

Pamela Freeman

(she/her)

Edmonton, Alberta, Canada

pamela.freeman@ucalgary.ca | pfreeman.ca

I am an observational astronomy and science communicator. I recently defended my PhD in astrophysics with a thesis on the chemical make-up of star-forming regions. I am a dedicated member of my student and research communities, through which I have developed data analysis, leadership, collaboration, and project management skills. I hope to use and build on these skills, pairing them with my curiosity for all facets of the Universe, moving forward in my career.

Academic Education

Jan 2020 – present	Doctor of Philosophy, Specialization in Astrophysics University of Calgary, Calgary, Alberta, Canada Cumulative GPA of 3.85 Transformative Talent Internship — Science Communication, European Southern Observatory, Garching bei München, Germany
Sept 2017 – Dec 2019	Master of Science, Specialization in Astrophysics University of Calgary, Calgary, Alberta, Canada First Class Standing, cumulative GPA of 4.0
Sept 2011 – April 2016	Bachelor of Science in Physics and Biological Sciences, with Distinction University of Alberta, Edmonton, Alberta, Canada First Class Standing, cumulative GPA of 3.8 Science Internship Program — Land Reclamation Intern, Canadian Forest Service Education Abroad Program — semester at University of Queensland, Australia

Work Experience

Sept 2023 – Feb 2024	Science Communication Intern Department of Communications, European Southern Observatory <i>I researched, wrote, and edited news and press releases, web pages, video scripts, and other outreach material. I also supported the social media team.</i>
May – August 2016	Undergraduate Research Assistant Supervisors: Dr. Gregory Sivakoff and Dr. Erik Rosolowsky Department of Physics, University of Alberta <i>I processed and analyzed observational astronomical data from ALMA.</i>
Jan – April 2016	Undergraduate Research Project (PHYS 499) Supervisor: Dr. Erik Rosolowsky Department of Physics, University of Alberta <i>I processed and analyzed observational astronomical data from ALMA.</i>
May – Dec 2015	Land Reclamation Intern Supervisor: Dr. Bradley Pinno Northern Forestry Centre, Canadian Forest Service

I assisted with plant ecology fieldwork, processed samples, and analyzed the resulting data for multiple reclamation projects on oil sands and natural forest sites.

Volunteer Experience

Dec 2024 – present	Columnist Journal of the Royal Astronomical Society of Canada <i>I research and write articles focusing on current news in radio astronomy.</i>
Oct 2024 – present Jan – June 2017	Gallery Interpreter Telus World of Science Edmonton <i>I lead science demonstrations and guide visitors through various galleries.</i>
May 2022 – Present	Volunteer The Physics and Astronomy Mentor Talks, University of Calgary <i>I co-founded a series of outreach videos highlighting underrepresented groups in physics. I direct, support editing, and led the initial advertising on social media.</i>
May 2021 – Present	Volunteer Writer The Gauntlet, University of Calgary's student publication <i>I research and report on science and news stories relevant or of interest to the Calgary student population.</i>
May 2021 – May 2023	Volunteer Department of Physics and Astronomy Equity, Diversity, and Inclusion Committee <i>I collected and promoted educational resources for the department, as well as collaborating with the graduate association to support student concerns.</i>
May 2022 – June 2023 May 2020 – May 2021 May 2020 – June 2023	Vice-Chair Equity and Inclusivity Committee Representative University of Calgary Representative Canadian Astronomical Society Graduate Student Committee <i>I worked closely with the Chair to plan and guide GSC events, including seminars and educational workshops. I also managed the social media accounts. I worked with the EIC to advocate for graduate student interests and helped develop EDI resources.</i>
April 2019 – April 2021	Co-chair Physics and Astronomy Departmental Graduate Association <i>I oversaw the planning and execution of academic and social activities for graduate students. Notably, I led the creation and implementation of the PHAS Graduate Assistant Workshop, which is an annual orientation.</i>

Observing Proposals

Submillimeter Array, *Where are the Carbon Chain Molecules in DR21(OH)?*, observed in semester 2022A, 14 hours

Green Bank Telescope, *Complex Organics vs Warm Carbon Chain Molecules in High Mass Star Forming Regions*, observed in semester 2021A, 13 hours

IRAM 30m Telescope, *Complex Organics vs Warm Carbon Chain Molecules in High Mass Star Forming Regions*, observed in winter semester 2020/2021, 21 hours

ARO Submillimeter Telescope, Complex Organics vs Warm Carbon Chain Molecules in High Mass Star Forming Regions, observed in semester 2020B, 54 hours

Teaching Experience

Jan – April 2019	PHYS 497 Teaching Assistant, University of Calgary Applied Physics Laboratory II
May – June 2018	PHYS 211/221 Teaching Assistant, University of Calgary Mechanics
Jan – April 2018	PHYS 223 Teaching Assistant, University of Calgary Introductory Electromagnetism and Thermal Physics

Skills

Technical	Microsoft Office Suite, Google Workspace, Python, LaTeX, shell
Languages	English (fluent)
Soft	Collaboration, oral and written communication, problem-solving, critical thinking

Select Presentations

Among 13 conference or seminar talks and 4 posters

- P. Freeman**, Radio Astronomy for Non-Radio-Astronomers, ESO Astronomy for Non-Astronomers series, February 22, 2024, Garching, Germany (Seminar talk)
- P. Freeman**, R. Plume, E. Caux, S. Bottinelli, B. Mookerjea, Parsec Scales of Carbon-based Complex Molecules in High Mass Star Forming Regions, 2023 Kavli-IAU Astrochemistry Symposium - Astrochemistry VIII, July 10-14, 2023, Traverse City, USA (Poster presentation, contributed)
- P. Freeman**, J.C. Brown, T. Landecker, K. Vanderlinde, A Modern Correlator for DRAO's Synthesis Telescope, TomFest, June 19-21, 2023, Penticton, Canada (Contributed talk)
- P. Freeman**, R. Plume, E. Caux, S. Bottinelli, B. Mookerjea, The Carbon-based Complex Molecules of the High Mass Star Forming Region IRAS 20126, Canadian Astronomical Society Annual Meeting, June 12-16, 2023, Penticton, Canada (Contributed talk)
- P. Freeman**, R. Booth, Hello Darkness, My Old Friend: Recapturing the Wonder of the Night Sky, Scientists Sharing Science series, May 24, 2022, Calgary Public Library, Calgary, Canada (Public talk)

Honors and Awards, Graduate

May 2024	Faculty of Graduate Studies Doctoral Scholarship Institutional award for excellence
September 2023	Transformative Talent Internship Scholarship Institutional award to support internship opportunities
December 2022	NSERC CGS-Michael Smith Foreign Study Supplement Federal award supplement for foreign research opportunities

December 2021	The <i>Gauntlet</i> Yacowar Scholarship Institutional award for student journalism
March 2020, April 2021	GSA Graduate Representative Council Initiative Award Institutional award recognizing initiative to improve the graduate student experience
May 2019	NSERC Canada Graduate Scholarship – Doctoral Federal award for academic excellence and research potential
May 2019	Eyes High Doctoral Recruitment Scholarship Institutional award for academic excellence and research potential
Feb 2019	Alberta Graduate Student Scholarship Provincial award for academic achievement in a Master’s program
May 2018	NSERC Canada Graduate Scholarship – Master’s Federal award for academic excellence and research potential
May 2018	Faculty of Graduate Studies Master’s Research Scholarship Institutional award for exceptional achievement and research
Sept 2017	Queen Elizabeth II Graduate Scholarship (Master’s) Provincial award for academic excellence; graduate level