

Dr Gregor Traven - Curriculum Vitae

Personal Information

Family name: Traven

Given names: Gregor

Title: Dr

Date of birth: 12. 3. 1985

Gender: Male

Marital Status: Single

Children: None

Nationality: Slovene

Work address: Lund Observatory, Sölvegatan 27, 22362 Lund, Sweden

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Education

Project work for Master studies February 2011 - June 2011

Astronomical Observatory of Strasbourg, France

Master in Physics (Degree awarded 21st December 2012)

Faculty of Mathematics and Physics, University of Ljubljana, Slovenia

Ph.D. degree October 2013 - July 2017 (Degree awarded 27th July 2017)

Faculty of Mathematics and Physics, University of Ljubljana, Slovenia

Supervisor: Prof. Tomaž Zwitter

Employment

Postdoctoral researcher with teaching duties October 2017 - August 2018

Faculty of Mathematics and Physics, University of Ljubljana, Slovenia

Postdoctoral research fellow September 2018 - August 2020

Department of Astronomy & Theoretical Physics, Lund University, Sweden

My present position is funded by the project grant from the Swedish Research Council (PI: Sofia Feltzing). I am a member of the Stellar populations group headed by Prof. Sofia Feltzing. I obtained my Ph.D. degree at a different institute.

Publications in peer-reviewed journals, 2013-2020 (24)

Citation source: NASA ADS, consulted 10th November 2018

H index: 12. Total citations: 737

First author papers: 4 (number 2, 19, 20, 22)

1. Gao, X., Lind, K., Amarsi, A. M., Buder, S., Bland-Hawthorn, J., Campbell, S. W., Asplund, M., Casey, A. R., de Silva, G. M., Freeman, K. C., Hayden, M. R., Lewis, G. F., Martell, S. L., Simpson, J. D., Sharma, S., Zucker, D. B., Zwitter, T., Horner, J., Munari, U., Nordlander, T., Stello, D., Ting, Y.-S., Traven, G., Wittenmyer, R. A., & Galah Collaboration (2020), "The GALAH survey: a new constraint on cosmological lithium and Galactic lithium evolution from warm dwarf stars", *Monthly Notices of the Royal Astronomical Society*, 497, L30, **1 citations**
2. Traven, G., Feltzing, S., Merle, T., Van der Swaelmen, M., Čotar, K., Church, R., Zwitter, T., Ting, Y.-S., Sahlholdt, C., Asplund, M., Bland-Hawthorn, J., De Silva, G., Freeman, K., Martell, S., Sharma, S., Zucker, D., Buder, S., Casey, A., D'Orazi, V., Kos, J., Lewis, G., Lin, J., Lind, K., Simpson, J., Stello, D., Munari, U., & Wittenmyer, R. A. (2020), "The GALAH survey: multiple stars and our Galaxy. I. A comprehensive method for deriving properties of FGK binary stars", *Astronomy and Astrophysics*, 638, A145, **0 citations**
3. Merle, T., Van der Swaelmen, M., Van Eck, S., Jorissen, A., Jackson, R. J., Traven, G., Zwitter, T., Pourbaix, D., Klutsch, A., Sacco, G., Blomme, R., Masseron, T., Gilmore, G., Randich, S., Badenes, C., Bayo, A., Bensby, T., Bergemann, M., Biazzo, K., Damiani, F., Feuillet, D., Frasca, A., Gonneau, A., Jeffries, R. D., Jofré, P., Morbidelli, L., Mowlavi, N., Pancino, E., & Prisinzano, L. (2020), "The Gaia-ESO Survey: detection and characterisation of single-line spectroscopic binaries", *Astronomy and Astrophysics*, 635, A155, **3 citations**
4. Tempel, E., Norberg, P., Tuvikene, T., Bensby, T., Chiappini, C., Christlieb, N., Cioni, M.-R. L., Comparat, J., Davies, L. J. M., Guiglion, G., Koch, A., Kordopatis, G., Krumpe, M., Loveday, J., Merloni, A., Micheva, G., Minchev, I., Roukema, B. F., Sorce, J. G., Starkenburg, E., Storm, J., Swann, E., Thi, W. F., Traven, G., & de Jong, R. S. (2020), "Probabilistic fibre-to-target assignment algorithm for multi-object spectroscopic surveys", *Astronomy and Astrophysics*, 635, A101, **0 citations**
5. Sharma, S., Stello, D., Bland-Hawthorn, J., Hayden, M. R., Zinn, J. C., Kallinger, T., Hon, M., Asplund, M., Buder, S., De Silva, G. M., D'Orazi, V., Freeman, K., Kos, J., Lewis, G. F., Lin, J., Lind, K., Martell, S., Simpson, J. D., Wittenmyer, R. A., Zucker, D. B., Zwitter, T., Bedding, T. R., Chen, B., Cotar, K., Esdaile, J., Horner, J., Huber, D., Kafle, P. R., Khanna, S., Li, T., Ting, Y.-S., Nataf, D. M., Nordlander, T., Saadon, M. H. M., Traven, G., Wright, D., & Wyse, R. F. G. (2019), "The K2-HERMES Survey: age and metallicity of the thick disc", *Monthly Notices of the Royal Astronomical Society*, 490, 5335, **13 citations**
6. Čotar, K., Zwitter, T., Traven, G., Kos, J., Asplund, M., Bland-Hawthorn, J., Buder, S., D'Orazi, V., de Silva, G. M., Lin, J., Martell, S. L., Sharma, S., Simpson, J. D., Zucker, D. B., Horner, J., Lewis, G. F., Nordlander, T., Ting, Y.-S., Wittenmyer, R. A., & Galah Collaboration (2019), "The GALAH survey: unresolved triple Sun-like stars discovered by the Gaia mission", *Monthly Notices of the Royal Astronomical Society*, 487, 2474, **4 citations**
7. Žerjal, M., Ireland, M. J., Nordlander, T., Lin, J., Buder, S., Casagrande, L., Čotar, K., de Silva, G., Horner, J., Martell, S., Traven, G., Zwitter, T., & Galah Collaboration (2019), "The GALAH Survey: lithium-strong KM dwarfs", *Monthly Notices of the Royal Astronomical Society*, 484, 4591, **3 citations**

