

Desmond H. Grossmann, MSc, BSc

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Employment History

- Oct 2023–today **Predoctoral Researcher, Instituto de Astrofísica de Canarias & Universidad de La Laguna**, Tenerife, Spain
- Feb 2023 – Sep 2023 **Assistant of the Vice Rector for International Affairs**, University of Graz. ARQUS University Network co-coordination
- Feb 2022 – Feb 2023 **Student assistant**, Graz University of Technology. Responsible for COVID-19 reporting system.
- Feb 2021 – Feb 2022 **Student assistant, EU Horizon Project "SOLARNET"**, Organisation and development of the Summer School in "High Resolution Solar Physics", University of Graz.
- Sep 2018 – Mar 2019 **Lecturer**, Mechanics and Thermodynamics, Institute of Physics, University of Graz.
- Oct 2016 – Jan 2021 **Teaching Assistant & Tutor, Institute of Physics, University of Graz**. Assisting in various undergraduate courses (see teaching experience).

Education

- Nov 2023–today **Ph.D. in Astrophysics, Instituto de Astrofísica de Canarias & Universidad de La Laguna**, Tenerife, Spain
Thesis working title: *Determining precise stellar ages : Asteroseismic modeling of solar-like stars of red giants*
- Feb 2018 – Oct 2023 **M.Sc. Astrophysics, University of Graz & Graz University of Technology**, Austria. (Part Time Studies due to higher education policy engagement)
Thesis title: *Asteroseismic Grid-modelling of the seismic-binary system KIC9163796*
- Aug 2016 - Dec 2016 **Exchange Semester, University of Calgary**, Canada.
- Oct 2014 – Feb 2018 **B.Sc. Physics, University of Graz & Graz University of Technology**, Austria.
Thesis title: *KIC10614012 - A case study of an heartbeat eclipsing binary.*
- Sept 2010 – May 2014 **A-Levels, Bundesrealgymnasium Kepler, Graz**, Austria.
Passed with distinction

Research Publications and Conference Contributions

Refereed Journal Articles

The first author is the corresponding author. My full publication list is available in my public libraries on NASA ADS, or ORCID, linked at the header of the CV.



- Grossmann, D.H.**, P. G. Beck, S. Mathur, C. Johnston, D. Godoy-Rivera, J. C. Zinn, S. Cassisi, B. Liagre, T. Masseron, R. A. García, A. Hanslmeier, N. Muntean, L. S. Schimak, L. Steinwender, and D. Stello (Apr. 2025a). "Improving the stellar age determination through joint modeling of binarity and asteroseismology: Grid modeling of the seismic red giant binary KIC 9163796". In: *Astronomy & Astrophysics* 696, A42, A42. [DOI: 10.1051/0004-6361/202452626](https://doi.org/10.1051/0004-6361/202452626). arXiv: 2501.09018 [astro-ph.SR].

- 2 Beck, P. G., **D.H. Grossmann**, L. Steinwender, L. S. Schimak, N. Muntean, M. Vrad, R. A. Patton, J. Merc, S. Mathur, R. A. Garcia, M. H. Pinsonneault, D. M. Rowan, P. Gaulme, C. Allende Prieto, K. Z. Arellano-Córdova, L. Cao, E. Corsaro, O. Creevey, K. M. Hambleton, A. Hanslmeier, B. Holl, J. Johnson, S. Mathis, D. Godoy-Rivera, S. Simon-Díaz, and J. C. Zinn (Feb. 2024). “Constraining stellar and orbital co-evolution through ensemble seismology of solar-like oscillators in binary systems. A census of oscillating red giants and dwarf stars in Gaia DR3 binaries”. In: *Astronomy & Astrophysics* 682, A7, A7. [DOI: 10.1051/0004-6361/202346810](https://doi.org/10.1051/0004-6361/202346810). arXiv: 2307.10812 [astro-ph.SR].
- 3 Godoy-Rivera, D., S. Mathur, R. A. García, M. H. Pinsonneault, Â. R. G. Santos, P. G. Beck, **D.H. Grossmann**, L. Schimak, M. Bedell, J. Merc, and A. Escorza (Apr. 2025). “Kepler meets Gaia DR3: Homogeneous extinction-corrected color-magnitude diagram and binary classification”. In: *Astronomy & Astrophysics* 696, A243, A243. [DOI: 10.1051/0004-6361/202348735](https://doi.org/10.1051/0004-6361/202348735). arXiv: 2501.18719 [astro-ph.SR].
- 4 Schimak, Lea S., Timothy R. Bedding, Courtney L. Crawford, Paul G. Beck, Yaguang Li, Daniel Huber, Joel Ong, Benjamin T. Montet, May Gade Pedersen, **D.H. Grossmann**, Savita Mathur, and Rafael A. García (Mar. 2026). “Testing red clump models with the asteroseismic binary KIC 10841730”. In: *MNRAS* 546.3, stag151, stag151. [DOI: 10.1093/mnras/stag151](https://doi.org/10.1093/mnras/stag151). arXiv: 2601.12773 [astro-ph.SR].
- 5 Beck, P. G., T. Masseron, K. Pavlovski, D. Godoy-Rivera, S. Mathur, **D.H. Grossmann**, A. Hamy, D. B. Palakkatharappil, E. Panetier, R. A. García, J. Merc, Y. Lu, I. Amestoy, and H. J. Deeg (Feb. 2026). “Dynamical mass of a solar-like oscillator at the main sequence turnoff from Gaia astrometry and ground-based spectroscopy”. In: *Astronomy & Astrophysics* 706, L19, p. L19. [DOI: 10.1051/0004-6361/202557452](https://doi.org/10.1051/0004-6361/202557452). arXiv: 2601.14197 [astro-ph.SR].
- 6 Liagre, B., R. A. García, S. Mathur, M. H. Pinsonneault, A. Serenelli, J. C. Zinn, K. Cao, D. Godoy-Rivera, J. Tayar, P. G. Beck, **D.H. Grossmann**, and D. B. Palakkatharappil (Oct. 2025). “Beyond the Nyquist frequency: Asteroseismic catalog of undersampled Kepler late subgiants and early red giants”. In: *Astronomy & Astrophysics* 702, A144, A144. [DOI: 10.1051/0004-6361/202555167](https://doi.org/10.1051/0004-6361/202555167). arXiv: 2508.15654 [astro-ph.SR].
- 7 Olivotto, C., D. Cenadelli, M. Gamal, D. Grossmann, L. A. I. Teller, A. S. Marta, C. L. Matoni, and A. Taillard (Sept. 2015). “**Participant Perspectives on the ESO Astronomy Camp Programme**”. In: *Communicating Astronomy with the Public Journal* 18, p. 33.



