Dominic M. Bowman

Ph.D., M.Sci. (Hons), FRAS, MInstP

Date of birth: 15 October 1990 **Place of birth:** Nuneaton, United Kingdom
E-mail: dominic.bowman@kuleuven.be **Nationalities:** British & Irish
Work address: Institute of Astronomy, KU Leuven, Celestijnenlaan 200D, 3001 Leuven, Belgium
Web of Science Researcher ID: X-6688-2019 **ORCID:** 0000-0001-7402-3852
Personal website: http://www.ster.kuleuven.be/~dominic/

I. Personal Statement

Currently I am a postdoctoral researcher in the Institute of Astronomy at KU Leuven working with Prof. Conny Aerts as part of her ERC advanced grant MAMSIE. My primary research focus is the interpretation of internal gravity waves in high- and intermediate-mass stars. My research interests also include asteroseismology of early-type stars as they exhibit diverse pulsational behaviour including non-periodic light curves and variable pulsation mode amplitudes. The full asteroseismic potential of these stars is as yet unrealised, specifically the measurement of interior physics such as rotation, mixing and angular momentum transport, and motivates continued observational and theoretical work.

As an undergraduate student at the University of Birmingham, I was persuaded to pursue a research career in asteroseismology because of its world-leading research group. I completed my Ph.D. at UCLan in the UK under the supervision of Prof. Donald Kurtz and passed my defence outright in 2016 with no corrections. In October 2017, my Ph.D. thesis was published as a Springer monograph, and I published a first-author paper in Nature Astronomy on my postdoctoral research at KU Leuven in May 2019, which was selected as the prestigious cover image for the August 2019 issue. I am passionate about teaching and outreach, and my research experience includes the analysis of photometric and spectroscopic data from space- and ground-based telescopes, and forward seismic modelling of pulsating stars.

II. Education

Postgraduate degree Oct 2013 – Nov 2016
Ph.D. in astronomy with thesis title: *Amplitude modulation and energy conservation of pulsation modes in delta Scuti stars*, awarded on 21 November 2016 by the University of Central Lancashire, Preston, UK. My supervisor was Prof. Donald Kurtz and I was funded by the UK Science and Technology Facilities Council (STFC). I passed my Ph.D. defence outright with no corrections about 6 months ahead of schedule.

Undergraduate degree Sept 2009 – June 2013
First class Master in Science (M.Sci.) degree with honours in physics and astrophysics from the University of Birmingham in the UK, with an award date of 8 July 2013. My degree was an integrated B.Sc. and M.Sc. programme lasting 4 years.

III. Employment

Postdoctoral research associate 1 Feb 2017 to present date
Institute of Astronomy, KU Leuven, Celestijnenlaan 200D, 3001 Leuven, Belgium. This postdoctoral research position has received funding from the European Research Council (ERC) under the European Union's Horizon 2020 research and innovation programme (grant agreement N^{o} 670519: MAMSIE).

Lecturer in Astronomy 19 Sept 2016 – 13 Jan 2017
Jeremiah Horrocks Institute, University of Central Lancashire, Preston, PR1 2HE, United Kingdom.

IV. Scientific Prizes and Awards

Springer thesis
My PhD thesis was published as a part of the Springer thesis series in 2017. This prestigious scientific prize required recommendations from my PhD supervisor and one of my thesis examiners, and a selection process overseen by the executive editor of astronomy at Springer. Furthermore, this opportunity allowed me to expand my thesis into a detailed monograph and included a cash prize.

Travel grants
I have been successful in numerous travel bursary applications to external funding bodies for attending international conferences, which include STFC and RAS in the UK, CNRS in France and FWO in Belgium. The combined total of these travel grants is approximately €5000.

V. Conference Organisation

TASC6/KASC13, *Leuven, Belgium* 13 – 17 July 2020
Co-chair of the LOC for the international TASC6/KASC13 conference of the asteroseismic community, which will be held in Leuven, Belgium between 13–17 July 2020 and will attract ∼200 participants.

EAS 2020, *Leiden, the Netherlands* 29 June – 3 July 2020
Chair of SOC for Special Session titled "New insights of angular momentum transport in stellar interiors" at the EAS 2020 meeting, 29 June – 3 July 2020 in Leiden, the Netherlands.

