

# Thomas G. Beatty

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EMPLOYMENT	2014 – current: <b>Center for Exoplanets and Habitable Worlds Post-doctoral Fellow</b> The Pennsylvania State University, University Park, PA	
EDUCATION	<b>The Ohio State University</b> , Columbus, OH Ph.D. Astronomy, Advisor: Prof. B. Scott Gaudi, June 2014  <b>Massachusetts Institute of Technology</b> , Cambridge, MA M.S. Physics, Advisor: Prof. Sara Seager, June 2009  <b>Harvard University</b> , Cambridge, MA B.A. Astronomy & Astrophysics with honors, June 2006	
HONORS AND AWARDS	2009 – 2012: <i>Distinguished University Fellowship</i> , The Ohio State University 2007 – 2008: <i>Whiteman Fellowship</i> , Massachusetts Institute of Technology 2007: <i>Thomas Temple Hoopes Prize</i> , Harvard University	
PROFESSIONAL SERVICE	Member, American Astronomical Society, 2010- Referee, ApJ, AJ and A&A, 2007-	
OBSERVING EXPERIENCE	MINERAVA 4x0.7m Telescope Array Optical photometry of exoplanets and variable stars, multiple nights, February 2015 to present MDM 1.3m Telescope Optical spectroscopy of AGNs, 7 nights, March 2012 Optical spectroscopy of AGNs, 7 nights, September 2010 Optical photometry of exoplanet transits, 1 night, March 2010 SAAO Elizabeth 1m Telescope Optical photometry of microlensing events, 15 nights, June 2010 Magellan Baade 6.5m Telescope Optical photometry of exoplanet transits, 2 nights, August 2008	
MENTORING	<i>Keyvn Wright</i> , Ohio State University, undergraduate student, supervised as part of term-time independent research project. <i>Casey Hansen</i> , The Wellington School, high school student, supervised as part of term-time independent research project.	
MAJOR PROPOSALS	PI: <i>A Spitzer Transit of the Most Inflated Planet Known, Around an Extremely Bright Sub-giant</i> Spitzer Space Telescope, 15.5 hours awarded. October 2015 Co-I: <i>K2 monitoring of known transiting planet phase curves and bright planet hosts</i> Kepler Space Telescope. May 2015 PI: <i>Phase Curve Observations of the Irradiated Transiting Brown Dwarf KELT-1b</i> Spitzer Space Telescope, 74.5 hours awarded. December 2014 PI: <i>H-band Secondary Eclipse Spectroscopy of the Highly Irradiated Brown Dwarf KELT-1b</i> Large Binocular Telescope, 6 hours awarded. October 2013 PI: <i>NIR Secondary Eclipse Measurements of HAT-P-36b</i> Large Binocular Telescope, 7 hours awarded. March 2013 PI: <i>3.6<math>\mu</math>m and 4.5<math>\mu</math>m Secondary Eclipse Observations of the Highly Irradiated Transiting Brown Dwarf KELT-1b</i> Spitzer Space Telescope, 6 hours awarded. September 2012	

FIRST-AUTHOR  
PUBLICATIONS

6. *Sources of Statistical Uncertainty in Precision Radial Velocities and Their Approximations*  
**Beatty, T. G.**, & Gaudi, B. S., 2015, PASP, 127, 1240
5. *Spitzer and z' Secondary Eclipse Observations of the Highly Irradiated Transiting Brown Dwarf KELT-1b*  
**Beatty, T. G.**, Collins, K. A., Fortney, J., and 9 coauthors, 2014, ApJ, 783, 112
4. *KELT-2Ab: A Hot Jupiter Transiting the Bright ( $V = 8.77$ ) Primary Star of a Binary System*  
**Beatty, T. G.**, Pepper, J., Siverd, R. J., and 28 coauthors, 2012, ApJL, 756, L39
3. *Transit Probabilities for Stars with Stellar Inclination Constraints*  
**Beatty, T. G.**, & Seager, S., 2010, ApJ, 714, 1433
2. *Predicting the Yields of Photometric Surveys for Transiting Extrasolar Planets*  
**Beatty, T. G.**, & Gaudi, B. S., 2008, ApJ, 686, 1302
1. *The Mass and Radius of the Unseen M Dwarf Companion in the Single-Lined Eclipsing Binary HAT-TR-205-013*  
**Beatty, T. G.**, Fernandez, J. M., Latham, D. W., and 7 coauthors, 2007, ApJ, 663, 573

