

Education

- Ph.D., Astronomy**, University of Arizona, Tucson, AZ 2015
Dissertation: “Adaptive Optics for Imaging Planetary Systems”
- M.S., Astronomy**, University of Arizona, Tucson, AZ 2012
- B.S. Astrophysics & Physics**, Univ. of Minnesota, Minneapolis, MN 2009
Summa cum laude with Honors in Astrophysics; Mathematics Minor

Research Experience

- Staff Scientist** 2017+
Jet Propulsion Laboratory, Pasadena, CA
- Nancy Grace Roman Space Telescope Coronagraph Instrument 2017+
 - Instrument Technologist 2019+
 - Project Science team member 2017+
 - Arcsecond Space Telescope Enabling Research in Astrophysics 2019 – 2021
 - Science team member
 - PI of JPL internal grant funding FY20 spacecraft operations and science
- Postdoctoral Researcher** 2015 – 2017
Stanford University Physics Department, Stanford, CA
- Gemini Planet Imager instrument performance assessment and operations
- Graduate Research Assistant** 2009 – 2015
University of Arizona Astronomy Department, Tucson, AZ
- Large Binocular Telescope Interferometer Adaptive Optics commissioning and operations
 - High-contrast imaging: low-mass companion characterization and targeted searches

Advising and Mentoring

- Isabel Kain (Undergraduate) Summer 2020
- Tyler Smith (Undergraduate/PhD student) 2019+
- Melisa Tallis (post-B.S. researcher; [paper](#)) March 2016 – 2019
- W. Jerry Xuan (Undergraduate. Primary advisor: Dmitry Mawet; [paper](#)) 2018
- Pierre-Cécil König (Master’s student) Summer 2016
- Ya-Lin Wu (PhD student. Primary advisor: Laird Close; [paper](#)) 2015 – 2016

Recent Professional Development

JPL Technical Women's Leadership Journey	Spring 2021
NASA APPEL Team Leadership	January 2021
JPL Crucial Conversations Course	Aug 20-21, 2019
JPL Project Systems Engineering Course	May 20-21, 2018
Penn State Astrostatistics Summer School	June 5-9, 2017
Stanford Univ. Postdoc Teaching Workshop	Jan 26-27, 2017

Recent Service, Teaching, and Outreach

Reviewer for NASA Astrophysics, AJ	2015+
ExoExplorers Organizing Committee Chair	2020+
JPL Astrophysics Colloquium Committee Member	2018+
Stanford Physics Department Equity and Inclusion Committee Member	2016 – 2017
GPI Committee on Harassment Prevention Committee Member	2015
Instructor, Stanford University, PHYS 50, Observational Astronomy	Summer 2017
Public and course lectures and open houses	2009+

Publications

Peer reviewed papers, first author

- **Bailey, V. P.**; Meshkat, T.; Reiter, M.; Morzinski, K.; Males, J.; Su, K. Y. L.; Hinz, P. M.; Kenworthy, M.; Stark, D.; Mamajek, E.; Briguglio, R.; Close, L. M.; Follette, K. B.; Puglisi, A.; Rodigas, T.; Weinberger, A. J.; and Xompero, M. *HD 106906 b: A Planetary-mass Companion Outside a Massive Debris Disk*. *ApJ*, 780, L4 (2014). [ADS](#)
- **Bailey, V. P.**; Hinz, P. M.; Currie, T.; Su, K. Y. L.; Esposito, S.; Hill, J. M.; Hoffmann, W. F.; Jones, T.; Kim, J.; Leisenring, J.; Meyer, M.; Murray-Clay, R.; Nelson, M. J.; Pinna, E.; Puglisi, A.; Rieke, G.; Rodigas, T.; Skemer, A.; Skrutskie, M. F.; Vaitheeswaran, V.; and Wilson, J. C. *A Thermal Infrared Imaging Study of Very Low Mass, Wide-separation Brown Dwarf Companions to Upper Scorpius Stars: Constraining Circumstellar Environments*. *ApJ*, 767, 31 (2013). [ADS](#)

SPIE Conference proceedings, first author

- **Bailey, V. P.**; Bottom, M.; Cady, E.; Cantalloube, F.; de Boer, J.; Groff, T.; Krist, J.; Millar-Blanchaer, M. A.; Vigan, A.; Chilcote, J.; Choquet, E.; De Rosa, R. J.; Girard, J. H.; Guyon, O.; Kern, B.; Lagrangep, A.-M.; Macintosh, B.; Males, J. R.; Marois, C.; Meshkat, T.; Milli, J.; N'Diaye, M.; Ngo, H.; Nielsen, E. L.; Rhodes, J.; Ruane, G.; van Holstein, R. G.; Wang, J. J.; Xuan, W. J., *Lessons for WFIRST CGI from ground-based high-contrast systems*. In

Space Telescopes and Instrumentation 2018: Optical, Infrared, and Millimeter Wave, Proc. SPIE, vol. 10698, p. 10698P (2018). [ADS](#)

- **Bailey, V. P.**; Poyneer, L. A.; Macintosh, B. A.; Savransky, D.; Wang, J. J.; De Rosa, R. J.; Follette, K. B.; Ammons, S. M.; Hayward, T.; Ingraham, P.; Maire, J.; Palmer, D. W.; Perrin, M. D.; Rajan, A.; Rantakyro, F. T.; Thomas, S.; and Veran, J.-P. *Status and performance of the Gemini Planet Imager adaptive optics system*. In Adaptive Optics Systems V, Proc. SPIE, vol. 9909, p. 99090V (2016). [ADS](#)
- **Bailey, V. P.**; Hinz, P. M.; Puglisi, A. T.; Esposito, S.; Vaitheeswaran, V.; Skemer, A. J.; Defrere, D.; Vaz, A.; and Leisenring, J. M. *Large binocular telescope interferometer adaptive optics: on-sky performance and lessons learned*. In Adaptive Optics Systems IV, Proc. SPIE, vol. 9148, p. 914803 (2014). [ADS](#)
- **Bailey, V. P.**; Vaitheeswaran, V.; Codona, J.; Hinz, P.; Durney, O.; Esposito, S.; Pinna, E.; and Puglisi, A. *Characterization of synthetic reconstructors for the pyramid wavefront sensor unit of LBTI*. In Adaptive Optics Systems II, Proc. SPIE, vol. 7736, p. 77365G (2010). [ADS](#)