STARS2016, *Windermere, UK* 11 – 15 Sept 2016
Principal organiser (co-chair of the LOC) for the STARS2016 conference which celebrated the scientific career of Prof. Donald Kurtz. The budget was approximately £40 000, and we were successful in applications for grants of £3000 from the RAS and £7000 from UCLan for this meeting.

VI. Personal Training

Voice of the future, *Westminster, London, UK* 15 March 2017
I was awarded an RAS travel grant to this meeting on bridging young scientists and politicians.

STFC careers event, *Institute of Physics, London, UK* 21 Oct 2015
I was successful in my application for an STFC travel grant for the costs of attending.

Media training for outreach, *Royal Society, London, UK* 7 Oct 2015
I was successful in my application for an STFC bursary for the costs of attending.

VII. International Responsibilities and Committees

2019 – date: BEST committee member
Non-voting member of the BRITE Executive Science Team (BEST).

VIII. Scientific Organisation Membership

Fellow of the Royal Astronomical Society (FRAS) since October 2013.

Member of the Institute of Physics (MInstP) since October 2013.

Member of the European Astronomical Society (EAS) since April 2019.

IX. Observing Projects and Experience

European Southern Observatory (ESO), *Chile*

- Two weeks of observing experience in December 2019 with FEROS at La Silla as visiting astronomer and Co. I. of large programme for obtaining multi-epoch high-resolution spectroscopy of massive stars *(0104.A-9001; 120 hr, P.I. Aerts)*.
- Co. I. of ESO large programme obtaining multi-epoch high-resolution spectroscopy of massive stars with UVES *(1104.D-0230; 120 hr; P.I. Tkachenko)*.
- Co. I. of ESO DDT obtaining phase-resolved high-resolution spectroscopy of the pulsating binary system U Gru with UVES *(103.200F; 4 hr; P.I. Johnston)*.

TESS, *NASA*

- P.I. and Co. I. of multiple TESS G.I. proposals obtaining high-precision and high-cadence time series photometry of massive stars in cycles 1–3.

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

- Three weeks of observing experience in May and June 2017 using the 1-m telescope at SAAO.
- P. I. of service time proposal to gain high-cadence photometry of candidate roAp stars in May 2018.

Mercator, *La Palma, Spain*

- Approximately 30 nights of observing experience at Mercator using HERMES and MAIA.
- P. I. of HERMES proposal awarded 70 hr in semester 2018b, 35 hr in 2019a and 90 hr in semester 2019b to gain spectroscopy of Ap stars being observed by TESS.
- P. I. of a HERMES proposal awarded 60 hr in semester 2018a to gain accurate stellar parameters for pulsating B, A and F stars in the *Kepler* field for forward seismic modelling.
- P. I. of a HERMES proposal awarded 40 hr in semester 2017a and 20 hr in semester 2018a to study high-mass companions to δ Sct stars in binary systems discovered using pulsation timing.

Moses Holden Telescope (MHT), *UCLan, Preston, UK*

- Approximately 20 nights of observing experience between Sept 2016 and Jan 2017 using the MHT.

William Herschel Telescope (WHT), *La Palma, Spain*

- P. I. of service time proposal in 2016 to gain accurate $T_{\rm eff}$ values for 23 δ Sct stars observed by *Kepler*.

X. Teaching and Supervision Experience

PhD theses, *KU Leuven, Belgium*

- Co-supervisor of Jordan Van Beeck — Sept 2019 to date
  Application of non-linear asteroseismology to Kepler and TESS photometry
- Progress committee member for Joris Hermans — Sept 2019 to date
  Solar flux ropes and tornadoes
- Co-supervisor of Siemen Burssens — Sept 2018 to date
  Variability of blue supergiants with the K2 and TESS space missions

- Progress committee member for Joey S. G. Mombarg — Feb 2018 to date
  Forward seismic modelling of intermediate mass stars
- Host supervisor for Mariel L. Martiz — Sept 2019 to Dec 2019
  Non-linear terms in intermediate-mass pulsating stars' power spectra

