

# Dominic M. Bowman

PhD, MSci, FRAS, MInstP, FHEA

**Reader in Astrophysics and Royal Society University Research Fellow**

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## I. Professional Profile

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Holder of a Readership faculty position, a Royal Society University Research Fellowship, and a 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 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 90 peer-reviewed publications, with dozens of high-impact first-author papers including in [Nature Astronomy](#). Winner of several prestigious prizes for research excellence and 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

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### 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

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### 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.

## IV. Scientific Prizes, Awards and Competitive Grant Funding

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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:

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#### 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:

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#### 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](#) (**€1,500,000**). Unable to sign ERC grant agreement because UK was at the 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 asteroeismology. Unable to sign ERC grant agreement because UK was at the 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 asteroeismology 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 **€6000** [grant number: V411621N].

#### Conference Organisation

Sep 2015

Successful funding applications of **£3000** from the Royal Astronomical Society (RAS) and **£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, and travel costs for obtaining competitive telescope time in visitor mode (e.g. ESO), with a combined total of approximately **£15,000**.

## V. Conference Organisation

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Three times (co-)chair of an SOC, twice chair of an LOC, and twice a member of an SOC for large (75+ people) international conferences.

**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

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**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.

**Onboarding Faculty Training**, *Newcastle University* Sep 2023  
Several seminars and training sessions on EDI, GDPR, project management, student welfare and 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, UK* 21 Oct 2015  
Seminars and training sessions on career planning and management.

**Media Training for Outreach**, *Royal Society, London, UK* 7 Oct 2015  
Training sessions on various media-related aspects of outreach activities.

## VII. International Responsibilities, Committees and Service

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- 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 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** Sep 2019 – date  
Member (non-voting) of the [BRITE Executive Science Team](#) (BEST) for the BRITE-constellation space mission.
- CubeSpec Space Mission** Jan 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  
40+ times invited peer reviewer of publications in international journals: *Nature Astronomy*, *Nature Communications*, *A&A*, *MNRAS*, *ApJ*, *AJ*, *PASA*, *FRAS*, *OJA*, *Galaxies*, and *JAAVSO*.
- Previous Responsibilities:**
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- 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.

## VIII. Professional and Learned Societies

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### 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.

### 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

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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 four successful TESS guest investigator proposals as PI targeting 1800+ massive stars.

### 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*).

### European Southern Observatory (ESO), Chile

→ 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.

→ 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 (*112.25R7; 120 hr; PI Shenar*).
- Co-I of programme obtaining Gravity interferometry of the eclipsing Be binary system HD 93683 (*109.23H0; 12 hr; PI Bodensteiner*).
- Co-PI of programme obtaining multi-epoch high-resolution spectroscopy of gamma Doradus stars with UVES (*106.21S8.001; 106.21S8.002; 106.21S8.003; 21 hr; PI Christophe*).
- 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*).

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

- PI of four 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.

### **South African Astronomical Observatory (SAAO), Sutherland, South Africa**

→ 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 service time proposal to gain high-cadence photometry of candidate roAp stars in May 2018.

### **Mercator Observatory, La Palma, Spain**

→ 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.
- PI 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), UCLan, Preston, UK**

→ 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  $T_{\text{eff}}$  values for 23  $\delta$  Sct stars observed by *Kepler*.



## X. Teaching and Supervision Experience

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Supervisor of **4** ongoing PhD students, co-supervisor of **2** ongoing PhD students, and supervisor of **1** postdoctoral research associate at Newcastle University. Successfully supervised **2** PhD students to completion, and member of **4** international PhD examination/jury committees. Supervisor of **6** MSc students to completion (of which 5 went onto complete a PhD), and member of a further **5** international MSc thesis examination committees.

