# Dominic M. Bowman

PhD, MSci, FRAS, MInstP, FHEA

# Reader in Astrophysics and Royal Society University Research Fellow

Address: School of Mathematics, Statistics and Physics, Newcastle University, Newcastle upon Tyne, NE1 7RU, UK

Website: https://dbowman234.github.io/ Web of Science: X-6688-2019

E-mail: dominic.bowman@newcastle.ac.uk ORCID: 0000-0001-7402-3852

## I. Professional Profile

Holder of a Readership faculty position, a Royal Society University Research Fellowship, and a ERC/UKRI Frontier Research Grant (SYMPHONY) at Newcastle University. Extensive astrophysics expertise in the extraction and analysis of photometric and spectroscopic data from space- and ground-based telescopes, and forward asteroseismic modelling of pulsating stars, which yields tight constraints on their interior physics such as rotation, mixing, magnetism, and angular momentum transport. Passionate and actively involved in developing teaching at the BSc, MSc and PhD level, and mentoring, advocacy and outreach activities for all ages and backgrounds.

Completed a PhD in Astronomy at the University of Central Lancashire under the supervision of Prof. Donald Kurtz, and PhD thesis was published as a Springer monograph. International move to KU Leuven as a postdoctoral researcher, and later awarded a competitive FWO research fellowship. Over 100 peer-reviewed publications, with dozens of high-impact first-author papers including in Nature Astronomy. Winner of several prestigious prizes for research excellence and an upwards career trajectory including: Springer Thesis Prize (2017); KU Leuven Research Council Award in Science, Engineering and Technology (2020); Henri Vanderlinden Prize of the Flemish Academy (2022); and George Darwin Lectureship of the Royal Astronomical Society (2023).

## II. Education

## PhD in Astronomy

Oct 2013 - Nov 2016

Thesis title of 'Amplitude modulation and energy conservation of pulsation modes in delta Scuti stars', awarded outright (no corrections) on 21 November 2016 by the University of Central Lancashire (UCLan), with supervisor of Prof. Donald Kurtz, and funded by the UK Science and Technology Facilities Council (STFC).

## **MSci in Physics and Astrophysics**

Sep 2009 – Jun 2013

First-class integrated Master (BSc + MSc) in Science (MSci) degree with honours in Physics and Astrophysics from the University of Birmingham, with an award date of 8 July 2013.

# III. Employment

## Reader in Astrophysics

1 Sep 2023 - date

School of Mathematics, Statistics and Physics, Newcastle University, Newcastle upon Tyne, NE1 7RU, UK.

#### **Guest Professor**

1 Sep 2023 - date

Institute of Astronomy, KU Leuven, Celestijnenlaan 200D, 3001 Leuven, Belgium.

## **FWO Senior Postdoctoral Fellowship**

1 Nov 2020 - 31 Aug 2023

Institute of Astronomy, KU Leuven, Celestijnenlaan 200D, 3001 Leuven, Belgium. Independent research fellowship funded by Fonds Wetenschappelijk Onderzoek (FWO) Vlaanderen [PI Bowman; grant number: 1286521N].

## Postdoctoral Research Associate

1 Feb 2017 - 31 Oct 2020

Institute of Astronomy, KU Leuven, Celestijnenlaan 200D, 3001 Leuven, Belgium. Funded by the European Union's Horizon 2020 research and innovation programme [ERC-AdG; PI Aerts; grant number: 670519].

#### Lecturer in Astronomy

19 Sep 2016 - 13 Jan 2017

Jeremiah Horrocks Institute, University of Central Lancashire, Preston, PR1 2HE, UK.

Curriculum Vitae: D. M. Bowman

# IV. Scientific Prizes, Awards and Competitive Grant Funding

Multiple prestigious prizes for scientific excellence and having an upwards career trajectory. A funding portfolio as PI from successful competitive applications to date that exceeds €5 M (£4.3 M), which includes international research councils and charities including the Royal Society, UKRI, ERC, FWO, and several universities.

#### **Scientific Prizes and Awards:**

## George Darwin Lectureship, RAS

2023

Awarded the 2023 George Darwin Lectureship of the Royal Astronomical Society (RAS) for being an authoritative and engaging researcher in astronomy.

## Henri Vanderlinden Prize, Royal Flemish Academy

2022

Prestigious and competitive prize for an important original work in the field of astronomy from the Koninklijke Vlaamse Academie van België (KVAB) voor Wetenschappen en Kunsten, which included a cash prize.

## Research Council Award (POR), KU Leuven

2020

Prestigious and highly-competitive prize from KU Leuven's Research Council awarded to only one postdoc in STEM for research excellence and an upwards career trajectory, which included € 20,000 of research funding.

## Springer Thesis Award

2017

PhD thesis selected to be published in the Springer thesis series in 2017 for 'Outstanding PhD Research', which included a cash prize.

## **Successful Competitive Grant Applications:**

## Royal Society University Research Fellowship

Dec 2023 - Nov 2031

Awarded a coveted Royal Society University Research Fellowship (URF; £1,400,000) for the ECLIPSE project focussed on massive stars in eclipsing binaries [grant number: URF\R1\231631].

**ERC-StG-2023** Sep 2023

Invited to sign grant agreement for 2023 call of ERC starting grant ( $\leq 1,500,000$ ). Unable to sign ERC grant agreement because UK was at that time not formally associated to ERC Horizon framework, so declined.

## ERC-StG-2022 / UKRI Frontier Research Grant

Oct 2023 - Sep 2028

Invited to sign grant agreement for 2022 call of ERC starting grant for the SYMPHONY project focused on blue supergiant asteroseismology. Unable to sign ERC grant agreement because UK was at that time not formally associated to ERC Horizon framework. Awarded equal funding under UKRI's Horizon Guarantee Scheme to implement the SYMPHONY project at a UK host institution (£1,300,000) as a UKRI Frontier Research Grant [grant number: EP/Y031059/1].

## **FWO Postdoctoral Fellowship**

Nov 2020 - Aug 2023

Awarded a senior postdoctoral fellowship of Fonds Wetenschappelijk Onderzoek (FWO) Vlaanderen (€ 260,000) for the TESSERACT asteroseismology project [grant number: 1286521N].

#### **FWO Long Stay Abroad Grant**

Oct - Dec 2021

Awarded a competitive FWO grant for a long research stay abroad to cover all costs for an invited visit to KITP, California, USA for 3 months in 2021, for a total of approximately  $\in$  6000 [grant number: V411621N].

## **Conference Organisation**

Sep 2015

Successful funding applications of  $\bf £\,3000$  from the Royal Astronomical Society (RAS) and  $\bf £\,7000$  from UCLan for organisation of the STARS2016 conference together with Dr. Daniel Holdsworth.

#### **Small Travel Grants**

Numerous travel bursary applications from funding bodies for attending conferences, which include STFC and RAS in the UK, CNRS in France, and FWO in Belgium, as well as travel costs for obtaining competitive telescope time in visitor mode (e.g. ESO), with a combined total of approximately **£15,000**.

Curriculum Vitae: D. M. Bowman

# V. Conference Organisation

Three times (co-)chair of an SOC, twice chair of an LOC, and four times a member of an SOC for large international conferences and workshops.

## Stellar Hydro Days VI, University of Victoria, Canada

12-16 May 2025

SOC member for a workshop on bridging MHD simulators and observers.

## TASC9/KASC16, ISTA, Austria

7-11 Jul 2025

SOC member for the annual asteroseismology conference.

## TASC8/KASC15, Porto, Portugal

15-19 Jul 2024

SOC member for the annual asteroseismology conference, which had 200+ participants.

## EAS 2023, Kraków, Poland

10-14 Jul 2023

SOC member of the BRITE/MOBSTER symposium entitled 'From stellar variability to stellar structure and evolution' at the EAS 2023 meeting, which had 100+ participants.

## TASC6/KASC13, Leuven, Belgium

11-15 Jul 2022

Chair of the LOC for the annual asteroseismology conference, which had a budget of €70,000, and 200 in-person and 100+ online participants. Postponed from 2020 to 2022 because of the COVID-19 pandemic.

## **EAS 2021**, Virtual (hosted by Leiden University, the Netherlands)

28 Jun - 2 Jul 2021

Co-Chair of the SOC of the symposium titled 'Massive stars: birth, rotation, and chemical evolution' at the EAS 2021 meeting, which had 100+ participants.

## MOBSTER-1, Virtual (hosted by University of Delaware, USA)

13-17 Jul 2020

Co-Chair of the SOC for the virtual MOBSTER-1 conference, which had 170+ participants.

## **EAS 2020**, Virtual (hosted by Leiden University, the Netherlands)

29 Jun - 3 Jul 2020

Chair of the SOC of the session titled 'New insights of angular momentum transport in stellar interiors' held on 1 June during the EAS 2020 meeting, which had 100+ participants.

#### STARS2016. Windermere, UK

11-15 Sep 2016

Chair of the LOC for the conference celebrating the career of Prof. Donald Kurtz, which had 75 participants and a budget of £40,000. Successful grant applications included £3000 from the RAS and £7000 from UCLan.

# **VI. Personal Training**

A strong track record and dedicated to continue undertaking CPD training and personal growth in all aspects of an academic career.

Faculty Training, Newcastle University

Sep 2023 – date

Ongoing seminars and workshops on EDI, GDPR, project management, student welfare and supervision.

Future Leader Training, Newcastle University

May - Oct 2025

Several full-day sessions on developing project and personnel management for academia and its stakeholders.

**URF Mentoring and Networking**, Royal Society, London

13-14 Nov 2024

Two-day workshop on networking, mentoring and how to manage a successful academic career.

**Bullying and Harassment in Astronomy**, *Virtual*, (hosted by RAS)

17 May 2024

Workshop on the results of the RAS's bullying and harassment impact survey and improved best practices.

**Decolonising the Curriculum**, Newcastle University

8 Apr 2024

Seminar and discussion session led by Prof. Nira Chamberlain OBE on inclusive education.

PhD Student Supervision, Northumbria University

8 Dec 2023

Workshop from higher education and early-career groups of IOP on best practices of PhD supervision.

**Anti-Racism in Astronomy and Geophysics**, *Virtual*, (hosted by RAS)

12 Aug 2021

Seminars and training sessions on best practices for anti-racism in academia.

Sex and Gender Dimensions in Frontier Research, Virtual (hosted by ERCEA)

16 Nov 2020

Seminars and training sessions on diversity initiatives in academia.

Voice of the Future, Westminster, London, UK

15 Mar 2017

Nominated an ECR representative of the RAS to attend this meeting on bridging scientists and UK politicians.

STFC Careers Event, Institute of Physics, London

21 Oct 2015

Seminars and training sessions on career planning and development.

Media Training for Outreach, Royal Society, London

7 Oct 2015

Training sessions on various media-related aspects of outreach activities.

# VII. International Responsibilities, Committees and Service

## Member of CDAG, RAS

May 2024 - date

Member of Committee for Diversity in Astronomy and Geophysics (CDAG) of the Royal Astronomical Society.

#### Review Editor, MDPI Galaxies

Sep 2023 - date

Review editor and editorial board member for the MDPI journal Galaxies.

## **Executive Organising Committee Member, IAU WGABS**

Nov 2022 - date

Executive organising committee member for the active B-star working group (WGABS) of the IAU.

#### Associate Editor. Frontiers

Feb 2021 - date

Editorial board member and Associate Editor for the journal Frontiers in Astronomy and Space Sciences.

#### XShootU WG12 chair

Dec 2020 - date

Point of contact (chair) of the pulsations WG12 of ULLYSES targets within the XShootU collaboration.

### Co-PI of MOBSTER collaboration

Nov 2020 – date

Together with PI A. David-Uraz and co-PI C. Neiner, responsible for maximising the scientific productivity of the MOBSTER collaboration, which leverages TESS data to study massive magnetic stars.

## SHOC/SAAO and MAIA/Mercator pipeline developer

Jul 2020 - date

Principal author of the TEA-PHOT pipeline to reduce data and extract light curves from the SHOC/SAAO and the MAIA/Mercator instruments. The TEA-PHOT pipeline is published: Bowman & Holdsworth (2019, A&A, 629, A21), and is endorsed by the SHOC and MAIA instrument teams as the go-to reduction pipeline.

BEST member

Member (non-voting) of the BRITE Executive Science Team (BEST) for the BRITE-constellation space mission.

## **CubeSpec Space Mission**

Jan 2019 - date

Sep 2019 - date

Scientific advisor and consortium member for the massive star asteroseismology science case of the CubeSpec cubesat mission being built by KU Leuven in collaboration with ESA and private contractors.