Master theses, *KU Leuven, Belgium*

- Supervisor of Stijn Rutten — Sept 2019 to date
  Photometry of saturated stars with MAIA: preparing for PLATO
- Supervisor of Joris Hermans — Sept 2018 to June 2019
  Testing stellar evolution with selected high-amplitude delta Scuti stars
- Supervisor of Sven Nys — Sept 2018 to June 2019
  Asteroseismic modelling of gravity modes in selected intermediate-mass stars
- Co-supervisor of Jordan Van Beeck — Sept 2018 to June 2019
  The influence of an interior magnetic field on gravity-mode oscillations of intermediate-mass stars
- Examination committee member (reader) of Mathias Michielsen — June 2018
  Comparing oscillation frequencies of stars with a convective core: Impact of varying input physics

Bachelor and master student projects, *KU Leuven, Belgium* — Sept 2017 to date
Supervision of multiple bachelor and master student projects in asteroseismology.

Module tutor, *UCLan, UK* — Sept 2016 – Jan 2017
Responsible for lecturing first- and second-year Bachelor courses in statistics, astronomy, mathematics, and supervision of astronomy laboratories at Alston observatory.

XI. Scientific Conferences and Workshops

Stars and their Variability, *Vienna, Austria* — 19 – 23 Aug 2019
Invited speaker on the topic of asteroseismology of B stars.

TESS Sci Con I, *MIT, Cambridge, USA* — 29 July – 2 Aug 2019

TASC5/KASC12, *MIT, Cambridge, USA* — 22 – 26 July 2019

Stellar Hydro Days V, *Exeter, UK* — 24 – 28 June 2019

STFC/MAMSIE mini-workshop, *Leuven, Belgium* — 2 – 4 April 2019

Kepler/K2 Sci Con V, *Glendale, California, USA* — 4 – 8 March 2019

TESS data workshop, *KU Leuven, Belgium* — 5 – 9 Nov 2018

STFC/MAMSIE mini-workshop, *Leuven, Belgium* — 29 – 31 Oct 2018

MASSIVE star meeting, *Leuven, Belgium* — 4 – 6 Oct 2018

PHOST, *Banyuls-sur-mer, France* — 3 – 7 Sept 2018

TASC4/KASC11, *Aarhus University, Denmark* — 8 – 13 July 2018
Invited speaker on the topic of asteroseismology of A and F stars, and I was successful in my application for an FWO conference participation grant to cover the travel costs.

Statistics workshop, *KU Leuven, Belgium* — 11 June 2018

STFC/MAMSIE mini-workshop, *Newcastle University, UK* — 5 – 8 June 2018

Belgian contact group meeting, *Brussels, Belgium* 4 June 2018

MAMSIE/STFC workshop, *KU Leuven, Belgium* 14 – 16 March 2018

TESS data workshop, *KU Leuven, Belgium* 6 – 8 Dec 2017

MAMSIE/STFC workshop, *KU Leuven, Belgium* 12 – 15 Sept 2017

MESA Summer school, *UCSB, California, USA* 14 – 18 Aug 2017

TASC3/KASC10, *University of Birmingham, UK* 17 – 21 July 2017

STARS2016, *Windermere, UK* 11 – 15 Sept 2016
I was co-chair of the LOC celebrating the scientific contributions of Prof. Donald Kurtz.

TASC2/KASC9 workshop, *Terceira-Açores, Portugal* 27 June – 1 July 2016
My application for the defrayment of my registration fee was successful.

National Astronomy Meeting (NAM), *Nottingham University, UK* 11 – 15 July 2016

STFC spectroscopy school, *Queen's University Belfast, UK* 31 Aug – 4 Sept 2015
My accommodation and subsistence costs were funded by STFC.

KASC8/TASC1 workshop, *Aarhus University, Denmark* 15 – 19 June 2015
I was successful in my application for an RAS travel grant for half the total costs.

RAS specialist discussion meeting, *RAS, London, UK* 8 May 2015
Invited speaker on the topic of pulsations in delta Scuti stars observed by Kepler.

K2 data workshop, *Aarhus University, Denmark* 10 – 11 Nov 2014
Attended participated remotely via video-link.

Ecole Evry Schatzman 2014, *Roscoff, France* 28 Sept – 3 Oct 2014
My accommodation and subsistence costs were funded by CNRS.

CoRoT3/KASC7 meeting, *Toulouse, France* 6 – 11 July 2014
My application for the defrayment of my registration fee was successful.

