Dr. Jeffrey D. Simpson
Curriculum vitae

Contact Information

School of Physics
University of New South Wales jeffrey.simpson@unsw.edu.au
Sydney NSW Australia

Education

Ph.D. in Astronomy, University of Canterbury New Zealand, 2014
M.Sc. in Astronomy, University of Canterbury New Zealand, 2009

Current Employment

Post-Doctoral Research Fellow, University of New South Wales 2018

Previous Employment

Research Fellow, Australian Astronomical Observatory 2015 to 2018
Research Fellow, Macquarie University 2013 to 2015

Refereed Publications

52 refereed publications. 12 refeered publications as first author.
Total citations = 1614; h-index = 21 (2021-03-08)

52 Spina, Lorenzo, Ting, Yuan-Sen, De Silva, Gayandhi M., *et al.* (incl. **JDS**), 2021, The GALAH survey: tracing the Galactic disk with open clusters, MNRAS[2 citations]

51 Ji, Alexander P., Li, Ting S., Hansen, Terese T., *et al.* (incl. **JDS**), 2020, The Southern Stellar Stream Spectroscopic Survey (S^5): Chemical Abundances of Seven Stellar Streams, AJ, **160**, 181 [6 citations]

50 Amarsi, A. M., Lind, K., Osorio, Y., *et al.* (incl. **JDS**), 2020, The GALAH Survey: non-LTE departure coefficients for large spectroscopic surveys, Astronomy and Astrophysics, **642** [9 citations]

49 Gao, Xudong, Lind, Karin, Amarsi, Anish M., *et al.* (incl. **JDS**), 2020, The GALAH survey: a new constraint on cosmological lithium and Galactic lithium evolution from warm dwarf stars, MNRAS, **497** [6 citations]

48 Arentsen, Anke, Starkenburg, Else, Martin, Nicolas F., *et al.* (incl. **JDS**), 2020, The Pristine Inner Galaxy Survey (PIGS) II: Uncovering the most metal-poor populations in the inner Milky Way, MNRAS, **496**, 4964 [3 citations]

47 Wheeler, Adam, Ness, Melissa, Buder, Sven, *et al.* (incl. **JDS**), 2020, Abundances in the Milky Way across Five Nucleosynthetic Channels from 4 Million LAMOST Stars, ApJ, **898**, 58 [11 citations]

46 Wittenmyer, Robert A., Clark, Jake T., Sharma, Sanjib, *et al.* (incl. **JDS**), 2020, K2-HERMES II. Planet-candidate properties from K2 Campaigns 1-13, MNRAS, **496**, 851 [2 citations]

45 Kawka, Adela, **Simpson, Jeffrey D.**, Vennes, Stéphane, *et al.*, 2020, The closest extremely low-mass white dwarf to the Sun, MNRAS, **495** [5 citations]

44 Traven, G., Feltzing, S., Merle, T., *et al.* (incl. **JDS**), 2020, The GALAH survey: multiple stars and our Galaxy. I. A comprehensive method for deriving properties of FGK binary stars, Astronomy and Astrophysics, **638** [6 citations]

43 **Simpson, Jeffrey D.**, 2020, Empirical Relationship between Calcium Triplet Equivalent Widths and [Fe/H] Using Gaia Photometry, Research Notes of the American Astronomical Society, **4**, 70 [1 citation]

42 Borsato, Nicholas W., Martell, Sarah L., & **Simpson, Jeffrey D.**, 2020, Identifying stellar streams in Gaia DR2 with data mining techniques, MNRAS, **492**, 1370 [11 citations]

41 Koposov, Sergey E., Boubert, Douglas, Li, Ting S., *et al.* (incl. **JDS**), 2020, Discovery of a nearby 1700 km s⁻¹ star ejected from the Milky Way by Sgr A*, MNRAS, **491**, 2465 [33 citations]

