MELINDA SOARES-FURTADO, PH.D.

Astrophysicist, University of Wisconsin–Madison
msoaresfurtado.com ⋄ mmsoares@wisc.edu

Professional Appointments

Assistant Professor of Astronomy & Physics, University of Wisconsin–Madison	2024–present
NASA Hubble Postdoctoral Fellow, University of Wisconsin–Madison	2021–2024
Postdoctoral Fellow, University of Wisconsin–Madison	2020–2021
Advanced Placement Math & Physics Instructor, Mount Madonna School	2012–2013

Education

Princeton University	Astrophysical Science	Ph.D., 2020
Princeton University	Astrophysical Science	M.S., 2016
University of California, Santa Cruz	Physics	B.S., 2014

Research Experience

Graduate Student Researcher, Princeton University, Astrophysical Sciences 2014–2020
Advisor: Prof. Gáspár Bakos

Undergraduate Student Researcher, UC Santa Cruz, Physics & Astronomy 2009–2014
Advisors: Profs. Enrico Ramirez-Ruiz & David Williams

Peer-Reviewed Publications — *Mentored students are underlined*

36. Narayan, R.; **Soares-Furtado, M.**, et al. *Twinkle Twinkle Little Star, Roman Sees Where You Are: Predicting Exoplanet Transit Yields in the Rosette Nebula with the Nancy Grace Roman Space Telescope*, submitted to The Astronomical Journal.

35. Lane, K.; Stephan, A.; **Soares-Furtado, M.**; et al. *Observable Metal Pollution in Main-Sequence Stars: Simulations of Rocky Planets Engulfed by Stars in the 0.5 to 2.0 $M_\odot$ Range*, submitted to the Astrophysical Journal.

34. Sullivan, K. and **Soares-Furtado, M.**, et al. *Evidence for Separation-Dependent X-ray Emission for Young Binary Stars in the Upper Scorpius Star-Forming Region*, submitted to The Astronomical Journal.

33. Aldarondo Quiñones, N. et al. (including **Soares-Furtado, M.**) *Reassessing the Relationship Between Stellar X-ray Luminosity and Age with eROSITA Data Release 1*, submitted to Publications of the Astronomical Society of the Pacific.

32. Kotten, B., **Soares-Furtado, M.**, et al. *Lithium Enrichment in a Subgiant Star with a Brown Dwarf Companion: A Planetary Engulfment Candidate*, submitted to The Astronomical Journal.

31. Rosselli-Calderon, A., et al. (including **Soares-Furtado, M.**) *Chemical Enrichment of Metal-Poor Stars Orbiting Massive Black Hole Companions*, submitted to The Astrophysical Journal Letters.

30. Aloisi, R., Vanderburg, A., **Soares-Furtado, M.**, et al. *Searching for Exoplanets Born Outside the Milky Way: VOYAGERS Survey Design*, submitted to Publications of the Astronomical Society of the Pacific.

29. Distler, A., **Soares-Furtado, M.**, et al. *TESS Hunt for Young and Maturing Exoplanets (THYME) XIII: A Comoving-Based Age Constraint for KELT-20*, submitted to The Astronomical Journal.

28. O'Shea, T., Heinz, S., **Soares-Furtado, M.**, et al. *Shooting for the Stars: Jet-mode feedback and AGN Jet Deceleration from Stellar Mass-loading*, in press with The Astrophysical Journal.

27. Schulte, J., et al. (including **Soares-Furtado, M.**) *Migration and Evolution of giant ExoPlanets (MEEP) II: Super-Jupiters and Lithium-rich Host Stars*, in press with Monthly Notices of the Royal Astronomical Society.