Spectroscopy workshop, *Aarhus University, Denmark* 19 – 23 May 2014
My application for an RAS travel grant for half the total costs was successful.

XII. External Talks, Seminars and Colloquia

Stars and their Variability (Invited), *Vienna, Austria* 19 Aug 2019

TESS Sci Con I (Contributed), *MIT, Cambridge, USA* 30 July 2019

TASC5/KASC12 (Contributed), *MIT, Cambridge, USA* 23 July 2019

Stellar Hydro Days V (Contributed), *Exeter, UK* 26 June 2019

Kepler/K2 Sci Con V (Contributed), *Glendale, California, USA* 7 March 2019

MASSIVE star meeting (Contributed), *Leuven, Belgium* 4 Oct 2018

PHOST conference (Contributed), *Banyuls-sur-mer, France* 6 Sept 2018

TASC4/KASC11 workshop (Invited), *SAC, Aarhus University, Denmark* 13 July 2018

Department seminar, *Newcastle University, UK*	6 June 2018
Department seminar, *ULB, Brussels*	19 April 2018
Department seminar, *Royal Observatory of Belgium*	16 Nov 2017
STARS2016 conference (Contributed), *Windermere, UK*	14 Sept 2016
Department seminar, *SAC, Aarhus University, Denmark*	2 May 2016
KASC8/TASC1 workshop (Contributed), *SAC, Aarhus University, Denmark*	15 June 2015
RAS specialist discussion meeting (Invited), *RAS, London, UK*	8 May 2015
Department seminar, *Keele University, UK*	4 Sept 2014

XIII. **Public Engagement and Outreach**

I am passionate about public engagement and outreach in science, but particularly in astronomy. I have organised and assisted in many outreach events for school students and amateur astronomer societies in the UK and Belgium. Whilst at UCLan, this included using the modern 0.7-m telescope at Alston observatory, at which visitors were given an interactive tour of the night sky using the modern planetarium. I have also visited primary and secondary schools to give talks and run astronomy-themed group activities. It is enjoyable and rewarding to engage with young students and members of the public and discuss astronomy at various levels. I am dedicated to continue participating and organising similar outreach activities throughout my career.

Outreach activities I have performed whilst at KU Leuven include:

- Ongoing participant of the Scientist@School program, for which I provide astronomy-themed talks and activities for local Belgian schools.
- Co-author of an (Dutch) article for the September 2019 issue of the popular astronomy magazine Heelal.
- I was an invited speaker at the Pint of Science events in Brussels on 7 and 21May 2019.
- A 90-min workshop on space exploration and the solar system at the KU Leuven Kids University 2018, for 30 students aged 8–12 on 5 May 2018.
- Guest lecturer in stellar physics for the Vereniging Voor Sterrenkunde Zomerschool, hosted by KU Leuven for 30 students aged 16–18 on 30 August 2017 and 28 August 2018.
- 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.

XIV. **Peer-Reviewed Scientific Publications**

As of 1 Feb 2020, my citation metrics are:

Google scholar: 540 citations and h-index of 14 **NASA ADS:** 482 citations and h-index of 13

Submitted papers currently under review:

- L. Horst, P. V. F. Edelmann, F. K. Röpke, **D. M. Bowman**, C. Aerts, R. P. Ratnasingam, *(submitted to A&A)*, *'Fully compressible simulations of waves and core convection in main-sequence stars'*
- A. Tkachenko, K. Pavlovski, C. Johnston, C. Aerts, M. G. Pedersen, M. Michielsen, **D. M. Bowman**, J. Southworth, V. Tsymbal, *(submitted to A&A)*, *'The mass discrepancy in intermediate- and high-mass eclipsing binaries'*
- V. Prat, S. Mathis, C. Neiner, J. Van Beeck, **D. M. Bowman**, C. Aerts, *(submitted to A&A Letters)*, *Period spacings of gravity modes in rapidly rotating magnetic stars. II. The case of an oblique dipolar fossil magnetic field'*
- J. Van Beeck, V. Prat T. Van Reeth, S. Mathis, **D. M. Bowman**, C. Aerts, *(submitted to A&A)*, *'Detecting axisymmetric magnetic fields using gravity modes in intermediate-mass stars'*
- M. Abdul-Masih, G. Banyard, J. Bodensteiner, **D. M. Bowman**, K. Dsilva, M. Fabry, C. Hawcroft, L. Mahy, P. Marchant, G. Raskin, M. Reggiani, H. Sana, T. Shenar, A. Tkachenko, H. Van Winckel, *(submitted)*, *'No signature of the reflex motion of a putative 70 solar mass black hole in LB-1'*

