

Amalie Stokholm

a.l.stokholm@bham.ac.uk | amaliestokholm.github.io

Experience

- 2023 — **Postdoctoral Research Fellow**, *CartographY*, ERC G.A. n. 804752,
Sun, Stars & Exoplanets group, University of Birmingham, UK,
Line managers: Dr. Guy Davies and Prof. William Chaplin
- 2021 – 2023 **Postdoctoral Researcher**, *Asterochronometry*, ERC G.A. n. 772293,
Dipartimento di Fisica e Astronomia, Università di Bologna, Italy,
Line manager: Prof. Andrea Miglio

Education

- 2017 – 2022 **PhD**, *Stellar Astrophysics Centre (SAC)*, DNRF G.A. n. DNRF106,
Department of Physics & Astronomy, Aarhus University, Denmark,
PhD thesis topic: *Studying the Galaxy by studying the stars*
Supervisor: Dr. Victor Aguirre Børsen-Koch
- 2016 – 2019 **MSc Astronomy**,
Department of Physics & Astronomy, Aarhus University, Denmark

Publications

A complete list of my publications along with my publication metrics can be found at
ui.adsabs.harvard.edu/public-libraries/VoJI-I0hQmeylc72urzUw.

Awards

- KIF Prize *Female Physicist of the year 2023*
Winner 2023 awarded by *the Danish Network of Women in Physics*, see
kvinderifysik.dk/kif-prize-2023.

Committees & collaborations

- 2023 — **PLATO Data Center (PDC)**,
Leader of Work Package 374210 (*Seismic Diagnostics using Forward Stellar Modelling*)
- 2023 — **Chair of Postdoc Committee**,
School of Physics and Astronomy, University of Birmingham, UK,
Led the relaunch of the Postdoc Committee in the post-pandemic period.
Established new initiatives to support early career researchers, including monthly informal social coffees, professional development workshops tailored to early career academics, and quarterly *Physics Postdoc Jamborees* — cross-disciplinary events showcasing early career research across the School. Also launched an annual postdoc survey to assess working conditions and career development opportunities for early career researchers, leading to improvements in the annual Profession and Development Review (PDR) process.

- 2023 — **Board member of Early Career Development Network (ECDN)**,
School of Physics and Astronomy, University of Birmingham, UK,
Representative for the School of Physics and Astronomy
- 2021 — **Academic Referee and Reviewer**,
Regular referee for the academic journals *Astronomy and Astrophysics*, *Monthly Notices of the Royal Astronomical Society*, and telescope proposals
- 2021 — **HAYDN Science Consortium**,
Member of the consortium
- 2019 – 2023 **PLATO Science Management (PSM)**,
Member of Work Package 125 (*Determination of Stellar Parameters*)
- 2019 — **PLATO Science Consortium**,
Member of the consortium
- 2017 — **TESS Asteroseismic Science Consortium (TASC)**,
Member of the consortium
- 2017 — **Kepler Asteroseismic Science Consortium (KASC)**,
Member of the consortium
- 2017 — **BAYesian STellar Algorithm (BASTA)**,
Core member of the development team behind BASTA, an open-source Bayesian framework for accurate and precise inference of stellar properties such as mass, radius, and age.
- 2025 **Science Organising Committee for TASC9/KASC16 Workshop**,
Institute of Science and Technology Austria (ISTA), Austria,
Member
- 2017 – 2021 **Equity & Equality Committee**,
Department of Physics & Astronomy, Aarhus University, Denmark,
Member and working group leader
- 2017 – 2018 **Instrument Center for Danish Astrophysics (IDA)**,
Member of the board, Chair of Working Group 7, and member of 4 additional Working Groups

Teaching experience

- 2023 – 2025 **Teacher**,
School of Physics & Astronomy, University of Birmingham, UK,
in the module *Group Studies* for Year 3 students (20 credits) in the project *Preparing for the ESA PLATO Mission using Asteroseismology*

