# Daniel Lyon — Curriculum Vitae

## Personal Information


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H-Index: 1 (June 2025; 2 published papers; 4 total citations)

## Research Interests

High-redshift galaxies, galaxy evolution, infrared galaxies, AGN co-evolution, cosmic-dawn, interstellar medium, evolution of gas and dust

## Education

July 2025 — Present
**Doctor of Philosophy (PhD) — Astrophysics**
*Swinburne University of Technology*
Thesis: The First Galaxies and Supermassive Black Holes with the James Webb Space Telescope

Mar 2023 — Mar 2025
**Master of Philosophy (M.Phil) — Astrophysics**
*Queensland University of Technology*
Thesis: The Evolution of the Bolometric AGN Luminosity Function via ZFOURGE

Feb 2020 — Nov 2022
**Bachelor of Science (B.Sc) — Physics**
*Queensland University of Technology*
Grade Point Average (GPA): 6.3 / 7 (90%; U.S. = 3.6 / 4)

## Research Experience

Nov 2023 — Feb 2024
**Summer Research Student**
The Centre for Astrophysics and Supercomputing — Swinburne University
Project: Understanding Ultra Diffuse Galaxy Formation with the Keck Telescopes

Nov 2022 — Feb 2023
**Summer Research Student**
The International Centre for Radio Astronomy Research — Curtin University
Project: Monster Black Holes at the Dawn of Time

Nov 2021 — Feb 2022
**Summer Research Student**
Queensland University of Technology
Project: Investigating Obscured Active Galactic Nuclei Detection Techniques with Infrared Light

## Teaching Experience

July 2023 — Present
**Sessional Academic (QUT)**
Undergraduate Classes: PVB210, PVB220, SEB104, SEB108, SEB122, IFB104.

Apr 2022 — Mar 2024
**STEM Ambassador (QUT)**
Volunteer Undergrad Tutor: Various maths, science, physics, & programming classes.
Advanced High School Tutorials: Code a Solar System, Python Cars of the Future, Rockets 101, Understanding Space Time & relativity

## Honours & Awards

| **Total**: | **AU$230,000** |
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| Apr 2024 | Swinburne University PhD & Stipend (AU$34,700/yr) |
| Oct 2024 | QUT HDR allowance top-up AU$2,500 |
| Nov 2023 | CAS-Swinburne Summer Scholarship AU$6,000 |
| Oct 2023 | Experiential Development Fund AU$2,000 travel grant |
| Sep 2023 | School of Chemistry & Physics AU$1,500 travel grant |
| Mar 2023 | QUT RTP Scholarship AU$33,500/yr (total AU$67,000) |
| Nov 2022 | ICRAR-Curtin Summer Scholarship AU$10,200 |
| Nov 2021 | QUT Vacation Research Scholarship AU$2,000 |
| 2020 — 2022 | Dean's Commendation for Excellent Academic Performance × 3 |

## Publications

6. **Future work:** collaboration with Vera Delfavero (NASA Goddard Space-Flight Center)

5. **Future work:** James Webb MINERVA and UNCOVER teams.

4. Seymour, N., **Lyon, D. J.***, Broderick, J. W. **In Prep**. *zFinder: a new tool for ALMA redshift determination*. Astronomy and Computing.
   * *published Python package to PyPI as zfinder*

3. Hedge, A., Seymour, N., **Lyon, D. J.**, Broderick, J. W., et al. **In Prep**. *Evidence of a NIR-dark $z \sim 3.9$ protocluster pinpointed by powerful radio galaxy: A radio-loud analogue of JWST Little Red Dots?*. The Astrophysical Journal.

2. **Lyon, D. J.**, Cowley, M. J., Pye, O., & Hopkins, A. M. 2024, Decomposing Infrared Luminosity Functions into Star-Forming and AGN Components Using CIGALE, PASA, doi: arXiv.2410.08541

1. Forbes, D. A., **Lyon, D.***, Gannon, J., Romanowsky, A. J., & Brodie, J. P. 2024, Publications of the Astronomical Society of Australia, 41, e044, doi: 10.1017/pasa.2024.41
   * *all data reduction, analysis, and figures.*

## Invited Talks/Conferences

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| Dec 2024 | **Poster**, Evolution of Dust and Gas throughout Cosmic Time — Hiroshima, Japan |
| Oct 2024 | **Talk**: *Infrared Luminosity Functions of High Redshift Galaxies & AGN* — Queensland University of Technology |
| Sep 2024 | **Talk**: *Infrared Luminosity Functions of High Redshift Galaxies & AGN* — Australian National University |
| Jul 2024 | **Poster & Sparkler**, ASA Annual Science Meeting — Online, Australia |
| Jun 2024 | **Organising Member**, Harley Wood School of Astronomy — Sydney, Australia |
| Sep 2023 | **Attending**, ATNF Radio Telescope School — ATCA, Narrabri, Australia |
| Aug 2023 | **Attending**, ASA ECR Python Workshop — Online, Australia |

## Leadership & Service

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| 2024 | **Organising Committee Member** for the QUT Science Fair (Undergraduate & Postgraduate Conference) |
| 2024 | **Scientific Organising Committee Member** for the Harley Wood School of Astronomy (Astronomical Society of Australia) |
| Nov 2023 — Present | **Secretary of the Science HDR Society**: organising social & personal development events for research students (Queensland University of Technology) |
| Nov 2022 — Nov 2023 | **College of Excellence Fellow**: organising social & personal development events for high achieving undergraduates (Queensland University of Technology) |

## Observing Experience

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|---|---|
| Nov 2023 | **Keck Telescopes** — 1x Full night of science observations (remote; Swinburne) |
| Sep 2023 | **Australian Telescope Compact Array** — Tutorial (onsite; Narrabri) |

## Memberships

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|---|---|
| 2023 — Present | Astronomical Society of Australia |
| 2022 — Present | Australian Institute of Physics |

## References


Michael Cowley — Senior Lecturer
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Andrew Hopkins — Professor (US: Dist. Prof.)
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