8. Buder, S., Lind, K., Ness, M. K., Asplund, M., Duong, L., Lin, J., Kos, J., Casagrande, L., Casey, A. R., Bland-Hawthorn, J., de Silva, G. M., D’Orazi, V., Freeman, K. C., Martell, S. L., Schlesinger, K. J., Sharma, S., Simpson, J. D., Zucker, D. B., Zwitter, T., Čotar, K., Dotter, A., Hayden, M. R., Hyde, E. A., Kafle, P. R., Lewis, G. F., Nataf, D. M., Nordlander, T., Reid, W., Rix, H.-W., Skúladóttir, Á., Stello, D., Ting, Y.-S., Traven, G., Wyse, R. F. G., & Galah Collaboration (2019), ”The GALAH survey: An abundance, age, and kinematic inventory of the solar neighbourhood made with TGAS”, *Astronomy and Astrophysics*, 624, A19, **37 citations**
9. Čotar, K., Zwitter, T., Kos, J., Munari, U., Martell, S. L., Asplund, M., Bland-Hawthorn, J., Buder, S., de Silva, G. M., Freeman, K. C., Sharma, S., Anguiano, B., Carollo, D., Horner, J., Lewis, G. F., Nataf, D. M., Nordlander, T., Stello, D., Ting, Y.-S., Tinney, C., Traven, G., Wittenmyer, R. A., & Galah Collaboration (2019), ”The GALAH survey: a catalogue of carbon-enhanced stars and CEMP candidates”, *Monthly Notices of the Royal Astronomical Society*, 483, 3196, **3 citations**
10. Zwitter, T., Kos, J., Chiavassa, A., Buder, S., Traven, G., Čotar, K., Lin, J., Asplund, M., Bland-Hawthorn, J., Casey, A. R., De Silva, G., Duong, L., Freeman, K. C., Lind, K., Martell, S., D’Orazi, V., Schlesinger, K. J., Simpson, J. D., Sharma, S., Zucker, D. B., Anguiano, B., Casagrande, L., Collet, R., Horner, J., Ireland, M. J., Kafle, P. R., Lewis, G., Munari, U., Nataf, D. M., Ness, M., Nordlander, T., Stello, D., Ting, Y.-S., Tinney, C. G., Watson, F., Wittenmyer, R. A., & Žerjal, M. (2018), ”The GALAH survey: accurate radial velocities and library of observed stellar template spectra”, *Monthly Notices of the Royal Astronomical Society*, 481, 645, **20 citations**
11. Kos, J., de Silva, G., Buder, S., Bland-Hawthorn, J., Sharma, S., Asplund, M., D’Orazi, V., Duong, L., Freeman, K., Lewis, G. F., Lin, J., Lind, K., Martell, S. L., Schlesinger, K. J., Simpson, J. D., Zucker, D. B., Zwitter, T., Bedding, T. R., Čotar, K., Horner, J., Nordlander, T., Stello, D., Ting, Y.-S., & Traven, G. (2018), ”The GALAH survey and Gaia DR2: (non-)existence of five sparse high-latitude open clusters”, *Monthly Notices of the Royal Astronomical Society*, 480, 5242, **17 citations**
12. Buder, S., Asplund, M., Duong, L., Kos, J., Lind, K., Ness, M. K., Sharma, S., Bland-Hawthorn, J., Casey, A. R., de Silva, G. M., D’Orazi, V., Freeman, K. C., Lewis, G. F., Lin, J., Martell, S. L., Schlesinger, K. J., Simpson, J. D., Zucker, D. B., Zwitter, T., Amarsi, A. M., Anguiano, B., Carollo, D., Casagrande, L., Čotar, K., Cottrell, P. L., da Costa, G., Gao, X. D., Hayden, M. R., Horner, J., Ireland, M. J., Kafle, P. R., Munari, U., Nataf, D. M., Nordlander, T., Stello, D., Ting, Y.-S., Traven, G., Watson, F., Wittenmyer, R. A., Wyse, R. F. G., Yong, D., Zinn, J. C., Žerjal, M., & Galah Collaboration (2018), ”The GALAH Survey: second data release”, *Monthly Notices of the Royal Astronomical Society*, 478, 4513, **137 citations**
13. Giannini, T., Munari, U., Antonucci, S., Lorenzetti, D., Arkharov, A. A., Dallaporta, S., Rossi, A., & Traven, G. (2018), ”The 2016–2017 peak luminosity of the pre-main sequence variable V2492 Cygni”, *Astronomy and Astrophysics*, 611, A54, **9 citations**
14. Kos, J., Bland-Hawthorn, J., Freeman, K., Buder, S., Traven, G., De Silva, G. M., Sharma, S., Asplund, M., Duong, L., Lin, J., Lind, K., Martell, S., Simpson, J. D., Stello, D., Zucker, D. B., Zwitter, T., Anguiano, B., Da Costa, G., D’Orazi, V., Horner, J., Kafle, P. R., Lewis, G., Munari, U., Nataf, D. M., Ness, M., Reid, W., Schlesinger, K., Ting,