### Externally Recruited Postdocs

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- Dr. Laura Scott Sep 2024 – date

### PhD Theses at Newcastle University, UK

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- **Supervisor** of Pieterjan Van Daele formal start date: Oct 2024  
*Stochastic low-frequency variability in massive stars*
- **Supervisor** of Logan Dennis Sep 2024 – date  
*Forward modelling of massive pulsating eclipsing binaries*
- **Co-Supervisor** of Betsy Parnham Sep 2024 – date  
*Dynamical processes in stellar interiors*
- **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*
- **Supervisor** of Federica Nardini Jan 2024 – date  
*Asteroseismology of massive binary systems*

### PhD Theses at KU Leuven, Belgium

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- Progress and examination committee (jury) member of Joris Hermans Sep 2019 – Nov 2023  
*Understanding the influence of cooling curves and flow on thermal instability*
- **Co-Supervisor** of Jordan Van Beeck Sep 2019 – Sep 2023  
*Asteroseismology of Kepler B stars: internal magnetism and nonlinear mode coupling*
- **Supervisor** of Siemen Burssens Sep 2018 – July 2022  
*Massive star asteroseismology with K2 and TESS*
- Progress and examination committee (jury) member of Joey S. G. Mombarg Feb 2018 – Feb 2022  
*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

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- External PhD thesis examiner (jury) of Keegan Thomson-Paressant Sep 2024  
Supervised by Dr. Coralie Neiner at Paris Observatory, France  
*Magnetism in  $\delta$  Scuti stars*
- External PhD thesis examiner (referee) of Abel de Burgos Jul 2024  
Supervised by Dr. Sergio Simón-Díaz at IAC, Tenerife, Spain  
*On the evolutionary nature of massive B-type supergiants: a modern empirical reappraisal using data from IACOB, Gaia and TESS*

- Internal PhD thesis examiner (jury) of Mathias Michielsen Nov 2022  
Supervised by Prof. Conny Aerts at KU Leuven, Belgium  
*Forward seismic modelling of B-type stars*
- Internal PhD thesis examiner (jury) of Camilla Scolini May 2020  
Supervised by Prof. Stefaan Poedts at KU Leuven, Belgium  
*Magnetised coronal mass ejections: evolution from the Sun to 1 AU and geo-effectiveness*

### **MSc Theses at KU Leuven, Belgium**

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- **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 Jun 2020  
*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*
- Examination committee member (reader) of Mathias Michielsen Jun 2018  
*Comparing oscillation frequencies of stars with a convective core: Impact of varying input physics*

### **Teaching: MSc and MPhys modules**

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- **Guest Lecturer**, University of York, UK Apr 2024  
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 Sep 2019 – Aug 2023  
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

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- **Bachelor and master student projects, Newcastle University, UK** Sep 2023 – date  
Supervision of multiple bachelor and master student (group) projects.
- **Bachelor and master student projects, KU Leuven, Belgium** Sep 2017 – Aug 2023  
Supervision of multiple bachelor and master student (group) projects.
- **Module Examiner, KU Leuven, Belgium** Sep 2017 – Aug 2019  
Examiner for the Bachelor science communication course.
- **Lecturer, UCLan, UK** Sep 2016 – Jan 2017  
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).

## XI. Scientific Conferences and Workshops

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Attendance of **55** international conferences and workshops.

