

Cian O'Toole

📍 Dublin, Ireland ✉ cotoole3@tcd.ie 🌐 My Website [🔗](#)

Education

Trinity College Dublin

Sept 2023 – Sept 2027

PhD in Astrophysics: Weather on Worlds Beyond our Own.

I am researching the drivers of variability in early L-dwarfs, whether they be due to clouds, aurora or magnetic spots. I also have a keen interest in exo-aurora.

Supervisor: Prof. Johanna Vos

Trinity College Dublin

Sept 2019 – May 2023

BA in Physics and Astrophysics

- Grade: 2.1

Talks

- Invited talk University of Cologne, School of Physics Seminar, November 2025
- Contributed talk at Other World's Laboratory, UCSC, California, USA, July 2025
- Contributed Talk at European Astronomical Society Conference, Cork, Ireland, June 2025
- Invited Talk at the DUBlin STar formation, deBris dIsks and plaNets (DUSTBIN) meeting, October 2024.
- Contributed Talk at Irish National Astronomical Meeting, Galway, Ireland, August 2024.
- Contributed Talk at Dublin-Belfast Exoplanet meeting, August 2024.

Posters

- Poster at the Institute of Physics Ireland Spring Conference, Galway, Ireland, February 2025
- Poster at Carl Sagan Summer School, July 2024.
- Poster at Cool Stars 22, San Diego, California, USA, [June 2024](#) [🔗](#).

Telescope Time

- HST Cycle 33: *UV Exo-Aurorae: Multi-Wavelength Observations of a Radio Emitting T-dwarf to confirm Auroral Activity in the Ultraviolet*, PID 18113, 6 orbits
PI: O'Toole C
- **PI: O'Toole C**, VLA, 4.3 hours, PID 18113
- JWST Cycle 4: *Storms are Brewing in the ONC: Variability Monitoring of 50 Substellar Worlds*, PID 8155.
PI Limbach M, Co-PI Vos J
Co-I **O'Toole C**

Peer Reviewed Publications

- *The JWST Weather Report from the Isolated Exoplanet Analog SIMP 0136+0933: Pressure-Dependent Variability Driven by Multiple Mechanisms*, The Astrophysical Journal Letters
Allison McCarthy, Johanna Vos, Philip Muirhead et al.; + 17 other co-authors, incl. **O'Toole, C**.
- *The JWST Weather Report: auroral heating and patchy clouds on SIMP J0136 measured with time-resolved atmospheric retrievals.*, Astronomy and Astrophysics
Evert Nasedkin et al, incl. **O'Toole C**
- *Disentangling Auroral and Cloud Variability in Early L Dwarfs*
O'Toole et al. (in prep).

Grants and Awards

- Astro/Code Travel Grant \$1220, August 2025.
- NASA JPL travel grant, Cool Stars 22, \$900, June 2024.
- Runner up in TCD School of Physics Tercentenary *3 Minute Thesis* competition, €100, April 2024.

Outreach

- Volunteer at EAS 2025, Cork, Ireland.
- Talk at Pint of Science, Dublin, May 2025
- Space Week talk at Explorium, Dublin, Ireland, [October 2024](#) 
- SFI Curious Minds for National Science Week, [October 2024a](#) , [October 2024b](#). 
- TCD Astrophysics Seminar Organiser, September 2024 - present.
- TCD School of Physics Annual Charity Fundraiser Organizer, 2022 - present (€4,200 raised).

Teaching

- Teaching Assistant in the 3rd year undergraduate experimental labs, September 2023 - Present