

MICHAEL L. PALUMBO III

PhD Candidate, Pennsylvania State University
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EDUCATION

Pennsylvania State University PhD Candidate in Astronomy & Astrophysics Masters of Science in Astronomy & Astrophysics	August 2018 - Present Anticipated August 2024 December 2020
University of North Carolina at Chapel Hill Bachelor of Science in Physics, Astrophysics Option Bachelor of Arts in Classics, Latin Option	August 2014 - May 2018 <i>with Distinction and Highest Honors</i>

PROFESSIONAL APPOINTMENTS & EXPERIENCE

Flatiron Research Fellowship Flatiron Institute - Center for Computational Astrophysics	Beginning September 2024
Graduate Research Assistant and Fellow Pennsylvania State University <i>Supervisor: Prof. Eric Ford</i>	January 2019 - May 2024
Undergraduate Research Assistant University of North Carolina <i>Supervisor: Prof. Sheila Kannappan</i>	June 2016 - July 2018
Summer Research Student Center for Astrophysics Harvard & Smithsonian <i>Supervisors: Prof. Raphaëlle Haywood and Dr. Steve Saar</i>	June 2017 - August 2017

SELECTED RESEARCH FUNDING & FELLOWSHIPS

Astronomy & Astrophysics Postdoctoral Fellowship <i>National Science Foundation - \$330,000</i>	2024 Cycle (<i>Declined</i>)
Pennsylvania Space Grant Graduate Fellowship <i>Pennsylvania Space Grant Consortium</i>	August 2023 - May 2024
Academic Computing Fellowship <i>Pennsylvania State University & The Eberly College of Science</i>	August 2020 - July 2023
Paul M. Doty Distinguished Graduate Fellowship <i>Pennsylvania State University & The Eberly College of Science</i>	August 2018 - August 2019

TEACHING AND OUTREACH

Instructor , Upward Bound Math and Science <i>Astronomy: The Search for Exoplanets and Life Beyond Earth</i>	Summer 2020
Guest Lecturer , Pennsylvania State University	
· PSU ASTRO 401, <i>Stellar Spectroscopy</i> for Prof. Chris Palma	December 5, 2019
· PSU ASTRO 497, <i>Life in the Universe: SETI</i> for Prof. Suvrath Mahadevan	March 17, 2020
· PSU ASTRO 497, <i>Saturn and its Rings</i> for Prof. Suvrath Mahadevan	March 24, 2020
· PSU ASTRO 497, <i>The Moons of Saturn</i> for Prof. Suvrath Mahadevan	March 31, 2020
Public Presentations	
· Astronomy on Tap - State College, <i>The Work and Experiences of Black Astronomers</i>	July 27, 2020
· Astronomy on Tap - State College, <i>A Spooky Tour of NASA's Galaxy of Horrors</i>	October 25, 2022

SERVICE TO THE PROFESSION

Conference Organizing Committees

- *Emerging Researchers in Exoplanet Science (ERES) VII*, Penn State August 2022
- *Penn State SETI (PSETI) Symposium*, Penn State June 2022, June 2023

Committee Membership

- C&D Committee, PSU Astronomy & Astrophysics August 2019 - August 2023
- C&D Grad. Student Subcommittee, Eberly College of Science May 2020 - August 2022
- Grad. Student Recruitment Committee, PSU Astronomy & Astrophysics January 2021 - April 2023

Leader & Organizer, Toward a More Inclusive Astronomy January 2019 - May 2024

Referee, Astronomy & Astrophysics

SELECTED AWARDS & HONORS

Rodger Doxsey Travel Prize January 2024
American Astronomical Society

North Carolina Space Grant Undergrad. Research Scholarship August 2017 - May 2018
North Carolina Space Grant Consortium

Earl Nelson Mitchell Scholarship August 2016 - May 2018
University of North Carolina Department of Physics and Astronomy

Carolina Research Scholar Conferred May 2018
University of North Carolina at Chapel Hill

Honors Carolina Laureate Conferred May 2018
University of North Carolina at Chapel Hill