Published articles:

- 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, and W.W. Weiss, 2019, MNRAS 490, Issue 3, 4040–4059, *'The first view of δ Sct and γ Dor stars with the TESS mission'*
- 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 490, Issue 2, 2102–2111, *'Rotational and pulsational variability in the TESS light curve of HD 27463'*
- **D. M. Bowman**, C. Johnston, A. Tkachenko, D. Mkrtichian, K. Gunsriwiwat, C. Aerts, 2019, ApJL 883, Issue 1, L26, *'Discovery of tidally-perturbed pulsations in the eclipsing binary system U Gru: a crucial system for tidal asteroseismology'*
- 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 244, Issue 1, 18, *'The Kepler Smear Campaign: Light curves for 102 Very Bright Stars'*
- **D. M. Bowman** and D. L. Holdsworth, 2019, A&A, 629, A21, *'Adaptive elliptical aperture photometry: a software package for high-cadence ground-based photometry. I. Application to rapid oscillators observed from SAAO'*
- S. Burssens, **D. M. Bowman**, C. Aerts, M. G. Pedersen, E. Moravveji, B. Buysschaert, 2019, MNRAS 489, Issue 1, 1304–1320, *'New β Cep pulsators discovered with K2 space photometry'*
- 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 628, A40, *'Spectroscopic binaries RV Tauri and DF Cygni'*

- V. Prat, S. Mathis, B. Buysschaert, J. Van Beeck, **D. M. Bowman**, C. Aerts, C. Neiner, 2019, A&A 627, A64, *'Period spacings of gravity modes in rapidly rotating magnetic stars. I. Axisymmetric fossil field with poloidal and toroidal components'*
- 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 487, Issue 4, 4695–4710, *'MOBSTER – II. Identification of rotationally variable A stars observed with TESS in sectors 1–4'*
- 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 487, Issue 3, 3523–3549, *'Rotation and pulsation in Ap stars: first light results from TESS sectors 1 and 2'*
- 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 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'*
- **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'*
- P. V. F. Edelmann, R. P. Ratnasingam, M. G. Pedersen, **D. M. Bowman**, V. Prat, T. M. Rogers, 2019, ApJ 876, Issue 1, 4–24, *'Three-dimensional simulations of massive stars I. wave generation and propagation'*
- J. S. G. Mombarg, T. Van Reeth, M. G. Pedersen, G. Molenberghs, **D. M. Bowman**, C. Johnston, A. Tkachenko, C. Aerts, 2019, MNRAS 485, Issue 3, 3248–3263, *'Asteroseismic masses, ages and core properties of γ Doradus stars using the asymptotic period spacing and spectroscopy'*
- 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, ApJL 873, Issue 1, L4, *'Asteroseismology of massive stars with the TESS mission: the runaway β Cep pulsator PHL 346 = HN Aqr'*
- 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, ApJL 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'*
- **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 621, A135, *'Photometric detection of internal gravity waves in upper main-sequence stars. I. Methodology and application to CoRoT targets'*
- C. Johnston, A. Tkachenko, C. Aerts, G. Molenberghs, **D. M. Bowman**, M. G. Pedersen, B. Buysschaert, P. I. Pápics, 2019, MNRAS 482, Issue 1, 1231–1246, *'Binary Asteroseismic Modelling: isochrone-cloud methodology and application to Kepler gravity mode pulsators'*

- 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 618, A24, *'Sensitivity of gravito-inertial modes to differential rotation in intermediate-mass main-sequence stars'*

- B. Buysschaert, C. Aerts, **D. M. Bowman**, C. Johnston, T. Van Reeth, M. G. Pedersen, C. Neiner, 2018, A&A 616, A77, *'Forward seismic modeling of the pulsating magnetic B-type star HD 43317'*

