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EDUCATION    **Bachelor of Science (Hons)**    Jan 2024 – Nov 2024 (Expected)  
Topic: The Births and Deaths of Wolf-Rayet Binaries  
Supervisor: Dr Benjamin Pope (UQ) and Prof. Peter Tuthill (USyd)  
University of Queensland

**Bachelor of Science**    Jul 2017 – Dec 2023  
*Extended Major in Physics*  
University of Queensland

**Bachelor of Mathematics**    Jul 2017 – Dec 2023  
*Major in Applied Mathematics*  
University of Queensland

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TEACHING EXPERIENCE    **Casual Academic / Teaching Assistant**    2023–Present  
**PHYS3080 – Extragalactic Astrophysics & Cosmology**  
School of Mathematics and Physics, University of Queensland

- Developed material for and tutored the course of  $\sim 50$  students. Responsibilities included liaising with course staff to develop a [simulation](#) (using Python) that adhered to course aims/goals. I was also responsible for teaching students how to work with data in the context of astrophysics through the use of my program.
- Additional duties included monitoring and responding on the course discussion board, as well as marking assignments and giving feedback on research paper style reports.

**Teaching Assistant**    2022–Present  
**PHYS2082 – Space Science & Stellar Astrophysics**  
School of Mathematics and Physics, University of Queensland

- Responsibilities included assisting classes of  $\sim 60$  students with the course content, and providing guidance and feedback on assessment.
- Graded undergraduate reports and exams, and performed moderation/support duties for the other course tutors to ensure consistent feedback to students.

**“Super Tutor” / Teaching Assistant**    2021–Present  
**SCIE1000 – Theory & Practice in Science**  
School of Mathematics and Physics, University of Queensland

- Routinely conveyed course material to multiple classes of 50+ students, including (but not limited to) curve fitting data, data science in Python, and assessing the validity of numerical models to explain observed phenomena. Responsibilities also included marking assignments and final exams.
  - Super tutor duties included interfacing with course coordinators and lecturers as to ensure students progressed through the course to their highest potential, providing support to other tutors, and moderating and distributing marking material for the course among other administrative duties.
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RESEARCH EXPERIENCE    **Swinburne CAS Vacation Scholarship**    Nov 2023 – Feb 2024  
Supervisor: Dr. Simon Stevenson

- We developed  $N$ -body simulations in Python/C to model binary black hole formation within active galactic nuclei accretion disks. The simulations were compared to the rate of binary black hole inspiral measured with LIGO/VIRGO.

#### University of Queensland Winter Research Scholarship

2023

Supervisor: Prof. Tamara Davis

- We investigated how the expanding universe induces time dilation in the photometry of Type Ia supernovae. Using data from the Dark Energy Survey (DES), we measured the effective time dilation stretching in light curves as a function of redshift using our own Python algorithms.

#### Undergraduate Research

2022

Supervisor: Dr. Benjamin Pope

- We analysed binary star light curves utilising data from the TESS Space Telescope within Python. We inferred analytic surface maps to each component of the binary stellar system DI Herculis and found that the primary star is likely a SPB star.

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PUBLICATIONS **Ryan White** et al., “*The Dark Energy Survey Supernova Program: Slow supernova show cosmological time dilation out to  $z \sim 1$ .*” arXiv:2406.05050 (2024) [arXiv:2406.05050](https://arxiv.org/abs/2406.05050).

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AWARDS AND **The Andy Thomas Space Foundation Uranus Scholarship**

2024

SCHOLARSHIPS **Dean’s Commendation for Academic Excellence**

2023

**Outstanding Contribution Award** – UQ School of Mathematics and Physics

2022

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OUTREACH **Cosmology Talks** – [Accompanying video for White et al \(2024\) on Cosmological Time Dilation](#)

AND COMMU- **UQ Work Experience Program 2024** – Helped introduce high school students to astrophysics at  
 NICATION UQ, involving programming projects, telescope demonstrations, and a “Meet the Researcher” talk

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TECHNICAL  
SKILLS

- *Programming Languages*: Python, C/C++, Git, Matlab, R, Windows Subsystem for Linux
  - *Misc. Skills*: Proficient in  $\text{\LaTeX}$ , capable ‘*Google-r*’, confident with the Microsoft/Google Suite, VSCode/Spyder, Jupyter Notebooks, among other applications/environments
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REFERENCES **Dr. Benjamin Pope**

University of Queensland - ARC DECRA Fellow and Lecturer in Astrophysics  
[b.pope@uq.edu.au](mailto:b.pope@uq.edu.au)

**Prof. Tamara Davis**

University of Queensland - ARC Laureate Fellow and Lecturer in Physics  
[tamarad@physics.uq.edu.au](mailto:tamarad@physics.uq.edu.au)