
Christopher Monaghan
University of California, Los Angeles
Department of Earth, Planetary, and Space Science
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Education

University of California, Los Angeles March 2026 - Present
PhD in Planetary Science
Research Supervisor: Professor Björn Benneke

University of Montreal May 2024 - March 2026
M.Sc. in Physics
GPA: 4.3/4.3
Research Supervisor: Professor Björn Benneke

University of Calgary Sept. 2019 - May 2023
B.Sc. Honours in Astrophysics, First Class
GPA: 3.94/4.00
Dean's List: 2019-2020, 2020-2021, 2021-2022

Academic Research

M.Sc. Thesis May 2024 - April 2026
University of Montreal
Supervisor: Professor Björn Benneke
Atmospheric characterization of rocky exoplanets using emission spectroscopy

Undergraduate Honours Research Thesis Sept. 2022 - April 2023
University of Calgary
Supervisor: Dr. Rene Plume
The evolution of chemical abundances surrounding high mass protostars — A chemical analysis of IRAS-20126.

PURE Research Studentship May 2022 - Jan. 2023
University of Calgary
Supervisor: Dr. Denis Leahy
UVIT Analysis of Ultra-Violet Emitting SNRs in the Andromeda Galaxy.

Publications

Monaghan, C., Yee, S. W., Benneke, B., et al. 2025. "Rejuvenation of WASP-107 b: a robustly non-circular orbit suggests ongoing deflation from a past high-eccentricity migration", *Submitted for Publication*

Connors, N. J., **Monaghan, C.**, Benneke, B., Dang, L., & Roy, P. A. 2026. "GJ 3929 b as the First Complete Rocky Worlds DDT Data Set", *The Astrophysical Journal Letters*, 1006, 1. <https://doi.org/10.3847/2041-8213/ae8018>

Monaghan, C., Connors, N. J., Benneke, B., Coulombe, L. P., & Roy, P. A. 2025. “Uniform Reinterpretation of Rocky Exoplanet Secondary Eclipse Observations and the Impact of Stellar and Orbital Uncertainties”, *The Astronomical Journal*, 171, 5. <https://doi.org/10.3847/1538-3881/ae5ba5>

Coulombe, L. P., and 27 others including **Monaghan, C.**, 2025. “Possible presence of volatiles on the warm super-Earth TOI-270 b”, *The Astronomical Journal*, 170, 4. <https://doi.org/10.3847/1538-3881/adfc6a>

Connors, N. J., **Monaghan, C.**, Benneke, B., & Dang, L. 2025. “Uniform Reanalysis of JWST MIRI 15 μ m Exoplanet Eclipse Observations Using Frame-normalized Principal Component Analysis”, *The Astrophysical Journal Letters*, 989, L11. <https://doi.org/10.3847/2041-8213/adee0d>

Monaghan, C., Roy, P. A., Benneke, B., et al. 2024. “Low 4.5 μ m Dayside Emission Disfavours a Dark Bare-Rock scenario for the Hot Super-Earth TOI-431 b”, *The Astronomical Journal*, 169, 239. <https://doi.org/10.3847/1538-3881/adbe75>

Freeman, O., Bottinelli, S., Plume, R., Caux, E., **Monaghan, C.**, & Mookerjee, B. 2023. “Parsec scales of carbon chain and complex organic molecules in AFGL 2591 and IRAS 20126”, *Astronomy & Astrophysics*, 678, A18. <https://doi.org/10.1051/0004-6361/202347263>

Leahy, D., **Monaghan, C.**, & Ranasinghe, S. 2023. “Discovery of 20 UV Emitting SNRs in M31 with UVIT”, *The Astronomical Journal*, 165, 116. <https://doi.org/10.3847/1538-3881/acb68d>

Awards & Grants

Canadian Student Participation in Space Conferences and Training Events Grant	 CSA, 2025, \$1,550
Canadian Graduate Scholarship - Master’s Program	 NSERC, 2025, \$27,000
FRQNT Master’s Research Scholarship	 FRQ, 2025, (declined), \$20,000
FESP Excellence Scholarship in the Department of Physics	 University of Montreal, 2024, \$10,000
2024 Centennial Scholarship	 University of Montreal, 2024, \$10,000
Jean-Marc Lauzon Excellence Grant	 University of Montreal, 2024, \$5,000
Louise McKinney Post-Secondary Scholarship	 University of Calgary, 2022, \$2,500
NSERC Undergraduate Student Research Award	 University of Calgary, 2022, (declined), \$7,500
Program for Undergraduate Research Experience Award	 University of Calgary, 2022, \$7,500
Jason Lang Scholarship	 University of Calgary, 2021, \$1,000
Jason Lang Scholarship	 University of Calgary, 2020, \$1,000
President’s Admission Scholarship	 University of Calgary, 2019, \$5,000
Copp Family Scholarship	 University of Calgary, 2019, \$4,190
Gold Standard Entrance Scholarship	 University of Alberta, 2019, (declined), \$6,000
Alexander Rutherford Scholarship	 Government of Alberta, 2019, \$2,500
Excellence in Mathematics	 Westmount Charter High School, 2019

Observational Programs

Las Cumbres Observatory

PI of Directors Discretionary Programs *DDT2026A-008* and *DDT2026B-001*: “Are flares visible in the mid-infrared? Parallel observations of JWST rocky world eclipse photometry with the Las Cumbres Observatory”

Seminars & Workshops

Rocky Worlds DDT Workshop November 2026
Space Telescope Science Institute
Contributed Talk

Rocky Worlds 4 January 2026
University of Groningen
Contributed Talk

ExoCLIMES VII Conference July 2025
Université de Montréal
Poster Presentation

ExoSLAM Workshop July 2025
Université de Montréal
Attendee

AstroQuebec Annual Seminar May 2025
Flash Talk

2023 Sagan Summer Workshop - Characterizing Exoplanet Atmospheres July 2023
California Institute of Technology
Attendee (Remote)

Summer 2023 Online Lecture Series in Particle & Condensed Matter Physics July 2023
University of Tennessee
Contributed Talk (Remote)

CaNoRock XXI Exchange Program March 2023
Andøya Space Center, Norway

Hands on experience in sounding rocket and payload instrument design in an active launch site. Construction and testing of magnetometer sensor equipment. Wiring and connection to rocket payload. Data collection and analysis in Python. Effective communication and teamwork necessary for successful payload design and launch.

Relevant Work Experience

High School Chemistry Laboratory Technician Aug. 2019 - July 2023
Westmount Charter High School

Development and execution of various laboratory procedures in a team-oriented environment. Completion of goals within time constraints. Flexibility to adhere to changes in plans if necessary. Organization of lab stations and handling of various chemical compounds. Planning of future laboratory procedures, and ensuring that all procedures are safe and effective for a learning environment.