Do you want to explore how stellar activity shapes the spectra of other stars and impacts the search for habitable worlds?

The **Lively Stars group** (https://lively-stars.uni-graz.at/en/), led by **Prof. Alexander Shapiro** at the Institute of Physics, University of Graz, invites applications for a **fully funded PhD position** within the ERC Synergy Grant "REVEAL – REVEALing Signatures of Habitable Worlds Hidden by Stellar Activity."

The successful candidate will work under the guidance of **Dr Veronika Witzke**, contributing to our understanding of stellar variability and magnetic activity using cutting-edge numerical simulations and radiative-transfer modelling.

Current scope of projects includes:

- Developing models of stellar variability
- Analysing large datasets from 3D MHD simulations (MURaM) and radiative-transfer calculations (MPS-ATLAS)
- Processing observed stellar spectra and studying their variability
- Applying machine-learning tools to accelerate stellar modelling

The PhD candidate will have the opportunity to:

- Collaborate with international partners within and beyond the REVEAL consortium
- Optionally participate in outreach activities and the supervision of Bachelor's students (no formal teaching required)

Requirements

- MSc (or equivalent) in Astrophysics, Physics, or Computational Science
- Experience in one or more of the following: radiative transfer, magnetohydrodynamics (MHD), data analysis, high-performance computing (HPC), or programming (Python/Fortran)
- High intrinsic motivation to learn and develop new analysis techniques
- Very good English skills, with the ability to work in an international research environment and to write scientific papers
- **Desirable:** Prior exposure to MHD simulations and/or spectral line analysis and/or machine-learning tools
- **Personal qualities:** independence, teamwork, and interdisciplinary thinking

We offer

- A 3-year fully funded position, with the possibility of a 6-month extension
- Employment under the University of Graz pay grade; additional performance-based bonuses may be awarded in the final year
- Access to high-performance computing facilities and state-of-the-art 3D simulation codes
- A supportive, international, and interdisciplinary research environment with close collaboration within the ERC REVEAL network

- Opportunities to attend schools and workshops relevant to the project

The **University of Graz** is committed to equal opportunity, diversity, and inclusion, and welcomes applications from all qualified candidates regardless of gender, background, or career path.

Application

Applications should include:

- A motivation letter describing past achievements and suitability for the project
- A CV
- Contact details of two referees
- Academic transcripts and a list of relevant courses, workshops, or lectures

Applications will be reviewed starting **20 January 2026** and will continue until the position is filled.

For questions, please contact
Dr Veronika Witzke (veronika.witzke@uni-graz.at) or
Prof. Alexander Shapiro (alexander.shapiro@uni-graz.at).