

Jan Henneco

Postdoctoral Research Associate

Newcastle upon Tyne, United Kingdom
(he/him)

✉ jan.henneco@protonmail.com

🌐 astro.jan.henneco.eu

🆔 ORCID 0000-0003-4307-0060

🌐 linkedin.com/in/jan-henneco

🐙 github.com/janhenneco

RESEARCH PROFILE

Focus on the evolution and interactions of stars in massive binary star systems, and the asteroseismic fingerprints of these interactions. Primarily theoretical/computational, but actively bridging the gap with (future) observations.

EMPLOYMENT

Postdoctoral research associate in stellar astrophysics Newcastle University · Newcastle upon Tyne, United Kingdom	Jun. 2025 – present
PhD student Heidelberg Institute for Theoretical Studies · Heidelberg, Germany	Feb. 2021 – Feb. 2025
Secondary school teacher Sint-Martinuscollege Overijse · Overijse, Belgium	Oct. 2020 – Feb. 2021
Summer internship Institute of Astronomy, KU Leuven · Leuven, Belgium Two-month internship to write paper based on MSc research + extra project	Aug. 2020 – Sept. 2021

EDUCATION

Heidelberg University PhD in Astrophysics · Heidelberg, Germany · <i>magna cum laude</i> <i>Thesis: 'The Progenitors and Products of Stellar Mergers'</i> <i>Supervisors: Fabian Schneider & Saskia Hekker</i>	2021 – 2025
KU Leuven Master of Astronomy and Astrophysics (MSc) · Leuven, Belgium · <i>magna cum laude</i> <i>Thesis: 'The effect of the centrifugal deformation of stars on g-mode pulsations'</i> <i>Supervisors: Timothy Van Reeth & Joey Mombarg</i>	2018 – 2025
KU Leuven Bachelor of Physics (BSc) · Leuven, Belgium · <i>cum fructu</i> <i>Minor: Astronomy & Informatics</i>	2015 – 2019

INVITED TALKS

TASC10/KASC17 · Aarhus University, Aarhus, Denmark <i>The Status, Complications (or Opportunities?) and Bright Future of O- and B-type Pulsators</i>	Jul. 2026
IvS Seminar · Institute of Astronomy (KU Leuven), Leuven, Belgium <i>Asteroseismology of Stellar Merger Products</i>	Apr. 2026
Working Group on Active B Stars Seminar · Online <i>The peculiar asteroseismic signals of massive binary interaction products and what we can learn from them</i>	Apr. 2026
Lorentz Center Workshop on Stripped Stars · Lorentz Center, Leiden, the Netherlands <i>Crash course on binary mass transfer</i>	Jul. 2024
17th Würzburg Winter Workshop · HITS, Heidelberg, Germany <i>Crash course on binary mass transfer</i>	Dec. 2023

CONTRIBUTED TALKS

IAUS 402: Massive Stars · Ensenada, Mexico	Sep. 2025
<i>Merger Seismology: Identifying Stellar Merger Products with Asteroseismology</i>	
TASC9/KASC16 · ISTA, Vienna, Austria	Jul. 2025
<i>Massive Merger Products on the Main Sequence: Do Their Pulsations Betray Them?</i>	
TASC8/KASC15 · University of Porto, Porto, Portugal	Jul. 2024
<i>Merger Seismology - Asteroseismic Properties of Massive Merger Products</i>	
Workshop: Stable Mass Transfer in Binaries · CCA (Flatiron Institute), New York City, USA	Mar. 2024
<i>Stable mass-transfer channels leading to stellar mergers</i>	
3,2,1: Massive Triples, Binaries and Mergers · KU Leuven, Leuven, Belgium	Jul. 2023
<i>Contact tracing of binary stars</i>	
European Astronomical Society Meeting · Kraków, Poland	Jul. 2023
<i>Contact tracing of binary stars</i>	
MIAPbP Workshop on Stellar Multiplicity · MIAPbP, Garching, Germany	Nov. 2022
<i>Contact tracing of binary stars: from sub-solar to high-mass components</i>	
STARS 2020: Peter Eggleton's 80th Birthday Conference · Univeristy of Cambridge, UK	Aug. 2022
<i>Contact tracing of binary stars</i>	

WORKSHOPS

Lorentz Center Workshop: From discovery to a population: benchmarking stripped stars and companions · Leiden, the Netherlands	Jul. 2024
Flatiron Institute Workshop: Stable mass transfer in binaries, from onset to remnants · New York City, USA	Mar. 2024
MIAPbP Workshop: The fundamental role of stellar multiplicity in stellar dynamics and evolution · Garching, Germany	Nov. 2022