- Y.-S., & Wyse, R. (2018), "The GALAH survey: chemical tagging of star clusters and new members in the Pleiades", *Monthly Notices of the Royal Astronomical Society*, 473, 4612, **22 citations**
15. Wittenmyer, R. A., Sharma, S., Stello, D., Buder, S., Kos, J., Asplund, M., Duong, L., Lin, J., Lind, K., Ness, M., Zwitter, T., Horner, J., Clark, J., Kane, S. R., Huber, D., Bland-Hawthorn, J., Casey, A. R., De Silva, G. M., D'Orazi, V., Freeman, K., Martell, S., Simpson, J. D., Zucker, D. B., Anguiano, B., Casagrande, L., Esdaile, J., Hon, M., Ireland, M., Kafle, P. R., Khanna, S., Marshall, J. P., Saddon, M. H. M., Traven, G., & Wright, D. (2018), "The K2-HERMES Survey. I. Planet-candidate Properties from K2 Campaigns 1-3", *The Astronomical Journal*, 155, 84, **22 citations**
 16. Sharma, S., Stello, D., Buder, S., Kos, J., Bland-Hawthorn, J., Asplund, M., Duong, L., Lin, J., Lind, K., Ness, M., Huber, D., Zwitter, T., Traven, G., Hon, M., Kafle, P. R., Khanna, S., Saddon, H., Anguiano, B., Casey, A. R., Freeman, K., Martell, S., De Silva, G. M., Simpson, J. D., Wittenmyer, R. A., & Zucker, D. B. (2018), "The TESS-HERMES survey data release 1: high-resolution spectroscopy of the TESS southern continuous viewing zone", *Monthly Notices of the Royal Astronomical Society*, 473, 2004, **38 citations**
 17. Jofré, P., Traven, G., Hawkins, K., Gilmore, G., Sanders, J. L., Mädler, T., Steinmetz, M., Kunder, A., Kordopatis, G., McMillan, P., Bienaymé, O., Bland-Hawthorn, J., Gibson, B. K., Grebel, E. K., Munari, U., Navarro, J., Parker, Q., Reid, W., Seabroke, G., & Zwitter, T. (2017), "Climbing the cosmic ladder with stellar twins in RAVE with Gaia", *Monthly Notices of the Royal Astronomical Society*, 472, 2517, **7 citations**
 18. Merle, T., Van Eck, S., Jorissen, A., Van der Swaelmen, M., Masseron, T., Zwitter, T., Hatzidimitriou, D., Klutsch, A., Pourbaix, D., Blomme, R., Worley, C. C., Sacco, G., Lewis, J., Abia, C., Traven, G., Sordo, R., Bragaglia, A., Smiljanic, R., Pancino, E., Damiani, F., Hourihane, A., Gilmore, G., Randich, S., Koposov, S., Casey, A., Morbidelli, L., Franciosini, E., Magrini, L., Jofre, P., Costado, M. T., Jeffries, R. D., Bergemann, M., Lanzafame, A. C., Bayo, A., Carraro, G., Flaccomio, E., Monaco, L., & Zaggia, S. (2017), "The Gaia-ESO Survey: double-, triple-, and quadruple-line spectroscopic binary candidates", *Astronomy and Astrophysics*, 608, A95, **15 citations**
 19. Traven, G., Munari, U., Dallaporta, S., & Zwitter, T. (2017), "Accurate Orbital Solution for the New and Metal-poor Eclipsing Binary Tycho 5227-1023-1", *The Astrophysical Journal*, 839, 52, **1 citations**
 20. Traven, G., Matijević, G., Zwitter, T., Žerjal, M., Kos, J., Asplund, M., Bland-Hawthorn, J., Casey, A. R., De Silva, G., Freeman, K., Lin, J., Martell, S. L., Schlesinger, K. J., Sharma, S., Simpson, J. D., Zucker, D. B., Anguiano, B., Da Costa, G., Duong, L., Horner, J., Hyde, E. A., Kafle, P. R., Munari, U., Nataf, D., Navin, C. A., Reid, W., & Ting, Y.-S. (2017), "The Galah Survey: Classification and Diagnostics with t-SNE Reduction of Spectral Information", *The Astrophysical Journal Supplement Series*, 228, 24, **25 citations**
 21. Kos, J., Lin, J., Zwitter, T., Žerjal, M., Sharma, S., Bland-Hawthorn, J., Asplund, M., Casey, A. R., De Silva, G. M., Freeman, K. C., Martell, S. L., Simpson, J. D., Schlesinger, K. J., Zucker, D., Anguiano, B., Bacigalupo, C., Bedding, T. R., Betters, C., Da Costa,

