Prof. Dr. Katja Poppenhäger

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Research interests

Evolution of stars and exoplanets, stellar magnetic activity and gyrochronology, exoplanetary atmospheres

Education

PhD in Astrophysics, Hamburg University, Germany — 2011

Diplom in Physics, Goethe University Frankfurt, Germany — 2004

Professional experience

Professor for Stellar Physics and Exoplanets — since 2018
Leibniz Institute for Astrophysics Potsdam (AIP), joint appointment with Potsdam University, Germany

Lecturer (Assistant Professor) in Astrophysics — 2015 – 2018
Queen's University Belfast, UK

Sagan Postdoctoral Prize Fellowship holder — 2013 – 2015
Harvard-Smithsonian Center for Astrophysics (CfA), Cambridge, USA

Postdoctoral fellow — 2012 – 2013
Harvard-Smithsonian Center for Astrophysics (CfA), Cambridge, USA

Postdoctoral fellow — 2011 – 2012
Hamburg Observatory, Germany

Scientist and project manager — 2005 – 2007
Environmental Protection Encouragement Agency, Hamburg, Germany

Grants and awards (selected)

Leibniz Competition, "Combined Evolution of Star-Planet Systems", 2018 - 2023, PI — EUR 950 000

Sagan Prize Fellowship, "Understanding exoplanet systems through high-energy observations", 2013 - 2016, PI — USD 247 500

NASA ADAP, "Exoplanet transits in X-rays: a new observational window to the exoplanetary atmosphere", 2014 - 2016, PI — USD 74 021

Merit fellowship of *Studienstiftung des deutschen Volkes* (German National Academic Foundation; selects ca. 0.5% of the German students for sponsorship), 2001 - 2004

Teaching

Lecture courses on "The Astrophysics of Exoplanets" and "Famous Women in Astrophysics and their Research" at Potsdam University;

Previously, lecture and lab courses on "Stellar structure and evolution" and "Computational projects in physics" at Queen's University Belfast.

Completed "Postgraduate Certificate in Higher Education Teaching" at Queen's University Belfast (2017).

Advised students and staff

PhD students currently advised at AIP: Nikoleta Ilic, Laura Ketzer, Judy Chebly;
completed PhDs: Ekaterina Ilin (U Potsdam), Grace Foster (U Potsdam), Robert Wells (QUB Belfast), Rachel Booth (QUB Belfast)

Postdocs and staff currently advised at AIP: Julián Alvarado-Gomez, Eliana Amazo.Gomez, Engin Keles, Ekaterina Ilin, Silva Järvinen, Thorsten Carroll, Sydney Barnes, Matthias Steffen

9 Master and Bachelor thesis projects supervised. Additional ∼10 Bachelor, Master and PhD thesis projects total co-supervised as secondary advisor or mentor.

Talks and outreach

More than 50 scientific talks since 2013, including 15 invited review talks at interntaional conferences. Frequent public outreach talks and radio interviews.

Major collaborations (selected)

Member of ELT-ANDES Steering Committee since 2022

Member of ESA's Scientific Advisory Panel 2022

Member of ESA's Astronomy Working Group 2020 - 2023

Organizer, Thinkshop conference on "High-resolution spectroscopy for exoplanet atmospheres and biomarkers" (in-person plus virtual) September 2022

Organizer, XMM-Newton workshop on "A High-Energy View of Exoplanets and their Environments" (virtual) May 2021

Member of eROSITA Working Group "Stars" since 2019

Academic service (selected)

Ombudsperson for Good Scientific Practice at AIP since 2022

Presenter and organizer of "Astrocareers & Diversity" workshops at Potsdam University since 2019

Reviewer for funding agencies, academic journals and time allocation committees.

Publications

75 publications in peer-reviewed international journals, including 18 publications as first author, 2 entries in Astrophysics Source Code Library.
Total citations: 2226; h-index: 24 (as of March 2023).
Link to full publication list: https://ui.adsabs.harvard.edu/public-libraries/TkluxdHbTMGPTyNlz-oEfg

Selection of 10 representative publications, works led by supervised students are underlined:

- Ketzer, L. and **Poppenhaeger, K.**, *The influence of host star activity evolution on the population of super-Earths and mini-Neptunes,* MNRAS, 518, 1683 (2023)
  https://ui.adsabs.harvard.edu/abs/2023MNRAS.518.1683K
- Ilic, N., **Poppenhaeger, K.**, and Hosseini, S. Marzieh, *Tidal star-planet interaction and its observed impact on stellar activity in planet-hosting wide binary systems,* MNRAS, 513, 4380 (2022)
  https://ui.adsabs.harvard.edu/abs/2022MNRAS.513.4380I
- Foster, G., **Poppenhaeger, K.**, Ilic, N., and Schwope, A., *Exoplanet X-ray irradiation and evaporation rates with eROSITA,* A&A, 661, A23 (2022)
  https://ui.adsabs.harvard.edu/abs/2022A&A...661A..23F

- **Poppenhaeger, K.**, Ketzer, L., and Mallonn, M., *X-ray irradiation and evaporation of the four young planets around V1298 Tau,* MNRAS, 500, 4560 (2021)
https://ui.adsabs.harvard.edu/abs/2021MNRAS.500.4560P
- Ilin, Ekaterina, **Poppenhaeger, Katja**, Schmidt, Sarah J., Järvinen, Silva P., Newton, Elisabeth R., Alvarado-Gómez, Julián D., Pineda, J. Sebastian, Davenport, James R. A., Oshagh, Mahmoudreza, and Ilyin, Ilya, *Giant white-light flares on fully convective stars occur at high latitudes,* MNRAS, 507, 1723 (2021)
https://ui.adsabs.harvard.edu/abs/2021MNRAS.507.1723I
- Ilin, Ekaterina, Schmidt, Sarah J., **Poppenhäger, Katja**, Davenport, James R. A., Kristiansen, Martti H., and Omohundro, Mark, *Flares in open clusters with K2. II. Pleiades, Hyades, Praesepe, Ruprecht 147, and M 67,* A&A, 645, A42 (2021)
https://ui.adsabs.harvard.edu/abs/2021A&A...645A..42I
- Wells, R., **Poppenhaeger, K.**, and Watson, C. A., *Three small transiting planets around the M-dwarf host star LP 358-499,* MNRAS, 473, L131 (2018)
https://ui.adsabs.harvard.edu/abs/2018MNRAS.473L.131W
- Booth, R. S., **Poppenhaeger, K.**, Watson, C. A., Silva Aguirre, V., and Wolk, S. J., *An improved age-activity relationship for cool stars older than a gigayear,* MNRAS, 471, 1012 (2017)
https://ui.adsabs.harvard.edu/abs/2017MNRAS.471.1012B
- **Poppenhaeger, K.** and Wolk, S. J., *Indications for an influence of hot Jupiters on the rotation and activity of their host stars,* A&A, 565, L1 (2014)
https://ui.adsabs.harvard.edu/abs/2014A&A...565L...1P
- **Poppenhaeger, K.**, Schmitt, J. H. M. M., and Wolk, S. J., *Transit Observations of the Hot Jupiter HD 189733b at X-Ray Wavelengths,* ApJ, 773, 62 (2013)
https://ui.adsabs.harvard.edu/abs/2013ApJ...773...62P