

PERSONAL & CONTACT INFORMATION
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EDUCATION

Master of Research (Astrophysics) Jan 2025 – Nov 2025 (expected)
 MACQUARIE UNIVERSITY
 Topic: Radiative and Hydrodynamical Modelling of Colliding Wind Binaries
 Supervisors: A/Prof Benjamin Pope and Prof Orsola De Marco

Bachelor of Science (Hons) Jan 2024 – Nov 2024
 THE UNIVERSITY OF QUEENSLAND
 Graduated with Class I Honours in Physics (Astrophysics)
 Thesis Title: *Geometric Modelling of Wolf-Rayet Binary Colliding Wind Nebulae*
 Supervisors: Dr Benjamin Pope (UQ) and Prof Peter Tuthill (USyd)

Bachelor of Science and Bachelor of Mathematics Jul 2017 – Dec 2023
 THE UNIVERSITY OF QUEENSLAND
Science: Extended Major in Physics
Mathematics: Major in Applied Mathematics

TEACHING EXPERIENCE

SCHOOL OF MATHEMATICAL AND PHYSICAL SCIENCES, MACQUARIE UNIVERSITY

COMP2200 – Data Science 2025–Present
Ran group activity tutorials for classes of ~ 30 computer science students.

PHYS1210 – Physics for Life Sciences 2025–Present
Ran laboratory sessions for classes of ~ 30 first-year students.

SCHOOL OF MATHEMATICS AND PHYSICS, THE UNIVERSITY OF QUEENSLAND
 Teaching evaluations are available on request.

PHYS3080 – Extragalactic Astrophysics & Cosmology 2023–4
Developed a [simulated universe](#) for use in the course, and taught weekly workshops of ~ 30 students.

PHYS3071 – Computational Physics 2024
Developed an interactive Python self-study tool, and tutored the course.

PHYS2082 – Space Science & Stellar Astrophysics 2022–4
Teaching workshops of ~ 60 students and moderated course delivery.

SCIE1000 – Theory & Practice in Science 2021–4
“Super tutored” the course for multiple offerings, and routinely taught classes of ~ 60 students.

PUBLICATIONS

FIRST AUTHOR PUBLICATIONS:

Ryan White, Benjamin Pope, Peter Tuthill et al., “*The Serpent Eating Its Own Tail: Dust Destruction in the Apep Colliding-Wind Nebula*” [arXiv:2507.14610](https://arxiv.org/abs/2507.14610) (2025) — [accessible summary](#)

Ryan White, Tamara Davis, Geraint Lewis et al., “*The Dark Energy Survey Supernova Program: Slow supernovae show cosmological time dilation out to $z \sim 1$.*” [arXiv:2406.05050](https://arxiv.org/abs/2406.05050) (2024) — [accessible summary](#)

SELECT OTHER PUBLICATIONS:

Yinuo Han, **Ryan White** et al., “*The formation and evolution of dust in the colliding-wind binary Apep revealed by JWST*” [arXiv:2507.14498](https://arxiv.org/abs/2507.14498) (2025)

Noel Richardson et al. (including **Ryan White**), “*Carbon-rich dust injected into the interstellar medium by Galactic WC binaries survives for hundreds of years*” [arXiv:2505.11616](https://arxiv.org/abs/2505.11616) (2025)

