

# Nicholas Ballering

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## Education

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- 2016 Ph.D. Astronomy, University of Arizona  
Advisor: George Rieke  
Dissertation: *Measuring the Structure and Composition of Circumstellar Debris Disks*
- 2008 B.S. Astronomy, Physics, Mathematics, Applied Math Engineering & Physics (AMEP),  
University of Wisconsin

## Research Appointments

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- 2019–Present Origins Fellow, Virginia Initiative on Cosmic Origins, Department of Astronomy,  
University of Virginia
- 2016–2019 Postdoctoral Research Associate, Steward Observatory, University of Arizona
- 2010–2016 Graduate Research Assistant, Steward Observatory, University of Arizona
- 2009 Research Intern, Department of Astronomy, University of Wisconsin
- 2007–2008 Research Assistant, IceCube Neutrino Detector, University of Wisconsin

## Teaching Experience

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- 2019 Substitute Teaching (led three 50-minute lectures), Astronomy 1210: Introduction to the  
Sky and Solar System, University of Virginia
- 2014 Teaching Assistant, Astronomy 202: Life in the Universe, University of Arizona
- 2013 Teaching Assistant, Astronomy 202: Life in the Universe, University of Arizona
- 2009 Tutor, Sylvan Learning Center, Madison, WI
- 2009 Tutor, AVID/TOPs Program, East High School, Madison, WI
- 2006–2008 Physics Tutor, Academic Advancement Program, University of Wisconsin
- 2006 Physics Tutor (volunteer), Greater University Tutoring Service, University of Wisconsin

## Mentoring/Advising

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- 2017–2019 Tyler Baines (2018, B.S. Astronomy, University of Arizona; currently at GSFC)

## Honors and Awards

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- 2018 ALMA Ambassador, NRAO
- 2008 Phi Beta Kappa Society
- 2008 Leadership Prize, AMEP Program, University of Wisconsin
- 2007 Albert Radtke Scholarship, Physics Department, University of Wisconsin
- 2006 Bernal-Johnson Scholarship, College of Letters and Science, University of Wisconsin

## Professional Service

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- 2019 ALMA Ambassador Selection Committee
- 2019 Co-author of four Astro2020 Science White Papers
- 2019 Referee, Monthly Notices of the Royal Astronomical Society

- 2018 Workshop Organizer, University of Arizona ALMA Community Day  
 2018 Referee, The Astrophysical Journal  
 2017 External Reviewer, NASA ROSES Program  
 2013–2014 Author, Astrobites (www.astrobites.org)  
 2014 LOC, Search for Life Beyond the Solar System: Exoplanets, Biosignatures & Instruments, Tucson AZ  
 2014 Treasurer, Steward Observatory Graduate Student Council  
 2012–2013 Vice-President, Steward Observatory Graduate Student Council  
 2013 Graduate Student Representative, Astronomy Department Faculty Hiring Committee, University of Arizona  
 2012 Organizer, Steward Observatory Summer Computing Seminar  
 2006–2008 Public Star Party Volunteer, Space Place, University of Wisconsin

### Accepted Observing Proposals (as PI)

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- 2019 SOFIA Cycle 7, 8.4 hours (priority level 3), *Probing Protoplanetary Disk Dispersal with the 63 micron Oxygen Line*  
 2018 ALMA Cycle 6, 10.8 hours (rank C), *Protoplanetary Disk Masses and Grain Properties in the Orion Nebula Cluster*  
 2018 Large Binocular Telescope, 0.5 nights, *Mapping the Distribution of PAHs in Transition Disks with the LBT/ALES Integral Field Spectrograph*

### Talks and Presentations

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- 2019 Virginia Initiative on Cosmic Origins (VICO) Workshop  
 2010–2018 Steward Observatory Journal Club, 9 talks  
 2018 NASA JPL, invited talk  
 2018 University of Wisconsin Astronomy Department, lunch talk  
 2018 Origins Seminar, Steward Observatory  
 2018 Huachuca Astronomy Club, public talk  
 2018 Splendido Community Center, public talk  
 2017 Habitable Worlds 2017, Laramie WY, breakout session talk  
 2016 AAS #227, dissertation talk  
 2015 NOAO, FLASH talk  
 2014 Lunar and Planetary Laboratory Conference (LPLC)  
 2012 University of Wisconsin Astronomy Department, lunch talk  
 2012 Steward Summer Disk Seminar Series  
 2012 University of Wisconsin Space Place, public talk

### Refereed First-Authored Publications

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1. *Protoplanetary Disk Masses from Radiative Transfer Modeling: A Case Study in Taurus*  
**Nicholas P. Ballering** and Josh A. Eisner  
 2019, The Astronomical Journal, 157, 144
2. *What Sets the Radial Locations of Warm Debris Disks?*  
**Nicholas P. Ballering**, George H. Rieke, Kate Y. L. Su, and Andras Gaspar  
 2017, The Astrophysical Journal, 845, 120
3. *A Comprehensive Dust Model Applied to the Resolved Beta Pictoris Debris Disk from Optical to Radio Wavelengths*  
**Nicholas P. Ballering**, Kate Y. L. Su, George H. Rieke, and Andras Gaspar