26. Vowell, N., et al. (including **Soares-Furtado, M.**) *11 New Transiting Brown Dwarfs and Very Low Mass Stars from TESS*, in press with The Astronomical Journal. [2501.09795]

25. Jankowski, A., Becker, J., **Soares-Furtado, M.**, et al. *The Ambiguous Age and Tidal History for the Ultra-Hot Jupiter TOI-1937Ab*, 2025, Publications of the Astronomical Society of the Pacific, 137, 3. [2503.15802]

24. Distler, A., **Soares-Furtado, M.**, et al. *TESS Hunt for Young and Maturing Exoplanets (THYME) XII: A Young Mini-Neptune on the Upper Edge of the Radius Valley in the Hyades Cluster*, 2025, The Astronomical Journal, 169, 3. [2410.11990]

23. Limbach, M., et al. (including **Soares-Furtado, M.**) *The MIRI Exoplanets Orbiting White Dwarfs (MEOW) Survey: Mid-Infrared Excess Reveals a Giant Planet Candidate around a Nearby White Dwarf*, 2024, The Astrophysical Journal Letters, 973, 1. [2408.16813]

22. Hinkel, N., Youngblood, A., & **Soares-Furtado, M.** *Host Stars and How Their Compositions Influence Exoplanets*, 2024, Reviews in Mineralogy and Geochemistry, 90, 1. [2404.15422]

21. Schulte, J., et al. (including **Soares-Furtado, M.**) *Migration and Evolution of Giant Exoplanets (MEEP) I: Nine Newly Confirmed Hot Jupiters from the TESS Mission*, 2024, The Astronomical Journal, 168, 1. [2401.05923]

20. Ong, J., Hon, M., **Soares-Furtado, M.**, et al. *Gasing Pangkah I: Asteroseismology and Preliminary Characterisation of a Rapidly-Rotating Red Giant in the TESS SCVZ*, 2024, The Astrophysical Journal, 966, 1. [2402.16971]

19. **Soares-Furtado, M.**, Capistrant, B., et al. *TESS Hunt for Young and Maturing Exoplanets (THYME) XI: An Earth-sized Planet Orbiting a Nearby, Solar-like Host in the 400 Myr Ursa Major Moving Group*, 2024, The Astronomical Journal, 167, 2. [2401.04785]

18. Howell, S., Howell, A., Street, R., **Soares-Furtado, M.**, et al. *The Dynamic Universe: Realizing the Potential of Classical Time Domain and Multimessenger Astrophysics*, 2024, Frontiers in Astronomy and Space Sciences, 11. [2024.1304616]

17. Yarza, R., et al. (including **Soares-Furtado, M.**) *Hydrodynamics and Survivability During Post-Main-Sequence Planetary Engulfment*, 2023, The Astrophysical Journal, 954, 2. [2203.11227]

16. Kolborg, A., et al. (including **Soares-Furtado, M.**) *Constraints on the Frequency and Mass Content of R-Process Events Derived from Turbulent Mixing in Galactic Disks*, 2023, The Astrophysical Journal Letters, 936, 2. [2304.01144]

15. Limbach, M., **Soares-Furtado, M.**, et al. *The TEMPO Survey I: Predicting Yields of Transiting Moons, Planets, and Satellites from a 30-day Survey of Orion with the Roman Space Telescope*, 2023, Publications of the Astronomical Society of the Pacific, 135, 1043. [2209.12916]

14. Limbach, M., et al. (including **Soares-Furtado, M.**) *A New Method for Finding Nearby White Dwarf Exoplanets and Detecting Biosignatures*, 2022, Monthly Notices of the Royal Astronomical Society, 517, 2. [2209.12914]

13. Capistrant, B., **Soares-Furtado, M.**, et al. *A Population of Dipper Stars from the Transiting Exoplanet Survey Satellite Mission*, 2022, The Astrophysical Journal Supplement Series, 263, 1. [2209.03379]

12. Tayar, J., Moyano, F., **Soares-Furtado, M.**, et al. *Spinning up the Surface: Evidence for Planetary Engulfment or Unexpected Angular Momentum Transport*, 2022, The Astrophysical Journal, 940, 1. [2208.01678]

11. Vigna-Gómez, V., et al. (including **Soares-Furtado, M.**) *Mergers Prompted by Dynamical Resonances in Compact, Multiple-Star Systems*, 2022, Monthly Notices of the Royal Astronomical Society: Letters, 515, 1. [2204.10600]

