

Dr. Stephanie Monty

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Address:

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Research Interests

Galactic Archaeology, high precision stellar abundances, globular cluster dynamics, adaptive optics, Milky Way dynamics, galactic chemical evolution

Current Positions

CIERA Independent Research Fellow CIERA, Northwestern University
September 2025 - August 2026

Assistant Professor Astronomy Department, New Mexico State University
August 2025 -

Past Positions

Postdoctoral Research Associate Institute of Astronomy (IoA), Cambridge
October 2022 - October 2025
Supervisors: [Prof. Vasily Belokurov](#) and [Prof. Wyn Evans](#).

College Research Associate St. John's College, Cambridge
October 2023 - October 2025

Education

Doctor of Philosophy (Astrophysics) Australian National University
October 2018 - 2022
Conferred in December, 2023
Supervisors: [Em.Prof. Ken Freeman](#), [Prof. François Rigaut](#), [Dr. David Yong](#), [Dr. J. Trevor Mendel](#)

Bachelor of Science (Honours, Co-op) University of Victoria (Canada)
September 2012 - April 2018
Combined Major in Astronomy & Physics, Minor in Mechanical Systems

Honors and Scholarships

NSERC Banting Fellowship (Declined), 23 awards total, ranked 8/195	2025
Dunlap Fellowship (Declined)	2025
Plaskett Fellowship (Declined)	2025
Charlene Heisler Award for Best Australian PhD Thesis Nominee	2024
NSERC PGS-D (Natural Sciences & Research Council of Canada)	2020
Olin J Eggen Research Award (ANU)	2020
Award for Space Plasma, Astronomy & Astrophysics (ANU)	2019
HDR Fee Remission Merit Scholarship (ANU)	2018
International Student Scholarship (ANU)	2018
NTCO-CREATE Studentship (UVic)	2017

NSERC USRA (Natural Sciences & Research Council of Canada)	2017
Faculty of Science Honours Fest First Place (UVic)	2017
Physics and Astronomy Co-op Student of the Year (UVic)	2016
Entrance Scholarship (UVic)	2012

Research Experience

4MOST Consortium Permanent Member

Primary Survey Lead: [Prof. Norbert Christlieb](#) Sept. 2022 - Present

- Member of the High Resolution Milky Way Halo (S2), Globular Cluster (S13) and Dwarf Galaxies & Streams Survey (4DWARFS) surveys.
- Survey node for S13, performing first look checks on the data during the survey validation phase.
- Co-lead of the metal-poor star module in the Galactic Pipeline Working Group

MAVIS Instrument Science Team Member

MAVIS Scientist: [Prof. Richard McDermid](#) Sept. 2018 - Present

Member of the [MCAO Assisted Visible Imager and Spectrograph Science](#) team since the start of my PhD. Active contributor to the astrometric working group.

Sloan Collaboration Member

SDSS-V Director Prof. Juna Kollmeier Sept. 2025 - Present

CREATE Student: Characterising Mauna Kea Spectroscopic Explorer Candidate Fibres

Supervisors: [Prof.s Kim Venn & Colin Bradley](#) (UVic) Sept. 2017 - April 2018
Constructed an optical test bench to explore fibre focal ratio degradation.

NSERC USRA Scholar: Chemical Abundances of Accreted Halo Stars

Supervisor: [Prof. Kim Venn](#) (UVic) May 2017 - August 2017
Derived chemical abundances and orbits from high resolution spectroscopy.

NSF Science Intern: Absolute Ages of Globular Clusters from Adaptive Optics Data

Supervisors: [Dr.s Rodrigo Carrasco & Bryan Miller](#) (Gemini Observatory)
Sept - Dec. 2015, May - Aug. 2016
Analysed near-IR adaptive optics data of star clusters.