Phi Beta Kappa Society Member Inducted February 2017
Alpha of North Carolina

COMPUTER SKILLS

Languages Python, Julia, R, IDL, MATLAB, CUDA

Software & Tools LaTeX, IRAF and PyRAF, Git, GitHub

Operating Systems Linux, macOS, Windows

SELECTED PRESENTATIONS

Talks

- **Mitigating Granulation Noise with Lessons from Synthetic Spectra** March 30, 2023
Extremely Precise Radial Velocities 5, Santa Barbara, CA (*contributed*)
- **Understanding Granulation Noise with Synthetic Spectra from GRASS** March 14, 2023
Sun-as-a-Star Workshop: Solar Variability with Disk-Integrated Spectra, New York City (*invited*)
- **Insights into Stellar Variability from Ground- and Space-Based Solar Observations**
The Ohio State University, OH (*invited*) September 29, 2023
Instituto de Astrofísica e Ciências do Espaço, Portugal (*invited*) March 1, 2023
University of Warwick, UK (*invited*) February 20, 2023
University of Birmingham, UK (*invited*) February 15, 2023
- **Mitigating Granulation Noise with GRASS and Prospects with PoET** February 24, 2023
PoET Workshop, Porto, Portugal (*contributed*)
- **Toward Mitigating Granulation RV Noise with GRASS** August 2, 2022
Emerging Researchers in Exoplanet VII, State College, PA (*contributed*)

Posters

- **Physical Insights into Solar Center-to-Limb RV Variability with SDO**
Emerging Researchers in Exoplanet Science VIII, Yale, New Haven, CT June 2023
Extremely Precise Radial Velocities 5, Santa Barbara, CA March 2023
- **Modeling Granulation's Effect on Stellar Line Shapes and EPRV Surveys with GRASS**
Cool Stars 21, Toulouse, France July 2022
Exoplanets IV, Las Vegas, NV May 2022

PUBLICATIONS

A full list of my publications is curated on [NASA ADS](#) and [ORCID](#)

† = Non-refereed

First-Author

- **Palumbo, M.L., III**, Ford, E.B., et al. *GRASS II: Simulations of Potential Granulation Noise Mitigation Methods*, in revision for AJ
- **Palumbo, M.L., III**, Saar, S. H., and Haywood, R. D. *Characterizing Solar Center-to-Limb Radial-Velocity Variability with SDO*, accepted by ApJ; [arXiv 2404.16747](#)
- † **Palumbo, M.L., III**, Wright, J. T., and Huston, M. J. *Fortuitous Observations of Potential Stellar Relay Probe Positions with GBT*, 2023, [RNAAS](#), **7**, 209
- **Palumbo, M.L., III**, Ford, E. B., Wright, J. T., et al. *GRASS: Distinguishing Planet-induced Doppler Signatures from Granulation with a Synthetic Spectra Generator*, 2022, [AJ](#), **163**, 1, 11
- **Palumbo, M.L., III**, Kannappan, S. J., Frazer, E. M., et al. *Linking Compact Dwarf Starburst Galaxies in the RESOLVE Survey to Downsized Blue Nuggets*, 2020, [MNRAS](#), **494**, 4

Nth-Author

- Tusay, N., Huston, M.J., et al. *A Search for Radio Technosignatures at the Solar Gravitational Lens Targeting Alpha Centauri*, 2022, [AJ](#), **164**, 3, 166
- Haywood, R. D., et al. *Unsigned Magnetic Flux as a Proxy for Radial-velocity Variations in Sun-like Stars*, 2022, [ApJ](#), **935**, 1, 6
- Zhao, L., et al. *The EXPRES Stellar Signals Project II. State of the Field in Disentangling Photospheric Velocities*, 2022, [AJ](#), **163**, 4, 171
- Milbourne, T., et al. *HARPS-N Solar RVs Are Dominated by Large, Bright Magnetic Regions*, 2019, [ApJ](#), **874**, 1, 107
- Cegla, H. M., et al. *Stellar Surface Magneto-convection as a Source of Astrophysical Noise. II. Center-to-limb Parameterization of Absorption Line Profiles and Comparison to Observations*, 2018, [ApJ](#), **866**, 1, 55

Software

- **Palumbo, M.L., III**, Wright, J T., & Huston, M.J., 2023, *seti-fortuitous-obs*, Zenodo, <https://doi.org/10.5281/zenodo.8361381>
- **Palumbo, M.L., III**, Saar, S.H., & Raphalle D.H., 2023, *sdo-clv-pipeline*, Zenodo, <https://doi.org/10.5281/zenodo.8273623>
- **Palumbo, M.L., III**, Ford, E.B., Wright, J.T., Mahadevan, S., Wise, A.W., & Lohner-Bottcher, J., 2023, *GRASS*, Zenodo, <https://doi.org/10.5281/zenodo.8271530>
- Ford, E.B, Matthias Y.H., Wise, A.W., & **Palumbo, M.L., III**, 2022, *RvSpectML/EchelleCCFs.jl*, Zenodo, <https://doi.org/10.5281/zenodo.7058308>