

Paul Shah

University College London
UK

+44 (0)7730 982073
✉ paul.shah.19@ucl.ac.uk



Research Experience

- 2022 **Research Associate**, *Cosmology Group*, UCL, UK
 - **Sponsor:** Ofer Lahav
- 1995–1996 **Postdoctoral Researcher**, *DAMTP*, University of Cambridge, UK
Fellow, St. John's College
- 1992–1995 **PhD**, *DAMTP*, University of Cambridge, UK
 - **Thesis:** Vortices and moduli spaces
 - **Advisor:** Nick Manton

Education

- 2020–2022 **MSc (Astrophysics)**, *UCL*, London, *Distinction*
High Energy Astrophysics, Advanced Cosmology, Galaxy Formation and Evolution, Exoplanets, Particle Physics, Quantum Information
 - **Essay:** The Hubble Constant Tension
 - **Project:** Weak lensing magnification of SN Ia
 - **Advisor:** Ofer Lahav
- 1991–1992 **Part III (Theoretical Physics)**, *DAMTP*, Cambridge, *Distinction*
Quantum Field Theory, General Relativity, Cosmology, Group Theory, Applied Gauge Theory
 - **Essay:** Baryogenesis in the early universe
 - **Advisor:** Anne Davis
- 1986–1989 **Bachelor (Mathematics)**, *Girton College*, Cambridge
 - **Director of Studies:** Ruth M. Williams

Employment

- 2010–2018 **Managing Director**, *Nomura International Plc*, London
Global Head of Structured Rates and Quantitative Research
- 1995–2010 **Managing Director**, *UBS AG*, London, Tokyo, Chicago and Singapore
Financial Derivatives Trader
- 1989–1991 **Spacecraft Controller**, *European Space Agency*, Darmstadt, Germany
Hipparcos mission to measure stellar parallax

Teaching and Supervision

- 2022 Supervision of undergraduate and MSc research projects
- 1992–1995 Problem solving classes for Part III students in Gauge Theory and QFT

Prizes

2022	MAPS Prize	<i>Best Masters Student in Maths, Astronomy and Physics</i>
2022	Harrie Massey Prize	<i>Best Masters Student in Astrophysics</i>
1995	Smith Essay Prize	<i>Awarded for PhD thesis</i>
1991	Mayhew Prize	<i>Awarded for highest mark in Part III (Applied)</i>

Skills

Programming	Python, Fortran, SQL
Packages	Polychord, Cobaya
Languages	English (native), basic Japanese, French and German

Oral presentations

Invited

2022	Royal Astronomical Society	<i>Conference</i>
2021	University of Sussex	<i>Journal Club</i>
2021	University of Oxford	<i>Journal Club</i>
1995	Isaac Newton Institute (Cambridge)	<i>Seminar</i>

Contributed

2023	Dark Energy Survey Collaboration Meeting (Portsmouth)	<i>Conference</i>
2023	UK Cosmology (Sussex)	<i>Conference</i>
1992	Queen Mary University (London)	<i>Conference</i>

Institutional roles

2022	Organiser, UCL Journal Club
------	-----------------------------

Service to the community

1995–1995	Referee for Nuclear Physics B
2021–	Referee for MNRAS

Publications

- [1] Paul Shah, Pablo Lemos, and Ofer Lahav. The impact of weak lensing on Type Ia supernovae luminosity distances. *Accepted by MNRAS*, page arXiv:2210.10688, January 2023.
- [2] Paul Shah, Pablo Lemos, and Ofer Lahav. Weak-lensing magnification of Type Ia supernovae from the Pantheon sample. *MNRAS*, 515(2):2305–2321, September 2022.
- [3] P. Shah, P. Lemos, and O. Lahav. A buyer's guide to the Hubble constant. *The Astronomy and Astrophysics Review*, 29(1):9, December 2021.

- [4] P. Shah. Phase transitions in a vortex gas. *Nuclear Physics B*, 438(3):589–606, February 1995.
- [5] P. Shah. Vortex scattering at near-critical coupling. *Nuclear Physics B*, 429(2):259–276, October 1994.
- [6] P. Shah and N. Manton. Thermodynamics of vortices in the plane. *Journal of Mathematical Physics*, 35(3):1171–1184, March 1994.