SIGNIFICANT  
CONTRIBUTION  
PUBLICATIONS

7. *KELT-4Ab: An inflated Hot Jupiter transiting the bright ( $V = 10$ ) component of a hierarchical triple*  
Eastman, J. D., **Beatty, T. G.**, Siverd, R. J., and 42 coauthors, 2015, AJ, in press
6. *KELT-8b: A Highly Inflated Transiting Hot Jupiter and a New Technique for Extracting High-precision Radial Velocities from Noisy Spectra*  
Fulton, B., J., Collins, K., Gaudi, B. S., and 29 coauthors including **Beatty, T. G.**, 2015, ApJ, 810, 30
5. *KELT-7b: A Hot Jupiter Transiting a Bright  $V = 8.54$  Rapidly Rotating F-star*  
Bieryla, A., Collins, K., **Beatty, T. G.**, and 31 coauthors, 2015, AJ, 150, 12
4. *Miniature Exoplanet Radial Velocity Array (MINERVA) I. Design, Commissioning, and First Science Results*  
Swift, J. J., Bottom, M., Johnson, J. A., and 27 coauthors including **Beatty, T. G.**, 2015, JATIS, 1, 027002
3. *KELT-6b: A  $P \sim 7.9$  d Hot Saturn Transiting a Metal-Poor Star with a Long-Period Companion*  
Collins, K. A., Eastman, J. D., **Beatty, T. G.**, and 39 coauthors, 2013, AJ, 147, 39
2. *KELT-3b: A Hot Jupiter Transiting a  $V = 9.8$  Late-F Star*  
Pepper, J., Siverd, R. J., **Beatty, T. G.**, and 31 coauthors, 2013, ApJ, 773, 64
1. *KELT-1b: A Strongly Irradiated, Highly Inflated, Short Period, 27 Jupiter-mass Companion Transiting a Mid-F Star*  
Siverd, R. J., **Beatty, T. G.**, Pepper, J., and 29 coauthors, 2012, ApJ, 761, 123

OTHER REFEREED  
PUBLICATIONS

15. *Multiwavelength Transit Observations of the Candidate Disintegrating Planetesimals Orbiting WD 1145+017*  
Croll, B., Dalba, P. A., Vanderburg, A., and 13 coauthors including **Beatty, T. G.**, 2015, ApJ, submitted
14. *KELT-14b and KELT-15b: An Independent Discovery of WASP-122b and a New Hot Jupiter*  
Rodriguez, J. E., Colon, K. D., Stassun, K. G., and 28 coauthors including **Beatty, T. G.**, 2015, AJ, submitted
13. *KELT-10b: The First Transiting Exoplanet from the KELT-South Survey – A Hot Sub-Jupiter Transiting a  $V = 10.7$  Early G-Star*  
Kuhn, R. B., Rodriguez, J. E., Collins, K. A., and 30 coauthors including **Beatty, T. G.**, 2015, MNRAS, in press
12. *V409 Tau as Another AA Tau: Photometric Observations of Stellar Occultations by the Circumstellar Disk*  
Rodriguez, J. E., Pepper, J., Stassun, K. G., and 7 coauthors including **Beatty, T. G.**, 2015, ApJ, 150, 32
11. *Reverberation Mapping of the Seyfert 1 Galaxy NGC 7469*  
Peterson, B. M., Grier, C. J., Horne, K., and 46 coauthors including **Beatty, T. G.**, 2014, ApJ, 795, 149