#### **Grant Funding Reviewer**

Sep 2018 – date

Invited 5+ times to review small and large research grant funding applications for national and international research councils, for example STFC in the UK.

Journal Peer Reviewer

Oct 2016 - date

45+ times invited peer reviewer of publications in international journals: Nature Astronomy, Nature Communications, A&A, MNRAS, ApJ, AJ, PASP, PASA, FRAS, OJA, Galaxies, and JAAVSO.

## **Previous Responsibilities:**

## WG Chair, Arago space mission

Jan 2022 - Nov 2022

Chair of the 'Hot (BA) Stars' working group for the Arago mission, which was a candidate M7 ESA space mission on UV+Visible spectropolarimetry of stars across the HR diagram: mission not selected in Nov 2022.

## **Good Vibrations seminar series**

Nov 2020 - Mar 2023

Steering committee member for the Good Vibrations seminar series, which provided opportunities for PhD students to share their research internationally during the COVID pandemic years.

## **RAS ECN** committee member

Jun 2020 - Mar 2023

Founding member and secretary of the Early Career Network (ECN) of the Royal Astronomical Society (RAS).

#### **ESO OPC** expert panel member

Sep 2021 to Jan 2023

Observing Program Committee (OPC) expert panel member in panel D (Stellar Evolution) for European Southern Observatory (ESO) proposal semesters P109 – P111. Co-Chair of panel in semester P111.

## PLATO external reviewer

Nov 2020

External reviewer for the on-ground data processing algorithms on behalf of the complementary science program (WP16) of the ESA PLATO mission.

Curriculum Vitae: D. M. Bowman

## VIII. Professional and Learned Societies

## Fellow of the Higher Education Academy

Jun 2024 - date

Elected a fellow of the Higher Education Academy (FHEA), which permits the use of the post-nominal FHEA.

#### International Astronomical Union

Jan 2020 - date

Elected an individual member of the International Astronomical Union (IAU).

## **European Astronomical Society**

Apr 2019 - date

Member of the European Astronomical Society (EAS).

## **Royal Astronomical Society**

Oct 2013 - date

Elected a fellow of the Royal Astronomical Society (RAS), which permits the use of the post-nominal FRAS.

## Institute of Physics

Oct 2013 - date

Member of the Institute of Physics (IOP), which permits the use of the post-nominal MInstP.

# IX. Observing Projects and Experience

Successful telescope proposals as (co-)PI with competitive ground-based observatories totalling **2100+ hours**, with **120+** nights of first-hand experience at world-class telescopes, and five successful TESS guest investigator proposals as PI targeting 2300+ massive stars.

## **European Southern Observatory (ESO)**

La Silla Paranal Observatory, Chile

- $\rightarrow$  14 nights of observing experience as visiting astronomer in December 2019 using the FEROS spectrograph mounted on the 2.2-m MPG/ESO telescope at La Silla observatory.
- $\rightarrow$  4 nights of observing experience as visiting astronomer in June 2024 using the ESPRESSO spectrograph on UT1 of the VLT at Paranal observatory.
- PI of (visitor mode) programme obtaining time-series spectroscopy of the pulsating massive star zeta Oph with ESPRESSO (113.26B9.001; 40 hr; PI Bowman).
- Co-I of large programme obtaining multi-epoch spectroscopy of massive stars in the SMC with FLAMES for the BLOeM consortium (112.25R7; 120 hr; PI Shenar).
- Co-I of programmes obtaining Gravity interferometry of the eclipsing Be binary system HD 93683 (109.23H0 and 110.246X; 14 hr; PI Bodensteiner).
- Co-PI of programme obtaining multi-epoch high-resolution spectroscopy of gamma Doradus stars with UVES (106.21S8; 21 hr; PI Christophe).
- Co-I of programme obtaining spectropolarimetry of magnetic candidate O-type stars with HARPS (106.21JB; 8 hr; PI Barron).
- Co-PI of (visitor mode) programme obtaining multi-epoch high-resolution spectroscopy of massive binary stars with FEROS (0106.A-9106; 90 hr; PI Aerts).
- Co-PI of large programme obtaining multi-epoch high-resolution spectroscopy of massive stars with UVES (1104.D-0230; 120 hr; PI Tkachenko).
- Co-PI of (visitor mode) programme obtaining multi-epoch high-resolution spectroscopy of massive stars with FEROS (0104.A-9001; 120 hr; PI Aerts).
- Co-I of DDT programme obtaining phase-resolved high-resolution spectroscopy of the pulsating eclipsing binary system U Gru with UVES (103.200F; 4 hr; PI Johnston).

## Stellar Oscillation Network Group (SONG)

Tenerife, Spain & Australia

• PI of programme in period 13 (Summer 2023) to obtain time-series spectroscopy of high-mass pulsating eclipsing binaries (23.AST-07; 260 hr; PI Bowman).

## **Transiting Exoplanet Survey Satellite (TESS)**

NASA

- PI of five TESS Guest Investigator proposals obtaining high-precision and short-cadence time series photometry
  of massive stars in cycle 3 in 2020 (GO3059; 1058 stars; PI Bowman), cycle 4 in 2021 (GO4074; 1618 stars;
  PI Bowman), cycle 5 in 2022 (GO5036; 1818 stars; PI Bowman), cycle 6 in 2023 (GO6037; 1594 stars; PI
  Bowman), and cycle 7 in 2024 (GO7037; 2314 stars; PI Bowman).
- Co-I of multiple TESS Guest Investigator proposals obtaining high-precision and short-cadence time series photometry of intermediate- and high-mass stars in cycles 1–4.

## Canada France Hawaii Telescope (CFHT)

Hawai'i, USA

• Co-I of several CFHT programmes using ESPaDOnS to characterise magnetic fields in OBA-type stars.

## South African Astronomical Observatory (SAAO)

Sutherland, South Africa

- ightarrow 21 nights of observing experience as visiting astronomer in May and June 2017 using the SHOC imager mounted on the 1-m telescope at SAAO to obtain high-cadence photometry of roAp stars.
- PI of proposal to obtain high-cadence photometry of candidate roAp stars in May 2018.

## **Mercator Observatory**

La Palma, Spain

- $\rightarrow$  65 nights of observing experience using the HERMES and MAIA instruments on the 1.2-m Mercator telescope between 2017 and 2022, which included visitor mode and service observing.
- PI of HERMES large program awarded 1000+ hr across 2022–2025 to obtain multi-epoch spectroscopy of pulsating massive stars discovered by TESS.
- PI of HERMES (visitor mode) proposal awarded 80 hr in semester 2021a to obtain time-series spectroscopy of high-mass pulsating eclipsing binaries discovered by TESS.
- PI of MAIA (visitor mode) proposal awarded 120 hr in semester 2020b to obtain short-cadence multi-colour time-series photometry of roAp stars observed by K2 and TESS.
- PI of HERMES proposal awarded 70 hr in semester 2018b, 35 hr in semester 2019a and 90 hr in semester 2019b to obtain spectroscopy of Ap stars being observed by TESS.
- PI of a HERMES proposal awarded 60 hr in semester 2018a to obtain accurate stellar parameters for pulsating B, A and F stars in the *Kepler* field for forward seismic modelling.
- Pl of a HERMES proposal awarded 40 hr in semester 2017a and 20 hr in semester 2018a to study high-mass companions to  $\delta$  Sct stars in binary systems discovered using pulsation timing.

## Moses Holden Telescope (MHT)

Alston Observatory, Preston, UK

 $\rightarrow$  20 nights of observing experience using the imager on the 0.75-m MHT in 2016 and 2017.

## William Herschel Telescope (WHT)

La Palma, Spain

• PI of service time proposal in 2016 to gain accurate atmospheric parameters for 23  $\delta$  Sct stars observed by the *Kepler* mission.

Curriculum Vitae: D. M. Bowman

# X. Teaching and Supervision Experience

Supervisor of 4 ongoing PhD students, co-supervisor of 2 ongoing PhD students, and supervisor of 3 postdoctoral research associates at Newcastle University. Successfully supervised 2 PhD students to completion, and member of a further 9 international PhD progress and/or examination (jury) committees. Supervisor of 6 MSc students to completion, and member of a further 5 international MSc thesis examination committees.

• Dr. Jan Henneco	formal start date: June 2025
Dr. Keegan Thomson-Paressant	Feb 2025 – date
• Dr. Laura Scott	Sep 2024 – date

PhD Theses at Newcastle University, UK	
• Supervisor of Pieterjan Van Daele Stochastic low-frequency variability in massive stars	Oct 2024 – date
<ul> <li>Progress committee member of Niek Wielders</li> <li>Supervisor: Dr. James Nightengale</li> <li>Probing galaxies' hidden depths with gravitational lensing</li> </ul>	Oct 2024 – date
• <b>Supervisor</b> of Logan Dennis  Forward modelling of massive pulsating eclipsing binaries	Sep 2024 – date
• Co-Supervisor of Betsy Parnham  Dynamical processes in stellar interiors	Sep 2024 – date

• Co-Supervisor of Lucas Corrigan Sep 2024 - date MHD simulations of IGWs in massive stars

• Supervisor of Ankur Kalita Apr 2024 - date Forward asteroseismic modelling: constraining the physical origin of macroturbulence

Jan 2024 - date • **Supervisor** of Federica Nardini Asteroseismology of massive binary systems

### PhD theses as external committee member

• Progress committee member of Lucas Barrault Oct 2024 - date Supervisor: Prof. Lisa Bugnet, ISTA, Vienna, Austria Unveiling the structure and dynamics of the deep convective core—radiative zone boundary throughout stellar evolution

## PhD Theses at KU Leuven, Belgium

• Progr	ess and examination committee (jury) member of Joris Hermans	Sep 2019 -	Nov 2023
Super	visor: Prof. Rony Keppens		
Unde	standing the influence of cooling curves and flow on thermal instability		
	upervisor of Jordan Van Beeck oseismology of Kepler B stars: internal magnetism and nonlinear mode coupling	Sep 2019 -	Sep 2023

• Supervisor of Siemen Burssens Sep 2018 - July 2022 Massive star asteroseismology with K2 and TESS

Supervisor: Prof. Conny Aerts Asteroseismic modelling of intermediate-mass stars • Long-stay host research supervisor of Mariel Lares-Martiz Sep 2019 – Dec 2019 Non-linear terms in delta Scuti stars power spectra **Independent Examiner of PhD theses**  Internal PhD thesis examiner (jury) of Patrick O'Neill Jan 2025 Supervisor: Dr. Adam Ingram, Newcastle University, UK Probing compact objects through fast timing techniques • External PhD thesis examiner (referee) of Abel de Burgos Oct 2024 Supervisor: Dr. Sergio Simón-Díaz, IAC, Tenerife, Spain On the evolutionary nature of massive B-type supergiants: a modern empirical reappraisal using data from IACOB, Gaia and TESS Sep 2024 • External PhD thesis examiner (jury) of Keegan Thomson-Paressant Supervisor: Dr. Coralie Neiner, Paris Observatory, France Magnetism in  $\delta$  Scuti stars • Internal PhD thesis examiner (jury) of Mathias Michielsen Nov 2022 Supervisor: Prof. Conny Aerts, KU Leuven, Belgium Forward seismic modelling of B-type stars • Internal PhD thesis examiner (jury) of Camilla Scolini May 2020 Supervisor: Prof. Stefaan Poedts, KU Leuven, Belgium Magnetised coronal mass ejections: evolution from the Sun to 1 AU and geo-effectiveness MSc Theses at KU Leuven, Belgium • **Supervisor** of Pieterjan Van Daele Sep 2022 - Jun 2023 New algorithms to extract blended TESS photometry of massive stars • Examination committee member (reader) of Thijs Verhaeghe Jun 2022 A target scheduling heuristic for CubeSpec • **Supervisor** of Stijn Rutten Sep 2021 - Sep 2022 A new user-friendly aperture photometry pipeline for MAIA: variability in pulsating stars • **Supervisor** of Nagaraj Vernekar Sep 2020 - Sep 2021 On the photometric and spectroscopic variability of Be stars: the case of HD 93683 • Examination committee member (reader) of Anne Daniels Jun 2021 Permutation entropy and statistical complexity to characterise space plasmas • Examination committee member (reader) of Mariya Nizovkina Jun 2021 Investigating the effect of microturbulent velocity on mass discrepancy in the binary system V380 Cyg • Examination committee member (reader) of Tinatin Baratashvili On the effect of grid stretching and AMR on inner heliospheric solar wind and CME evolution simulations • **Supervisor** of Joris Hermans Sep 2018 - Jun 2019 Testing stellar evolution with selected high-amplitude delta Scuti stars • **Supervisor** of Sven Nys Sep 2018 - Jun 2019 Asteroseismic modelling of gravity modes in selected intermediate-mass stars • Co-Supervisor of Jordan Van Beeck Sep 2018 - Jun 2019 The influence of an interior magnetic field on gravity-mode oscillations of intermediate-mass stars

• Progress and examination committee (jury) member of Joey S. G. Mombarg

Feb 2018 - Feb 2022

• Examination committee member (reader) of Mathias Michielsen

Comparing oscillation frequencies of stars with a convective core: Impact of varying input physics

## Teaching: MSc and MPhys modules

- Guest Lecturer, *University of York, UK*Invited lecture on massive star evolution and asteroseismology for MPhys course of Dr. Emily Brunsden.
- Lecturer, KU Leuven, Belgium

  Sep 2022 Aug 2023

  Responsible person for delivering MSc Asteroseismology course (30 students; 6 ECTS).
- Lecturer, KU Leuven, Belgium
   Responsible person for delivering the annual MSc thesis defence preparation course (20+ students).
- Guest Lecturer, University of Innsbruck, Austria May 2021 Invited lecture on massive stars and asteroseismology for MSc course of Prof. Konstanze Zwintz.