- D. L. Holdsworth, M. S. Cunha, H. Shibahashi, D. W. Kurtz, **D. M. Bowman**, 2018, MNRAS 480, Issue 3, 2976–2984, *'K2 observations of the rapidly oscillating Ap star 33 Lib (HD 137949): new frequencies and unique non-linear interactions'*

- D. L. Holdsworth, H. Saio, R. R. Sefako, **D. M. Bowman**, 2018, MNRAS 480, Issue 2, 2405–2410, *'LCO observations of a super-critical distorted pulsation in the roAp star J0855 (TYC 2488-1241-1)'*

- **D. M. Bowman**, B. Buysschaert, C. Neiner, P. I. Pápics, M. E. Oksala, C. Aerts, 2018, A&A 616, A77, *'K2 space photometry reveals rotational modulation and stellar pulsations in chemically peculiar A and B stars'*

- 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 237, 15–46, *'Forward asteroseismic modeling of stars with a convective core from gravity-mode oscillations: parameter estimation and stellar model selection'*

- B. Buysschaert, C. Neiner, A. J. Martin, C. Aerts, **D. M. Bowman**, M. E. Oksala, T. Van Reeth, 2018, MNRAS 478, Issue 2, 2777–2793, *'Detection of magnetic fields in chemically peculiar stars observed with the K2 space mission'*

- **D. M. Bowman** and D. W. Kurtz, 2018, MNRAS 476, Issue 3, 3169–3184, *'Characterizing the observational properties of δ Sct stars in the era of space photometry from the Kepler mission'*

- 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 476, Issue 1, 1234–1241, *'K2 photometry and HERMES spectroscopy of the blue supergiant ρ Leo: rotational wind modulation and low-frequency waves'*

- D. L. Holdsworth, H. Saio, **D. M. Bowman**, D. W. Kurtz, R. R. Sefako, M. Joyce, T. Lambert, B. Smalley, 2018, MNRAS 476, Issue 1, 601–616, *'Suppressed phase variations in a high amplitude rapidly oscillating Ap star pulsating in a distorted quadrupole mode'*

- **D. M. Bowman**, D. W. Kurtz, M. Breger, S. J. Murphy, D. L. Holdsworth, 2016, MNRAS 460, Issue 2, 1970–1989, *'Amplitude modulation in δ Sct stars: statistics from an ensemble study of Kepler targets'*

- D. W. Kurtz, **D. M. Bowman**, S. J. Ebo, P. Moskalik, R. Handberg, M. N. Lund, 2016, MNRAS 455, Issue 2, 1237–1245, *'EPIC 201585823, a rare triple-mode RR Lyrae star discovered in K2 mission data'*

- D. W. Kurtz, H. Shibahashi, S. J. Murphy, T. R. Bedding, **D. M. Bowman**, 2015, MNRAS 450, Issue 3, 3015–3029, *'A unifying explanation of complex frequency spectra of γ Dor, SPB and Be stars: combination frequencies and highly non-sinusoidal light curves'*

- 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 450, Issue 3, 2764–2783, *'Spectroscopic survey of Kepler stars. I. HERMES/Mercator observations of A- and F-type stars'*

- **D. M. Bowman**, D. L. Holdsworth, D. W. Kurtz, 2015, MNRAS 449, Issue 1, 1004–1010, *'Combining WASP and Kepler data: the case of the δ Sct star KIC 7106205'*

- **D. M. Bowman** and D. W. Kurtz, 2014, MNRAS 444, Issue 2, 1909–1918, *'Pulsational frequency and amplitude modulation in the δ Sct star KIC 7106205'*

XV. Monographs and Book Chapters

- **D. M. Bowman**, 2017, Springer Theses, Springer International Publishing AG (Springer Nature), *'Amplitude Modulation of Pulsation Modes in Delta Scuti Stars'*, DOI: 10.1007/978-3-319-66649-5, ISBN: 978-3-319-66648-8

XVI. Thesis

- **D. M. Bowman**, 2016, Ph.D. Thesis, Jeremiah Horrocks Institute, University of Central Lancashire, UK, *'Amplitude modulation and energy conservation of pulsation modes in delta Scuti stars'*, URL: http://clok.uclan.ac.uk/18788/

XVII. Conference Proceedings

- J. Barron, G. A. Wade, **D. M. Bowman**, A. David-Uraz, S. Simón-Díaz and the MOBSTER Collaboration, *(in press)*, *'MOBSTER: Identifying Candidate Magnetic O Stars through Rotational Modulation of TESS Photometry'*, Stellar Magnetism: A Celebration of the Contributions of J. D. Landstreet, July 2019, London, UK. Proceedings of the Polish Astronomical Society.