10. *Occultation of the T Tauri Star RW Aurigae A by its Tidally Disrupted Disk*  
Rodriguez, J. E., Pepper, J., Stassun, K. G., and 4 coauthors including **Beatty, T. G.**, 2013, AJ, 146, 112
9. *MOA-2010-BLG-328Lb: a sub-Neptune Orbiting Very Late M-dwarf?*  
Furusawa, K., Udalski, A., Sumi, T., and 119 coauthors including **Beatty, T. G.**, 2013, ApJ, 779, 91
8. *MOA-2010-BLG-311: A Planetary Candidate below the Threshold of Reliable Detection*  
Yee, J. C., Hung, L.-W., Bond, I. A., and 129 coauthors including **Beatty, T.G.**, 2013, ApJ, 769, 77
7. *A Cautionary Tale: MARVELS Brown Dwarf Candidate Reveals Itself to be a Very Long Period, Highly Eccentric Spectroscopic Stellar Binary*  
Mack, C. E. III, Ge, J., Deshpande, R., and 42 coauthors including **Beatty, T.G.**, 2013, AJ, 145, 139
6. *The Structure of the Broad-line Region in Active Galactic Nuclei. I. Reconstructed Velocity-delay Maps*  
Grier, C. J., Peterson, B. M., Horne, K., and 38 coauthors including **Beatty, T.G.**, 2013, ApJ, 764, 47
5. *MOA-2010-BLG-523: “Failed Planet” = RS CVn Star*  
Gould, A., Yee, J. C., Bond, I. A., and 122 coauthors including **Beatty, T.G.**, 2013, ApJ, 763, 141
4. *Very Low Mass Stellar and Substellar Companions to Solar-like Stars from MARVELS. II. A Short-period Companion Orbiting an F Star with Evidence of a Stellar Tertiary and Significant Mutual Inclination*  
Fleming, S. W., Ge, J., Barnes, R., **Beatty, T. G.**, and 58 coauthors, 2012, AJ, 144, 72
3. *Reverberation Mapping Results for Five Seyfert 1 Galaxies*  
Grier, C. J., Peterson, B. M., Pogge, R. W., and 40 coauthors including **Beatty, T. G.**, 2012, ApJL, 755, 60
2. *A Reverberation Lag for the High-ionization Component of the Broad-line Region in the Narrow-line Seyfert 1 Mrk 335*  
Grier, C. J., Peterson, B. M., Pogge, R. W., and 37 coauthors including **Beatty, T. G.**, 2012, ApJL, 744, 4
1. *The Transit Light Curve Project. XI. Submillimagnitude Photometry of Two Transits of the Bloated Planet WASP-4b*  
Winn, J. N., Holman, M. J., Carter, J. A., Torres, G., Osip, D. J., **Beatty, T. G.**, 2009, AJ, 137, 3826

#### INVITED TALKS

4. *The Unique Links Between Transiting Brown Dwarfs and Transiting Hot Jupiters*  
UPenn Astronomy Seminar, October, 2015
3. *The Unique Links Between Transiting Brown Dwarfs and Transiting Hot Jupiters*  
Harvard/CfA Small Scale Seminar, October, 2015
2. *Opportunities of Transiting Brown Dwarfs*  
The Brown Dwarf to Exoplanet Connection, October, 2014
1. *The KELT-North Transit Survey’s First Planetary Detections*,  
NExScI, September 2012

#### CONTRIBUTED TALKS

4. *Results and Lessons Learned From the KELT-North Wide-angle Transit Survey of Bright Stars*,  
AAS Meeting #223, January 2014
3. *The KELT-North Transit Survey’s First Planetary Detections*, AAS Meeting #220, June 2012
2. *The Sensitivity of Transit and Radial Velocity Surveys to Earth Analogs*, UCF Winter Workshop,  
January 2010
1. *Predicting the Yields of Photometric Surveys for Transiting Planets*, IAU Symposium 253,  
May 2008