Conference Proceedings

- 1 **Grossmann, D.H.**, S. Mathur, P.G. Beck, R.A. García, D. Godoy-Rivera, B. Liagre, N. Muntean, and D.B. Palakkatharappil (Oct. 2025b). “Ensemble Boutique Modeling of Kepler Giants”. In: *TASC9/KASC16 9th TESS/16th Kepler Asteroseismic Science Consortium*, 109, p. 109. [DOI: 10.5281/zenodo.17433342](https://doi.org/10.5281/zenodo.17433342).
- 2 Schimak, Lea S., Tim Bedding, Courtney Crawford, Paul G. Beck, Daniel Huber, Yaguang Li, Ben Montet, May Gade Pedersen, and **D.H. Grossmann** (Oct. 2025). “The asteroseismic binary KIC 1084173: What does it tell us about core helium-burning red clump star models?” In: *TASC9/KASC16 9th TESS/16th Kepler Asteroseismic Science Consortium*, 71, p. 71. [DOI: 10.5281/zenodo.17374474](https://doi.org/10.5281/zenodo.17374474).
- 3 Beck, P. G., R. Kuschnig, G. Houdek, T. Kallinger, W. W. Weiss, P. L. Palle, F. Grundahl, A. Hatzes, H. Parviainen, C. Allende Prieto, H. J. Deeg, A. Jiménez, S. Mathur, R. A. Garcia, T. R. White, T. R. Bedding, **D.H. Grossmann**, S. Janisch, T. Zaqarashvili, A. Hanslmeier, and K. Zwintz (Jan. 2020). “**The BRITE-SONG of Aldebaran - stellar music in three voices**”. In: *Stars and their Variability Observed from Space*. Ed. by C. Neiner, W. W. Weiss, D. Baade, R. E. Griffin, C. C. Lovekin, and A. F. J. Moffat, pp. 75–79. arXiv: 2001.04912 [astro-ph.SR].
- 4 **Grossmann, D.H.**, P. G. Beck, and A. Hanslmeier (Jan. 2020). “**KIC 9163796 - a benchmark binary for age determination**”. In: *Stars and their Variability Observed from Space*. Ed. by C. Neiner, W. W. Weiss, D. Baade, R. E. Griffin, C. C. Lovekin, and A. F. J. Moffat, pp. 351–352.




Invited Talks

- 2024  **Asteroseismology and the interior of stars**, Dr.Hans-Riegel-Akademie, Brühl, Germany, September 2024
-  **Asteroseismic grid-modelling of the seismic-binary system KIC 9163796**, IMPRS PhD recruitment workshop, Max Planck Society, Garching, Germany, February 2023

Contributed Talks

- 2024  **Asteroseismic grid-modelling of the seismic-binary system KIC 9163796**, European Astronomical Society Meeting, Session "Asteroseismology in multiple-star systems in the era of large photometric surveys", July 2024
-  **Asteroseismic grid-modelling of the seismic-binary system KIC 9163796**, 8th TESS/15th Kepler Asteroseismic Science Consortium Meeting, June 2024

Skills

- Languages  Strong reading, writing and speaking competencies for English and German, Basic communication abilities in Spanish, First Language: German
- Coding  Python, FORTRAN, MESA, SLURM (HPC), Astronomical Data Query Language (ADQL), SQL, \LaTeX , HTML
- Misc.  research experience, teaching experience, leadership of small groups.