## Teaching: BSc modules

Bachelor and master student projects, Newcastle University, UK
 Supervision of multiple bachelor and master student (group) projects.

Bachelor and master student projects, KU Leuven, Belgium
 Supervision of multiple bachelor and master student (group) projects.

• Module Examiner, KU Leuven, Belgium

Examiner for the Bachelor science communication course.

Sep 2017 – Aug 2019

• Lecturer, *UCLan*, *UK*Responsible person for delivering first-year undergraduate 'Introduction to Statistics' (MA1861; 30 students; 10 credits), 'Stellar Structure and Evolution' (AA1051; 25 students; 10 credits), and second-year astronomy laboratories at UCLan's Alston observatory (AP2060; 25 students; 10 credits).

# ${ m XI.}$ Scientific Conferences and Workshops

Attendance of <b>56</b> international conferences and workshops.	
VVS conference, Blankenberge, Belgium	5-6 Oct 2024
LENAH workshop, Leuven, Belgium	11-13 Sep 2024
Nordita workshop, Stockholm, Sweden	26-30 Aug 2024
BRITE conference, Vienna, August	20-23 Aug 2024
TASC8/KASC15 workshop, Porto, Portugal	15-19 Jul 2024
Owocki-Fest, Leuven, Belgium	8-12 Jul 2024
XShootU workshop, Leuven, Belgium	3–5 Jul 2024
B-fields conference, Tokyo, Japan	25–29 Mar 2024
BLOeM workshop, Virtual (hosted by KU Leuven)	5–6 Mar 2024
LENAH workshop, Newcastle, UK	12-14 Dec 2023
BRIDGCE/IReNA consortium meeting, Edinburgh, UK	11–13 Sep 2023
TASC7/KASC14, Honolulu, Hawai'i, USA	17-21 Jul 2023
National Astronomy Meeting (NAM), Cardiff, UK	3–7 Jul 2023
Lorentz Workshop, Leiden, the Netherlands	26-30 Jun 2023
SDSS-V/IReNA/CeNAM Science Festival, Leuven, Belgium	3-7 Apr 2023
VFTS, Garching, Germany	27–29 Mar 2023
TASC6/KASC13, Leuven, Belgium	11-15 Jul 2022
IAUS361: Massive Stars Near and Far, Ballyconnell, Ireland	8–13 May 2022
KITP program, Santa Barbara, California, USA	11 Oct – 17 Dec 2021
TESS SciCon II, Virtual (hosted by MIT, USA)	2-6 Aug 2021
BRITE-related Science Meeting, Virtual (hosted by Innsbruck University, Austria)	12 Jul 2021
EAS 2021, Virtual (hosted by Leiden University, the Netherlands)	28 Jun – 2 Jul 2021
IAUS361: symposium on massive stars, Virtual (hosted by DIAS, Ireland)	3–7 May 2021
OBA stars: Variability and Magnetic Fields, Virtual (hosted by St. Petersburg)	26-30 Apr 2021
Pulsations in Multiple Systems, Virtual (hosted by University of Surrey, UK)	18-22 Jan 2021
MOBSTER-1, Virtual (hosted by University of Delaware, USA)	13-17 Jul 2020
EAS 2020, Virtual (hosted by Leiden University, the Netherlands)	29 Jun – 3 Jul 2020
Stars and their Variability, Vienna, Austria	19-23 Aug 2019
TESS Sci Con I, MIT, Cambridge, USA	29 Jul – 2 Aug 2019
TASC5/KASC12, MIT, Cambridge, USA	22-26 Jul 2019
Stellar Hydro Days V, Exeter, UK	24-28 Jun 2019
STFC/MAMSIE workshop, Leuven, Belgium	2-4 Apr 2019
Kepler/K2 Sci Con V, Glendale, California, USA	4–8 Mar 2019

TESS data workshop, KU Leuven, Belgium	5–9 Nov 2018
STFC/MAMSIE workshop, Leuven, Belgium	29-31 Oct 2018
MASSIVE star meeting, Leuven, Belgium	4-6 Oct 2018
PHOST, Banyuls-sur-mer, France	3-7 Sep 2018
TASC4/KASC11, Aarhus University, Denmark	8-13 Jul 2018
Statistics workshop, KU Leuven, Belgium	11 Jun 2018
STFC/MAMSIE workshop, Newcastle University, UK	5-8 Jun 2018
Belgian contact group meeting, Brussels, Belgium	4 Jun 2018
MAMSIE/STFC workshop, KU Leuven, Belgium	14–16 Mar 2018
TESS data workshop, KU Leuven, Belgium	6–8 Dec 2017
MAMSIE/STFC workshop, KU Leuven, Belgium	12-15 Sep 2017
MESA Summer school, UCSB, California, USA	14–18 Aug 2017
TASC3/KASC10, University of Birmingham, UK	17-21 Jul 2017
STARS2016, Windermere, UK	11-15 Sep 2016
TASC2/KASC9 workshop, Terceira-Açores, Portugal	27 Jun – 1 Jul 2016
National Astronomy Meeting (NAM), Nottingham University, UK	11-15 Jul 2016
STFC spectroscopy school, Queen's University Belfast, UK	31 Aug – 4 Sep 2015
KASC8/TASC1 workshop, Aarhus University, Denmark	15-19 Jun 2015
RAS specialist discussion meeting, RAS, London, UK	8 May 2015
K2 data workshop, (Virtual) Aarhus University, Denmark	10-11 Nov 2014
Ecole Evry Schatzman 2014, Roscoff, France	28 Sep - 3 Oct 2014
CoRoT3/KASC7 meeting, Toulouse, France	6-11 Jul 2014
Spectroscopy workshop, Aarhus University, Denmark	19–23 May 2014

# ${\rm XII}.$ Conference Talks, Seminars and Colloquia

Total of 11 invited and 18 contributed talks at international conferences, and 29 seminars/colloquia.

## **Conference Talks**

• VVS Conference (Invited), Blankenberge, Belgium	5 Oct 2024
Nordita workshop (Invited), Stockholm, Sweden	27 Aug 2024
BRITE conference workshop (Two Contributed), Vienna, Austria	22 Aug 2024
• TASC8/KASC15 conference (Contributed), Porto, Portugal	19 Jul 2024
B-fields 2024 conference (Contributed), Tokyo, Japan	28 Mar 2024
• George Darwin Lecture (Invited), RAS, London, UK	12 Jan 2024
BRIDGCE/IReNA meeting (Contributed), Edinburgh, UK	11 Sep 2023
• TASC7/KASC14 (Contributed), Honolulu, Hawai'i, USA	18 Jul 2023
National Astronomy Meeting (NAM) (Contributed), Cardiff, UK	5 Jul 2023
• IAUS361: Massive Stars Near and Far (Contributed), Ballyconnell, Ireland	10 May 2022
• Probes of Transport in Stars (Invited), KITP, UCSB, USA	15 Nov 2021
<ul> <li>Probes of Transport in Stars (Invited), KITP, UCSB, USA</li> </ul>	12 Oct 2021
• TESS SciCon II (Contributed), Virtual (hosted by MIT, USA)	3 Aug 2021
BRITE-related Science Meeting (Invited), Virtual (hosted by Uni. Innsbruck, Austria)	12 Jul 2021
• IAUS361 symposium (Contributed), Virtual (hosted by DIAS, Ireland)	3 May 2021
• OBA stars: variability and magnetic fields (Invited), Virtual (hosted by St. Petersburg)	30 Apr 2021
• PIMMS workshop (Invited), Virtual (hosted by University of Surrey, UK)	18 Jan 2021
• Stars and their Variability (Invited), Vienna, Austria	19 Aug 2019
• TESS Sci Con I (Contributed), MIT, Cambridge, USA	30 Jul 2019
• TASC5/KASC12 (Contributed), MIT, Cambridge, USA	23 Jul 2019
• Stellar Hydro Days V (Contributed), Exeter, UK	26 Jun 2019
• Kepler/K2 Sci Con V (Contributed), Glendale, California, USA	7 Mar 2019
MASSIVE star meeting (Contributed), Leuven, Belgium	4 Oct 2018
PHOST conference (Contributed), Banyuls-sur-mer, France	6 Sep 2018
• TASC4/KASC11 workshop (Invited), SAC, Aarhus University, Denmark	13 Jul 2018
• STARS2016 conference (Contributed), Windermere, UK	14 Sep 2016
• KASC8/TASC1 workshop (Contributed), SAC, Aarhus University, Denmark	15 Jun 2015
• RAS specialist discussion meeting (Invited), RAS, London, UK	8 May 2015

# Seminars and Colloquia

Northumbria University, UK	5 Feb 2025
• IRENA, USA (virtual) [YouTube recording]	31 Jan 2025
Newcastle University, UK	22 Nov 2024
Chalmers University of Technology, Sweden	6 Nov 2024
Innsbruck University, Austria	12 Mar 2024
HITS, Heidelberg, Germany	22 Nov 2023
Newcastle University, UK	1 Nov 2023
Newcastle University, UK	25 Oct 2023
Amsterdam University, the Netherlands	10 May 2023
• ESO, Santiago, Chile	9 Feb 2023
• Thüringer Landessternwarte (TLS) Tautenburg, Germany (virtual)	24 Nov 2022
Newcastle University, UK	2 Nov 2022
Chinese University of Hong Kong (virtual)	2 Jun 2022
MPA, Germany (virtual)	20 Apr 2022
University of Geneva, Switzerland (virtual)	14 Apr 2022
Sheffield University, UK (virtual)	6 Oct 2021
KU Leuven, Belgium [YouTube recording]	1 Oct 2021
Keele University, UK (virtual)	19 May 2021
Nicolaus Copernicus Astronomical Center, Poland (virtual)	21 Apr 2021
KITP, California, USA (virtual)	16 Dec 2020
KU Leuven, Belgium	22 Mar 2019
Newcastle University, UK	6 Jun 2018
Université Libre de Bruxelles, Belgium	19 Apr 2018
KU Leuven, Belgium	2 Mar 2018
Royal Observatory of Belgium, Belgium	16 Nov 2017
<ul> <li>University of Central Lancashire (UCLan), UK</li> </ul>	15 Jun 2016
SAC, Aarhus University, Denmark	2 May 2016
• University of Central Lancashire (UCLan), UK	15 Jul 2015
Keele University, UK	4 Sep 2014

# XIII. Public Engagement and Outreach

Extensive experience in public engagement and outreach in science and astronomy, having organised 100+ outreach events for schools, amateur astronomer societies and the general public, as well as virtual activities around the world. Demonstrable positive impact on thousands of people in terms of participant satisfaction and engagement with astronomy at various levels. Dedicated to continuing to provide high-calibre outreach activities throughout career. Examples of outreach and engagement activities to date include:

## Newcastle University (2023 - date)

- Contributor for the Audio Universe sonification project led led by Newcastle and Portsmouth universities.
- Stars and Planets exhibition and talk at Great North Night on 6 Dec 2024 for 200+ attendees.
- Invited public lecture for amateur observing society at Kielder castle on 2 Nov 2024 for 80+ attendees.
- Invited public lecture for the Flemish Astronomical Society (Vereniging Voor Sterrenkunde) on 5 Oct 2024 for 200+ attendees.
- Invited public lecture on asteroseismology at the University of York on 11 April 2024, with 80+ attendees.
- Astronomy engagement (virtual) talk for 30+ undergraduate physics students in Kenya on 7 Feb 2024.
- Astronomy engagement talk for 300+ high-school students aged 14-16 on 31 Jan 2024.
- Participant of the Skype a Scientist program, with over a dozen online astronomy discussions with international participants, including school classrooms and families around the world.

