

PAVAN TANNA

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RESEARCH INTERESTS

Exoplanet habitability Atmospheric modelling

EDUCATION

PhD in Astronomy 2024 – 2028

Institute of Astronomy, University of Cambridge

Supervisor: Prof. Oliver Shorttle

Thesis: "*Climate stability of ocean exoplanets*"

Funded by STFC

MSci in Natural Sciences 2019 – 2023

King's College, University of Cambridge

Graduated 1st Class

Masters Thesis: "*Detectability of giant impacts in exoplanetary systems*"

PUBLICATIONS

Kenworthy, M., Lock, S., Kennedy, G. et al. (including **P. Tanna**). (2023). "A planetary collision afterglow and transit of the resultant debris cloud." *Nature*, 622, pp. 251–254.

TALKS

Earth and Planets Origin and Evolution Workshop May 2024

Paris Institute of Planetary Physics

"Can we detect giant impacts in other star systems?"

LCLU Coffee Morning November 2024

University of Cambridge

"Can we detect giant impacts in other star systems?"

UK Exoplanet Meeting April 2025

University of Leeds

"Can we detect giant impacts in other star systems?"

TEACHING EXPERIENCE

Supervisor 2025 – Present

Institute of Astronomy, University of Cambridge

- Taught the 3rd year course Topics in Astrophysics
- Conducted small-group teaching, marking solutions.

Online Tutor 2021 – 2024

Mytutor.co.uk

- Provided tutoring services on Mytutor.co.uk, teaching Physics and Maths at A-Level and GCSE.

OUTREACH AND LEADERSHIP

Outreach Volunteer 2022 – Present

Institute of Astronomy, University of Cambridge

- Operated a 16-inch outreach telescope to showcase various astronomical objects to the public during Wednesday open evenings.

- Contributed as a volunteer during the IoA+KICC Public Open Day as part of the Cambridge Festival, teaching rocket science and orbital mechanics.
- Volunteered for Internal Open Days, providing insights and answering questions from prospective students.

MCR Welfare and Equal Opportunities Officer

2025 – 2026

Peterhouse, University of Cambridge

- Organised welfare events for the graduate student community at Peterhouse.

Schools Outreach Volunteer

2023

King's College, University of Cambridge

- Gave guided tours during King's College open days, offering information and insights to prospective students and visitors.
- Participated in the 2023 Cambridge SU Shadowing Scheme, engaging with under-represented students interested in applying to the university.

TECHNICAL SKILLS

Programming

- Python (including NumPy, SciPy, Pandas, Astropy, Astroquery)
- Familiarity with Java, C++, OCaml

Astrophysics Software

- SWIFT — SPH With Inter-dependent Fine-grained Tasking
- HELIOS — An Open-source, GPU-accelerated Radiative Transfer Code for Self-consistent Exoplanetary Atmospheres

Tools

- High Performance Computing using CSD3 in Cambridge
- Linux
- LaTeX

OTHER INTERESTS

Amateur Astronomy and Astrophotography

- I use a 4-inch refractor and a CCD to take photos of deep sky objects.
- I also use the 12-inch Northumberland telescope and 16-inch outreach telescope at the Institute of Astronomy, Cambridge.