

# May Gade Pedersen

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## Professional employment

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<b>Discovery Early Career Research Award Fellow</b> (Senior Researcher, Level C) School of Physics, University of Sydney, Sydney, Australia	Dec 2025-Present
<b>Professor Harry Messel Research Fellow</b> , Promoted to Senior Researcher (level C) in 2025 School of Physics, University of Sydney, Sydney, Australia	Dec 2022-2025
<b>Postdoctoral Scholar</b> Kavli Institute for Theoretical Physics, UCSB, USA	Sep 2020 - Dec 2022
<b>Postdoctoral Research Associate</b> Institute of Astronomy, KU Leuven, Belgium	Jun-Aug 2020
<b>Research Assistant</b> Department of Physics and Astronomy, Aarhus University, Denmark	May 2016

## Education

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<b>Institute of Astronomy, KU Leuven, Belgium</b> PhD Astronomy & Astrophysics (Advisors: Prof. Conny Aerts and Dr. Péter I. Pápics)	Jun 2016 - May 2020
<b>Department of Physics &amp; Astronomy, Aarhus University, Denmark</b> BSc Physics and MSc Astronomy (Advisors: Dr. Victoria Antoci and Assoc. Prof. Frank Grundahl)	Aug 2010 - May 2016

## Summary of publications

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35 publications in international peer-reviewed papers (3 papers in *Nature Astronomy*).  
10 first author papers (1 in *Nature Astronomy*, 144 citations), 1 as a joint first author, 2 as second author.  
1800+ citations overall, 500+ citations of first author papers, h-index=24

## Awards and funding

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<b>Research fellowships</b>	
Discovery Early Career Researcher Award (Australian Research Council, AUD 472,391)	2024
Professor Harry Messel Research Fellowship (University of Sydney, 3yrs, AUD 377,568)	2022
<b>Supercomputing</b>	
Australian NCI Gadi supercomputer time (SIH HPC Allocation Scheme, 250k CPU hours)	2025
Australian NCI Gadi supercomputer time (National Computational Merit Allocation Scheme, 1000k CPU hours)	2024
Australian NCI Gadi supercomputer time (National Computational Merit Allocation Scheme, 1000k CPU hours)	2023
Australian NCI Gadi supercomputer time (SIH HPC Allocation Scheme, 500k CPU hours)	2023
Australian NCI Gadi supercomputer time (SIH HPC Allocation Scheme, 400k CPU hours)	2023
<b>Research and travel funding</b>	
TESS Guest Investigator Cycle 4 program (NASA, USD 20,000)	2021
Research Foundation Flanders travel grant (FWO, EUR 734)	2019

## Talks, seminars, and colloquia

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8 invited talks, 17 contributed talks, and 21 invited seminars/colloquia.

Contributed talk, Stars in Newcastle, Fort Scratchley, Newcastle, Australia	2025
<b>Invited seminar</b> , Sydney Institute for Astronomy, University of Sydney, Australia	2025
<b>Invited talk</b> , IAU Symposium 402, Ensenada, Mexico	2025
Contributed talk, TASC9/KASC16 Workshop, ISTA, Vienna, Austria	2025
Contributed talk, SPRIGS meeting, University of New South Wales, Sydney, Australia	2025
Contributed talk, Stars in Brisbane, University of Southern Queensland, Brisbane, Australia	2024
<b>Invited seminar</b> , Monash University, Melbourne, Australia	2024
<b>Invited seminar</b> , Institute of Astrophysics of the Canary Islands (IAC), Tenerife, Spain	2024