10. Kolborg, A., et al. (including **Soares-Furtado, M.**) *Supernova-Driven Turbulent Metal Mixing in High Redshift Galactic Disks: Metallicity Fluctuations in the Interstellar Medium and its Imprints on Metal Poor Stars in the Milky Way*, 2022, The Astrophysical Journal Letters, 936, 2. [2111.02619]

9. Grunblatt, S. et al. (including **Soares-Furtado, M.**) *Planets Orbiting Evolved TESS Stars (POETS) II: The Hottest Jupiters Orbiting Evolved Stars*, 2022, The Astrophysical Journal, 163, 3. [2201.04140]

8. **Soares-Furtado, M.**, et al. *Lithium Enrichment Signatures of Planetary Engulfment Events in Evolved Stars*, 2021, The Astrophysical Journal, 162, 6. [2002.05275]

7. **Soares-Furtado, M.**, et al. *A Catalog of Periodic Variables in Open Clusters M35 and NGC 2158*, 2020, The Astrophysical Journal Supplement, 246, 1. [1911.00832]

6. Naiman, J., **Soares-Furtado, M.**, Ramirez-Ruiz, E. *Modeling Gas Evacuation Mechanisms in present-Day Globular Clusters: Stellar Winds from Evolved Stars & Pulsar Heating*, 2019, Monthly Notices of the Royal Astronomical Society, 491, 4. [1310.8301]

5. Rappaport, S., et al. (including **Soares-Furtado, M.**) *Deep Long Asymmetric Occultation in EPIC 204376071*, 2019, Monthly Notices of the Royal Astronomical Society, 485, 2. [1902.08152]

4. MacLeod, M., Cantiello, M., **Soares-Furtado, M.** *Planetary Engulfment in the Hertzsprung-Russell Diagram*, 2018, The Astrophysical Journal Letters, 853, 1. [1801.04274]

3. Zhu, Wei, Huang, C. X., Udalski, A., **Soares-Furtado, M.**, et al. *Extracting Microlensing Signals from K2 Campaign 9*, 2017, Publications of the Astronomical Society of the Pacific, 129, 980. [1704.08692]

2. **Soares-Furtado, M.**, et al. *Image Subtraction Reduction of Open Clusters M35 & NGC 2158 in the K2 Campaign 0 Super Stamps*, 2017, Publications of the Astronomical Society of the Pacific, 129, 974. [1703.00030]

1. Aliu, E., et al. (including **Soares-Furtado, M.**) *Long Term Observations of B2 1215+30 with VERITAS*, 2013, The Astrophysical Journal, 779, 2. [1310.6498]

Other Publications — *Mentored students are underlined*

2. Clark, M., Sullivan, K., & **Soares-Furtado, M.** *Moderate-Separation Binary Companions May Influence Young Stellar X-ray Luminosity*, 2024, Research Notes of the AAS, 8, 12. [2024RNAAS...8..318C]

1. **Soares-Furtado, M.**, Kubiak, S. *Aging Ungracefully*, 2023, Sky and Telescope, 145, 1, p.14

Selected Fellowships, Grants, & Awards

NASA Topical Workshops, Symposia, and Conferences Award, Total budget: $39,999	2025
Postdoctoral Excellence in Mentoring Award, University of Wisconsin-Madison	2023
NASA Topical Workshops, Symposia, and Conferences Award, Total budget: $69,550	2023
PI: E. Zweibel, Science-PI: M. Soares-Furtado	
NASA Hubble Fellowship, Total budget: $364,527	2021–2024
TESS DDT Proposal, Principal Investigator, *Investigation of Pulsating Blue Stragglers in M67*	2021
TESS DDT Proposal, Principal Investigator, *Investigation of Pulsating Blue Stragglers in NGC 6819*	2021
NASA Postdoctoral Program Fellowship (*declined*), Total budget: $237,162	2020
First Place Poster, Kepler & K2 Science Conference V	2019
National Science Foundation Graduate Research Fellowship, Total budget: $102,000	2015–2018
TESS Cycle 1 Guest Investigator Program, Total budget: $200,000	2018
PI: J. Hartman, Co-I: M. Soares-Furtado	
Permanent Exhibit Selection, Art of Science, Princeton University	2017
Kenneth & Ann Thimann Scholarship, UCSC	2014
SLUG Fellowship, UCSC	2013
Lamat Fellowship, UCSC	2013
First Place Oral presentation, AAAS National ERN Conference	2012
Steven Chu Award for Undergraduate Research, APS Annual Conference	2011
Ron Ruby Memorial Scholarship for Teaching Excellence, UCSC	2010
Regents Scholarship, UCSC	2008–2010