- G., Duong, L., Hyde, E., Ireland, M., Kafle, P. R., Leon-Saval, S., Lewis, G. F., Munari, U., Nataf, D., Stello, D., Tinney, C. G., Traven, G., Watson, F., & Wittenmyer, R. A. (2017), "The GALAH survey: the data reduction pipeline", *Monthly Notices of the Royal Astronomical Society*, 464, 1259, **35 citations**
22. Traven, G., Zwitter, T., Van Eck, S., Klutsch, A., Bonito, R., Lanzafame, A. C., Alfaro, E. J., Bayo, A., Bragaglia, A., Costado, M. T., Damiani, F., Flaccomio, E., Frasca, A., Hourihane, A., Jimenez-Esteban, F., Lardo, C., Morbidelli, L., Pancino, E., Prisinzano, L., Sacco, G. G., & Worley, C. C. (2015), "The Gaia-ESO Survey: Catalogue of H α emission stars", *Astronomy and Astrophysics*, 581, A52, **9 citations**
23. De Silva, G. M., Freeman, K. C., Bland-Hawthorn, J., Martell, S., de Boer, E. W., Asplund, M., Keller, S., Sharma, S., Zucker, D. B., Zwitter, T., Anguiano, B., Bacigalupo, C., Bayliss, D., Beavis, M. A., Bergemann, M., Campbell, S., Cannon, R., Carollo, D., Casagrande, L., Casey, A. R., Da Costa, G., D'Orazi, V., Dotter, A., Duong, L., Heger, A., Ireland, M. J., Kafle, P. R., Kos, J., Lattanzio, J., Lewis, G. F., Lin, J., Lind, K., Munari, U., Nataf, D. M., O'Toole, S., Parker, Q., Reid, W., Schlesinger, K. J., Sheinis, A., Simpson, J. D., Stello, D., Ting, Y.-S., Traven, G., Watson, F., Wittenmyer, R., Yong, D., & Žerjal, M. (2015), "The GALAH survey: scientific motivation", *Monthly Notices of the Royal Astronomical Society*, 449, 2604, **307 citations**
24. Bienaymé, O., & Traven, G. (2013), "Approximate integrals of motion", *Astronomy and Astrophysics*, 549, A89, **9 citations**