<b>Invited</b> talk, SONG 2024 Science Meeting, Tenerife, Spain	2024
<b>Invited</b> seminar, Macquarie University, Sydney, Australia	2024
<b>Invited seminar</b> , IAU Working Group on Active B Stars, Online	2024
<b>Invited</b> talk, KITP Conference "Stars with Lars", KITP/UCSB, CA, USA	2024
<b>Invited</b> colloquium, Australian National University, Canberra, Australia	2023
Contributed talk, TASC7/KASC14 Workshop, Honolulu, Hawaii, USA	2023
<b>Contributed talk</b> , ASA Annual Science Meeting, Sydney, Australia	2023
<b>Invited</b> seminar, University of New South Wales, Sydney, Australia	2023
<b>Invited seminar</b> , IAU G2 online conference series	2023
Talk, ZTF Theory Meeting, Santa Margarita, California, USA	2022
<b>Invited</b> seminar, Canadian Institute for Theoretical Physics, University of Toronto, Canada	2022
<b>Invited</b> talk, TESS AAS Splinter Session, USA	2022
<b>Invited</b> seminar, Keele University, United Kingdom	2021
<b>Invited</b> colloquium, NASA/Goddard Space Flight Center, USA	2021
<b>Invited talk</b> , KITP Conference "Transport in Stellar Interiors", KITP/UCSB, CA, USA	2021
Seminar, DTU Space, Denmark	2021
<b>Invited talk</b> , TESS Science Conference II, Online (MIT/Cambridge)	2021
<b>Invited</b> talk, The European Astronomical Society Annual Meeting, Online	2021
Seminar, Aspen Center for Physics, Colorado, USA	2021
<b>Invited</b> seminar, Stellar Astrophysics Centre (SAC), Aarhus University, Denmark	2021
<b>Invited</b> seminar, Los Alamos National Laboratory, New Mexico, USA	2021
<b>Invited</b> seminar, American Museum of National History Astrophysics Department, New York, USA	2021
Contributed talk, The European Astronomical Society Annual Meeting, Online (Leiden)	2020
<b>Invited</b> talk, TASC5/KASC12 workshop, MIT/Cambridge, USA	2019
Contributed talk, Stellar Hydro Days V, United Kingdom	2019
Contributed talk, Lorentz Center Workshop, Leiden, The Netherlands	2018
Contributed talk, TASC4/KASC11 Workshop, Aarhus, Denmark	2018
Contributed talk, Science Research Network (WOG) meeting of the FWO, Leuven, Belgium	2018
Seminar, Newcastle University, United Kingdom	2018
2 Contributed talks, European Week of Astronomy and Space, Liverpool, United Kingdom	2018
<b>Invited</b> seminar, Stellar Astrophysics Center (SAC), Aarhus, Denmark	2017
Contributed talk, Stellar Hydro Days IV, Victoria, Canada	2017
Contributed talk, Nederlandse Astronomenconferentie (NAC), Nijmegen, The Netherlands	2017
Contributed talk, TASC2/KASC9 Workshop – SPACEINN & HELAS8 Conference, Portugal	2016
Seminar, Institute of Astronomy, KU Leuven, Belgium	2016
Colloquium, Aarhus University, Denmark	2015
Seminar, Aarhus University, Denmark	2014

## Services and committees

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### Organization

Organising the research stay of the Sydney Institute for Astronomy 2026 Stibbs Lecturer (Prof. Conny Aerts). This includes organising a public talk, a seminar, and a mentoring session for early career researchers.

Organized the Stellar and Planetary Research In Greater Sydney (SPRIGS) meeting at the University of Sydney in 2025.

Organized the MESA school "[MESA Down Under](#)" at the University of Sydney (Australia) in June 2024.

Organized a public talk on Australian indigenous astronomy given by Dr. Kirsten Banks in June 2024.

Organized the Friday Blackboard Talks at the Kavli Institute for Theoretical Physics, UCSB, California, USA.

### Committees

Scientific Organising Committee for the TASC10/KASC17 workshop in Aarhus (Denmark) 2026.

Scientific Organising Committee for the TASC7/KASC14 workshop in Hawaii 2023.

Member of the science team for the MAGIC (Massive Star Asteroseismology Instrument Cubesat) space mission to be proposed with NASA and led by PI Prof. Derek Busazi from the University of Chicago (USA).

As a PhD student, I was on an outreach committee at the Institute of Astronomy at KU Leuven, responsible for designing new workshops at the institute.

### Expert advisory roles

Asteroseismology expert advisor for the soon-to-be proposed NASA EVE (Early eVolution Explorer) space mission led by PI Dr. Meredith MacGregor from the Johns Hopkins University (USA).

## Reviewing

Served as a scientific reviewer for one of NASA's TESS Guest Investigator Program proposal cycles.

I have refereed papers for Monthly Notices of the Royal Astronomical Society, The Astrophysical Journal Supplement Series, The Astrophysical Journal, and Acta Astronomica.