<b>LENAH workshop</b> , <i>Leuven, Belgium</i>	11–13 Sep 2024
<b>Nordita workshop</b> , <i>Stockholm, Sweden</i>	26–30 Aug 2024
<b>BRITE conference</b> , <i>Vienna, August</i>	20–23 Aug 2024
<b>TASC8/KASC15 workshop</b> , <i>Porto, Portugal</i>	15–19 Jul 2024
<b>Owocki-Fest</b> , <i>Leuven, Belgium</i>	8–12 Jul 2024
<b>XShootU workshop</b> , <i>Leuven, Belgium</i>	3–5 Jul 2024
<b>B-fields conference</b> , <i>Tokyo, Japan</i>	25–29 Mar 2024
<b>BLOeM workshop</b> , <i>Virtual (hosted by KU Leuven)</i>	5–6 Mar 2024
<b>LENAH workshop</b> , <i>Newcastle, UK</i>	12–14 Dec 2023
<b>BRIDGCE/IReNA consortium meeting</b> , <i>Edinburgh, UK</i>	11–13 Sep 2023
<b>TASC7/KASC14</b> , <i>Honolulu, Hawai'i, USA</i>	17–21 Jul 2023
<b>National Astronomy Meeting (NAM)</b> , <i>Cardiff, UK</i>	3–7 Jul 2023
<b>Lorentz Workshop</b> , <i>Leiden, the Netherlands</i>	26–30 Jun 2023
<b>SDSS-V/IReNA/CeNAM Science Festival</b> , <i>Leuven, Belgium</i>	3–7 Apr 2023
<b>VFTS</b> , <i>Garching, Germany</i>	27–29 Mar 2023
<b>TASC6/KASC13</b> , <i>Leuven, Belgium</i>	11–15 Jul 2022
<b>IAUS361: Massive Stars Near and Far</b> , <i>Ballyconnell, Ireland</i>	8–13 May 2022
<b>KITP program</b> , <i>Santa Barbara, California, USA</i>	11 Oct – 17 Dec 2021
<b>TESS SciCon II</b> , <i>Virtual (hosted by MIT, USA)</i>	2–6 Aug 2021
<b>BRITE-related Science Meeting</b> , <i>Virtual (hosted by Innsbruck University, Austria)</i>	12 Jul 2021
<b>EAS 2021</b> , <i>Virtual (hosted by Leiden University, the Netherlands)</i>	28 Jun – 2 Jul 2021
<b>IAUS361: symposium on massive stars</b> , <i>Virtual (hosted by DIAS, Ireland)</i>	3–7 May 2021
<b>OBA stars: Variability and Magnetic Fields</b> , <i>Virtual (hosted by St. Petersburg)</i>	26–30 Apr 2021
<b>Pulsations in Multiple Systems</b> , <i>Virtual (hosted by University of Surrey, UK)</i>	18–22 Jan 2021
<b>MOBSTER-1</b> , <i>Virtual (hosted by University of Delaware, USA)</i>	13–17 Jul 2020
<b>EAS 2020</b> , <i>Virtual (hosted by Leiden University, the Netherlands)</i>	29 Jun – 3 Jul 2020
<b>Stars and their Variability</b> , <i>Vienna, Austria</i>	19–23 Aug 2019
<b>TESS Sci Con I</b> , <i>MIT, Cambridge, USA</i>	29 Jul – 2 Aug 2019
<b>TASC5/KASC12</b> , <i>MIT, Cambridge, USA</i>	22–26 Jul 2019
<b>Stellar Hydro Days V</b> , <i>Exeter, UK</i>	24–28 Jun 2019
<b>STFC/MAMSIE workshop</b> , <i>Leuven, Belgium</i>	2–4 Apr 2019
<b>Kepler/K2 Sci Con V</b> , <i>Glendale, California, USA</i>	4–8 Mar 2019
<b>TESS data workshop</b> , <i>KU Leuven, Belgium</i>	5–9 Nov 2018

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

## XII. Conference Talks, Seminars and Colloquia

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Total of **10 invited** and **18 contributed** talks at international conferences, and **25** seminars/colloquia.

### Conference Talks

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- 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
- Probes of Transport in Stars (**Invited**), *KITP, UCSB, USA* 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

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- 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
• (Virtual) Thüringer Landessternwarte (TLS) Tautenburg, Germany	24 Nov 2022
• Newcastle University, UK	2 Nov 2022
• (Virtual) Chinese University of Hong Kong	2 Jun 2022
• (Virtual) MPA, Germany	20 Apr 2022
• (Virtual) University of Geneva, Switzerland	14 Apr 2022
• (Virtual) Sheffield University, UK	6 Oct 2021
• KU Leuven, Belgium <a href="#">[YouTube recording]</a>	1 Oct 2021
• (Virtual) Keele University, UK	19 May 2021
• (Virtual) Nicolaus Copernicus Astronomical Center, Poland	21 Apr 2021
• (Virtual) KITP, California, USA	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
• University of Central Lancashire (UCLan), UK	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

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Passionate and extensive experience in public engagement and outreach in science, but particularly in astronomy. Organised and assisted in **100+** outreach events for school students, amateur astronomer societies and the general public in the UK and Belgium, as well as virtual international activities for countries 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)

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- Invited public lecture for amateur observing society at Kielder castle and observatory on 2 Nov 2024.
- Invited public lecture for the Flemish Astronomical Society ([Vereniging Voor Sterrenkunde](#)) on 5 Oct 2024.
- 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.