Peer reviewed papers, second author

- Tallis, M.; **Bailey, V. P.**; Macintosh, B.; Poyneer, L. A.; Ruffio, J.-B.; Hayward, T.; Rantakyro, F. T.; Chilcote, J. K.; Savransky, D.; *Effects of mirror seeing on high-contrast adaptive optics instruments*, JATIS, 6, 015002 (2020). [ADS](#)
- Meshkat, T.; **Bailey, V. P.**; Su, K. Y. L.; Kenworthy, M. A.; Mamajek, E. E.; Hinz, P. M.; and Smith, P. S. *Searching for Planets in Holey Debris Disks with the Apodizing Phase Plate*. ApJ, 800, 5 (2015). [ADS](#)
- Meshkat, T.; **Bailey, V. P.**; Rameau, J.; Bonnefoy, M.; Boccaletti, A.; Mamajek, E. E.; Kenworthy, M.; Chauvin, G.; Lagrange, A.-M.; Su, K. Y. L.; and Currie, T. *Further Evidence of the Planetary Nature of HD 95086 b from Gemini/NICI H-band Data*. ApJ, 775, L40 (2013). [ADS](#)
- Currie, T.; **Bailey, V. P.**; Fabrycky, D.; Murray-Clay, R.; Rodigas, T.; and Hinz, P. *High-contrast 3.8 μ m Imaging of the Brown Dwarf/Planet-mass Companion to GJ 758*. ApJ, 721, L177 (2010) [ADS](#)

Recent peer-reviewed papers, substantive coauthor

- Krishnamurthy, A.; Knapp, M.; Günther, M. N.; Daylan, T.; Demory, B.-O.; Seager, S.; **Bailey, V. P.**; Smith, M. W.; Pong, C. M.; Hughes, K.; Donner, A.; Di Pasquale, P.; Campuzano, B.; Smith, C.; Luu, J.; Babuscia, A.; Bocchino, R. L., Jr.; Loveland, J.; Colley, C.; Gedenk, T.; Kulkarni, T.; White, M.; Krajewski, J.; Fesq, L., *Transit Search for Exoplanets around Alpha Centauri A and B with ASTERIA*, AJ, 161, 275 (2021) [ADS](#)
- Seager, S.; Knapp, M.; Demory, B.-O.; Krishnamurthy, A.; Huang, C. X.; Badenas Agusti, M.; Shporer, A.; Weisserman, D.; Becker, J.; Vanderburg, A.; Smith, M. W.; Pong, C. M.; **Bailey, V. P.**; Donner, A.; Di Pasquale, P.; Campuzano, B.; Smith, C.; Luu, J.; Babuscia, A.; Bocchino, R. L. Jr.; Loveland, J.; Colley, C.; Gedenk, T.; Kulkarni, T.; Hughes, K.; White, M.; Krajewski, J.; Fesq, L.; Ricker, G.; Vanderspek, R.; Latham, D. W.; Jenkins, J. M.; Winn, J. N.; Caldwell, D. A.; Collins, K. A.; Dragomir, D.; Fausnaugh, M.; Glidden, A.; Schlieder, J. E.;

Twicken, J. D.; Wohler, B., *HD 219134 Revisited: Planet d Transit Upper Limit and Planet f Transit Nondetection with ASTERIA and TESS*, AJ, 161, 117 (2021) [ADS](#)

- Knapp, M.; Seager, S.; Demory, B.-O.; Krishnamurthy, A.; Smith, M. W.; Pong, C. M.; **Bailey, V. P.**; Donner, A.; Di Pasquale, P.; Campuzano, B.; Smith, C.; Luu, J.; Babuscia, A.; Bocchino, R. L., Jr.; Loveland, J.; Colley, C.; Gedenk, T.; Kulkarni, T.; Hughes, K.; White, M. Krajewski, J.; Fesq, *Demonstrating High-precision Photometry with a CubeSat: ASTERIA Observations of 55 Cancri e*, AJ, 160, 23 (2020) [ADS](#)
- Xuan, W. J.; Mawet, D.; Ngo, H.; Ruane, G.; **Bailey, V. P.**; Choquet, É.; Absil, O.; Alvarez, C.; Bryan, M.; Cook, T.; Femenía C., Bruno; Gomez Gonzalez, C.; Huby, E.; Knutson, H. A.; Matthews, K.; Ragland, S.; Serabyn, E.; Zawol, Z.; *Characterizing the Performance of the NIRC2 Vortex Coronagraph at W. M. Keck Observatory*, AJ, 156, 156 (2018) [ADS](#)
- Wu, Y.-Y.; Close, L. M.; **Bailey, V. P.**; Rodigas, T. J.; Males, J. R.; Morzinski, K. M.; Follette, K. B.; Hinz, P. M.; Puglisi, A.; Briguglio, R.; Xompero, M.; *Magellan AO System z, Y S, and L Observations of the Very Wide 650 AU HD 106906 Planetary System*, ApJ, 823, 24 (2016) [ADS](#)

A full list of first author and co-author refereed papers and SPIE proceedings can be found on ORCID (orcid.org/0000-0002-5407-2806).