## KU Leuven, Belgium (2017 - 2023)

- Teaching Fellow of the World Science Scholar program of the World Science Foundation for the academic year 2022–2023, in which 60+ gifted and talented high school students from around the world were selected to expand their mathematical abilities with inspiring university-level topics led by world-renowned scientists.
- Participant of the Scientist@School program, and delivered over a dozen astronomy-themed talks and activities for local Belgian schools, with classes up to approximately 30 students aged 14–18.
- A series of short popular-science videos in collaboration with Huawei and Pint of Science Belgium for the '5-minute science you never knew' playlist of the 'What Makes it Tick?' YouTube channel.
- Interviewed for the Astronomer job profile for the UK prospects career advice website in 2021.
- Guest lecturer in stellar physics for the Vereniging Voor Sterrenkunde Zomerschool for 30+ students aged 16–18 in August 2017, and again in 2018 and 2020.
- Co-author of (Dutch) article for the September 2019 issue of the popular astronomy magazine Heelal.
- Invited speaker at two Pint of Science events in Brussels on 7 and 21 May 2019, each with 150+ attendees.
- Workshops on space exploration and the solar system at the KU Leuven Kids University, for 30 students aged 8–13 on 5 May 2018 and 22 October 2022.
- Workshops on Exoplanets, Habitability and Host Star Variability for the Ladies@Science 2017 event, hosted at KU Leuven for 40+ female students aged 14–16 on 19 April 2017.

## UCLan (2013 - 2017)

Organised dozens of public visits to the 0.7-m telescope at Alston Observatory and gave an interactive tours of the night sky using the modern planetarium. Visited dozens of primary and secondary schools to give talks and run astronomy-themed group activities for classes of about 30 students aged 6–16.

## XIV. Peer-Reviewed Scientific Publications

As of 17 March 2025, publication citation metrics:

Google scholar: 4478 citations and h-index of 38 NASA ADS: 4047 citations and h-index of 38

Total of **19** peer-reviewed papers as first-author and **82** as co-author (of which **21** as second or third author), which include **6** publications in *Nature*, *Nature Astronomy* and *Science*, and **3** invited single/dual author review papers.

Publications led by PhD students under my direct supervision are marked with a gold star (\*).

#### Submitted papers currently under review:

- F. Nardini\*, J. Bodensteiner, H. Sana, L. Mahy, K. Deshmukh, **D. M. Bowman**, (submitted, MNRAS), 'Characterisation of B-type stars in four young Galactic open clusters. I. Stellar content and binary properties'
- J. I. Villaseñor, H. Sana, L. Mahy, T. Shenar, J. Bodensteiner, N. Britavskiy, D. J. Lennon, M. Moe, L. R. Patrick, M. Pawlak, **D. M. Bowman**, P. A. Crowther, S. E. de Mink, K. Deshmukh, M. Fabry, M. Fouesneau, G. Holgado, N. Langer, J. Maíz Apellániz, I. Mandel, L. M. Oskinova, M. Renzo, H.-W. Rix, D. F. Rocha, A. A. C. Sander, F. R. N. Schneider, K. Sen, S. Simón-Díaz, J. Th. van Loon, J. S. Vink, (submitted, A&A), 'Binarity at LOw Metallicity (BLOeM): Enhanced multiplicity in early B-type dwarfs and giants at Z = 0.2Z<sub>O</sub>.
- V. Vanlaer, S. B. Das, L. Bugnet, **D. M. Bowman**, S. Burssens, S. Mathis, C. Aerts, (submitted, A&A), 'Rotation inversion and consequent constraints on the internal magnetic field of the  $\beta$  Cep pulsator HD 192575'
- H. Sana, T. Shenar, J. Bodensteiner, N. Britavskiy, N. Langer, D. J. Lennon, L. Mahy, I. Mandel, S. E. de Mink, L. R. Patrick, J. I. Villaseñor, M. Abdul-Masih, L. A. Almeida, F. Backs, S. R. Berlanas, M. Bernini-Peron, D. M. Bowman, V. A. Bronner, P. A. Crowther, K. Deshmukh, C. J. Evans, M. Fabry, M. Gieles, A. Gilkis, G. González-Torà, G. Gräfener, Y. Götberg, C. Hawcroft, V. Hénault-Brunet, A. Herrero, G. Holgado, A. de Koter, S. Janssens, C. Johnston, J. Josiek, S. Justham, V. M. Kalari, J. Klencki, J. Kubát, B. Kubátová, R. R. Lefever, J. Th. van Loon, B. Ludwig, J. Mackey, J. Maíz Apellániz, G. Maravelias, P. Marchant, T. Mazeh, A. Menon, M. Moe, F. Najarro, L. M. Oskinova, R. Ovadia, D. Pauli, M. Pawlak, V. Ramachandran, M. Renzo, D. F. Rocha, A. A. C. Sander, F. R. N. Schneider, A. Schootemeijer, E. C. Schösser, C. Schürmann, K. Sen, S. Shahaf, S. Simón-Díaz, L. A. C. van Son, M. Stoop, S. Toonen, F. Tramper, R. Valli, A. Vigna-Gómez, J. S. Vink, C. Wang, R. Willcox, (submitted), 'Evidence for a high fraction of close binaries at low metallicity'

#### Accepted papers currently in press:

- N. Britavskiy, L. Mahy, D. J. Lennon, L. R. Patrick, H. Sana, J. I. Villaseñor, T. Shenar, J. Bodensteiner, M. Bernini-Peron, S. R. Berlanas, D. M. Bowman, P. A. Crowther, S. E. de Mink, C. J. Evans, Y. Götberg, G. Holgado, C. Johnston, Z. Keszthelyi, J. Klencki, N. Langer, I. Mandel, A. Menon, M. Moe, L. M. Oskinova, D. Pauli, V. Ramachandran, M. Renzo, A. A. C. Sander, F. R. N. Schneider, A. Schootemeijer, K. Sen, S. Simón-Díaz, J. Th. van Loon, J. S. Vink, (in press, A&A), 'Binarity at LOw Metallicity (BLOeM): Multiplicity of early B-type supergiants in the SMC' [ADS link]
- L. R. Patrick, D. J. Lennon, F. Najarro, T. Shenar, J. Bodensteiner, H. Sana, P. A. Crowther, N. Britavskiy, N. Langer, A. Schootemeijer, C. J. Evans, L. Mahy, Y. Götberg, S. E. de Mink, F. R. N. Schneider, A. J. G. O'Grady, J. I. Villaseñor, M. Bernini-Peron, **D. M. Bowman**, A. de Koter, K. Deshmukh, A. Gilkis, G. González-Torà, V. M. Kalari, Z. Keszthely, I. Mandel, A. Menon, M. Moe, L. M. Oskinova, D. Pauli, M. Renzo, A. A. C. Sander, K. Sen, M. Stoop, J. Th. van Loon, S. Toonen, F. Tramper, J. S. Vink, C. Wang, (in press, A&A), 'Binarity at LOw Metallicity (BLOeM): The multiplicity properties and evolution of BAF-type supergiants' [ADS link]
- J. Bodensteiner, T. Shenar, H. Sana, N. Britavskiy, P. A. Crowther, N. Langer, D. J. Lennon, L. Mahy, L. R. Patrick, J. I. Villaseñor, M. Abdul-Masih, D. M. Bowman, A. de Koter, S. E. de Mink, K. Deshmukh, M. Fabry, A. Gilkis, Y. Götberg, G. Holgado, R. G. Izzard, S. Janssens, V. M. Kalari, Z. Keszthelyi, J. Kubát, I. Mandel, G. Maravelias, L. M. Oskinova, D. Pauli, V. Ramachandran, D. F. Rocha, M. Renzo, A. A. C.

- Sander, F. R. N. Schneider, A. Schootemeijer, K. Sen, M. Stoop, S. Toonen, J. Th. van Loon, R. Valli, J. S. Vink, C. Wang, X.-T. Xu, (in press, A&A), 'Binarity at LOw Metallicity (BLOeM): Multiplicity properties of Oe and Be stars' [ADS link]
- D. M. Bowman, L. Bugnet (in press, Encyclopaedia of Astrophysics, Elsevier), 'Asteroseismology' (Invited Review) [ADS link]

#### Published articles:

N. Jannsen, A. Tkachenko, P. Royer, J. De Ridder, D. Seynaeve, C. Aerts, S. Aigrain, E. Planchy, A. Bodi, M. Uzundag, D. M. Bowman, D. J. Fritzewski, L. W. IJspeert, G. Li, M. G. Pedersen, M. Vanrespaille, T. Van Reeth, (2025), A&A, Volume 694, A185, 'MOCKA – A PLATO mock asteroseismic catalogue: Simulations for gravity-mode oscillators' [ADS link]

## 2024: 1 first author and 8 co-author publications

- R. Ratnasingam, P. V. F. Edelmann, **D. M. Bowman**, T. M. Rogers, (2024), ApJ Letters, Volume 977, Issue 1, L30, 'On the geometry of the near-core magnetic field in massive stars' [ADS link]
- D. M. Bowman, P. Van Daele, M. Michielsen, T. Van Reeth, (2024), A&A, Volume 692, A49, 'Photometric detection of internal gravity waves in upper main-sequence stars. IV. Comparable stochastic low-frequency variability in SMC, LMC and Galactic massive stars' [ADS link]
- T. Shenar, J. Bodensteiner, H. Sana, P. A. Crowther, D. J. Lennon, M. Abdul-Masih, L. A. Almeida, F. Backs, S. R. Berlanas, M. Bernini-Peron, J. M. Bestenlehner, **D. M. Bowman**, V. A. Bronner, N. Britavskiy, A. de Koter, S. E. de Mink, K. Deshmukh, C. J. Evans, M. Fabry, M. Gieles, A. Gilkis, G. González-Torà, G. Gräfener, Y. Götberg, C. Hawcroft, V. Hénault-Brunet, A. Herrero, G. Holgado, S. Janssens, C. Johnston, J. Josiek, S. Justham, V. M. Kalari, Z. Z. Katabi, Z. Keszthelyi, J. Klencki, J. Kubát, B. Kubátová, N. Langer, R. R. Lefever, B. Ludwig, J. Mackey, L. Mahy, J. Maíz Apellániz, I. Mandel, G. Maravelias, P. Marchant, A. Menon, F. Najarro, L. M. Oskinova, A. J. G. O'Grady, R. Ovadia, L. R. Patrick, D. Pauli, M. Pawlak, V. Ramachandran, M. Renzo, D. F. Rocha, A. A. C. Sander, T. Sayada, F. R. N. Schneider, A. Schootemeijer, E. C. Schösser, C. Schürmann, K. Sen, S. Shahaf, S. Simón-Díaz, M. Stoop, S. Toonen, F. Tramper, J. Th. van Loon, R. Valli, L. A. C. van Son, A. Vigna-Gómez, J. I. Villaseñor, J. S. Vink, C. Wang, R. Willcox, (2024), A&A, Volume 690, A289 'Binarity at LOw Metallicity (BLOeM): A spectroscopic VLT monitoring survey of massive stars in the SMC' [ADS link]
- E. Farrell, G. Buldgen, G. Meynet, P. Eggenberger, M.-A. Dupret, **D. M. Bowman**, (2024), A&A, Volume 686, A267, 'A method for non-linear inversion of the stellar structure applied to gravity mode pulsators' [ADS link]
- W. R. Thompson, F. Herwig, P. R. Woodward, H. Mao, P. Denissenkov, **D. M. Bowman**, S. Blouin, (2024), MNRAS, Volume 531, Issue 1, 1316–1337, '3D hydrodynamic simulations of massive main-sequence stars. II. Convective excitation and spectra of internal gravity waves' [ADS link]
- A. J. Frost, H. Sana, L. Mahy, G. Wade, J. Barron, J.-B. Le Bouquin, A. Mérand, F. R. N. Schneider, T. Shenar, R. H. Barba, **D. M. Bowman**, M. Fabry, A. Farhang, P. Marchant, N. I. Morrell, J. V. Smoker, (2024), Science, Volume 384, Issue 6692, 214–217, 'A magnetic massive star has experienced a stellar merger' [ADS link]
- A. Tkachenko, K. Pavlovski, N. Serebriakova, **D. M. Bowman**, L. IJspeert, S. Gebruers, J. Southworth, (2024), A&A, Volume 683, A252, 'Observational mapping of the mass discrepancy in eclipsing binaries. Selection of the sample and its photometric and spectroscopic properties' [ADS link]
- K. Zwintz, A. Pigulski, R. Kuschnig, G. A. Wade, G. Doherty, M. Earl, C. Lovekin, M. Müllner, S. Piché-Perrier, T. Steindl, P. G. Beck, K. Bicz, D. M. Bowman, G. Handler, B. Pablo, A. Popowicz, T. Różański, P. Mikołajczyk, D. Baade, O. Koudelka, A. F. J. Moffat, C. Neiner, P. Orleański, R. Smolec, N. St. Louis, W. W. Weiss, M. Wenger, E. Zocłońska, (2024), A&A, Volume 683, A49, 'Catalogue of BRITE-Constellation. I. Fields 1 to 14 (November 2013 April 2016)' [ADS link]

