cavendish Trust.</i>	Mar. 2021 Cambridge