### KU Leuven, Belgium (2017 – 2023)

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- 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 across the globe 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 30–40 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 students aged 14–16 on 19 April 2017.

### UCLan (2013 – 2017)

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Organised and supervised dozens of trips for members of the public to visit the 0.7-m telescope at [Alston Observatory](#) and gave an interactive tours of the night sky using the modern planetarium. Also visited over 20 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

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As of 30 September 2024, publication citation metrics:

**Google scholar:** 4032 citations and h-index of 36

**NASA ADS:** 3560 citations and h-index of 36

Total of **17** peer-reviewed papers as first-author and **77** as co-author (of which **20** 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:

- 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'
- **D. M. Bowman**, L. Bugnet (submitted, *Encyclopaedia of Astrophysics*), 'Asteroseismology'
- **D. M. Bowman**, P. Van Daele, M. Michielsen, T. Van Reeth, (submitted, *A&A*), 'Photometric detection of internal gravity waves in upper main-sequence stars. IV. Comparable SLF variability in SMC, LMC and Galactic massive stars'
- R. Ratnasingam, P. V. F. Edelmann, **D. M. Bowman**, T. M. Rogers, (submitted, *ApJ Letters*), 'On the geometry of the near-core magnetic field in massive stars'

### Accepted papers currently in press:

- 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, 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, J. Th. van Loon, S. Toonen, F. Tramper, R. Valli, L. A. C. van Son, A. Vigna-Gómez, J. I. Villaseñor, J. S. Vink, C. Wang, R. Willcox, (in press, *A&A*), 'Binarity at LOw Metallicity (BLOeM). I. A spectroscopic VLT monitoring survey of massive stars in the SMC' [[ADS link](#)]

### Published articles:

- 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. Rózański, 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. Zocłńska, (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. Positek, 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*’ [[ADS link](#)] (**Invited review**)
- **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  $\alpha$  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  $\mu$  Lep and  $\beta$  Scl and the superficially normal B star  $\nu$  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. Götzberg, **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. Reyer 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](#)<sup>\*</sup>, **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. Reyer 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. Poniowski, 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. Akas, 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. Dervişoğlu, 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. Janssen, 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  $\alpha$  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](#)<sup>\*</sup>, **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. Kuzlewicz, 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. Quiral-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  $\delta$  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. Ramiramantsoa, 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. Vermeulen, 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. Máiz 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  $\geq 140 M_{\odot}$ ' [\[ADS link\]](#)
- 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  $\delta$  Scuti binary RS Cha' [\[ADS link\]](#)

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

- S. Sekeran, 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' [\[ADS link\]](#) (Invited review)
- J. Southworth, **D. M. Bowman**, A. Tkachenko, K. Pavlovski, (2020), *MNRAS Letters*, Volume 497, Issue 1, L19–L23, 'Discovery of  $\beta$  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. Andrásy, 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  $\delta$  Sct and  $\gamma$  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*’ [\[ADS link\]](#)
- [S. Burssens\\*](#), **D. M. Bowman**, C. Aerts, M. G. Pedersen, E. Moravveji, B. Buysschaert, (2019), MNRAS, Volume 489, Issue 1, 1304–1320, ‘*New  $\beta$  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. Gunsriwivat, 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. Quiral-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  $\gamma$  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. Kilkeny, Z. Guo, N. Przybilla, F. Kahraman Aliçavuş, T. Kallinger, J. Pascual-Granado, E. Niemczura, T. Rózański, 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  $\beta$  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  $\rho$  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

- D. W. Kurtz, H. Shibahashi, S. J. Murphy, T. R. Bedding, **D. M. Bowman**, (2015), MNRAS, Volume 450, Issue 3, 3015–3029, '*A unifying explanation of complex frequency spectra of  $\gamma$  Dor, SPB and Be stars: combination frequencies and highly non-sinusoidal light curves*' [[ADS link](#)]