40 Arentsen, A., Starkenburg, E., Martin, N. F., *et al.* (incl. **JDS**), 2020, The Pristine Inner Galaxy Survey (PIGS) I: tracing the kinematics of metal-poor stars in the Galactic bulge, MNRAS, **491** [14 citations]

39 Lin, Jane, Asplund, Martin, Ting, Yuan-Sen, *et al.* (incl. **JDS**), 2020, The GALAH survey: temporal chemical enrichment of the galactic disc, MNRAS, **491**, 2043 [12 citations]

38 **Simpson, Jeffrey D.**, Martell, Sarah L., Da Costa, Gary, *et al.*, 2020, The GALAH Survey: Chemically tagging the Fimbulthul stream to the globular cluster ω Centauri, MNRAS, **491**, 3374 [10 citations]

37 Wan, Zhen, Lewis, Geraint F., Li, Ting S., *et al.* (incl. **JDS**), 2020, The tidal remnant of an unusually metal-poor globular cluster, Nature, **583**, 768 [7 citations]

36 Sharma, Sanjib, Stello, Dennis, Bland-Hawthorn, Joss, *et al.* (incl. **JDS**), 2019, The K2-HERMES Survey: age and metallicity of the thick disc, MNRAS, **490**, 5335 [29 citations]

35 Li, T. S., Koposov, S. E., Zucker, D. B., *et al.* (incl. **JDS**), 2019, The southern stellar stream spectroscopic survey (S^5): Overview, target selection, data reduction, validation, and early science, MNRAS, **490**, 3508 [26 citations]

34 Casey, Andrew R., Lattanzio, John C., Aleti, Aldeida, *et al.* (incl. **JDS**), 2019, A Data-driven Model of Nucleosynthesis with Chemical Tagging in a Lower-dimensional Latent Space, ApJ, **887**, 73 [5 citations]

33 Khanna, Shourya, Sharma, Sanjib, Tepper-Garcia, Thor, *et al.* (incl. **JDS**), 2019, The GALAH survey and Gaia DR2: Linking ridges, arches, and vertical waves in the kinematics of the Milky Way, MNRAS, **489**, 4962 [35 citations]

32 Shipp, N., Li, T. S., Pace, A. B., *et al.* (incl. **JDS**), 2019, Proper Motions of Stellar Streams Discovered in the Dark Energy Survey, ApJ, **885**, 3 [21 citations]

31 **Simpson, Jeffrey D.**, & Martell, Sarah L., 2019, A nitrogen-enhanced metal-poor star discovered in the globular cluster ESO280-SC06, MNRAS, **490**, 741 [5 citations]

30 Kos, Janez, Bland-Hawthorn, Joss, Asplund, Martin, *et al.* (incl. **JDS**), 2019, Discovery of a 21 Myr old stellar population in the Orion complex$\star$, Astronomy and Astrophysics, **631** [11 citations]

29 **Simpson, Jeffrey D.**, 2019, The retrograde orbit of the globular cluster FSR1758 revealed with Gaia DR2, MNRAS, **488**, 253 [8 citations]

28 Čotar, Klemen, Zwitter, Tomaž, Traven, Gregor, *et al.* (incl. **JDS**), 2019, The GALAH survey: unresolved triple Sun-like stars discovered by the Gaia mission, MNRAS, **487**, 2474 [3 citations]

27 Bland-Hawthorn, Joss, Sharma, Sanjib, Tepper-Garcia, Thor, *et al.* (incl. **JDS**), 2019, The GALAH survey and Gaia DR2: dissecting the stellar disc's phase space by age, action, chemistry, and location, MNRAS, **486**, 1167 [84 citations]

26 Buder, S., Lind, K., Ness, M. K., *et al.* (incl. **JDS**), 2019, The GALAH survey: An abundance, age, and kinematic inventory of the solar neighbourhood made with TGAS, Astronomy and Astrophysics, **624** [52 citations]

25 **Simpson, Jeffrey D.**, Martell, Sarah L., Da Costa, Gary, *et al.*, 2019, The GALAH survey: coorbiting stars and chemical tagging, MNRAS, **482**, 5302 [10 citations]