Selected Scientific Presentations

66 presentations, including 45 invited colloquia, seminars, and technical presentations.

Colloquia:

University of Wisconsin–La Crosse	2025
University of Virginia	2024
The Minnesota Institute for Astrophysics	2024
University of Minnesota, Twin Cities	2024
University of Colorado, Boulder	2023
University of Nevada, Las Vegas	2023
University of Illinois Urbana-Champaign (2x)	2022 & 2023
Harvard Institute for Theory and Computation	2023
University of Wisconsin–Madison, Department of Physics	2022
Massachusetts Institute of Technology Kavli Institute for Astrophysics and Space Research	2022
University of California, Los Angeles	2022
NASA Goddard Space Flight Center	2021
Astrophysics Research Centre of the Queen's University, Belfast	2021
University of California, Santa Barbara Kavli Institute for Theoretical Physics	2021
University of Wisconsin–Madison, Department of Astronomy (2x)	2019 & 2020
Pomona College	2019
University of the Virgin Islands	2019

Recent Invited Seminars:

Princeton University's Extrasolar Planet Discussion Group	2025
CIERA & Northwestern University's Observational Astronomy Meetings (2x)	2021 & 2024
Presentation, NASA Hubble Fellowship Program Symposium (3x)	2021–2023
MIT Planetary Lunch Colloquium Series (PlCS)	2022
Penn State Center for Exoplanets and Habitable Worlds	2022
Harvard University Exoplanet Lunch Series (3x)	2016, 2019, 2022
Probes of Transport in Stars—Kavli Institute for Theoretical Physics	2021
Michigan State University	2021
Carnegie Earth and Planets Laboratory	2021
Division on Dynamical Astronomy of the AAS	2021
UCLA–UCSC Joint Astrophysics Seminar Series	2021
American Museum of Natural History	2020
Carnegie Department of Terrestrial Magnetism	2019
Harvard University Stars & Planets Seminar Series	2019
Princeton University Envision Conference—Ethics & Space Policy	2019
Harvard University Institute for Theory and Computation	2017

Recent Invited Conference Presentations:

American Physical Society's April Meeting: *Quarks to Cosmos*	2024
33rd Annual Wisconsin Space Conference	2023
Probes of Transport in Stars, UCSB Kavli Institute for Theoretical Physics	2021
NASA's Kepler & K2 SciCon V	2019

Observational Experience

Southern African Large Telescope at the South African Astronomical Observatory (15 nights)
Australian National University 2.3-m telescope at Siding Spring Observatory (15 nights)
VERITAS (Very Energetic Radiation Imaging Telescope Array System) at Whipple Observatory (12 nights)
WIYN 3.5-M telescope at Kitt Peak National Observatory (9 nights)
Magellan Telescopes (Walter Baade 6.5-m) at Las Campanas Observatory (2 nights)

Teaching Experience

Instructor, *Our Exploration of the Solar System* (AST 104), UW–Madison	2024 & 2025
Guest Instructor, *The Physical Universe* (AST 200), UW–Madison	2024
Guest Instructor, *Stellar Interiors and Evolution* (AST 715), UW–Madison	2023
Summer Instructor, Lamat REU Program (NSF #1852393)	2021–2023
Guest Instructor, *Stellar Structure & Evolution* (AST 123), Pomona College	2019
Assistant Instructor, *The Universe* (AST 205), Princeton University	2015
Head Instructor, *AP Physics, AP Calculus, & Python Programming*, Mount Madonna School	2012–2013
Physics Section Leader & Lecturer, UCSC Academic Excellence Program	2009–2011
Introduction to Waves & Optics, Introduction to Elementary Mechanics, Introduction to Electricity & Magnetism	

Advising Experience

Key: [*] co-advisor; [†] publication resulted from collaboration; [‡] publication is forthcoming.