- E. Niemczura, S. J. Murphy, B. Smalley, K. Uytterhoeven, A. Pigulski, H. Lehmann, **D. M. Bowman**, G. Catanzaro, E. van Aarle, S. Bloemen, M. Briquet, P. De Cat, D. Drobek, L. Eyer, J. F. S. Gameiro, N. Gorlova, K. Kamiński, P. Lampens, P. Marcos-Arenal, P. I. Pápics, B. Vandenbussche, H. Van Winckel, M. Stęślicki, M. Fagas, (2015), MNRAS, Volume 450, Issue 3, 2764–2783, ‘*Spectroscopic survey of Kepler stars. I. HERMES/Mercator observations of A- and F-type stars*’ [\[ADS link\]](#)
- **D. M. Bowman**, D. L. Holdsworth, D. W. Kurtz, (2015), MNRAS, Volume 449, Issue 1, 1004–1010, ‘*Combining WASP and Kepler data: the case of the  $\delta$  Sct star KIC 7106205*’ [\[ADS link\]](#)

**2014:** 1 first author publication

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## XVI. Thesis

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## XVII. Conference Proceedings

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- **D. M. Bowman**, P. Van Daele, M. Michielsen, T. Van Reeth, '*TESS light curves of extragalactic massive stars reveal the origin of stochastic gravity waves*', 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, [ADS link]
- **D. M. Bowman**, B. Vandenbussche, H. Sana, A. Tkachenko, G. Raskin, T. Delabie, B. Vandoren, P. Royer, S. Garcia, T. Van Reeth, '*The CubeSpec space mission: Asteroseismology of massive stars from time-series optical spectroscopy*', 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, 2024, pp. 630-632 [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, '*The Nature of Unseen Companions in Massive Single-Line Spectroscopic Binaries*', 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, 2024, pp. 267-272 [ADS link]
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- G. Holgado, J. Maíz Apellániz, J. A. Caballero, E. J. Alfaro Navarro, **D. M. Bowman**, (2024), '*Multi-epoch precise photometry from the ground: MUDEHaR, magnetic O stars and everything around*', EAS2024, European Astronomical Society Annual Meeting, held 1-5 July, 2024 in Padova, Italy, id. 124 [ADS link]
- D. Lecoanet, **D. M. Bowman**, T. Van Reeth, I. Freeman, (2022), '*Internal Gravity Waves - Magnetic Field Interactions*', American Geophysical Union Fall Meeting 2022, held in Chicago, Illinois, USA, 12-16 December 2022, id. NG13A-08 [ADS link]

- B. Vandenbussche, G. Raskin, P. Royer, **D. M. Bowman**, H. Sana, A. Tkachenko, J. Goris, J. Schuermans, D. Vandepitte, J. De Maeyer, F. Heylen, W. De Munter, M. Kempenaers, J. Lanting, B. Vandoren, T. Delabie, P. Saey, A. Verhoeven, V. Moreau, E. Renotte, P. Davidsen, K. Kaas, (2022), '*The CubeSpec mission*', Proc. SPIE 12180, Space Telescopes and Instrumentation 2022: Optical, Infrared, and Millimeter Wave, 1218007 [\[ADS link\]](#)
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- V. Prat, S. Mathis, B. Buysschaert, J. Van Beeck, **D. M. Bowman**, C. Aerts and C. Neiner, (2020), '*Effect of the magnetic field on period spacings of gravity modes in rapidly rotating stars*', Proceedings of the conference 'Stars and their Variability Observed from Space', held in Vienna on August 19-23, 2019. Eds.: C. Neiner, W. W. Weiss, D. Baade, R. E. Griffin, C. C. Lovekin, A. F. J. Moffat. University of Vienna, 2020, pp.105-106 [\[ADS link\]](#)
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## XVIII. *Varia Other Publications*

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- 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. Götzberg, **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*' [\[ADS link\]](#)
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- 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*' [\[ADS link\]](#)