• D. L. Holdsworth, M. S. Cunha, M. Lares-Martiz, D. W. Kurtz, V. Antoci, S. Barceló Forteza, P. De Cat, A. Derekas, C. Kayhan, D. Ozuyar, M. Skarka, D. R. Hey, F. Shi, **D. M. Bowman**, O. Kobzar, A. Ayala Gómez, Zs. Bognár, D. L. Buzasi, M. Ebadi, L. Fox-Machado, A. García Hernández, H. Ghasemi, J. A. Guzik, G. Handler, A. Hasanzadeh, R. Jayaraman, V. Khalack, O. Kochukhov, C. C. Lovekin, P. Mikołajczyk, D. Mkrtichian, S. J. Murphy, E. Niemczura, B. G. Olafsson, J. Pascual-Granado, E. Paunzen, N. Posiłek, A. Ramón-Ballesta, H. Safari, A. Samadi-Ghadim, B. Smalley, Á. Sódor, I. Stateva, J. C. Suárez, R. Szabó, T. Wu, E. Ziaali, W. Zong, (2024), MNRAS, Volume 527, Issue 4, 9548–9580, 'TESS Cycle 2 observations of roAp stars with 2-min cadence data' [ADS link]

## 2023: 2 first author and 11 co-author publications

- D. M. Bowman, (2023), Astrophysics and Space Science, Volume 368, Issue 12, 107, 'Making waves in massive star asteroseismology' (Invited review) [ADS link]
- D. M. Bowman, J. Van Saders, J. Vink, (2023), Galaxies, Volume 11, Issue 5, 94, 'The Structure and Evolution of Stars: Introductory Remarks' [ADS link]
- T. Shenar, G. Wade, P. Marchant, S. Bagnulo, J. Bodensteiner, **D. M. Bowman**, A. Gilkis, N. Langer, A. Nicholas-Chené, L. Oskinova, T. Van Reeth, H. Sana, N. St-Louis, A. Soares de Oliveira, H. Todt, S. Toonen, (2023), Science, Volume 381, Issue 6659, 761–765, 'A massive helium star with a sufficiently strong magnetic field to form a magnetar' [ADS link]
- N. Serebriakova, A. Tkachenko, S. Gebruers, D. M. Bowman, T. Van Reeth, L. Mahy, S. Burssens, L. IJspeert, H. Sana, C. Aerts, (2023), A&A Volume 676, A85, 'The ESO UVES/FEROS Large Programs of TESS OB pulsators. I. Global stellar parameters from high-resolution spectroscopy' [ADS link]
- R. Monier, **D. M. Bowman**, Y. Lebreton, M. Deal, (2023), AJ, Volume 166, Issue 2, 73 'The unexpected optical and ultraviolet variability of the standard star α Sex (HD 87887)' [ADS link]
- R. Monier, E. Niemczura, D. W. Kurtz, S. Rappaport, D. M. Bowman, S. J. Murphy, Y. Lebreton, R. Stuik, M. Deal, T. Merle, T. Kiliçoğlu, M. Gebran, E. Le Ster, (2023), AJ, Volume 166, Issue 2, 54, 'The surface composition of six newly discovered chemically peculiar stars. Comparison to the HgMn stars μ Lep and β Scl and the superficially normal B star ν Cap' [ADS link]
- A. I. Henriksen, V. Antoci, H. Saio, F. Grundahl, H. Kjeldsen, T. Van Reeth, D. M. Bowman, P. I. Pápics, P. de Cat, J. Kruger, and the SONG team, (2023), MNRAS, Volume 524, Issue 3, 4196–4211, 'Unresolved Rossby and gravity modes in 214 A and F stars showing rotational modulation' [ADS link]
- J. S. Vink, A. Mehner, P. A. Crowther, A. Fullerton, M. Garcia, F. Martins, N. Morrell, L. M. Oskinova, N. St-Louis, A. ud-Doula, A.A.C. Sander, H. Sana, J.-C. Bouret, B. Kubátová, P. Marchant, L. P. Martins, A. Wofford, J. Th. van Loon, O. Grace Telford, Y. Götberg, D. M. Bowman, C. Erba, V. M. Kalari, M. Abdul-Masih, T. Alkousa, F. Backs, C. L. Barbosa, S.R. Berlanas, M. Bernini-Peron, J. M. Bestenlehner, R. Blomme, J. Bodensteiner, S. A. Brands, C. J. Evans, A. David-Uraz, F. A. Driessen, K. Dsilva, S. Geen, V. M. A. Gómez-González, L. Grassitelli, W.-R. Hamann, C. Hawcroft, A. Herrero, E. R. Higgins, D. J. Hillier, R. Ignace, A. G. Istrate, L. Kaper, N. D. Kee, C. Kehrig, Z. Keszthelyi, J. Klencki, A. de Koter, R. Kuiper, E. Laplace, C. J. K. Larkin, R. R. Lefever, C. Leitherer, L. Mahy, J. Maíz Apellániz, G. Maravelias, W. Marcolino, A. F. McLeod, S. E. de Mink, F. Najarro, M. S. Oey, T. N. Parsons, D. Pauli, M. G. Pedersen, R.K. Prinja, V. Ramachandran, M. C. Ramírez-Tannus, G. N. Sabhahit, A. Schootemeijer, S. Reyero Serantes, T. Shenar, G. S. Stringfellow, N. Sudnik, F. Tramper, L. Wang, (2023), A&A, Volume 675, A154, 'X-Shooting ULLYSES: Massive Stars at low metallicity. I. Survey Description' [ADS link]
- N. Vernekar, A. Subramaniam, V. V. Jadhav, **D. M. Bowman**, (2023), MNRAS, Volume 524, Issue 1, 1360–1373, 'Photometric variability of blue straggler stars in M67 with TESS and K2' [ADS link]
- S. Burssens\*, D. M. Bowman, M. Michielsen, S. Simón-Díaz, C. Aerts, V. Vanlaer, G. Banyard, N. Nardetto, R. H. D. Townsend, G. Handler, J. S. G. Mombarg, R. Vanderspek, G. Ricker, (2023), Nature Astronomy, Volume 7, 913–930, 'A calibration point for stellar evolution from massive star asteroseismology' [ADS link]

- D. Pauli, L. M. Oskinova, W.-R. Hamann, D. M. Bowman, H. Todt, T. Shenar, A. A. C. Sander, C. Erba, V. M. A. Gómez-González, C. Kehrig, J. Klencki, R. Kuiper, A. Mehner, S. E. de Mink, M. S. Oey, V. Ramachandran, A. Schootemeijer, S. Reyero Serantes, A. Wofford, (2023), A&A, Volume 673, A40 'Spectroscopic and evolutionary analyses of the binary system AzV 14 outline paths towards the WR stage at low-metallicity' [ADS link]
- T. Van Reeth, C. Johnston, J. Southworth, J. Fuller, D. M. Bowman, L. Poniatowski, J. Van Beeck, (2023), A&A, Volume 671, A121 'Tidally perturbed g-mode pulsations in a sample of close eclipsing binaries' [ADS link]
- C. Johnston, A. Tkachenko, T. Van Reeth, D. M. Bowman, K. Pavlovski, H. Sana, S. Sekaran, (2023), A&A, Volume 670, A167, 'Tidal perturbations and geometric effects on the pulsations in the hierarchical triple system U Gru' [ADS link]

## 2022: 2 first author and 12 co-author publications

- D. M. Bowman, T. Z. Dorn-Wallenstein, (2022), A&A, Volume 668, A134, 'Photometric detection of internal gravity waves in upper main-sequence stars. III. Comparison of amplitude spectrum fitting and Gaussian process regression using CELERITE2' [ADS link]
- J. Southworth, **D. M. Bowman**, (2022), The Observatory, Volume 142, 161-173, 'Rediscussion of eclipsing binaries. Paper X. The pulsating B-type system V1388 Orionis' [ADS link]
- J. Tayar, F. D. Moyano, M. Soares-Furtado, A. Escorza, M. Joyce, S. L. Martell, R. A. García, S. N. Breton, S. Mathis, S. Mathur, V. Delsanti, S. Kiefer, S. Reffert, D. M. Bowman, T. Van Reeth, S. Shetye, C. Gehan, S. K. Grunblatt, (2022), ApJ, Volume 940, Issue 1, 23, 'Spinning up the Surface: Evidence for Planetary Engulfment or Unexpected Angular Momentum Transport?' [ADS link]
- O. Kobzar, V. Khalack, D. Bohlender, G. Mathys, M. Shultz, D. M. Bowman, E. Paunzen, C. Lovekin, A. David-Uraz, J. Sikora, P. Lampens, O. Richard, (2022), MNRAS, Volume 517, Issue 4, 5340–5357, 'Analysis of eight magnetic chemically peculiar stars with rotational modulation' [ADS link]
- S. Gebruers, A. Tkachenko, **D. M. Bowman**, T. Van Reeth, S. Burssens, L. IJspeert, L. Mahy, I. Straumit, M. Xiang, H.-W. Rix, C. Aerts, (2022), A&A, Volume 665, A36, 'Analysis of high-resolution FEROS spectroscopy for a sample of variable B-type stars assembled from TESS photometry' [ADS link]
- L. Mahy, H. Sana, T. Shenar, M. Abdul-Masih, G. Banyard, J. Bodensteiner, D. M. Bowman, K. Dsilva, M. Fabry, C. Hawcroft, N. Langer, P. Marchant, T. Van Reeth, C. Eldridge, (2022), A&A, Volume 664 A159, 'Identifying quiescent compact objects in massive Galactic single-lined spectroscopic binaries' [ADS link]
- Z. T. Spetsieri, P. Boumis, A. Chiotellis, S. Akras, S. Derlopa, S. Shetye, D. M.-A. Meyer, D. M. Bowman,
   V. V. Gvaramadze, (2022), MNRAS, Volume 515, Issue 1, 1544–1556, 'Discovery of an optical cocoon tail behind the runaway HD 185806' [ADS link]
- J. A. Toalá, D. M. Bowman, T. Van Reeth, H. Todt, K. Dsilva, T. Shenar, G. Koenigsberger, S. Estrada-Dorado, L. M. Oskinova, W.-R. Hamann, (2022), MNRAS, Volume 514, Issue 1, 2269–2277, 'Multiple variability time-scales of the early nitrogen-rich Wolf-Rayet star WR7' [ADS link]
- J. Southworth, **D. M. Bowman**, (2022), MNRAS, Volume 513, Issue 3, pp. 3191-3209, 'High-mass pulsators in eclipsing binaries observed using TESS' [ADS link]
- T. Van Reeth, J. Southworth, J. Van Beeck, **D. M. Bowman**, (2022), A&A, Volume 659, A177, 'V456 Cyg: an eclipsing binary with tidally perturbed g-mode pulsations' [ADS link]
- D. Lecoanet, **D. M. Bowman**, T. Van Reeth, (2022), MNRAS Letters, Volume 512, Issue 1, L16-L20, 'Asteroseismic inference of the near-core magnetic field strength in the main-sequence B star HD 43317' [ADS link]
- **D. M. Bowman**, B. Vandenbussche, H. Sana, A. Tkachenko, G. Raskin, T. Delabie, B. Vandoren, P. Royer, S. Garcia, T. Van Reeth, and the CubeSpec collaboration, (2022), A&A, Volume 658, A96, *'The CubeSpec space*

