Ryan C. Terrien

Ph.D. Candidate, Penn State Department of Astronomy & Astrophysics
525 Davey Lab, University Park, PA 16802
Phone: (814) 689-9204, email: rct151@psu.edu
Updated February 6, 2015

Education

The Pennsylvania State University, University Park, PA
Ph.D. in Astronomy & Astrophysics (Anticipated 2015)
Master of Science in Astronomy & Astrophysics, February 2012

Carleton College, Northfield, MN
Bachelor of Arts in Physics & Astronomy, *magna cum laude*, June 2009

Honors and Awards

Penn State Alumni Assoc. Dissertation Award (2015)
NASA Pennsylvania Space Grant Fellow (2012-2014)
Downsborough Fellowship (2013-2014)
Sigma Xi Grants in Aid of Research (2012, 2014)
Brumbach Fellowship (2011)
Zaccheus Daniel Fellowship (2010, 2011, 2013)
Pennsylvania State Astronomy T.A. of the Year (2009-2010)
Braddock and Roberts Fellowship (2009)
Phi Beta Kappa (2009)
Distinction in Carleton Senior Project (topic: Astronomical Interferometry)
Carleton College Dean's List (2006-07, 2007-08)
Sigma Xi Membership (2008)
Damon Scholarship, Carleton College (2008)

Refereed Journal Articles

Alam, S. et al., "The Eleventh and Twelfth Data Releases of the Sloan Digital Sky Survey: Final Data from SDSS-III," *Submitted to The Astrophysical Journal Supplement* (2015)

Ahn, C. P. et al., "The Tenth Data Release of the Sloan Digital Sky Survey: First Spectroscopic Data from the SDSS-III Apache Point Observatory Galactic Evolution Experiment," The Astrophysical Journal Supplement, Vol. 211, 17 (2014)

R. Terrien, S. Mahadevan, R. Deshpande, C. Bender, P. Cargile, F. Hearty, M. Cottaar, C. Allende Prieto, S. Fleming, P. Frinchaboy, K. Jackson, J. Johnson, S. Majewski, D. Nidever, J. Pepper, J. Rodriguez, D. Schneider, R. Siverd, K. Stassun, B. Weaver, J. Wilson, "New Red Jewels in Coma Berenices," The Astrophysical Journal, Vol. 782, 61 (2014)

R. Deshpande et al., "The SDSS-III APOGEE Radial Velocity Survey of M Dwarfs. I. Description of the Survey and Science Goals," The Astronomical Journal, Vol. 146, 156D (2013)

G. Zasowski et al., "Target Selection for the Apache Point Observatory Galactic Evolution Experiment (APOGEE)," The Astronomical Journal, Vol. 146, 81 (2013)

Kopparapu, R. K. et al., "Habitable Zones around Main-sequence Stars: New Estimates," The Astrophysical Journal, Vol. 765, 131 (2013)

R. Terrien, S. Fleming, S. Mahadevan, R. Deshpande, G. Feiden, C. Bender, L.

Ramsey, "The Metallicity of the CM Draconis System," The Astrophysical Journal Letters, Vol. 760, L9 (2012)

K. Luhman, N. Loutrel, N. McCurdy, G. Mace, N. Melso, K. Star, M. Young, **R. Terrien**, I. McLean, J. Kirkpatrick, K. Rhode, "New M, L, and T Dwarf Companions to Nearby Stars from the Wide-field Infrared Survey Explorer," The Astrophysical Journal, Vol. 760, 152 (2012)

C. Bender, S. Mahadevan, R. Deshpande, J. Wright, A. Roy, **R. Terrien**, S. Sigurdsson, L. Ramsey, D. Schneider, S. Fleming, "The SDSS-HET Survey of Kepler Eclipsing Binaries: Spectroscopic Dynamical Masses of the Kepler-16 Circumbinary Planet Hosts," The Astrophysical Journal Letters, Vol. 751, L31 (2012)

R. Terrien, S. Mahadevan, C. Bender, R. Deshpande, L. Ramsey, J. Bochanski, "An H-band Spectroscopic Metallicity Calibration for M Dwarfs," The Astrophysical Journal Letters, Vol. 747, L38 (2012)

G. Ycas, F. Quinlan, S. Diddams, S. Osterman, S. Mahadevan, S. Redman, **R. Terrien**, L. Ramsey, C. Bender, B. Botzer, S. Sigurdsson, "Demonstration of On-Sky Calibration of Astronomical Spectra using a 25 GHz near-IR Laser Frequency Comb," Optics Express, Vol. 20, 6631 (2012)

S. Redman, G. Ycas, **R. Terrien**, S. Mahadevan, L. Ramsey, C. Bender, S. Osterman, S. Diddams, F. Quinlan, J. Lawler, G. Nave, "A High-Resolution Atlas of Uranium-Neon in the H Band," The Astrophysical Journal Supplement, Vol. 199, 2 (2012)

Conference Proceedings & Presentations

R. Terrien, S. Mahadevan, R. Deshpande, C. Bender, L. Ramsey, "Characterizing M dwarf planet hosts and enabling precise radial velocities in the near-infrared," Dissertation Talk at American Astronomical Society Meeting #225 (112.06, 2015)