Role as reviewer

2017 - present: Reviewer of one article for one of the leading international astronomy journals *Astronomy & Astrophysics*.

Teaching

2015 - present: Problem solving exercise classes / written exams grading for different astronomy courses at Bachelor / Master level at the Astronomy department of the Faculty of Mathematics and Physics and at the Pedagogical Faculty, University of Ljubljana.

2019-2020: Supervision of a Master student for Master project work, Lund University.

Outreach and media

2015 - present: Interviewed by RTV Slovenija (Slovene national Radio/TV program) 4 times (radio shows) on the subjects of the discovery of Martian moons and astronomer Asaph Hall, recent discoveries of water on Mars, full Moon and Mars observations.

2013 - present: Member of organisation team and delivering talks at public outreach events at the Astronomical Observatory of Ljubljana, Slovenia (larger events 4 times a year, smaller ones every month).

2013 - present: Member of the team for translating Astronomy Picture Of the Day (<https://apod.nasa.gov>) into Slovene (<https://apod.fmf.uni-lj.si>), University of Ljubljana.

2015 - present: Delivering talks at amateur astronomical club Vega meetings for general public, 3 times a year, Ljubljana, Slovenia.

2018: Public outreach talk delivered at Kulturnatten, the annual Lund University open evening.

Grants awarded as PI

2018: Approved application for the Exchange of Researchers bilateral agreement between Italy and Slovenia in the context of Scientific and Technological Cooperation Agreement between these two countries.

International collaboration

2013 - present: Gaia-ESO survey, working on $H\alpha$ emission stars and classification of peculiar objects with machine learning

2013 - present: GALAH survey, working on classification of peculiar objects and specifically spectroscopic binary (multiple) systems

2013 - present: Asiago observatory (Italy), working on a selection of eclipsing binary stars with high quality photometric and spectroscopic observations

2018 - present: 4MOST survey, working on the Galactic spectroscopic pipeline, involved in the working group for survey strategy, an operator in the 4MOST Helpdesk, planning for classification of spectra and analysis of binary stars

Conferences, meetings, summer schools, invited talks

2013: Summer school “Awareness Conference in Astrophysics”, Romunia

2013: Talk at the conference “The Gaia-ESO Survey: Consolidating the Survey Strategy”, Florence, Italy:

Preliminary analysis of peculiar spectra

2014: Poster at the summer school “Protoplanetary Disks: Theory and Modeling meet Observations”, Ameland, Netherlands: *Morphological classification of emission-type stars*

2014: Talk at the conference “Young Clusters in the Gaia-ESO Survey”, Palermo, Italy:

Peculiar stars and $H\alpha$ emission

2014: Poster at the winter school “XXVI Canary Islands Winter School of Astrophysics - Bayesian Astrophysics”, Tenerife, Spain:

Morphological classification of $H\alpha$ emission stars

2015: Summer school “Atomic processes and spectral modelling in astrophysics”, Belfast, Great Britain

2015: Poster at the summer school “High angular resolution in astrophysics: optical interfer-

ometry from theory to observations”, Cologne, Germany:

The Gaia-ESO Survey: Catalogue of H α emission stars

2015: Summer school “BINARY WORKSHOP 2015”, Leuven, Belgium

2015: Talk at the conference “Gaia-ESO Survey Third Science Meeting”, Vilnius, Lithuania:

Exploring peculiar morphologies using t-SNE reduction of spectral information

2015: Winter school “School of Astrostatistics 2015: Clustering and Classification”, Les Houches, France

2016: Talk at the meeting “Galah Busy days”, Canberra, Australia:

Diagnostics/classification of GALAH dataset with t-SNE

2016: Seminar talk during a work meeting at IoA Cambridge, Cambridge, Great Britain:

On the lookout for peculiar stars: Diagnostics/classification of spectra in large spectroscopic surveys

2016: Poster at the conference “Binary Stars in Cambridge 2016”, Cambridge, Great Britain:

Binaries in Galah: Classification and diagnostics with t-SNE

2016: Talk and poster at the conference “Galactic archaeology and stellar physics”, Canberra, Australia:

Classifying spectra that just don’t fit

Binaries in Galah: Classification and diagnostics with t-SNE

2017: Talk at the conference “European Week of Astronomy and Space Science”, Prague, Czech Republic:

Exploring large spectroscopic surveys using t-SNE reduction of spectral information

2017: Poster at the conference “The IMPACT of BINARIES on STELLAR EVOLUTION”, Garching, Germany:

Discovering binaries with t-SNE reduction of spectral information

2017: Talk at the conference “Gaia-ESO Survey Fourth Science Meeting”, Catania, Italy:

t-SNE classification and diagnostics of peculiarities in spectral data

2017: Talk at the meeting “Galah Busy days”, Sydney, Australia:

t-SNE and DR 5.2

2017: Talk at the conference “With One Hand Waving Free”, Port Douglas, Australia:

SB2 systems and stars in short-lived evolutionary phases explored by t-SNE reduction of spectral information

2018: Talk at a workshop “Machine Learning in Medicine and Astronomy” during a work meeting at Lund Observatory, Lund, Sweden:

Machine learning for understanding stellar sources

2018: Talk at the conference “A Revolution in Stellar Physics with Gaia and Large Surveys”, Warsaw, Poland:

Probing the short-period binary population using large spectroscopic surveys in the Gaia era

2018: Seminar talk (invited), Department of Physics and Astronomy, Uppsala, Sweden:

Binary stars in the era of data-driven astronomy

2019: Talk at the meeting “Asiago Day”, Department of Physics and Astronomy, Padova, Italy:

Eclipsing binary stars

2019: Seminar talk, Faculty of Mathematics and Physics, Ljubljana, Slovenia:

Binary stars in the era of Big-Data in Astronomy

2019: Talk at the meeting ”New Milky Way AHM”, Örenäs, Sweden:

Machine learning meets galactic binaries

2019: Talk (invited) at EWASS, Lyon, France:

Machine learning techniques meet binaries

2019: Poster at the meeting “The Swedish e-Science Academy 2019”, Lund, Sweden:

Strange stars and how to find them - ML (t-SNE) to the rescue

2019: Seminar talk, Faculty of Mathematics and Physics, Ljubljana, Slovenia:

4MOST - opportunities and challenges

Observational experience

2013 - present: Extensive observational experience at 1.82 m telescope with mounted Echelle spectrograph in Asiago, Italy

2005 - present: Observational experience with a 72 cm telescope (and smaller ones) of the Astronomical department of Faculty of Mathematics and Physics in Ljubljana, Slovenia.

Astronomical software and programming skills

- Python (Jupyter, Astropy, ...)
- C, C++
- Ruby
- Java
- Iraf
- Matlab, Mathematica
- Latex
- various flavours of SQL databases

- Gnuplot
- Linux and server administration