- mission. I. Asteroseismology of massive stars from time-series optical spectroscopy: Science requirements and target list prioritisation' [ADS link]
- K. Pavlovski, C. A. Hummel, A. Tkachenko, A. Derviçoğlu, C. Kayhan, R. T. Zavala, D. J. Hutter, C. Tycner, T. Şahin, J. Audenaert, R. Baeyens, J. Bodensteiner, D. M. Bowman, S. Gebruers, N. E. Jannsen, J. S. G. Mombarg, (2022), A&A, Volume 658, A92, 'Dynamical parallax, physical parameters and evolutionary status of the components of the bright eclipsing binary α Draconis' [ADS link]
- A. Elliott, N. D. Richardson, H. Pablo, A. F. J. Moffat, D. M. Bowman, N. Ibrahim, G. Handler, C. Lovekin, A. Popowicz, N. St-Louis, G. A. Wade, K. Zwintz, (2022), MNRAS, Volume 509, Issue 3, 4246–4255, 'Five years of BRITE-Constellation photometry of the prototypical luminous blue variable P Cygni: constraining the stochastic low-frequency variability' [ADS link]

## **2021:** 2 first author and 12 co-author publications

- D. M. Bowman and M. Michielsen, (2021), A&A, Volume 656, A158, 'Towards a systematic treatment of observational uncertainties in forward asteroseismic modelling of gravity-mode pulsators' [ADS link]
- J. Van Beeck\*, **D. M. Bowman**, M. G. Pedersen, T. Van Reeth, T. Van Hoolst, C. Aerts, (2021), A&A, Volume 655, A59, 'Detection of non-linear resonances among gravity modes of slowly pulsating B stars: Results from five iterative pre-whitening strategies' [ADS link]
- J. Audenaert, J. S. Kuszlewicz, R. Handberg, A. Tkachenko, D. Armstrong, M. Hon, R. Kgoadi, M. N. Lund, K. J. Bell, L. Bugnet, D. M. Bowman, C. Johnston, R. A. García, D. Stello, L. Molnár, E. Plachy, D. Buzasi, C. Aerts, and the T'DA collaboration, (2021), AJ, Volume 162, Issue 5, 209, 'TESS Data for Asteroseismology (T'DA) Stellar Variability Classification Pipeline: Set-Up and Application to the Kepler Q9 Data' [ADS link]
- D. L. Holdsworth, M. S. Cunha, D. W. Kurtz, V. Antoci, D. R. Hey, D. M. Bowman, O. Kobzar, D. L. Buzasi, O. Kochukhov, E. Niemczura, D. Ozuyar, F. Shi, R. Szabó, A. Samadi-Ghadim, Zs. Bognár, L. Fox-Machado, V. Khalack, M. Lares-Martiz, C. C. Lovekin, P. Mikołajczyk, D. Mkrtichian, J. Pascual-Granado, E. Paunzen, T. Richey-Yowell, Á. Sódor, J. Sikora, T. Z. Yang, E. Brunsden, A. David-Uraz, A. Derekas, A. García Hernández, J. A. Guzik, N. Hatamkhani, R. Handberg, T. S. Lambert, P. Lampens, S. J. Murphy, R. Monier, K. R. Pollard, P. Quitral-Manosalva, A. Ramón-Ballesta, B. Smalley, I. Stateva, R. Vanderspek, (2021), MNRAS, Volume 506, Issue 1, 1073–1110, 'TESS Cycle 1 observations of roAp stars with 2-min cadence data' [ADS link]
- A. David-Uraz, M. E. Shultz, V. Petit, D. M. Bowman, C. Erba, R. A. Fine, C. Neiner, H. Pablo, J. Sikora, A. ud-Doula, G. A. Wade, (2021), MNRAS, Volume 504, Issue 4, 4841–4849, 'MOBSTER IV. Detection of a new magnetic B-type star from follow-up spectropolarimetric observations of photometrically selected candidates' [ADS link]
- D. M. Bowman, J. Hermans, J. Daszyńska-Daszkiewicz, D. L. Holdsworth, A. Tkachenko, S. J. Murphy, B. Smalley, D. W. Kurtz, (2021), MNRAS, Volume 504, Issue 3, 4039–4053 'KIC 5950759: a high-amplitude δ Sct star with amplitude and frequency modulation near the terminal age main sequence' [ADS link]
- W. W. Weiss, K. Zwintz, R. Kuschnig, G. Handler, A. F. W. Moffat, D. Baade, **D. M. Bowman**, T. Granzer, T. Kallinger, O. F. Koudelka, C. Lovekin, C. Neiner, H. Pablo, A. Pigulski, A. Popowicz, T. Ramiaramanantsoa, S. Rucinski, K. Strassmeier, G. Wade, (2021), Universe, Volume 7, 199, *'Space Photometry with BRITE-Constellation'* [ADS link]
- M. Michielsen, C. Aerts, **D. M. Bowman**, (2021), A&A, Volume 650, A175, 'Probing the temperature gradient in the core boundary layer of stars with gravito-inertial modes: the case of KIC 7760680' [ADS link]
- S. Gebruers, I. Straumit, A. Tkachenko, J. S. G. Mombarg, M. G. Pedersen, T. Van Reeth, G. Li, P. Lampens, A. Escorza, D. M. Bowman, P. De Cat, L. Vermeylen, Y. Frémat, J. Bodensteiner, H.-W. Rix, C. Aerts, (2021), A&A, Volume 650, A151, 'A homogeneous spectroscopic analysis of a Kepler legacy sample of dwarfs for gravity-mode asteroseismology' [ADS link]

- T. Shenar, H. Sana, P. Marchant, B. Pablo, N. Richardson, A. F. J. Moffat, T. Van Reeth, R. H. Barbá, D. M. Bowman, P. Broos, P. A. Crowther, S. Clark, A. de Koter, S. E. de Mink, K. Dsilva, G. Gräfener, I. D. Howarth, N. Langer, L. Mahy, J. Máíz Apellániz, A. M. Pollock, F. R. N. Schneider, L. Townsley, J. S. Vink, (2021), A&A, Volume 650, A147, 'The Tarantula Massive Binary Monitoring V. R144 a wind-eclipsing binary with a total mass ≥ 140 M<sub>☉</sub>' [ADS link]
- C. Johnston, N. Aimar, M. Abdul-Masih, **D. M. Bowman**, T. White, C. Hawcroft, H. Sana, S. Sekeran, K. Dsilva, A. Tkachenko, C. Aerts, (2021), MNRAS, Volume 503, Issue 1, 1124–1137, *'Characterization of the variability in the O+B eclipsing binary HD 165246'* [ADS link]
- J. Southworth, **D. M. Bowman**, K. Pavlovski, (2021), MNRAS Letters, Volume 501, Issue 1, L65–L70, 'A beta Cephei pulsator and a changing orbital inclination in the high-mass eclipsing binary system VV Orionis' [ADS link]
- M. G. Pedersen, C. Aerts, P. I. Pápics, M. Michielsen, S. Gebruers, T. M. Rogers, G. Molenberghs, S. Burssens, S. Garcia, D. M. Bowman, (2021), Nature Astronomy, Volume 5, 715–722, 'Internal mixing of rotating stars inferred from dipole gravity modes' [ADS link]
- T. Steindl, K. Zwintz, **D. M. Bowman**, (2021), A&A, Volume 645, A119, 'Tidally perturbed pulsations in the pre-main sequence δ Scuti binary RS Cha' [ADS link]

## 2020: 2 first author and 10 co-author publications

- S. Sekaran, A. Tkachenko, M. Abdul-Masih, A. Prša, C. Johnston, D. Huber, S. J. Murphy, G. Banyard, A. W. Howard, H. Isaacson, **D. M. Bowman**, C. Aerts, (2020), A&A, Volume 643, A162, 'Tango of celestial dancers: A sample of detached eclipsing binary systems containing g-mode pulsating components. A case study of KIC9850387' [ADS link]
- D. M. Bowman, (2020), Frontiers in Astronomy and Space Sciences, Volume 7, 70, 'Asteroseismology of high-mass stars: new insights of stellar interiors with space telescopes' (Invited review) [ADS link]
- J. Southworth, D. M. Bowman, A. Tkachenko, K. Pavlovski, (2020), MNRAS Letters, Volume 497, Issue 1, L19–L23, 'Discovery of β Cep pulsations in the eclipsing binary V453 Cygni' [ADS link]
- J. Bodensteiner, T. Shenar, L. Mahy, M. Fabry, P. Marchant, M. Abdul-Masih, G. Banyard, **D. M. Bowman**, K. Dsilva, A. J. Frost, C. Hawcroft, M. Reggiani, H. Sana, (2020), A&A, Volume 641, A43, 'Is HR 6819 a triple system containing a black hole? An alternative explanation' [ADS link]
- L. Horst, P. V. F. Edelmann, R. Andrássy, F. K. Röpke, D. M. Bowman, C. Aerts, R. P. Ratnasingam, (2020),
   A&A, Volume 641, A18, 'Fully compressible simulations of waves and core convection in main-sequence stars' [ADS link]
- D. M. Bowman, S. Burssens, S. Simón-Díaz, P. V. F. Edelmann, T. M. Rogers, L. Horst, F. K. Röpke, C. Aerts, (2020), A&A, Volume 640, A36, 'Photometric detection of internal gravity waves in upper main-sequence stars. II. Combined TESS photometry and high-resolution spectroscopy' [ADS link]
- T. Shenar, J. Bodensteiner, M. Abdul-Masih, M. Fabry, L. Mahy, P. Marchant, G. Banyard, **D. M. Bowman**, K. Dsilva, C. Hawcroft, M. Reggiani, H. Sana, (2020), A&A Letters, Volume 639, L6, *'The "hidden"* companion in LB-1 unveiled by spectral disentangling' [ADS link]
- S. Burssens\*, S. Simón-Díaz, D. M. Bowman, G. Holgado, M. Michielsen, A. de Burgos, N. Castro, R. H. Barbá, C. Aerts, (2020), A&A, Volume 639, A81, 'Variability of OB stars from TESS southern Sectors 1-13 and high-resolution IACOB and OWN spectroscopy' [ADS link]
- J. Van Beeck\*, V. Prat, T. Van Reeth, S. Mathis, **D. M. Bowman**, C. Aerts, (2020), A&A, Volume 638, A149, 'Detecting axisymmetric magnetic fields using gravity modes in intermediate-mass stars' [ADS link]
- A. Tkachenko, K. Pavlovski, C. Johnston, C. Aerts, M. G. Pedersen, M. Michielsen, D. M. Bowman,
   J. Southworth, V. Tsymbal, (2020), A&A, Volume 637, A60, 'The mass discrepancy in intermediate- and high-mass eclipsing binaries: The need for higher convective core masses' [ADS link]

- M. Abdul-Masih, G. Banyard, J. Bodensteiner, E. Bordier, D. M. Bowman, K. Dsilva, M. Fabry, C. Hawcroft, L. Mahy, P. Marchant, G. Raskin, M. Reggiani, T. Shenar, A. Tkachenko, H. Van Winckel, L. Vermeylen, H. Sana, (2020), Nature, Volume 580, Issue 7805, E11–E15, 'On the signature of a 70-solar-mass black hole in LB-1' [ADS link]
- V. Prat, S. Mathis, C. Neiner, J. Van Beeck, **D. M. Bowman**, C. Aerts, (2020), A&A, Volume 636, A100, 'Period spacings of gravity modes in rapidly rotating magnetic stars. II. The case of an oblique dipolar fossil magnetic field' [ADS link]