Graduate Students:

Maggie Ju (University of Wisconsin–Madison)	2025–present
Claire Zwicker (University of Wisconsin–Madison)	2024–present
Julia K. Sheffler‡ (University of Wisconsin–Madison)	2023–present
Ricardo Yarza*† (FINESST Fellow; University of California, Santa Cruz)	2021–present
Andrew Nine*† (University of Wisconsin–Madison)	2022–2023
Anne Noer Kolborg*† (University of California, Santa Cruz)	2021–2023
Rachel McClure*‡ (NSF GRFP Fellow; University of Wisconsin–Madison)	2020–2022

Undergraduate & Postbaccalaureate Students

Sarah Parker (University of Wisconsin–Madison)	2025–present
Annelise Alvin‡ (University of Wisconsin–Madison)	2025–present
Jenna Karcheski‡ (University of Wisconsin–Madison)	2025–present
Ritvik Narayan† (University of Wisconsin–Madison)	2024–present
Nadja Aldarondo Quiñones*† (University of Puerto Rico)	2024–present
Adam Distler† (University of Wisconsin–Madison)	2023–present
Max Clark† (University of Wisconsin–Madison)	2023–present
Brooke Kotten† (NSF GRFP Fellow; University of Wisconsin–Madison)	2023–present
Nicholas Marston‡ (University of Wisconsin–Madison)	2023–present
Alyssa Jankowski† (University of Wisconsin–Madison)	2022–2024
Lily Robinthal* (University of Wisconsin–Madison)	Summer 2022
Sara Kubiak† (University of Wisconsin–Madison)	Summer 2022
Benjamin Capistrant† (University of Wisconsin–Madison)	2021–2022
Rianna Kuenzi‡ (University of Wisconsin–Madison)	2021–2022
Tyler Barna† (Rutgers University)	2018–2019

Selected Professional Service Experience

Member of the NASA/IPAC Infrared Science Archive User Panel	2025
Reviewer, Monthly Notices of the Royal Astronomical Society	2025
Science Organizing Committee Member, Exoplanets VI	2025–present
Science Organizing Committee Member, IAU Symposium	2025–present
Advisory Board Member, Lamat Institute	2021–present
Member, TESS Follow-Up Working Group	2021–present
Member of the AURA Future Leaders Program, AURA Annual Member Representatives Meeting	2024
Media Fellow, University of Wisconsin–Madison	2024
Session Chair, Extreme Solar Systems V	2024
Reviewer, National Science Foundation Panel	2024
Reviewer, NASA Panel (3x)	2023–2024
Referee, *Nature*, *Nature Communications*, *Monthly Notices of the Royal Astronomical Society*	2021–2024
Lead Organizer, Aspen Center for Physics 2023 winter conference	2022–2023
Exoplanet Systems and Stellar Life Cycles: Late-Stage and Post-MS Systems	
LAMAT REU Admissions Committee Member	2021–2022
Co-organizer & host of the TESS (TSC2) Splinter Session	2021

Selected Departmental/University Service Experience

L&S Community of Graduate Research Scholars (CGRS) Advisory Committee	2025
UW–Madison Graduate Admissions Chair	2025
UW–Madison Colloquium Organizer	2024–2025
UW–Madison Southern African Large Telescope Telescope Allocation Committee	2023–2024
UW–Madison Graduate Admissions Committee	2021–2024
UW–Madison Graduate Application Advice Panel	2021–2024
Co-organizer, UW–Madison Sherry Hour	2021–2024
Co-organizer, UW–Madison Monday Science Seminar	2020–2023
Presenter, UW–Madison Board of Visitors	2022
Graduate Applicant Recruiter, SACNAS & NSBP Conferences	2020–2021
Presenter, Princeton Advisory Council	2020

Selected Outreach Service Experience

I have given **62 talks**, including **51 invited** presentations.