- 2017 – 2021 **Teaching assistant**,
Department of Physics & Astronomy, Aarhus University, Denmark
Alongside my PhD research projects, I followed courses at the Master/PhD level (about 60 ECTS points) and I also worked as a teaching assistant at the institute in the following courses:
- Relativity & Astrophysics, Autumn 2017, BSc course (10 ECTS), 1 unit
 - Galaxies & Cosmology, Spring 2018, BSc course (10 ECTS), 1 unit
 - Relativity & Astrophysics, Autumn 2018, BSc course (10 ECTS), 1 unit + administrative work
 - Relativity & Astrophysics, Autumn 2019, BSc course (10 ECTS), 2 units
- 2016 – 2017 **High School Teacher**,
Egaa Gymnasium, Denmark,
Upper-secondary school teacher in the course *Astronomy C* for students in their last year of upper-secondary school
- 2016 – 2017 **Coordinator of Astronomy Internships for ninth graders**,
Department of Physics & Astronomy, Aarhus University, Denmark, Organizer and teacher of a semi-annual week-long internship for a group of about 12 students on how to study and work in the fields of astronomy and astrophysics, aimed at students in the last years of primary school
- 2015 **Interim Teacher**,
Teknisk Gymnasium Viby, Aarhus Tech, Denmark,
I taught Physics modules four times a week for classes of about 25 students.
Week 8 2015 through week 17 2015

Supervision

- 2025 **PhD student Owen J. Scutt**,
University of Birmingham, UK,
Temporary supervisor, project title *Asteroseismology of solar-like oscillators: emulating model grids using a neural network*
- 2024 – 2025 **Year 4 students Kienan Ruddock & Thomas Green**,
University of Birmingham, UK,
Co-supervisor, project title *Mass loss in the globular cluster M4 using asteroseismology and Hierarchical Bayesian Modelling*
- 2023 – 2024 **Year 4 students George Hookway & Iwan Stephens**,
University of Birmingham, UK,
Co-supervisor, project title *Using Hierarchical Bayesian Modelling to Characterise the Radius Valley*
- 2022 – 2023 **MSc student Malte Klockmann Pein Malmberg**,
Aarhus University, Denmark,
Co-supervisor, project title *Dating of substructures in the Milky Way*

Selected talks

- 2024 **Contributed talk**, Conference *TASC8/KASC15*, Porto, Portugal,
Title of talk: *Exploring the Galactic helium enrichment law*
- 2023 **Invited seminar**, *Astrophysics seminar*, University of Birmingham, UK,
Title of talk: *Learning about the Milky Way by learning about its stars*
- 2023 **Invited talk**, Conference *Getting ready for PLATO*, University of Warrick, UK,
Title of talk: *Asteroseismic inference for populations of stars*
- 2022 **Contributed talk**, Conference *Fundamental stellar parameters from asteroseismology in the era of Gaia*, Aarhus University,
Title of talk: *A Unified Exploration of the Chronology of the Galaxy*
- 2021 **Invited talk**, Seminar series, *Good vibrations initiative*, online,
Title of talk: *Chronology of the Milky Way disk with Asteroseismology*
- 2018 **Contributed talk**, Conference *The life and times of the Milky Way*,
University of Shanghai, China,
Title of talk: *Dissecting the Milky Way disk*
- 2017 **Contributed talk**, Conference *Asteroseismology and Optical Interferometry*,
Côte d’Azur Observatory, France,
Title of talk: *HR 7322: A benchmark for stellar evolution*

Observing proposals

- 2022 **Nordic Optical Telescope (NOT)**,
Co-investigator, proposal *The Milky Way disc low-alpha sequence with the power of asteroseismic age*, granted 2 nights with FIES
- 2022 **Telescopio Nazionale Galileo (TNG)**,
Co-investigator, proposal *Exploiting the power of asteroseismology over age: application to the high-alpha sequence in the Kepler field*, granted 23 hours with HARPS-N

Selected outreach

- 2024 **Birmingham Blogs**, *University of Birmingham, UK*,
Invited blog post, writing about how I utilize the high-performance computer cluster BlueBEAR and the *Research Data Store* housed at University of Birmingham for my science
- 2024 **Astronomy in the City**, *University of Birmingham Observatory, UK*,
Invited lecturer, speaking about *The Story Written in the Stars*
- 2023 **videnskab.dk**, *Denmark*,
Invited research contribution, writing about our recent Nature Astronomy study *Mysteriet om planeten, der ikke burde eksistere* (en: *The Mystery of the planet that should not exist*)
- 2020 – 2023 **Folkeuniversitet**, *Denmark*,
Invited serial lecturer in the lecture series *Universets Gåder* (en: *Riddles of the Universe*) on the topic of *Hvordan er vores egen Galakse blevet til?* (en: *How has our own Galaxy come to be?*) at different venues across Denmark

