

PAVAN TANNA

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EDUCATION

Institute of Astronomy, University of Cambridge 2024 - 2028
PhD Astronomy

King's College, University of Cambridge 2019 - 2023
BA & MSci Natural Sciences (1st Class)

- Final year courses: Exoplanets and planetary systems, Astrophysical Fluid Dynamics, Extrasolar Planets: Atmospheres and Interiors, Dynamics of Astrophysical Discs, Astrophysical Black Holes, General Relativity

RESEARCH EXPERIENCE

University of Cambridge 2019 - 2023
Final Year Project: Can we detect moon-forming impacts in other star systems?

- Utilized a High-Performance Computing (HPC) cluster to simulate giant impacts with SWIFT.
- Developed a novel methodology for calculating the luminosity and long-term evolution of giant impact remnants.
- Demonstrated the potential of large-scale astronomical surveys in detecting giant impacts in distant star systems.
- Supervised by Dr. Amy Bonsor & Dr. Simon Lock

Published Paper 2023

- Kenworthy, M., Lock, S., Kennedy, G. et al. A planetary collision afterglow and transit of the resultant debris cloud. *Nature* 622, 251–254

Leverhulme Centre for Life in the Universe August-September 2023
Research Intern

- Received funding to produce a paper from the final year project
- Collaborated with researchers in Cambridge and Bristol
- Paper being prepared for submission
- Presented research at Earth and Origin of Planets Workshop 2024, Paris

SKILLS

Programming	Proficient in Python (Numpy, SciPy, Matplotlib, Astroquery, Astropy, Pandas) Experienced in Java, currently learning C++ Familiar with FORTRAN, Ocaml
Computing	High Performance Computing using CSD3 SPH With Inter-dependent Fine-grained Tasking (SWIFT)
Tools	Advanced use of LaTeX GitHub for version control Experienced with Linux

OUTREACH

Institute of Astronomy, Cambridge

2022 - Present

Outreach volunteer

- 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.
- Volunteered for Internal Open Days, providing insights and answering questions from prospective students.

King's College, Cambridge

2022 - 2023

Schools outreach volunteer

- 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.

Mytutor.co.uk

2020 - 2023

Online tutor

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

OTHER INTERESTS

Amateur Astronomer and Astrophotographer

2017 - Present

- Primarily use a 4 inch refractor at home
- Experience using 12 inch Northumberland telescope and 16 inch outreach telescope at the Institute of Astronomy, Cambridge