AWARDED TELESCOPE TIME

PLATO Guest Observer (PI): PLATO AO-1 proposal awarded observing time for ~ 400 targets	2026
TESS Guest Investigator (co-I): TESS Cycle 9 proposal awarded observing time for ~ 2000 targets	2026

COMMITTEES AND ORGANISATIONAL ACTIVITIES

Good Vibrations seminar steering committee: Organising and chairing	Aug. 2026 – present
National Astronomy Meeting 2026: Lead/co-organised and chaired two sessions on binary stars and astero/helioseismology	Dec. 2025 – Jul. 2026
Group meeting chair: Weekly Stellar Evolution Theory group meeting	Dec. 2023 – Feb. 2025
Staff representative: Delegate for the Stellar Evolution Theory group at HITS	Feb. 2021 – Feb. 2025

CODES & SOFTWARE CONTRIBUTIONS

MESA Orchestrator in Python (MOrPy): Tool to prepare, run, and track MESA stellar structure and evolution models and grids with Python · github.com/janhenneco/MOrPy

OUTREACH

Audio Universe: Provided ideas and scientific content for a planetarium show about black holes, which uses sonification to be accessible for visually impaired people

Habitable: Was part of the team that created the astrophysics-inspired board game <i>Habitable</i> , held multiple testing events for various audiences, and created instruction video	2023
ZOrA presentation: Gave a presentation about stellar astrophysics before an audience of female high-school students with a strong interest in science + Q&A about careers in science	2023
HITS Lab Meeting: Presented my work in front of a multidisciplinary audience at HITS	2021
Veto opinion piece: Wrote an opinion piece for the student magazine <i>Veto</i> about the relevance of fundamental research. Link: web.archive.org/web/20211208040506/http://www.veto.be/artikel/zwart-gat-so-what	2019

COLLABORATIONS

Massive Star Asteroseismology Instrument Cubesat (MAGIC) · Plato Complementary Science Pulsating Stars Working Group · Binarity at LOw Metallicity (BLOeM) · Expert and active user of the MESA stellar evolution code (mesastar.org) · VLT-FLAMES Tarantula Survey (VFTS)

TEACHING AND ADVISING

Teaching: Lecture at IMPRS Summer School 2026 · Heidelberg, Germany	Sep. 2026
Lecture in IAU-G2 Lecture Series Block 3: Massive Binaries · Online	Dec. 2025
Tutor at MESA Summer School · Konkoly Observatory, Hungary	Aug. 2023
Tutor for <i>Fundamental of Simulation Methods</i> · Heidelberg, Germany	Oct. 2023 – Feb. 2024
Tutor for <i>Fundamental of Simulation Methods</i> · Heidelberg, Germany	Oct. 2021 – Feb. 2022
Advising: James Pringle & Jess Lunt (MSc) · Newcastle University, UK	Sep. 2026 – present
Utkarsh Basu (MSc, co-advisor) · HITS, Germany	Oct. 2023 – Apr. 2026
Max Heller (MSc, co-advisor) · HITS, Germany	Aug. 2023 – Feb. 2025
Tina Neumann (BSc, co-advisor) · HITS, Germany	Jan. 2022 – May. 2022

AWARDS

HITS Award: HITS internal award for the development of the <i>Habitable</i> board game	2023
‘Hochschulwettbewerb’ Award: € 10 000 from the German Federal Ministry of Education and Research used for the development of the <i>Habitable</i> board game	2023
Science Award: Received upon graduating high school (KA2 ‘De Ring’ Leuven, Belgium)	2015

COMPUTING SKILLS

Programming languages: Python, Fortran, C/C++ (basics), Java (basics), SQL (basics)
Astrophysics codes: Modules for Experiments in Stellar Astrophysics (MESA) [expert], GYRE [expert]
Writing & presenting: L^AT_EX, Typst, Microsoft/Libre Office, Markdown
Graphics: Inkscape, Blender, GIMP/Photoshop, Darktable/Lightroom
Other: Git, Linux, MacOS, Parallel computing, GPU computing, Make, Web design [basics]

TELESCOPE EXPERIENCE

One-week observing run at KU Leuven’s Mercator Telescope (La Palma, Spain), working with the HERMES (High-Efficiency and high-Resolution Mercator Echelle Spectrograph) and MAIA (Mercator Advanced Imager for Asteroseismology) instruments.

LANGUAGES

Dutch	English	French	German
native	fluent	proficient	good working knowledge