## Teaching and supervision

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### Teaching coordination

One week international winter school "MESA Down Under", University of Sydney 2024  
I was the program director of this school and handled invitation of all lecturers and teaching assistants (TAs), established and led a Teaching Organization committee (TOC), led (bi-)weekly meetings prior to the school, coordinated lecturer and TA allocation as well as testing of all of the labs for the school, and carried out the final round of testing of the labs as well together with the rest of the TOC.

### Invited lecturer roles

MESA Summer School 2023, Konkoly Observatory, Budapest, Hungary ([teaching material](#)) 2023

Stellar Structure and Evolution (UCSB/California/USA), on behalf of regular lecturer Prof. Lars Bildsten 2022

### Teaching Assistant

MESA Summer School (UCSB/California/USA), 1 week 2022

MESA Summer School (UCSB/California/USA), 1 week 2021

Stellar Structure and Evolution (KU Leuven/Belgium), 3 semesters (Lecturer: Prof. Conny Aerts) 2017-2019

### Supervision

(3 MSc/Honours students, 16 BSc/undergraduate students)

Gergely Nagy, Honours Student at USyd (Honours thesis, 1st class Honours) 2025

Yiyang Yim, Undergraduate Student at USyd (research project) 2025

Edie Bloomfield, Undergraduate Student at USyd (research project) 2025

Joe McCormick, Honours Student at USyd (Honours thesis, 1st class Honours) 2024

Komal Kataruka, Undergraduate Student at USyd (research project) 2024

Christian Mossati, Undergraduate Student at USyd (research project) 2024

Cameron Davidson, Undergraduate Student at USyd (research project) 2023

Shaurya Garg, Undergraduate Student at USyd (research project) 2023

Allen Fang, Undergraduate Student at USyd (research project) 2023

Harry Wruck, Undergraduate Student at USyd (research project) 2023

Jasmyn Curry, Undergraduate Student at USyd (research project) 2023

Grant Chan, Undergraduate Student at USyd (research project) 2023

Mathias Michielsen, MSc at KU Leuven (MSc thesis, co-advised, → PhD at KU Leuven) 2017-2018

Karan Singh Dsilva, MSc at KU Leuven (research project, co-advised, → PhD at KU Leuven) 2016

Jeroen Van den Bosch, MSc at KU Leuven (research project, co-advised) 2016

Jef Pauwels, BSc at KU Leuven (research project) 2017

Joris Hermans, BSc at KU Leuven (research project) 2017

Ruben Nicasy, BSc at KU Leuven (research project) 2016

Ruben Aertgeerts, BSc at KU Leuven (research project) 2016

## Outreach

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### Public talks

Gave a 15 min public talk for ~30 non-astronomers at the bar East Village Sydney on 1 November 2023 as a part of the Future Science Talks series.

Big Ideas Talk held for the friends of the KITP, University of California Santa Barbara (CA, USA) on 31 March 2021.

### School visits

*Australian National Science Week*: A one our talk given during a school visit to Wenona School; an all girls school. The lecture was given to students of grades 7-10 on 15 Aug 2023.

*Scientist@School*: Visited Flemish high schools on four separate occasions between 2018-2020 as a part of the Scientist@School initiative to give a two hour lecture including exercises

*Ladies@Science*: Event organised by KU Leuven (Belgium) for female high school students. I was a part of an outreach committee at the Institute of Astronomy at KU Leuven, and helped develop a 1 h workshop on exoplanets which was taught for at least three years while I was at KU Leuven as a PhD student. I took part in teaching the workshop in

2017 and 2018.

*Telescope Workshop*: Workshop taught for visitors at the Institute of Astronomy at KU Leuven. I helped teach this workshop on three occasions in 2016 and 2017.

### Interviews

Interviewed three times for three Danish newspapers in 2020.

Interviewed for the AAS Journal Author Series in 2020.