- A. David-Uraz, C. Neiner, J. Sikora, **D. M. Bowman**, P. Cerrahoglu, D. H. Cohen, C. Erba, O. Kobzar, V. Petit, A. ud-Doula, G. A. Wade and the MOBSTER Collaboration, *(in press)*, *'MOBSTER: Establishing a Picture of Magnetic Massive Stars as a Population'*, Stellar Magnetism: A Celebration of the Contributions of J. D. Landstreet, July 2019, London, UK. Proceedings of the Polish Astronomical Society.

- O. Kobzar, V. Khalack, D. Bohlender, A. David-Uraz, P. Kashko, **D. M. Bowman**, C. Lovekin, D. Tvardovskyi, M.Perron-Cormier, E. Paunzen, J. Sikora, P. Lampens and O. Richard, *(in press)*, *'Study of slowly rotating CP stars observed with TESS'*, Stellar Magnetism: A Celebration of the Contributions of J. D. Landstreet, July 2019, London, UK. Proceedings of the Polish Astronomical Society.

- V. Prat, S. Mathis, B. Buysschaert, J. Van Beeck, **D. M. Bowman**, C. Aerts and C. Neiner *(in press)*, *'Effect of the magnetic field on period spacings of gravity modes in rapidly rotating stars'*, Stars and their variability observed from space, 19-23 Aug 2019, Vienna, Austria. Edited by C. Neiner, W. Weiss, D. Baade, E. Griffin, C. Lovekin, A. Moffat.

- A. David-Uraz, C. Neiner, J. Sikora, **D. M. Bowman**, P. Cerrahoglu, D. H. Cohen, C. Erba, O. Kobzar, V. Petit, A. ud-Doula, G. A. Wade and the MOBSTER Collaboration, *(in press)*, *'Magnetic OB[A] stars with TESS: probing their evolutionary and rotational properties – the MOBSTER collaboration'*, Stars and their variability observed from space, 19-23 Aug 2019, Vienna, Austria. Edited by C. Neiner, W. Weiss, D. Baade, E. Griffin, C. Lovekin, A. Moffat.

- **D. M. Bowman**, *(in press)*, *'What physics is missing in theoretical models of high-mass stars: new insights from asteroseismology'*, Stars and their variability observed from space, 19-23 Aug 2019, Vienna, Austria. Edited by C. Neiner, W. Weiss, D. Baade, E. Griffin, C. Lovekin, A. Moffat.

- 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. 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, Vol. 51, Issue 3, id. 198, *'Astro2020 Science White Paper: gravity-wave asteroseismology of intermediate- and high-mass stars'*

- **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, *(in press)*, *'Photometric detection of internal gravity waves in early-type stars observed by CoRoT'*, EPJ Web of Conferences, PHOST: Physics of Oscillating Stars – a conference in honour of Prof. H. Shibahashi, 2-7 Sept. 2018, Banyuls-sur-mer, France. Edited by J. Ballot, S. Vauclair, G. Vauclair.

- **D. M. Bowman**, D. W. Kurtz, M. Breger, S. J. Murphy, D. L. Holdsworth, 2017, *'Amplitude modulation in δ Sct stars: statistics from an ensemble of Kepler targets'*, EPJ Web of Conferences, Volume 160, id.03008, Seismology of the Sun and the Distant Stars – Using Today's Successes to Prepare the Future – TASC2 & KASC9 Workshop – SPACEINN & HELAS8 Conference, Azores Islands, Portugal. Edited by M. J. P. F. G. Monteiro, M. S. Cunha, J. M. T. S. Ferreira.

- **D. M. Bowman** and D. W. Kurtz, 2015, *'Amplitude Modulation in the δ Sct star KIC 7106205'*, EPJ Web of Conferences, Volume 101, id.06013, The Space Photometry Revolution – CoRoT Symposium 3, *Kepler* KASC-7 Joint Meeting, Toulouse, France. Edited by R. A. García, J. Ballot.