BOOK CHAPTERS	Ryan White & Peter Tuthill, “Wolf-Rayet Colliding Wind Binaries” arXiv:2412.12534 (2024), for publication in Elsevier’s <i>Encyclopedia of Astrophysics</i>	
TALKS	<p>Astronomy Open Night, Macquarie University – Slides September 2025</p> <p>Stars + Planets Research in Greater Sydney (SPRIGS), Macquarie University August 2025</p> <p>SIfA Seminar, University of Sydney – Slides May 2025</p> <p>CSIRO Co-learnium, CSIRO Marsfield – Slides January 2025</p> <p>Stars in Brisbane Conference, University of Southern Queensland November 2024</p> <p>Physics Club Honours Talks, University of Queensland October 2024</p> <p>Mount Stromlo Student Seminars, Australian National University September 2024</p> <p>UQ Science Undergraduate Research Conference, University of Queensland September 2024</p> <p>Department Astronomy Seminar, University of Tasmania July 2024</p>	
OUTREACH AND COMMUNICATION	<p>Astrobites Writer – Paper summaries available on my author page 2025 – Present</p> <p>Annotated Papers – accessible summaries of my papers</p> <p>Media outreach – I have had media attention surrounding my research, including:</p> <ul style="list-style-type: none">• a press-release program jointly facilitated by Space Telescope Science Institute (STScI), California Institute of Technology (Caltech), and Macquarie University, which is currently embargoed,• an interview for an article covering White et al (2024) in Scientific American,• and another interview for White et al (2025) in IFLScience. <p>Cosmology Talks – Accompanying video for White et al (2024) on Cosmological Time Dilation</p> <p>UQ Work Experience Program 2024 – Helped introduce high school students to astrophysics at UQ, involving programming projects, telescope demonstrations, and a “Meet the Researcher” talk</p> <p>Laura Street Festival 2024 – Ran a stall focusing on solar telescope viewing aimed at the public, fielding any questions</p>	
AWARDS AND SCHOLARSHIPS	<p>Best Masters Poster, Australian Institute of Physics – Link 2025</p> <p>JWST Australian Data Centre Travel Grant (\$900 AUD) 2025</p> <p>The Andy Thomas Space Foundation Uranus Scholarship (\$10k AUD) 2024</p> <p>Best Science Talk, Mount Stromlo Student Seminars 2024</p> <p>Student Publication Award Honourable Mention, University of Queensland, for White et al (2024) arXiv:2406.05050 2024</p> <p>Honours Research Project Runner-Up, UQ Science Undergraduate Research Conference 2024</p> <p>Dean’s Commendation for Academic Excellence 2023, 2024</p> <p>Outstanding Contribution Award, UQ School of Mathematics and Physics 2022</p>	
FURTHER RESEARCH EXPERIENCE	<p>CSIRO Undergraduate Vacation Scholarship Nov 2024 – Feb 2025</p> <p>Supervisor: Dr Andrew Zic</p> <ul style="list-style-type: none">• The project included analysing and cleaning large volumes of interferometric ATCA and ASKAP radio data and developing a new pipeline to search for periodic pulses associated with long period radio transients. An academic paper is currently in preparation based on my work. <p>Swinburne CAS Vacation Scholarship Nov 2023 – Feb 2024</p> <p>Supervisor: Dr Simon Stevenson</p> <ul style="list-style-type: none">• I devised the research question for this project which involved me developing N-body simulations in Python/C using the open-source code Rebound. We modelled binary black hole formation within active galactic nuclei accretion disks, and made available our code integrating approximate general relativistic effects into the open-source code.	

Supervisor: Prof Tamara Davis

- Using data of ~ 1500 supernovae from the Dark Energy Survey (DES), I developed data-driven techniques to measure the time dilation of our expanding Universe, publishing a paper on our results (in [White et al \[2024\]](#)).

Undergraduate Research

Jun – Nov 2022

Supervisor: Dr Benjamin Pope

- Using high cadence time-series data from the TESS Space Telescope, I inferred analytic surface maps of the surfaces of stars. I found that one star in the DI Hercules system is a long-period variable, and our results are awaiting publication.

OBSERVING
AND
PROPOSALS**Primary Investigator:**

- VLTI observing of the colliding wind binary *Apep*, ESO Period 114 2024/5

Co-Investigator:

- ATCA Observing of Long Period Radio Transients, ATNF Semester 2025APRS 2025

Observing:

- Australian Telescope Compact Array (ATCA), 24hr 2025

TECHNICAL
SKILLS

- *Programming Languages:* Python/JAX, C/C++, Git/Bash, R, Matlab, WSL/Linux, HTML
- *High-Performance Computing:* I have frequently run code on the HPC systems *OzStar* (Swinburne) and *getafix + Bunya* (University of Queensland), using the Slurm scheduling language
- *Misc. Skills:* Proficient in L^AT_EX, Python IDEs (e.g. VSCode), Jupyter Notebooks, among other applications/environments
 - I was a self-taught, professional artist for 3 years (2017-2020, [view here](#)), specialising in photo-realistic small scale landscapes in oil and acrylic media for which I won several statewide and local awards. I was represented in 19Karen Gallery for 2 years, and sold numerous artwork for thousands of AUD to collectors and via commissions. This experience is something I continue to bring into my work, e.g. my annotated paper summaries.