CADC Intern: Searching for Kuiper Belt Objects in the OSSOS Survey

Supervisors: [Dr.s JJ Kavelaars & Michele Bannister](#) (NRC Herzberg)
January - April 2014

Related Employment

Communications Assistant (Astronomy Research Centre)

Supervisor: [Prof. Kim Venn](#) (UVic) Sept. 2016 - January 2017

Worked directly with the Director to create the first edition of the [ARC newsletter](#), authoring, co-authoring and edited 6/8 included articles.

Astronomy Open House Facilitator (UVic Observatory)

Supervisor: [Dr. Karun Thanjavur](#) (UVic) Jan. 2016 - May 2016

Led tours and live observing sessions for the public with a small group of undergraduate students, using the UVic 0.8m telescope.

Astronomy Interpreter (Centre of the Universe)

Supervisor: [Eric Chisholm](#) (NRC Herzberg) May - September 2013

Presented interactive programs and live observing sessions with the 1.8m Plaskett telescope and ran educational summer camps for children ages 6-10.

Teaching Experience

Lecturer, MWGaiaDN School: Galaxy Modeling and the Galactic Centre

December 9-15, 2024

University of Surrey

Invited to deliver lectures and supervise student projects on galactic chemical evolution as part of the PhD winter school organised by Prof. Daisuke Kawata.

Lecturer and Course Coordinator, IoA (Cambridge) January - May 2024

Department of Physics, MPhil in Data Intensive Science

Designed and delivered a new 16 lecture course on Galactic Archaeology, co-led by two other post-docs. Created the syllabus and course work from scratch and assessed students via oral examinations.

PhD Co-Supervisor, IoA (Cambridge)

October 2022-Present

PhD in Astronomy Program

Co-supervised PhD students Elliot Davies and Adam Dillamore on specific projects, both of which led to publications. Formal co-supervisor for PhD student Sarah Kane, performing high resolution spectroscopy.

Part III/MASt Supervisor, IoA (Cambridge)

October 2022-Present

Part III/MASt Course

Primary supervisor for two Masters students (one in 2022/23, one in 2023/24) and co-supervisor to another (2023/24), undertaking year long research project examining high resolution spectra, adaptive optics simulations and models of primordial star clusters.

	Guest Lecturer, IoA (Cambridge)	November 2022
	Part III Course: Modern Stellar Dynamics	
	Delivered a Masters-level lecture on the chemical history of the Milky Way, focusing on coupling chemistry and dynamics. Filled in for Dr. Eugene Vasiliev	
	Teaching Assistant, RSAA (ANU)	Spring 2019, 2020
	ASTR2013: Foundations of Astrophysics	
	Assisted Prof. Mike Ireland in delivering 2h tutorials for the students. Facilitated a three day field trip to Siding Spring Observatory, including collecting observations and designing a globular cluster photometry project.	
	Teaching Assistant, Research School of Physics (ANU)	Fall 2019, 2020
	PHYS1013: Physics of Materials	
	Assisted A.Prof Adrian Lowe in running 2h tutorials covering mechanical, electrical, thermal and optical properties of crystalline materials in person and over Zoom.	
	Teaching Assistant, Research School of Physics (ANU)	Fall 2020
	Second Year Labs	
	Worked under Dr. Giovanni Guccione facilitating Peltier module and Compton scattering experiments during in-person lab sessions.	
Industry Experience	FLIR Systems (Point Grey) , Research Group	Vancouver, BC, Canada
	Optical Engineering Intern	Summer 2018
Select Observing Proposals	Keck/HIRES, (10m telescope, awarded 12h)	
	P.I. S. Monty , Co.I's Z. Yuan, T. Matsuno, V. Belokurov et al., 2026A.	
	MMT/Hectochelle (6.5m telescope, awarded 2 nights)	
	P.I. S. Monty , Co.I's N. Caldwell, M. Walker, K. C. Freeman et al., 2026A.	
	VLT/UVES, (8m telescope, awarded 14h)	
	P.I. S. Monty , Co.I's V. Belokurov, S. Kane, M. McKenzie et al., 2024A.	
	VLT/CRIRES (8m telescope, awarded 18h)	
	P.I. D. Massari Co.I's S. Monty , M. Bellazzini, E. Dalessandro et al., 2022B.	
	GeMS/GSAOI/Gemini South (8m Telescope, awarded 4h)	
	P.I. S. Monty , Co.I's D. Massari, K.C. Freeman, F. Rigaut et al., 2022A.	
	GeMS/GSAOI/Gemini South (8m Telescope, awarded 15h)	
	P.I. S. Monty , Co.I's D. Massari, K.C. Freeman, G. Fiorentino, et al., 2020B.	
Talks & Posters	Bridging scales Star Cluster Conference (contributed talk)	Sept. 2025
	sirEN Conference (contributed talk)	June 2025
	Institute of Astronomy, Cambridge (invited)	May 2025
	University of Surrey Astrophysics Group (invited)	April. 2025