## 2019: 4 first author and 14 co-author publications

- V. Antoci, M. Cunha, D. M. Bowman, S. J. Murphy, D. W. Kurtz, T. R. Bedding, C. Borre, S. Christophe, J. Daszyńska-Daszkiewicz, L. Fox-Machado, A. García Hernández, H. Ghasemi, R. Handberg, H. Hansen, A. Hasanzadeh, G. Houdek, C. Johnston, A. B. Justesen, F. Kahraman Alicavus, F. Kotysz, D. Latham, J. Matthews, J. Mønster, E. Niemczura, E. Paunzen, J. P. Sanchez Arias, A. Pigulski, J. Pepper, T. Richey-Yowell, H. Safari, S. Seager, B. Smalley, T. Shutt, A. Sódor, J.-C. Suárez, A. Tkachenko, T. Wu, K. Zwintz, S. Barceló Forteza, E. Brunsden, Z. Bognár, D. Buzasi, S. Chowdhury, P. De Cat, J. Evans, Z. Guo, J. A. Guzik, N. Jevtic, P. Lampens, M. Lares Martiz, C. Lovekin, G. Li, G. M. Mirouh, D. Mkrtichian, M. J. P. F. G. Monteiro, J. Nemec, R. Ouazzani, J. Pascual-Granado, D. Reese, M. Rieutord, J. R. Rodon, M. Skarka, P. Sowicka, I. Stateva, R. Szabó, W. W. Weiss, (2019), MNRAS, Volume 490, Issue 3, 4040–4059, 'The first view of δ Sct and γ Dor stars with the TESS mission' [ADS link]
- V. Khalack, C. Lovekin, D. M. Bowman, O. Kobzar, A. David-Uraz, E. Paunzen, J. Sikora, P. Lenz, O. Kochukhov, D. L. Holdsworth, G. A. Wade, (2019), MNRAS, Volume 490, Issue 2, 2102–2111, 'Rotational and pulsational variability in the TESS light curve of HD 27463' [ADS link]
- <u>S. Burssens</u>\*, **D. M. Bowman**, C. Aerts, M. G. Pedersen, E. Moravveji, B. Buysschaert, (2019), MNRAS, Volume 489, Issue 1, 1304–1320, 'New β Cep pulsators discovered with K2 space photometry' [ADS link]
- B. J. S. Pope, G. R. Davies, K. Hawkins, T. R. White, A. Stokholm, A. Bieryla, D. W. Latham, M. Lucey, C. Aerts, S. Aigrain, V. Antoci, T. R. Bedding, D. M. Bowman, A. Chontos, G. A. Esquerdo, D. Huber, P. Jofré, S. J. Murphy, T. Van Reeth, V. Silva Aguirre, J. Yu, (2019), ApJS, Volume 244, Issue 1, 18, 'The Kepler Smear Campaign: Light curves for 102 Very Bright Stars' [ADS link]
- D. M. Bowman, C. Johnston, A. Tkachenko, D. Mkrtichian, K. Gunsriwiwat, C. Aerts, (2019), ApJ Letters, Volume 883, Issue 1, L26, 'Discovery of tidally-perturbed pulsations in the eclipsing binary system U Gru: a crucial system for tidal asteroseismology' [ADS link]
- D. M. Bowman and D. L. Holdsworth, (2019), A&A, Volume 629, A21, 'Adaptive elliptical aperture photometry: a software package for high-cadence ground-based photometry. I. Application to rapid oscillators observed from SAAO' [ADS link]
- J. Sikora, A. David-Uraz, S. Chowdhury, D. M. Bowman, G. A. Wade, V. Khalack, O. Kobzar, O. Kochukhov, C. Neiner, E. Paunzen, (2019), MNRAS, Volume 487, Issue 4, 4695–4710, 'MOBSTER II. Identification of rotationally variable A stars observed with TESS in sectors 1–4' [ADS link]
- M. S. Cunha, V. Antoci, D. L. Holdsworth, D. W. Kurtz, L. A. Balona, Zs. Bognár, D. M. Bowman, Z. Guo, P. P. A. Kolaczek-Szymański, M. Lares-Martiz, E. Paunzen, M. Skarka, B. Smalley, Á. Sódor, O. Kochukhov, T. R. Bedding, D. L. Buzasi, L. Fox-Machado, A. Hasanzadeh, E. Niemczura, P. Quitral-Manosalva, I. Stateva, P. De Cat, A. García Hernández, H. Ghasemi, G. Handler, J. M. Matthews, M. J. P. F. G. Monteiro, J. M. Nemec, J. Pascual-Granado, H. Safari, J. C. Suárez, R. Szabó, A. Tkachenko, W. W. Weiss, (2019), MNRAS, Volume 487, Issue 3, 3523–3549, 'Rotation and pulsation in Ap stars: first light results from TESS sectors 1 and 2' [ADS link]
- R. Manick, D. Kamath, H. Van Winkel, A. Jorissen, S. Sekaran, D. M. Bowman, G.-M. Oomen, J. Kluska, D. Bollen, C. Waelkens, (2019), A&A, Volume 628, A40, 'Spectroscopic binaries RV Tauri and DF Cygni' [ADS link]

- A. David-Uraz, C. Neiner, J. Sikora, D. M. Bowman, V. Petit, S. Chowdhury, G. Handler, M. Pergeorelis, M. Cantiello, C. Erba, Z. Keszthelyi, V. Khalack, O. Kobzar, O. Kochukhov, J. Labadie-Bartz, R. MacInnis, S. P. Owocki, H. Pablo, M. E. Shultz, A. ud-Doula, G. A. Wade, and the MOBSTER Collaboration, (2019), MNRAS, Volume 487, Issue 1, 304–317, 'Magnetic OB[A] stars with TESS: probing their evolutionary and rotational properties (MOBSTER) I. First-light observations of known magnetic B and A stars' [ADS link]
- V. Prat, S. Mathis, B. Buysschaert, J. Van Beeck, **D. M. Bowman**, C. Aerts, C. Neiner, (2019), A&A, Volume 627, A64, 'Period spacings of gravity modes in rapidly rotating magnetic stars. I. Axisymmetric fossil field with poloidal and toroidal components' [ADS link]
- D. M. Bowman, S. Burssens, M. G. Pedersen, C. Johnston, C. Aerts, B. Buysschaert, M. Michielsen, A. Tkachenko, T. M. Rogers, P. V. F. Edelmann, R. P. Ratnasingam, S. Simón-Díaz, N. Casto, E. Moravveji, B. J. S. Pope, T. R. White, P. De Cat, (2019), Nature Astronomy, Volume 3, Number 8, 760–765, 'Low-frequency gravity waves in blue supergiants revealed by high-precision space photometry' [ADS link]
- J. S. G. Mombarg, T. Van Reeth, M. G. Pedersen, G. Molenberghs, D. M. Bowman, C. Johnston, A. Tkachenko, C. Aerts, (2019), MNRAS, Volume 485, Issue 3, 3248–3263, 'Asteroseismic masses, ages and core properties of γ Doradus stars using the asymptotic period spacing and spectroscopy' [ADS link]
- P. V. F. Edelmann, R. P. Ratnasingam, M. G. Pedersen, **D. M. Bowman**, V. Prat, T. M. Rogers, (2019), ApJ, Volume 876, Issue 1, 4–24, 'Three-dimensional simulations of massive stars I. wave generation and propagation' [ADS link]
- G. Handler, A. Pigulski, J. Daszyńska-Daszkiewicz, A. Irrgang, D. Kilkenny, Z. Guo, N. Przybilla, F. Kahraman Aliçavuş, T. Kallinger, J. Pascual-Granado, E. Niemczura, T. Różański, S. Chowdhury, D. L. Buzasi, G. M. Mirouh, D. M. Bowman, C. Johnston, M. G. Pedersen, S. Simón-Díaz, E. Moravveji, K. Gazeas, P. De Cat, R. K. Vanderspek, G. R. Ricker, (2019), ApJ Letters, Volume 873, Issue 1, L4, 'Asteroseismology of massive stars with the TESS mission: the runaway β Cep pulsator PHL 346 = HN Aqr' [ADS link]
- M. G. Pedersen, S. Chowdhury, C. Johnston, D. M. Bowman, C. Aerts, G. Handler, P. De Cat, C. Neiner, A. David-Uraz, D. Buzasi, A. Tkachenko, S. Simón-Díaz, E. Moravveji, J. Sikora, G. Mirouh, C. C. Lovekin, M. Cantiello, J. Daszyńska-Daszkiewicz, A. Pigulski, (2019), ApJ Letters, Volume 872, Issue 1, L9, 'Diverse variability of O and B stars revealed from 2-minute light curves in sectors 1 and 2 of the TESS mission: selection of an asteroseismic sample' [ADS link]
- C. Johnston, A. Tkachenko, C. Aerts, G. Molenberghs, D. M. Bowman, M. G. Pedersen, B. Buysschaert, P. I. Pápics, (2019), MNRAS, Volume 482, Issue 1, 1231–1246, 'Binary Asteroseismic Modelling: isochrone-cloud methodology and application to Kepler gravity mode pulsators' [ADS link]
- D. M. Bowman, C. Aerts, C. Johnston, M. G. Pedersen, T. M. Rogers, P. V. F. Edelmann, S. Simón-Díaz, T. Van Reeth, B. Buysschaert, A. Tkachenko, S. A. Triana, (2019), A&A, Volume 621, A135, 'Photometric detection of internal gravity waves in upper main-sequence stars. I. Methodology and application to CoRoT targets' [ADS link]

## **2018:** 2 first author and 8 co-author publications

- D. L. Holdsworth, M. S. Cunha, H. Shibahashi, D. W. Kurtz, **D. M. Bowman**, (2018), MNRAS, Volume 480, Issue 3, 2976–2984, 'K2 observations of the rapidly oscillating Ap star 33 Lib (HD 137949): new frequencies and unique non-linear interactions' [ADS link]
- D. L. Holdsworth, H. Saio, R. R. Sefako, **D. M. Bowman**, (2018), MNRAS, Volume 480, Issue 2, 2405–2410, 'LCO observations of a super-critical distorted pulsation in the roAp star J0855 (TYC 2488-1241-1)' [ADS link]
- T. Van Reeth, J. S. G. Mombarg, S. Mathis, A. Tkachenko, J. Fuller, **D. M. Bowman**, B. Buysschaert, C. Johnston, A. García Hernández, J. Goldstein, R. H. D. Townsend, C. Aerts, (2018), A&A, Volume 618, A24, 'Sensitivity of gravito-inertial modes to differential rotation in intermediate-mass main-sequence stars' [ADS link]

- B. Buysschaert, C. Neiner, A. J. Martin, C. Aerts, D. M. Bowman, M. E. Oksala, T. Van Reeth, (2018), MNRAS, Volume 478, Issue 2, 2777–2793, 'Detection of magnetic fields in chemically peculiar stars observed with the K2 space mission' [ADS link]
- B. Buysschaert, C. Aerts, D. M. Bowman, C. Johnston, T. Van Reeth, M. G. Pedersen, C. Neiner, (2018), A&A, Volume 616, A77, 'Forward seismic modeling of the pulsating magnetic B-type star HD 43317' [ADS link]
- D. M. Bowman, B. Buysschaert, C. Neiner, P. I. Pápics, M. E. Oksala, C. Aerts, (2018), A&A, Volume 616, A77, 'K2 space photometry reveals rotational modulation and stellar pulsations in chemically peculiar A and B stars' [ADS link]
- C. Aerts, G. Molenberghs, M. Michielsen, M. G. Pedersen, R. Björklund, C. Johnston, J. S. G. Mombarg,
   D. M. Bowman, B. Buysschaert, P. I. Pápics, S. Sekaran, J. O. Sundqvist, A. Tkachenko, K. Truyaert, T. Van Reeth, E. Vermeyen, (2018), ApJS, Volume 237, 15–46, 'Forward asteroseismic modeling of stars with a convective core from gravity-mode oscillations: parameter estimation and stellar model selection' [ADS link]
- **D. M. Bowman** and D. W. Kurtz, (2018), MNRAS, Volume 476, Issue 3, 3169–3184, *'Characterizing the observational properties of*  $\delta$  *Sct stars in the era of space photometry from the Kepler mission'* [ADS link]
- C. Aerts, D. M. Bowman, S. Simón-Díaz, B. Buysschaert, C. Johnston, E. Moravveji, P. G. Beck, P. De Cat, S. Triana, S. Aigrain, N. Castro, D. Huber, T. White, (2018), MNRAS, Volume 476, Issue 1, 1234–1241, 'K2 photometry and HERMES spectroscopy of the blue supergiant ρ Leo: rotational wind modulation and low-frequency waves' [ADS link]
- D. L. Holdsworth, H. Saio, **D. M. Bowman**, D. W. Kurtz, R. R. Sefako, M. Joyce, T. Lambert, B. Smalley, (2018), MNRAS, Volume 476, Issue 1, 601–616, 'Suppressed phase variations in a high amplitude rapidly oscillating Ap star pulsating in a distorted quadrupole mode' [ADS link]