24 Khanna, Shourya, Sharma, Sanjib, Bland-Hawthorn, Joss, *et al.* (incl. **JDS**), 2019, The GALAH survey: velocity fluctuations in the Milky Way using Red Clump giants, MNRAS, **482**, 4215 [4 citations]

23 Gao, Xudong, Lind, Karin, Amarsi, Anish M., *et al.* (incl. **JDS**), 2018, The GALAH survey: verifying abundance trends in the open cluster M67 using non-LTE modelling, MNRAS, **481**, 2666 [28 citations]

22 Kos, Janez, de Silva, Gayandhi, Buder, Sven, *et al.* (incl. **JDS**), 2018, The GALAH survey and Gaia DR2: (non-)existence of five sparse high-latitude open clusters, MNRAS, **480**, 5242 [18 citations]

21 Zwitter, Tomaž, Kos, Janez, Chiavassa, Andrea, *et al.* (incl. **JDS**), 2018, The GALAH survey: accurate radial velocities and library of observed stellar template spectra, MNRAS, **481**, 645 [22 citations]

20 Kos, Janez, Bland-Hawthorn, Joss, Betters, Christopher H., *et al.* (incl. **JDS**), 2018, Holistic spectroscopy: complete reconstruction of a wide-field, multiobject spectroscopic image using a photonic comb, MNRAS, **480**, 5475 [10 citations]

19 Buder, Sven, Asplund, Martin, Duong, Ly, *et al.* (incl. **JDS**), 2018, The GALAH Survey: second data release, MNRAS, **478**, 4513 [182 citations]

18 **Simpson, Jeffrey D.**, 2018, The most metal-poor Galactic globular cluster: the first spectroscopic observations of ESO280-SC06, MNRAS, **477**, 4565 [11 citations]

17 Quillen, Alice C., De Silva, Gayandhi, Sharma, Sanjib, *et al.* (incl. **JDS**), 2018, The GALAH survey: stellar streams and how stellar velocity distributions vary with Galactic longitude, hemisphere, and metallicity, MNRAS, **478**, 228 [27 citations]

16 Duong, L., Freeman, K. C., Asplund, M., *et al.* (incl. **JDS**), 2018, The GALAH survey: properties of the Galactic disc(s) in the solar neighbourhood, MNRAS, **476**, 5216 [27 citations]

15 Kos, Janez, Bland-Hawthorn, Joss, Freeman, Ken, *et al.* (incl. **JDS**), 2018, The GALAH survey: chemical tagging of star clusters and new members in the Pleiades, MNRAS, **473**, 4612 [27 citations]

14 Wittenmyer, Robert A., Sharma, Sanjib, Stello, Dennis, *et al.* (incl. **JDS**), 2018, The K2-HERMES Survey. I. Planet-candidate Properties from K2 Campaigns 1-3, AJ, **155**, 84 [32 citations]

13 Sharma, Sanjib, Stello, Dennis, Buder, Sven, *et al.* (incl. **JDS**), 2018, The TESS-HERMES survey data release 1: high-resolution spectroscopy of the TESS southern continuous viewing zone, MNRAS, **473**, 2004 [52 citations]

12 **Simpson, Jeffrey D.**, De Silva, Gayandhi, Martell, Sarah L., *et al.*, 2017, ESO 452-SC11: the lowest mass globular cluster with a potential chemical inhomogeneity, MNRAS, **472**, 2856 [13 citations]

11 **Simpson, Jeffrey D.**, De Silva, G. M., Martell, S. L., *et al.*, 2017, Siriusly, a newly identified intermediate-age Milky Way stellar cluster: a spectroscopic study of Gaia 1, MNRAS, **471**, 4087 [11 citations]

10 Martell, S. L., Sharma, S., Buder, S., *et al.* (incl. **JDS**), 2017, The GALAH survey: observational overview and Gaia DR1 companion, MNRAS, **465**, 3203 [112 citations]