Awards & Achievements

As a primary applicant, I was awarded a total amount of **125.7k €** for my **research** and **studies** through awards and scholarships.







- 2023  **"la Caixa" INPhINIT Doctoral fellowship**, (Full & independent PhD fellowship; 120k €, PI), awarded by the "la Caixa" foundation, Barcelona, Spain.
- 2022  **Förderungsstipendium**, (Full cost scholarship for participation in "MESA Summer School 2022"; 2.0k €, PI), awarded by the University of Graz.
- 2018  **Leistungsstipendium**, (Excellency Scholarship for outstanding academic performance; 0.8k €, PI) awarded by the Dean of Faculty of Natural Sciences, University of Graz.
 **Dr. Heinrich Jörg Stipendium**, (Conference Travel Scholarship 0.5k €) awarded by the Dr. Heinrich Jörg Foundation at University of Graz.
 **Participation and Travel Grant**, (for participation in "Dunlap Institute Summer School: Introduction to Astronomical Instrumentation"; 0.6k €, PI), awarded by the Dunlap Institute for Astronomy, University of Toronto, Canada (PI).
- 2016  **Joint Study Stipendium**, (Scholarship for studying abroad; 1k €, PI), for exchange semester at the University of Calgary, Canada awarded by the Austrian Study Grant Authority.
 **KUWI-Stipendium**, (Scholarship for conference Participation, 0.5k €, PI), awarded by the University of Graz.
- 2014  **Dr. Hans Riegel-Fachpreis**, (Award for excellency in final diploma school thesis, 0.3k €, PI) awarded by the Dr. Hans Riegel-Foundation, Bonn, Germany.

Teaching Experience

Independent Teaching Experience

- 2018-2019  **Lecturer in Exercise on Mechanics and Thermodynamics**, Bachelor's Course, 30 students, 3 ECTS-Credits, Senior Lecturer: Prof. Knoll.

Supervised Teaching and Tutoring

- 2024  **Tutor at "MESA Down Under" School**, Sydney, Australia, June 2024
- 2021-2022  **Vector Analysis**, Bachelor's Curriculum. Winter Term 2021, Supervisor: Prof. Helmut Gausterer.
- 2020-2021  **Advanced Physics Lab**, Bachelor's Curriculum. Winter Term 2020 and Winter Term 2021, Supervisor: Prof. Georg Koller.
- 2018-2019  **Physics for Biology Students Lab**, Bachelor's Curriculum, Winter Term 2019, Supervisor: Prof. Andreas Hohenau
- 2016-2018  **Quantum mechanics**, Bachelor's Curriculum, Summer Term 2018, Supervisor: Prof. Axel Maas. Theoretical Mechanics
-  **Beginner Physics Lab 1 & 2**, Bachelor's Curriculum, Summer Term 2017, Winter Term 2017, Summer Term 2018, Supervisor: Prof. Peter Knoll.

Service to the community

Academic recognition


- since 2026  **Refereeing for Astronomy & Astrophysics Journal**,
- since 2025  **Co-Coordination of stellar research line meetings at Instituto de Astrofísica de Canarias**
- 2025  **Member of the Local Organisation Committee** of the TASC9/KASC16 Conference, July 2025, Vienna, Austria
-  **Jornadas de Puertas Abiertas del Observatorio del Teide (Outreach activity)**, June 2025, Tenerife
- 2024  **Member of the Local Organizing Committee** of the "SONG24 Science Meeting", September 18-20th 2024, Tenerife, Spain

Higher Education Policy Engagement







- since 2024  **Representative of PhD Students at Instituto de Astrofísica de Canarias**,
- 2022-2023  **Member of Audit Panel, Swiss Agency of Accreditation and Quality Assurance**, Audit and Re-certification of Vienna Technical University (TU Wien).
- 2022-today  **Steering Comitee & Student Council Member, ARQUS European University Alliance**, Project to stipulate European Universities by the European Union; nominated by the Rector of the University of Graz.
- 2022- today  **Student's Member of the Academic Senat**, Graz University of Technology.
- 2021- today  **Student's Member of the Academic Senat**, University of Graz.
- 2019-2021  **Member of the Delegates Council, Austrian Science Fund (FWF)**.
- 2019-2020  **Vice-President of Austrian Students' Union**. Statuary body, Nationwide Union of Students in Austria.
- 2018 - 2019  **Vice-President of the Student's Union at the University of Graz**.

Service to the community (continued)

Training Leads in Workshops and Seminars

May 2022  **Higher Education Policy** for Student Representatives, Advanced Training Seminar by Students Union of Graz University of Technology, Söschau, Austria.

Research Interests

-  Binary systems
-  Red Giant and evolved stars
-  Analysis of mission Data (e.g. GAIA, TESS)
-  Modeling with MESA and GYRE
-  Age inference of evolved stars
-  Galactic Archeology