## **2016:** 1 first author and 1 co-author publications

- **D. M. Bowman**, D. W. Kurtz, M. Breger, S. J. Murphy, D. L. Holdsworth, (2016), MNRAS, Volume 460, Issue 2, 1970–1989, 'Amplitude modulation in  $\delta$  Sct stars: statistics from an ensemble study of Kepler targets' [ADS link]
- D. W. Kurtz, D. M. Bowman, S. J. Ebo, P. Moskalik, R. Handberg, M. N. Lund, (2016), MNRAS, Volume 455, Issue 2, 1237–1245, 'EPIC 201585823, a rare triple-mode RR Lyrae star discovered in K2 mission data' [ADS link]

## 2015: 1 first author and 2 co-author publications

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- A. J. Frost, H. Sana, L. Mahy, G. Wade, J. Barron, J.-B. Le Bouquin, A. Mérand, F. R. N. Schneider, T. Shenar, R. H. Barbá, **D. M. Bowman**, M. Fabry, A. Farhang, P. Marchant, N. I. Morrell, J. V. Smoker, (2024), Bulletin de la Société Royale des Sciences de Liège, Volume 93, No. 3, Proceedings of the 41st Liège International Astrophysical Colloquium 'The eventful life of massive multiples', held in Liège 15-19 July 2024, editors Y. Nazé and E. Bozzo, pp. 85-102, 'An interaction and merger in a massive multiple system create a magnetic field in a massive star' [ADS link]
- **D. M. Bowman**, (2024), 'The BRITE Side of Stars: Celebrating the 10th Anniversary of BRITE Constellation', held 20-23 August in Vienna, Austria, id. 73, 'Asteroseismology of the β Cep star HD 192575' [ADS link]
- **D. M. Bowman**, (2024), 'The BRITE Side of Stars: Celebrating the 10th Anniversary of BRITE Constellation', held 20-23 August in Vienna, Austria, id. 42, 'The CubeSpec space mission: high-resolution optical time-series spectroscopy for asteroseismology of massive stars' [ADS link]
- B. Vandenbussche, G. Raskin, H. Sana, D. Vandepitte, J. De Maeyer, P. Royer, L. Peri, A. Tkachanko, S. Van Gool, J. Windey, P. Neuville, D. M. Bowman, J. Morren, J. Pember, M. Reggiani, W. De Munter, M. Kempenaers, B. Vandorden, T. Delabie, (2024), 4S Symposium 2024, Proceedings of the SPIE, Volume 13092, id. 1309206, 'The CubeSpec mission: high resolution spectroscopy from a CubeSat' [ADS link]
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- D. M. Bowman, P. Van Daele, M. Michielsen, T. Van Reeth, (2024), 8th TESS/15th Kepler Asteroseismic Science Consortium Workshop, held 15-19 July 2024, in Porto, Portugal, online at https://www.iastro.pt/research/conferences/tasc8-kasc15, id. 41, 'TESS light curves of extragalactic massive stars reveal the origin of stochastic gravity waves' [ADS link]
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- Ireland, Cambridge University Press, pp. 630-632, 'The CubeSpec space mission: Asteroseismology of massive stars from time-series optical spectroscopy' [ADS link]
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- H. Sana, M. Abdul-Masih, G. Banyard, J. Bodensteiner, D. M. Bowman, K. Dsilva, C. Eldridge, M. Fabry, A. J. Frost, C. Hawcroft, S. Janssens, L. Mahy, P. Marchant, N. Langer, T. Van Reeth, K. Sen, T. Shenar, (2024), 'Massive Stars Near and Far', edited by J. Mackey, J.S. Vink and N. St-Louis, proceedings of the International Astronomical Union, Volume 361, held 8-13 May 2022 in Ballyconnell, Ireland, Cambridge University Press, pp. 267-272, 'The Nature of Unseen Companions in Massive Single-Line Spectroscopic Binaries' [ADS link]
- D. M. Bowman, D. Lecoanet, T. Van Reeth, (2024), 'Massive Stars Near and Far', edited by J. Mackey, J.S. Vink and N. St-Louis, proceedings of the International Astronomical Union, Volume 361, held 8-13 May 2022 in Ballyconnell, Ireland, Cambridge University Press, pp. 218-223, 'Asteroseismology reveals the near-core magnetic field strength in the early-B star HD 43317' [ADS link]
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- D. Lecoanet, **D. M. Bowman**, T. Van Reeth, I. Freeman, (2022), 'American Geophysical Union Fall Meeting 2022', held in Chicago, Illinois, USA, 12-16 December 2022, id. NG13A-08, 'Internal Gravity Waves Magnetic Field Interactions' [ADS link]
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- J. Schuermans, G. Raskin, D. M. Bowman, J. De Maeyer, M. Kempenaers, J. Pember, P. Royer, H. Sana, C. Schwab, B. Vandenbussche, (2022), 'Space Telescopes and Instrumentation 2022: Optical, Infrared, and Millimeter Wave', Proceedings of the SPIE, Volume 12180, id. 1218030, 'CubeSpec: LED-based calibration system' [ADS link]
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- S. Burssens\*, D. M. Bowman, S. Simón-Díaz, C. Aerts, (2021), 'MOBSTER-1 virtual conference: Stellar variability as a probe of magnetic fields in massive stars', Proceedings of the MOBSTER-1 virtual conference held 12-17 July 2020, id. 38, 'Modelling OB stars with TESS: Construction of an asteroseismic sample' [ADS link]

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- J. Barron, G. A. Wade, D. M. Bowman, A. David-Uraz, S. Simón-Díaz and the MOBSTER Collaboration, (2020), 'Stellar Magnetism: A Workshop in Honour of the Career and Contributions of John D. Landstreet', held 8-11 July 2019 in London, Canada, edited by G. Wade, E. Alecian, D. Bohlender, A. Sigut. Proceedings of the Polish Astronomical Society, Volume 11. ISBN: 978-83-950430-9-3, pp. 226-235, 'MOBSTER: Identifying Candidate Magnetic O Stars through Rotational Modulation of TESS Photometry' [ADS link]
- A. David-Uraz, C. Neiner, J. Sikora, J. Barron, D. M. Bowman, P. Cerrahoĝlu, D. H. Cohen, C. Erba, O. Kobzar, O. Kochukhov, V. Petit, M. E. Shultz, A. Ud-Doula, G. A. Wade, Mobster Collaboration, (2020), 'Stellar Magnetism: A Workshop in Honour of the Career and Contributions of John D. Landstreet', held 8-11 July 2019 in London, Canada, edited by G. Wade, E. Alecian, D. Bohlender, A. Sigut. Proceedings of the Polish Astronomical Society, Volume 11. ISBN: 978-83-950430-9-3, pp. 219-225, 'MOBSTER: Establishing a Picture of Magnetic Massive Stars as a Population' [ADS link]
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- V. Prat, S. Mathis, B. Buysschaert, J. Van Beeck, D. M. Bowman, C. Aerts and C. Neiner, (2020), 'Stars and their Variability Observed from Space', held in Vienna on August 19-23 2019, edited by C. Neiner, W. W. Weiss, D. Baade, R. E. Griffin, C. C. Lovekin, A. F. J. Moffat, pp. 105-106, 'Effect of the magnetic field on period spacings of gravity modes in rapidly rotating stars' [ADS link]
- A. David-Uraz, C. Neiner, J. Sikora, J. Barron, D. M. Bowman, P. Cerrahoglu, D. H. Cohen, C. Erba, V. Khalack, O. Kobzar, O. Kochukhov, H. Pablo, V. Petit, M. E. Shultz, A. Ud-Doula, G. A. Wade, MOBSTER Collaboration, (2020), 'Stars and their Variability Observed from Space', held in Vienna on August 19-23 2019, edited by C. Neiner, W. W. Weiss, D. Baade, R. E. Griffin, C. C. Lovekin, A. F. J. Moffat, pp. 471-474, 'Magnetic OB[A] stars with TESS: probing their evolutionary and rotational properties the MOBSTER collaboration' [ADS link]
- D. M. Bowman, (2020), 'Stars and their Variability Observed from Space', held in Vienna on August 19-23 2019, edited by C. Neiner, W. W. Weiss, D. Baade, R. E. Griffin, C. C. Lovekin, A. F. J. Moffat, pp. 53-59, 'What physics is missing in theoretical models of high-mass stars: new insights from asteroseismology' [ADS link]
- D. M. Bowman, C. Aerts, C. Johnston, M. G. Pedersen, T. M. Rogers, P. V. F. Edelmann, S. Simón-Díaz, T. Van Reeth, B. Buysschaert, A. Tkachenko, S. A. Triana, (2018), 'PHOST (PHysics of Oscillating STars)' symposium hosted by the Oceanographic Observatory in Banyuls-sur-mer (France) from 2-7 September 2018, edited by J. Ballot, S. Vauclair, G. Vauclair, EPJ Web of Conferences, id. 31, 'Photometric detection of internal gravity waves in early-type stars observed by CoRoT' [ADS link]
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## XVIII. Varia Other Publications

- H. Rauer, C. Aerts, J. Cabrera, et al. (total of over 800 co-authors, including **D. M. Bowman**, in the PLATO consortium), 'The PLATO Mission' [ADS link]
- **D. M. Bowman**, (2024), Astronomy & Geophysics, Volume 65, Issue 2, 2.20–2.25, 'Pulsating massive stars' [ADS link]
- V. Mainieri, R. I. Anderson, J. Brinchmann, et al. (total of over 200 co-authors, including **D. M. Bowman**, in the WST consortium), (2024), 'The Wide-field Spectroscopic Telescope (WST) Science White Paper' [ADS link]
- J. S. Vink, P. Crowther, A. Fullerton, M. Garcia, F. Martins, N. Morrell, L. Oskinova, N. St. Louis, A. ud-Doula, A. Sander, H. Sana, J.-C. Bouret, B. Kubatova, P. Marchant, L. P. Martins, A. Wofford, J. van Loon, G. O. Telford, Y. Götberg, **D. M. Bowman**, C. Erba, V. Kalari, The XShootU Collaboration, (2024), ESO The Messenger, Volume 192, 16-21, 'Xshooting ULLYSES: Massive Stars at Low Metallicity' [ADS link]
- J. Ge, H. Zhang, W. Zang, et al. (total of over 150 co-authors, including **D. M. Bowman**, in the ET consortium), (2022), 'ET White Paper: To Find the First Earth 2.0' [ADS link]
- RAS ECN committee, M. Maunder, A. O'Brien, J. Reid, D. M. Bowman, F. Richards, S. Gough-Kelly, (2022), Astronomy & Geophysics, Volume 63, Issue 3, 3.22–3.27, 'Generation COVID: a survey on the impact of the pandemic on early-career researchers' [ADS link]

- RAS ECN committee, D. M. Bowman, F. Richards, M. Maunder, A. O'Brien, D. Boubert, (2022), Astronomy
   & Geophysics, Volume 63, Issue 3, 3.32–3.35, 'Stay in love with your PhD: guidance from the RAS Early
   Career Network's second mentoring event' [ADS link]
- J. Bodensteiner, M. Heida, M. Abdul-Masih, D. Baade, G. Banyard, D. M. Bowman, M. Fabry, A. Frost, L. Mahy, P. Marchant, A. Mérand, M. Reggiani, T. Rivinius, H. Sana, F. Selman T. Shenar, (2022), ESO The Messenger, Volume 186, 3-9, 'Detecting stripped stars while searching for quiescent black holes' [ADS link]
- RAS ECN committee, **D. M. Bowman**, M. Maunder, F. Richards, D. Boubert, A. O'Brien, (2021), Astronomy & Geophysics, Volume 62, Issue 4, 4.12–4.14, 'Hear it through the grapevine: a perspective of the RAS Early Career Network's first career event' [ADS link]
- RAS ECN committee, A. O'Brien, D. Boubert, **D. M. Bowman**, F. Richards, M. Maunder, (2021), Astronomy & Geophysics, Volume 62, Issue 1, 1–19, 'Pandemic Posters' [ADS link]
- A. Tkachenko, C. Aerts, D. M. Bowman, T. Van Reeth, J. De Ridder, C. Johnston, M. G. Pedersen, S. Burssens, M. Michielsen, J. Mombarg, S. Sekaran, R. Bjorklund, T. Rogers, P. V. F. Edelmann, R. P. Ratnasingam, K. Zwintz, J. Kollmeier, J. Johnson, H-W. Rix, J. Tayar, (2019), Astro2020: Decadal Survey on Astronomy and Astrophysics, science white papers, no. 198; Bulletin of the American Astronomical Society, Volume 51, Issue 3, id. 198, 'Astro2020 Science White Paper: gravity-wave asteroseismology of intermediate-and high-mass stars' [ADS link]