## Scientific work visits and training abroad

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Research visit to the Kavli Institute for Theoretical Physics, UCSB, Santa Barbara, California, USA	22-26 Sep 2025
Research visit to the Institute of Astrophysics of the Canary Islands (IAC), Tenerife, Spain	23-27 Sep 2024
2022 MESA Summer School, Santa Barbara, California, USA ( <b>Invited TA</b> )	8-12 Aug 2022
Research visit to DTU Space, Copenhagen, Denmark	1-3 Nov 2021
<i>Probes of Transport in Stars</i>	
KITP Program, Santa Barbara, California, USA	11 Oct - 17 Dec 2021
2021 MESA Summer School, Santa Barbara, California, USA ( <b>Invited TA</b> )	9-20 Aug 2021
<i>Galactic Archaeology with Fundamental Stellar Parameters</i>	
Aspen Center for Physics, Colorado, USA	20 May - 20 June 2021
<i>Online Data Investigations for Your Classroom from Vera C. Rubin Observatory</i>	
237th AAS meeting workshop , Online	7 Jan 2021
2019 <i>Gaia</i> Sprint - Santa Barbara, USA	25-29 Mar 2019
Work visit to Newcastle University, Newcastle upon Tyne, United Kingdom	6 Jun 2018
Work visit to the Stellar Astrophysics Center (SAC), Aarhus, Denmark	7 Sep 2017
EU FP7 SpaceInn Mode Identification Workshop, Leuven, Belgium	8-10 Nov 2016
2016 MESA Summer School, Santa Barbara, USA	15-19 Aug 2016
SAC Summer School 2014, Aarhus, Denmark	10-22 Aug 2014
The Aarhus Spectroscopy Workshop, Aarhus, Denmark	19-23 May 2014

## Observing Experience (36 nights)

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W. M. Keck Observatory, Hawaii, USA (1 night)	2020
The Mercator Telescope, La Palma, Spain (10 nights)	2019
The Mercator Telescope, La Palma, Spain (10 nights)	2018
The Mercator Telescope, La Palma, Spain (9 nights)	2017
The Nordic Optical Telescope (NOT), La Palma, Spain (5 nights)	2013
IAC-80 Telescope, Tenerife, Spain (1 night)	2013

## Accepted Observing Proposals (6 as PI, 10 as Co-I)

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<i>TESS lifts the veil on the unconstrained interiors of massive stars</i> , TESS GI proposal Cycle 6 (Co-I)
<i>Constraining the Structure and Evolution of Massive Stars Through Multi-Band Asteroseismology</i> , LCO Key Project, Las Cumbres Observatory (LCO) Network, Period 2023B (Co-I)
<i>Refining the search for M dwarf oscillations using TESS</i> , TESS GI proposal Cycle 5 (Co-I)
<i>Internal gravity wave mixing and the impact on surface abundances for OB associations</i> , Lick Observatory, APF 2.4m-telescope, Levy spectrograph, Period 2021B (PI)
<i>Unraveling the internal mixing properties of early type stars in OB associations</i> , Lick Observatory, APF 2.4m-telescope, Levy spectrograph, Period 2021A (PI)
<i>Unraveling the internal mixing properties of early type stars in OB associations</i> , Las Cumbres Observatory Network, CPT 1m-telescope, NRES spectrograph, Period 2020B DDT (PI)
<i>Mitigating the unknown physics of massive star evolution with asteroseismology</i> , TESS GI proposal Cycle 3 (Co-I)
<i>Unlocking the potential of TESS asteroseismology for intermediate- and high-mass stars</i> , ESO Large Program, UVES, Period 104A (Co-I)
<i>Stellar rotation and mixing from TESS+FEROS asteroseismology</i> , ESO 2.2m-telescope, FEROS, Period October 2019 (Co-I)

*Stellar structure and evolution put to the test with asteroseismology of O and B stars*, TESS GI proposal Cycle 2 (PI)  
*Interiors of massive stars with TESS and HERMES*, Mercator Telescope, April-September 2019 (Co-I)  
*Activity in flaring A-type stars?*, Swift Space Telescope, Cycle 3 of the Danish Swift guaranteed time, 2015/2016 (PI)  
*Flares in A-type stars*, Nordic Optical Telescope, Observing Period 47, Allocated SAC observing time (PI)  
*Origin of flares in A-type stars*, Nordic Optical Telescope, Observing Period 52 (Co-I)  
*Origin of flares and spots on A-stars*, Nordic Optical Telescope, bserving Period 50 (Co-I)  
*Origin of flares and spots on A-stars*, Nordic Optical Telescope, Observing Period 49 (Co-I)

## Memberships

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International Astronomical Union

Astronomical Society of Australia (ASA)

TESS Asteroseismic Science Consortium (TASC) working groups WG-5: OB-stars and WG-3: Clusters

Kepler Asteroseismic Science Consortium (KASC) working group WG-3: Main Sequence “Classical” Pulsators

ULLYSES and X-Shooter Massive Stars Collaboration (XShootU) working group WG-12: Pulsations

PLATO Mission Consortium