9 Traven, G., Matijevič, G., Zwitter, T., *et al.* (incl. **JDS**), 2017, The Galah Survey: Classification and Diagnostics with t-SNE Reduction of Spectral Information, The Astrophysical Journal Supplement Series, **228**, 24 [32 citations]

8 **Simpson, Jeffrey D.**, Martell, Sarah L., & Navin, Colin A., 2017, A broad perspective on multiple abundance populations in the globular cluster NGC 1851, MNRAS, **465**, 1123 [14 citations]

7 Kos, Janez, Lin, Jane, Zwitter, Tomaž, *et al.* (incl. **JDS**), 2017, The GALAH survey: the data reduction pipeline, MNRAS, **464**, 1259 [43 citations]

6 MacLean, B. T., Campbell, S. W., De Silva, G. M., *et al.* (incl. **JDS**), 2016, An extreme paucity of second population AGB stars in the 'normal' globular cluster M4, MNRAS, **460** [28 citations]

5 **Simpson, Jeffrey D.**, De Silva, G. M., Bland-Hawthorn, J., *et al.*, 2016, The GALAH survey: relative throughputs of the 2dF fibre positioner and the HERMES spectrograph from stellar targets, MNRAS, **459**, 1069 [6 citations]

4 Sheinis, Andrew, Anguiano, Borja, Asplund, Martin, *et al.* (incl. **JDS**), 2015, First light results from the High Efficiency and Resolution Multi-Element Spectrograph at the Anglo-Australian Telescope, Journal of Astronomical Telescopes, Instruments, and Systems, **1**, 35002 [40 citations]

3 De Silva, G. M., Freeman, K. C., Bland-Hawthorn, J., *et al.* (incl. **JDS**), 2015, The GALAH survey: scientific motivation, MNRAS, **449**, 2604 [361 citations]

2 **Simpson, Jeffrey D.**, & Cottrell, P. L., 2013, Spectral matching for abundances of 848 stars of the giant branches of the globular cluster ω Centauri, MNRAS, **433**, 1892 [11 citations]

1 **Simpson, Jeffrey D.**, Cottrell, P. L., & Worley, C. C., 2012, Spectral matching for abundances and clustering analysis of stars on the giant branches of ω Centauri, MNRAS, **427**, 1153 [13 citations]

In submission

13 Zwitter, Tomaž, Kos, Janez, Buder, Sven, *et al.* (incl. **JDS**), 2020, The GALAH+ Survey: A New Library of Observed Stellar Spectra Improves Radial Velocities and Reveals Motions within M67, arXiv e-prints (arXiv:2012.12201)

12 Buder, Sven, Sharma, Sanjib, Kos, Janez, *et al.* (incl. **JDS**), 2020, The GALAH+ Survey: Third Data Release, arXiv e-prints (arXiv:2011.02505) [17 citations]

11 Sharma, Sanjib, Hayden, Michael R., Bland-Hawthorn, Joss, *et al.* (incl. **JDS**), 2020, The GALAH Survey: Dependence of elemental abundances on age and metallicity for stars in the Galactic disc, arXiv e-prints (arXiv:2011.13818) [2 citations]

10 Nandakumar, Govind, Hayden, Michael R., Sharma, Sanjib, *et al.* (incl. **JDS**), 2020, The GALAH survey: Milky Way disc metallicity and alpha-abundance trends in combined APOGEE-GALAH catalogues, arXiv e-prints (arXiv:2011.02783) [2 citations]

9 Spina, Lorenzo, Ting, Yuan-Sen, De Silva, Gayandhi M., *et al.* (incl. **JDS**), 2020, The GALAH survey: tracing the Galactic disk with Open Clusters, arXiv e-prints (arXiv:2011.02533) [2 citations]

8 Hayden, Michael R., Sharma, Sanjib, Bland-Hawthorn, Joss, *et al.* (incl. **JDS**), 2020, The GALAH Survey: Chemical Clocks, arXiv e-prints (arXiv:2011.13745) [1 citation]