2018 **6 Degrees of Science**, Aarhus, Denmark,

Invited guest speaker, speaking about

Galactic Archaeology – how Indiana Jones-science relate to everyday life

2017 – 2019 **Astronomy on Tap**, Aarhus, Denmark,

Invited serial speaker, speaking about e.g. *The Mystery of the Star of Bethlehem* and

Asteroseismology - what shaky stars can tell us about the Universe

Related Experience

- 2020 **Guest researcher**,
Max-Planck-Institut für Astronomie (MPIA), Heidelberg, Germany,
Research stay at MPIA working with Dr. Coryn Bailer-Jones on *Gaia*-related projects.
Stay got interrupted due to the COVID-19 crisis
- 2019 **Space Astrometry for Astrophysics**,
International School of Space Science, L'Aquila, Italy,
Summer school about understanding the scientific construction of the *Gaia* catalogue
and its current and future scientific potential in synergy with the large ground-based
spectro-photometric surveys
- 2018 **Astrostatistics and Astroinformatics XIV**,
Pennsylvania State University, USA,
Summer school about statistics and scientific computing within the field of astrophysics
- 2016 **CHARA Array**, The Center for High Angular Resolution Astronomy Array.
Mount Wilson, USA,
Research trip to the CHARA Array for 10 nights of observations. Experience with the
graphical interface for the Precision Astronomical Visual Observations (PAVO) beam
combiner and the PAVO data analysis pipeline
- 2016 **EuroPython 2016**,
Bilbao, Spain,
Attendee at the EuroPython conference
- 2015 **Introduction to Complex Systems**,
Faculty of Science, Utrecht University, the Netherlands,
Summer School in August about emergence, robustness, and predicability of patterns.
Sponsored by the awarded Professor Jens Lindhards Scholarship

Extracurricular activities

- 2017 – 2020 **Auditor**,
TÅGEKAMMERET, Aarhus University,
Elected for fiscal years 2017/2018 and 2018/2019 and as alternate auditor for 2019/2020
- 2015 – 2016 **Treasurer (KA\$\$)**,
TÅGEKAMMERET, Aarhus University,
Appointed for the board year 2015/16 from September 2015 to September 2016. TÅGEKAMMERET is the oldest student society in Denmark, arranging lectures, parties, and other events for students across different fields of natural sciences. TÅGEKAMMERET hosts on average more than two event per week in term time and all activities are planned by the eight people on the board. The additional responsibility of the treasurer is to manage and bookkeep the finances of the organisation which has a turnover of about ~ 1 million DKK
- 2014 – 2016 **Auditor**,
Mat/Fys-Tutorgruppen, Aarhus University,
Elected for the fiscal years 2014/2015 and 2015/2016
- 2015 **Tutor**,
Mat/Fys-Tutorgruppen, Aarhus University,
Mat/Fys-Tutorgruppen is a student organisation making sure that all new students starting university across different fields of natural sciences have a pleasant start on their academic journey
- 2014 **Board member**,
Socialistisk Folkeparti Ungdom Aarhus (SFU Aarhus),
Elected from May 2014 to December 2014
- 2014 **Treasurer**,
Socialistisk Folkeparti Ungdom Aarhus (SFU Aarhus),
Elected from December 2013 to May 2014
- 2013 – 2014 **Party Committee (FU)**,
TÅGEKAMMERET, Aarhus University,
Appointed for the board year 2013/14 from September 2013 to September 2014. The party committee at TÅGEKAMMERET helps out with the practical aspect of the events, from preparations of the locations, bartending, cleaning, and closing.
- 2013 **Campaign Coordinator**, Socialistisk Folkeparti (SF), Aarhus,
Coordinator of election activities for the Socialist People's Party in Aarhus in relation to the local and regional council elections.
August 2013 through December 2013
- 2013 **Organizational Vice Chairman**,
Socialistisk Folkeparti Ungdom Aarhus (SFU Aarhus),
Elected from May 2013 to December 2013
- 2012 – 2013 **Board member**,
Socialistisk Folkeparti Ungdom Aarhus (SFU Aarhus),
Elected from May 2012 to May 2013