

Curriculum Vitae Sven Buder

Research Interests

- Galactic archaeology with large international surveys
- Stars as tool to understand galaxy evolution through the lens of the Milky Way
- Developing state-of-the-art stellar spectroscopy to constrain stellar evolution and planet formation
- The origin of the elements across cosmic time

Research Outcomes

- 74 refereed publications in top-tier (Q1) journals. 2654 citations, h-index of 28 ([Google Scholar](#))
- 4 refereed first-author publications with highest impact:
 - [Buder et al., 2022](#) (37 citations): Chemical tagging of accreted stars in the Milky Way.
 - [Buder et al., 2021](#) (246 citations, highest cited paper of MNRAS in 2021): Unprecedented catalog of chemical compositions of 600 000 stars accompanied by age and orbit estimates.
 - [Buder et al., 2019](#) (102 citations): Identifying the best way to dissect Galactic disk populations.
 - [Buder et al., 2018](#) (337 citations): Innovative data-driven spectrum analysis for 340 000 stars.

Education

- 2015–2019 **PhD**, Max-Planck-Institute for Astronomy & University of Heidelberg (16 July 2019)
[PhD Thesis](#): Spectroscopic Analysis & Chemodynamic Exploration of the Milky Way with Million-Star Surveys. Supervisors: Prof Dr Karin Lind & Prof Dr Melissa Ness
- 2013–2015 **Master of Science in Physics**, Friedrich Schiller University Jena, Germany
- Fall 2014 **Erasmus exchange semester**, Uppsala University, Sweden
- 2010–2013 **Bachelor of Science in Physics**, Friedrich Schiller University Jena, Germany

Experience

- Since 2023 **Fellow (Level C)**, *Research School of Astronomy and Astrophysics (RSAA) at the Australian National University (ANU) and Australian Research Council Centre of Excellence in All Sky Astrophysics in 3 Dimensions (ASTRO 3D), Canberra, Australia*
- 2019–2022 **Research Fellow (Level B)**, *RSAA/ANU and ASTRO 3D, Canberra, Australia*
- 2010–2013 **Assistant**, *Parliamentary Office of Federal Minister Dr Thomas de Maizière, Berlin*

Fellowships & Awards

- 2022 ASTRO 3D Award for the Centre Member who most embodies ASTRO 3D values
- 2017–2020 German-Australian travel stipend of the Group of Eight UA-DAAD (25 000 AUD)
- 2015–2019 International Max Planck Research School Graduate Fellowship (5 000 AUD)
- 2014 European exchange fellowship ERASMUS+ (4 000 AUD)

Leadership and Collaboration

- Management convener & working group leader of the international GALAH Survey (60 members)
- Chair of ASTRO 3D's national Early Career Researcher Committee (since 2021)
- Member of international observational research collaborations: GALAH (since 2015), *Gaia*-ESO (2015–2019), SDSS-IV (2015–2019), 4MOST (since 2019), GECKOS (since 2022)

Talks and Seminars

- 12 **Invited Talks**, at *National and International Meetings (since 2017)*
- 10 **Invited Seminars**, at *National and International Institutions (since 2017)*

- 4 **Invited Participations**, at exclusive *International Expert Workshops* (since 2016)
- 10 **Contributed Talks**, at *National and International Conferences* (since 2016)

Conference Organisation

- SOC** **Chair** *ASTRO 3D Science Meeting, Canberra 2021*, **Member** *GALAH Science Meeting, virtual 2021* and **Member** *EWASS 2019 Special Session, Lyon 2019*
- LOC** **Member** of 5 Conference and Workshop LOCs in Germany and Australia (2013–2022)

Resource Allocation

- Telescopes** **PI 12 nights (120 000 AUD)**, *HERMES-2dF@AAT, Siding Spring Observatory, 2023*
Co-I 506 nights (5.1 Mio AUD), *HERMES-2dF@AAT, SSO, since 2017*
Co-I 3 nights (12 500 AUD), *FEROS@2.2m MPG/ESO, La Silla Observatory, 2016*
Co-I 16 nights (75 000 AUD), *AstraLux at 2.2m, Calar Alto Observatory, 2013–2015*
- Computing** Parallelised CPU (python and IDL) & GPU computing (python), **2 Mio hours** since 2017 at RSAA's Avatar, **1 Mio hour** 2017–2020 at MPG's MPCDF/ISAAC, and **1 Mio hour** 2015–2018 at Sweden's HPC2N/Abisko. (1 Mio hour ~ 80 000 AUD)

Research Supervision

- PhD Evans Owusu (UNSW) as secondary supervisor since 2022
- PhD Xu Zhang (CAS China) as primary supervisor 2020 leading to [a refereed paper](#)
- Honours Thesis research of Anne Xie and Luka Mijnaerends (2023), ANU
- Undergrad. Research projects (150h) of 6 undergraduate students (2021–2022), ANU

Teaching

- Lectures** Guest Lecture at ANU's ASTR4006 Galaxies Course, 2022
 Guest Lecture at ANU's ASTR2013 Fundamental of Astrophysics Course, 2021
 Lecture at International School of Space Science, L'Aquila, Italy, 2019
- Tutoring** Field Trip to SSO and Tutorials for ANU's ASTR2013 Course, since 2020
 3 practical courses at Heidelberg University and University Jena, 2013, 2014, and 2017

Service

- National Committees**, (1) *ASTRO 3D Senior ECR Committee since 2023*, (2) *ASTRO 3D Equity Diversity and Inclusion Committee since 2022*, (3) *ASTRO 3D Junior ECR Committee 2020–2022*
- Institute Committees**, (1) *Colloquium Committee since 2019 (chair 2020–2021)*, (2) *International PhD Scholarship selection committee 2019–2022*, (3) *Inclusion, Diversity, Equity and Access Committee since 2022*
- Outreach** (1) Mount Stromlo Observatory Outreach Team (since 2022), (2) Astronomy on Tap Heidelberg (2017–2019 as co-founder)
- Referee** A&A, ApJ, ApJS, PASA

Others

- Press Coverage (2022) The Milky Way is a giant 'smoothie' of blended stars, *SBS News*, [space.com](#), [Cosmos Magazine](#), (2018) The hunt for the Sun's ancient siblings, [astronomy.com](#)
- since 2021 Member of Astronomical Society of Australia

Canberra, May 13, 2023