7 **Simpson, Jeffrey D.**, Martell, Sarah L., Buder, Sven, *et al.*, 2020, The GALAH Survey: Accreted stars also inhabit the Spite Plateau, arXiv e-prints (arXiv:2011.02659) [1 citation]

6 Kos, Janez, Bland-Hawthorn, Joss, Buder, Sven, *et al.* (incl. **JDS**), 2020, The GALAH survey: Chemical homogeneity of the Orion complex, arXiv e-prints (arXiv:2011.02485)

5 Clark, Jake T., Clerte, Mathieu, Hinkel, Natalie R., *et al.* (incl. **JDS**), 2020, The GALAH Survey: Using Galactic Archaeology to Refine our Knowledge of TESS Target Stars, arXiv e-prints (arXiv:2008.05372) [1 citation]

4 Li, Ting S., Koposov, Sergey E., Erkal, Denis, *et al.* (incl. **JDS**), 2020, Broken into Pieces: ATLAS and Aliqa Uma as One Single Stream, arXiv e-prints (arXiv:2006.10763) [8 citations]

3 Martell, Sarah, **Simpson, Jeffrey D.**, Balasubramaniam, Adithya, *et al.*, 2020, The GALAH survey: Lithium-rich giant stars require multiple formation channels, arXiv e-prints (arXiv:2006.02106) [8 citations]

2 Sharma, Sanjib, Hayden, Michael R., Bland-Hawthorn, Joss, *et al.* (incl. **JDS**), 2020, Fundamental relations for the velocity dispersion of stars in the Milky Way, arXiv e-prints (arXiv:2004.06556) [11 citations]

1 **Simpson, Jeffrey D.**, Stello, Dennis, Sharma, Sanjib, *et al.*, 2018, The GALAH and TESS-HERMES surveys: high-resolution spectroscopy of luminous supergiants in the Magellanic Clouds and Bridge, arXiv e-prints (arXiv:1804.05900) [1 citation]

Invited conference talks

1 2019: Stars, Streams, Clusters Oh My, at *Stars In Melboure*. Melbourne, Australia.

Competitive observing proposals

Anglo-Australian Telescope

- **PI**: Chemical tagging between stellar streams and globular clusters (3 nights) 19B
- Co-I: The HERMES K2 followup program (10 nights) 19B
- Co-I: How many extremely metal-poor stars in the Milky Way are on disk orbits? (3 nights) 19B
- Co-I: The GALAH Survey: Phase 2 (41 nights) 19A
- Co-I: The Galaxy's Dark Side: Dynamical Studies with the Southern Stellar Stream Spectroscopic Survey (10 nights) 19A
- Co-I: Hierarchical star formation in Ori OB1 (4 nights) 19A
- Co-I: Dynamical Studies of DES Stellar Streams (10 nights) 18B
- Co-I: The HERMES-TESS program (8 nights) 18B
- Co-I: Open clusters with HERMES (5 nights) 18A
- Co-I: Open clusters with HERMES (13 nights) 17B
- Co-I: How Extended is the Stellar Envelope of NGC5694? (6 hours) 17A
- Co-I: The GALAH Survey: Phase 2 (35 nights/semester) 17A–17B
- Co-I: The HERMES K2-follow-up program (12 nights/semester) 16A–17B
- **PI**: Probing the low mass regime of globular clusters (6 hours) 16A
- Co-I: The GALAH Survey (35 nights/semester) 15A–16B

Keck Observatory

- **PI**: ESO452: Exploring self-enrichment in low mass stellar clusters (0.5 nights) 17A

Magellan Telescopes

- **PI**: Chemical abundances of a faint, metal-poor globular cluster (1 night) 19A

Conference Proceedings

4 Edgar, Michael L., Zhelem, Ross, Waller, Lewis, *et al.* (incl. **JDS**), 2018, Radioactive emission from high-index,optical glasses and atypical effects on CCDs, Advances in Optical and Mechanical Technologies for Telescopes and Instrumentation III, **10706**, 1070633 [1 citation]