- 2016, *The Astrophysical Journal*, 823, 108
4. *Warm Debris Disks with Emission Features: Probing the Terrestrial Regions of Planetary Systems*  
**Nicholas P. Ballering**, George H. Rieke, and Andras Gaspar  
2014, *The Astrophysical Journal*, 793, 57
  5. *A Trend between Cold Debris Disk Temperature and Stellar Type: Implications for the Formation and Evolution of Wide-orbit Planets*  
**Nicholas P. Ballering**, George H. Rieke, Kate Y. L. Su, and Edward Montiel  
2013, *The Astrophysical Journal*, 775, 55

## Refereed Co-Authored Publications

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1. *Protoplanetary Disk Properties in the Orion Nebula Cluster: Initial Results from Deep, High-Resolution ALMA Observations*  
J. A. Eisner, H. G. Arce, **N. P. Ballering**, J. Bally, S. M. Andrews, R. D. Boyden, J. Di Francesco, M. Fang, D. Johnstone, J. S. Kim, R. K. Mann, B. Matthews, I. Pascucci, L. Ricci, P. D. Sheehan, J. P. Williams  
2018, *The Astrophysical Journal*, 860, 77
2. *The Inner 25 au Debris Distribution in the  $\epsilon$  Eri System*  
Kate Y. L. Su, James M. De Buizer, George H. Rieke, Alexander V. Krivov, Torsten Löhne, Massimo Marengo, Karl R. Stapelfeldt, **Nicholas P. Ballering**, and William D. Vacca  
2017, *The Astronomical Journal*, 153, 226
3. *The Correlation Between Metallicity and Debris Disk Mass*  
Andras Gaspar, George H. Rieke, and **Nicholas P. Ballering**  
2016, *The Astrophysical Journal*, 826, 171
4. *Magnetic Grain Trapping and the Hot Excesses Around Early-type Stars*  
George H. Rieke, Andras Gaspar, and **Nicholas P. Ballering**  
2016, *The Astrophysical Journal*, 816, 50
5. *Compact HI Clouds from the GALFA-H I Survey*  
Ayesha Begum, Snezana Stanimirovic, Joshua E. Peek, **Nicholas P. Ballering**, Carl Heiles, Kevin A. Douglas, Mary Putman, Steven J. Gibson, Jana Grcevich, Eric J. Korpela, Min-Young Lee, and Destry Saul, and John S. Gallagher III  
2010, *The Astrophysical Journal*, 722, 395

## Conference Proceedings (First-Authored Only)

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1. *Protoplanetary Disk Masses from Radiative Transfer Modeling*  
**Nicholas P. Ballering** and Josh A. Eisner  
Poster at Star and Planet Formation in the Southwest 2. Tucson, AZ, 2018
2. *Protoplanetary Disk Masses in Taurus and the Orion Nebula Cluster*  
**Nicholas P. Ballering** and Josh A. Eisner  
Poster at Habitable Worlds 2017. Laramie, WY, 2017
3. *The Dust Properties of the Beta Pictoris Debris Disk from an Analysis of its Thermal Emission and Scattered Light*  
**Nicholas P. Ballering**, George H. Rieke, Kate Y. L. Su, and Andras Gaspar  
Dissertation talk at AAS #227. Kissimmee, FL, 2016
4. *On the Dust Composition of the Beta Pictoris Debris Disk*  
**Nicholas P. Ballering** and George H. Rieke  
Poster at Star and Planet Formation in the Southwest. Tucson, AZ, 2015

5. *Young Debris Disks with Newly Discovered Emission Features*  
**Nicholas P. Ballering** and George H. Rieke  
Poster at Habitable Worlds Across Time and Space. Space Telescope Science Institute,  
Baltimore, MD, 2014
6. *Newly Discovered Silicate Features in the Spectra of Young Warm Debris Disks: Probing  
Terrestrial Regions of Planetary Systems*  
**Nicholas P. Ballering** and George H. Rieke  
Poster at The Search for Life Beyond the Solar System: Exoplanets, Biosignatures &  
Instruments. Tucson, AZ, 2014
7. *A Trend Between Cold Debris Disk Temperature and Stellar Type: Implications for the  
Formation and Evolution of Wide-Orbit Planets*  
**Nicholas P. Ballering**, George H. Rieke, Kate Y. L. Su, and Edward Montiel  
Poster at IAU Symposium 299: Exploring the Formation and Evolution of Planetary Systems.  
Victoria, BC, Canada, 2013

## Professional References

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