Invited Service

Panelist, UW–Madison L&S Graduate Research Scholars	2024–2025
Speaker, UW Space Place (3x)	2023–2025
Speaker, Lamat REU Mentor Speaker Series	2020–2024
Presenter, *Learn With An Expert*, Milwaukee Public Museum	2023
Presenter, *Science on Tap*, Milwaukee Public Museum	2023
Instructor, Lamat REU Professional Development Workshops	2021–2023
Presenter, *Astronomy on Tap*, UNLV, UPenn, Princeton, UW–Madison (4x)	2018–2023
Speaker, Society of Physics Students, UNLV, UCSC (2x)	2015–2023
Speaker, Madison Astronomical Society	2022
Panelist for the Committee on the Status of Women in Astronomy	2021
Speaker, European Astronomical Society Annual Meeting	2021
Building Social Support Networks for Mothers in Astronomy	
Speaker, NSF NoirLab DEI Seminar	2021
Speaker, AeroSTEM Academy	2021
Speaker, The National Society of Black Physicists, University of the Virgin Islands	2019
Keynote Speaker & Co-organizer, National Chemistry Week, *"Life Beyond Earth"* (932 attendees)	2018

Contributed Service

SETI Institute's NASA Community College Network Committee Member	2022–present
Founder and organizer, The Astrono-Mom Conversation Series	2020–present
Founder & Moderator, Astronomy and Physics Graduate School Applicant Discord Server	2021–present
Organizer & Mentor, Mastering the Graduate School Application Process	2018–present
Organizer & Speaker, *Solar System Annual Science Workshop*, Lincoln Elementary School	2022
NASA Hubble Fellowship Program SOC Symposium Committee Member	2021
Panelist for the NASA Hubble Fellowship Program Application Workshop	2021
Co-founder & Co-organizer, Astronomy on Tap Trenton Chapter	2019–2020
Co-organizer, Young Women's Conference in STEM, Princeton University	2017

Media & Press

Defector, *Team Fiery Sun Death Or Team Lifeless Husk*, B. Ferreira, 2025.
On Wisconsin, *How to Study a Star*, M. Provost, 2024.
BBC, *The Mysterious Pairs of Planets We Still Can't Explain*, J. O'Callaghan, 2024.
Scientific American, *Don't Panic, But A Lot of Stars Seem to Eat Their Own Planets*, R. G. Andrews, 2024.
New Scientist, *Where are all the exomoons?*, J. O'Callaghan, 2024.
Astronomy Magazine, *Nearest young Earth-sized Planet Could Shed Light on How Terrestrial Worlds Evolve*, S. Kuthunur, 2024.
Inside UW, *Earth-sized planet discovered in 'our solar backyard'*, C. Barncard, 2024.
The Independent, *Scientists find Earth-sized planet shockingly nearby*, A. Griffin, 2024.
Ars Technica, *Astronomers found ultra-hot, Earth-sized exoplanet with a lava hemisphere*, J. Ouellette, 2024.
The Atlantic, *A Different Vision for Earth's Demise*, J. O'Callaghan, 2024.
Planetarium Film, *Lights Out! Eclipses: Whys, Wonders, & Wows*, Directed by Bob Bonadurer, 2023.
Quanta Magazine, *New Clues for What Will Happen When the Sun Eats the Earth*, J. O'Callaghan, 2023.
AAS YouTube Series, *Lithium Enrichment Signatures of Planetary Engulfment Events in Evolved Stars*, 2022.
Badger Talks, *Devoured Worlds: Lessons From Planet-Ingesting Stars*, 2023.
The New York Times, *The Juicy Secrets of Stars That Eat Their Planets*, B. Ferreira, 2022.
Scientific American Magazine, *Women Are Creating a New Culture for Astronomy*, A. Finkbeiner, 2022.
Princeton University Press, *Astronomy on Tap Brings Astrophysicists & the Community Together*, L. Wright, 2019.
New Scientist Magazine, *Stars That Devour Their Planets Get Brighter & Faster*, J. Wenz, 2018.