3 Sheinis, Andrew, Barden, Sam, Birchall, Michael, *et al.* (incl. **JDS**), 2014, First light results from the Hermes spectrograph at the AAT, Ground-based and Airborne Instrumentation for Astronomy V, **9147** [8 citations]

2 **Simpson, Jeffrey D.**, 2012, Carbon, nitrogen and barium abundances of giant branch stars of α Centauri using spectral matching, Nuclei in the Cosmos (NIC XII), 232

1 Worley, C., Cottrell, P., & **Simpson, Jeffrey D.**, 2010, Neutron-capture element abundances in the globular clusters: 47 Tuc, NGC 6388 and NGC 362, Nuclei in the Cosmos, 201

Contributed conference talks

17 2019: The Galah Survey: Chemically tagging the Fimbulthul stream to the globular cluster ω Centauri, at Gaia-ESO Science Meeting. Florence, Italy.

16 2019: (Poster) The Fimbulthul stellar stream was tidally stripped from the globular cluster ω Centauri, at ASA Annual Scientific Meeting. Brisbane, Australia. (Winner of Best Poster)

15 2019: Mapping stellar streams with LSST, at LSST@Asia. Sydney, Australia.

14 2018: A very nitrogen-rich star in the very low-mass, very metal-poor cluster ESO280-SC06, at Survival of Dense Star Clusters in the Milky Way System. Heidelberg, Germany.

13 2018: Flying the nest to the Magellanic Clouds and Bridge with GALAH and TESS-HERMES , at ASA Annual Scientific Meeting. Melbourne, Australia.

12 2018: Pushing the envelope on globular clusters, at ASA Annual Scientific Meeting. Melbourne, Australia.

11 2017: The GALAH survey: Discovery of dissolving star clusters, at Surveying the Cosmos, The Science From Massively Multiplexed Surveys. Sydney, Australia.

10 2017: What happened to the horizontal branch of ESO280-SC06? In Stars in Sydney. Sydney, Australia.

9 2017: The GALAH survey: Co-orbiting stars and chemical tagging, at Celebration of CEMP & Gala of GALAH workshop. Melbourne, Australia.

8 2017: What happened to the horizontal branch of ESO280-SC06? In Australian Institute of Physics Summer Meeting 2017. Sydney, Australia.

7 2016: Probing the low-mass regime of globular clusters, at Multiple populations in globular clusters: Where do we stand? Sexten, Italy.

6 2016: Tips and tools to work with reduced data, at ITSO/AAO Observational Techniques Workshop. Sydney, Australia.

5 2015: Searching extra-tidal stars of globular clusters with the GALAH survey, at Multiwavelength Dissection of Galaxies. Sydney, Australia.

4 2014: C+N+O abundance of evolved stars of NGC1851, at Bolton Symposium. Sydney, Australia.

3 2013: Spectral matching for elemental abundances of evolved stars of globular clusters, at The Origin of Cosmic Elements. Barcelona, Spain.

2 2012: Carbon, nitrogen and barium abundances of giant branch stars of ω Centauri using spectral matching, at Nuclei in the Cosmos. Cairns, Australia.

1 2011: Stellar parameters and barium abundances in ω Centauri GB by spectral matching, at 6th Stromlo Symposium on IFU Science in Australia. Canberra, Australia.

Conference Activity

- Chaired organizing committees for the 2017 Southern Cross Astrophysics Conference on "Surveying the Cosmos, The Science From Massively Multiplexed Surveys"
- Local organizing committee for LSST@Asia (2019)

Service To Profession

- Postdoctoral representative to faculty committee (2019)
- Member of Anglo-Australian Telescope Users' Committee (2018–2021)
- Referee for articles in PASA, A&A, and MNRAS
- Referee for research funding proposal for Polish National Science Centre

References Available to Contact

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