University of Chicago Cosmology Group Meeting (invited)	Jan. 2025
Northwestern Theory Group Meeting (invited)	Jan. 2025
New Mexico State University Astronomy Seminar (invited)	Jan. 2025
University of Hertfordshire Astronomy Seminar (invited)	Oct. 2024
University College London Astronomy Seminar (invited)	Oct. 2024
Herzberg Astronomy & Astrophysics Summer Seminar (invited)	Aug. 2024
Royal Astronomical Society National Meeting (invited talk)	July 2024
The Milky Way Assembly Tale Conference (contributed talk)	May 2024
Strasbourg Astronomical Observatory Seminar (invited)	Feb 2024
St. Mary's University Astronomy Seminar (invited)	Feb 2024
Research School of Astronomy & Astrophysics Seminar (invited)	Dec 2023
Liverpool John Moores University Seminar (invited)	Oct 2023
Royal Astronomical Society National Meeting (contributed talk)	July 2023
Adaptive Optics for Extremely Large Telescopes 7 (invited talk)	June 2023
Cambridge Institute of Astronomy Seminar (invited)	May 2023
Agnes L. Mathers Elementary School (outreach talk)	April 2023
Raincoast Education Soc. Speaker Series (asked to repeat)	April 2023
Raincoast Education Soc. Speaker Series (invited outreach talk)	March 2023
Institute of Astronomy Outreach (outreach talk)	Feb. 2023
Melbourne University Astrophysics Group Seminar (invited)	Sept 2022
Astronomical Soc. of Australia Science Meeting (contributed talk)	June 2022
University of Queensland, Astrophysics Group Seminar	April 2022
COST-MW PhD School (contributed talk)	Oct. 2021
Astronomical Society of Australia Science Meeting (awarded Best Student Talk)	July 2021
Second MAVIS Science Meeting (contributed talk)	July 2021
AO4Astro2 (contributed talk)	June 2021
ASTRO3D ECR Seminar Series (contributed talk)	May 2021
Second Aus-ESO Conference (contributed talk)	Feb 2020
MAVIS Science Workshop (contributed talk)	Nov 2019
IAUS 351: Star Clusters Symposium (poster)	May 2019
Professional Development	• Attended the 2024 arXiv Accessibility Forum workshop. Topics included, sonification and A.I. and accessibility.
	• Completed the University of Alberta's Indigenous Canada course through Coursera.
	• Participated in the Lorentz Workshop titled, "Gravitational waves: a new ear on the chemistry of galaxies" University of Leiden, Netherlands, April 2024.