R. Terrien, C. Bender, S. Mahadevan, S. Halverson, L. Ramsey, F. Hearty, "Developments in simulations and software for a near-infrared precision radial velocity spectrograph," Proceedings of the SPIE, Vol. 9152 (2014)

S. Mahadevan, L. Ramsey, **R. Terrien**, S. Halverson, A. Roy, F. Hearty, E. Levi, G. Stefansson, P. Robertson, C. Bender, C. Schwab, M. Nelson, "The Habitable-zone Planet Finder: A status update on the development of a stabilized fiber-fed near-infrared spectrograph for the for the Hobby-Eberly telescope," Proceedings of the SPIE, Vol. 9147 (2014)

F. Hearty, E. Levi, M. Nelson, S. Mahadevan, A. Burton, L. Ramsey, C. Bender, **R. Terrien**, S. Halverson, P. Robertson, A. Roy, B. Blank, K. Blanchard, G. Stefansson, "Environmental control system for Habitable-zone Planet Finder (HPF)," Proceedings of the SPIE, Vol. 9147 (2014)

S. Halverson, S. Mahadevan, L. Ramsey, **R. Terrien**, A. Roy, C. Schwab, C. Bender, F. Hearty, E. Levi, S. Osterman, G. Ycas, S. Diddams, "The habitable-zone planet finder calibration system," Proceedings of the SPIE, Vol. 9147 (2014)

R. Terrien, S. Mahadevan, C. Bender, R. Deshpande, F. Hearty, L. Ramsey, "Applications of M dwarf metallicity calibrations in two large spectroscopic surveys," poser presentation at the Cool Stars 18 Conference, Flagstaff, AZ (2014)

R. Terrien, S. Mahadevan, C. Bender, R. Deshpande, L. Ramsey, J. Bochanski,

C. Blake, "Spectroscopic M Dwarf Metallicity Estimates from the H-Band," poster presentation at the Cool Stars 17 Conference, Barcelona, Spain (2012)

R. Terrien, C. Bender, S. Mahadevan, L. Ramsey, F. Hearty, W. Vacca, "Simulations of a near-infrared precision radial velocity spectrograph for finding planets around M dwarfs," Ground-based and Airborne Instrumentation for Astronomy IV. Proceedings of the SPIE, Vol. 8446 (2012)

S. Mahadevan, L. Ramsey, C. Bender, **R. Terrien**, J. Wright, S. Halverson, F. Hearty, M. Nelson, A. Burton, S. Redman, S. Osterman, S. Diddams, J. Kasting, M. Endl, R. Deshpande, "The Habitable-Zone Planet Finder: A Stabilized Fiber-Fed NIR Spectrograph for the Hobby-Eberly Telescope," Proceedings of the SPIE, Vol. 8446 (2012)

S. Osterman, G. Ycas, S. Diddams, F. Quinlan, S. Mahadevan, L. Ramsey, C. Bender, **R. Terrien**, B. Botzer, S. Sigurdsson, S. Redman, "A near infrared frequency comb for Y+J band astronomical spectroscopy," Proceedings of the SPIE, Vol. 8450, (2012)

R. Terrien, "The Quest for Terrestrial Mass Planets Around M dwarfs with Near Infrared Spectroscopy," Oral Presentation at the 2011 NASA Astrobiology Institute Executive Council Meeting

R. Terrien, S. Mahadevan, L. Ramsey, C. Bender, S. Redman, S. Osterman, S. Diddams, G. Ycas, F. Quinlan, B. Botzer, "A Precision Radial Velocity Pathfinder Instrument in the H band with a Laser Frequency Comb" American Astronomical Society Meeting #217 (253.09, Vol. 43, 2011)

K. W. Hodapp, R. Chini, B. Reipurth, M. Murphy, R. Lemke, R. Watermann, S. Jacobson, K. Bischoff, T. Chonis, D. Dement, **R. Terrien**, K. Bott, S. Provence, "Commissioning of the infrared imaging survey (IRIS) system" Proceedings of the SPIE, Vol. 7735 (2010)

Research

Design of the Habitable Zone Planet Finder radial velocity spectrograph and characterization of M dwarf targets — 2011-Present
Advisor: Dr. Suvrath Mahadevan

Tests and upgrades of the PSU Pathfinder Precision Radial Velocity Spectrograph — 2010-2011
Advisor: Dr. Suvrath Mahadevan

Renovation of the University of Hawaii Quick Infrared Camera — Summer 2008
Advisor: Dr. Klaus Hodapp (NSF REU)

Comparing Images of Seyfert Galaxies in Multiple Bands — Summer 2007
Advisor: Dr. Eric Perlman (NSF REU)

Teaching Experience

Upward Bound Math & Science Astronomy Instructor — Summer 2013
Teaching Assistant (Intro Astro Lab) — 2009-10
The Pennsylvania State University, Astronomy Department

Laboratory Assistant, Tutor — 2006-2009
Carleton College, Physics & Astronomy Department

Service & Outreach

Journal Referee (ApJ) — 2014

Penn State Astrobiology Workshop for Educators — July 2013

USA Science and Engineering Festival (70,000 visitors), Washington, DC	2012, 2014
Penn State Astrobiology Research Center Workshop for Educators	2012-2014
Observatory Open Houses Volunteer	2009-Present
Penn State AstroFest (four-day event with ∼2000 visitors)	Summers 2009-Present
Carleton College Observatory Open Houses Volunteer	2007-2009