- Attended and participated in discussion titled, “The wrong of slavery cannot be put right - so how should we think about reparation?” by Prof. Catherine Hall, Cambridge, October 2023.
- Participated in an Acknowledgement of Country training session led by the Fenner Decolonial Research and Teaching Circle, Research School of Astronomy & Astrophysics, ANU, 2021.
- Participated in a Mental Health First Aid course and Understanding Sexual Violence and Bystander Intervention, ANU, 2020-2022
- Attended the “The Milky Way in the Gaia Era” (Winter School), Saas-Fee, Switzerland, January 2019.
- Attended the Introduction to Astronomical Instrumentation Summer School at the Dunlap Institute (University of Toronto), Canada, July 2017

Skills

Programming

- Proficient in: Python and MATLAB
- Basic experience with: Fortran, IDL, C, C# and Java
- Author of: [MAVISIM](#) adaptive optics image simulator, written in Python
- Proficient user of [galpy](#) Python galactic dynamics package, [MOOG](#) radiative transfer code and DAOPhot photometry software
- Comfortable using [NBODY-6](#) *N*-body software

Languages

- English (fluent), Spanish (intermediate), Italian and Scots Gaelic (beginner)

Service and Outreach

Referee National Science Centre, Poland

September 2024

Invited to be an external assessor for a PRELUDIUM grant of ~€15000, partial support for a PhD student.

HST Cycle 32 Time Allocation Committee

April 2024

Served as an external panellist for the TAC on Stellar Populations, assessed 16 proposals for scientific quality.

Head of LOC/SOC: MW-Gaia COST Action Workshop

September 2023

Led the application and chaired the LOC/SOC for a three day COST-sponsored workshop titled, “Revealed by Gaia: the central halo of the Milky Way” at the Institute of Astronomy, Cambridge. Workshop included seven invited speakers and 50 participants.

SOC Member: National Astronomical Meeting G.A. Session

July 2023

Helped organise the Galactic Archaeology session, assessed submitted abstracts and acted as a poster judge.

4MOST Science Policy Board Member

August 2023-present

Representing the High Resolution Halo Survey to assess decisions on memberships, science exploitation, data-sharing and accelerated publication.

IoA Postdoc Committee (Chair), Cambridge

2022-present

Chair (as of January 2023) of the IoA postdoc committee. Communicating on behalf of the departmental postdocs at staff meetings, organising events and monitoring postdoc well-being.

IoA Equity Diversity and Inclusion Committee (Working Group Lead), Cambridge 2022-present

Lead of the “Equity and Inclusion” working group. Led initiatives to improve visa equity among graduate students and initiated themed teas to celebrate cultural holidays.

IoA Women’s Day Committee, Cambridge 2022-present

Working with a group of postdocs, students and staff to organise the 2023 Women’s Day celebration at the IoA.

RSAA Nominations Working Group, ANU 2022

Acted as student representative as part of the working group collecting, collating and vetting nominations for the RSAA Directorship position.

Member of LOC/SOC: Mount Stromlo Student Seminars, ANU 2021

Helped to organise the MSSS by recruiting invited speakers, facilitating a Careers discussion panel and hosting sessions.

RSAA Women in Astro Mentorship Program, ANU 2020 - 2021

Mentored a second year astronomy student, offering her program and research advice and providing emotional support.

Science Mentors ACT, Australia 2019 - 2021

Mentored four high school students as they undertake year-long astronomical research projects using the [MSATT](#) telescope.

RSAA Executive Committee Student Representative, ANU 2019 - 2020

Anawim Companion Society Volunteer, Victoria, Canada 2013 - 2016

References

Prof. Vasily Belokurov

(email: vasily@ast.cam.ac.uk)

Professor, Institute of Astronomy, Cambridge

Emeritus Professor Ken Freeman (FRS)

(email: Kenneth.Freeman@anu.edu.au)

Duffield Professor Emeritus, Research School of Astronomy & Astrophysics, Australian National University

Dr. David Yong

(email: David.Yong@anu.edu.au)

Former Research Fellow, Research School of Astronomy & Astrophysics, Australian National University

Prof. Kim Venn

(email: kvenn@uvic.ca)

Professor, Department of Physics & Astronomy, University of Victoria

Prof. Wyn Evans

(email: nwe@ast.cam.ac.uk)

Professor, Institute of Astronomy, Cambridge

Prof. François Rigaut (email: francois.rigaut@anu.edu.au)

Professor, Research School of Astronomy & Astrophysics, Australian National University