

Thomas G. Beatty – Curriculum Vitae

CONTACT INFORMATION	Steward Observatory The University of Arizona 933 N. Cherry Ave., Tucson, AZ 85721 http://www.thomasgbeatty.org	phone: (520) 621-2054 tgbeatty@arizona.edu
EMPLOYMENT	Assistant Research Professor The University of Arizona, Tucson, AZ	2018 – present
	Assistant Research Professor The Pennsylvania State University, University Park, PA	2017 – 2018
	Center for Exoplanets and Habitable Worlds Postdoctoral Fellow The Pennsylvania State University, University Park, PA	2014 – 2017
EDUCATION	The Ohio State University , Columbus, OH Ph.D. in Astronomy, Advisor: Prof. B. Scott Gaudi, August 2014 Dissertation: <i>Extrasolar Planet Detection and Characterization With the KELT-North Transit Survey</i> Massachusetts Institute of Technology , Cambridge, MA M.S. in Physics, Advisor: Prof. Sara Seager, June 2009 Harvard University , Cambridge, MA B.A. in Astronomy & Astrophysics with honors, June 2006	
HONORS AND AWARDS	2020: <i>NASA Group Achievement Award</i> , as a member of the NEID science team 2014 – 2017: <i>Center for Exoplanets and Habitable Worlds Postdoctoral Fellowship</i> , The Pennsylvania State University 2009 – 2012: <i>Distinguished University Graduate Fellowship</i> , The Ohio State University 2007 – 2008: <i>Whiteman Graduate Fellowship</i> , Massachusetts Institute of Technology 2007: <i>Thomas Temple Hoopes Prize</i> , Harvard University	
MAJOR GRANTS AND PROPOSALS	Co-I: <i>Next Generation Stellar Parameters from Eclipsing Binaries</i> 2020, NASA ADAP PI: <i>An Observational Anchor for Brown Dwarf Models</i> 2020, Hubble Space Telescope, 5 orbits PI: <i>Real or a Mirage? Looking for Water on WASP-12b</i> 2019, Large Binocular Telescope, 2 nights PI: <i>Looking For Weather on a Hot Jupiter</i> 2019, Spitzer Space Telescope, 52.6 hours PI: <i>Testing the Formation Pathway of a Transiting Brown Dwarf, Take 2</i> 2019, Spitzer Space Telescope, 15.8 hours Co-I: <i>Testing the Hypothesis of a Low Metallicity Atmosphere for the Extremely Inflated Sub-Saturn-Mass Planet KELT-11b</i> 2019, Hubble Space Telescope, 9 orbits PI: <i>Reconnaissance of the Hottest Neptune-Class Planet Transiting a Bright Parent Star</i> 2019, Hubble Space Telescope, 8 orbits PI: <i>Verification of Two Potential Commissioning Targets for JWST/NIRCam</i> 2018, Kuiper 61-inch, 2 nights PI: <i>A Test of the Fundamental Physics Underlying Exoplanet Climate Models</i> 2018, Spitzer Space Telescope, 44.2 hours PI: <i>Benchmarking Brown Dwarf Models With a Non-irradiated Transiting Brown Dwarf in Praesepe</i> 2018, Spitzer Space Telescope, 9.4 hours PI: <i>Testing the Formation Pathway of a Transiting Brown Dwarf in a Middle-aged Cluster</i> 2018, Spitzer Space Telescope, 15.8 hours Co-I: <i>Light from Darkness: Understanding Extrasolar Planets From Their Shadows</i> 2017, Australian Research Council	

PI: *Eclipse and Transmission Spectra of WASP-12b*
 2017, Large Binocular Telescope, 1 night

Co-I: *The KELT-11b Opportunity: Measuring the Atmospheric Water Abundance for a Sub-Saturn-Mass Planet around a Metal-Rich Star.*
 2017, Hubble Space Telescope, 10 orbits

PI: *Eclipse and Transmission Spectra of KELT Planets with LUCI*
 2017, Large Binocular Telescope, 15 hours

PI: *Phase-Resolved Emission Spectroscopy of the Transiting Brown Dwarf KELT-1b Using WFC3*
 2016, Hubble Space Telescope, 40 orbits

PI: *Secondary Eclipse Spectra of KELT Planets with LUCI*
 2016, Large Binocular Telescope, 20 hours

PI: *Precise H-K Color Measurements of the Daysides of Two Hot Jupiters*
 2016, WIYN 3.5m telescope, 2 nights

PI: *Eclipse Observations of a Temperate Transiting Brown Dwarf*
 2016, Spitzer Space Telescope, 15.7 hours

PI: *A New Method to Measure the H-Ks Color of the Daysides of Hot Jupiters*
 2015, WIYN 3.5m telescope, 1 night

PI: *A Spitzer Transit of the Most Inflated Planet Known, Around an Extremely Bright Sub-giant*
 2015, Spitzer Space Telescope, 15.5 hours

PI: *Phase Curve Observations of the Irradiated Transiting Brown Dwarf KELT-1b*
 2014, Spitzer Space Telescope, 74.5 hours

PI: *H-band Secondary Eclipse Spectroscopy of the Highly Irradiated Brown Dwarf KELT-1b*
 2013, Large Binocular Telescope, 6 hours

PI: *3.6 μ m and 4.5 μ m Secondary Eclipse Observations of the Highly Irradiated Transiting Brown Dwarf KELT-1b*
 2012, Spitzer Space Telescope, 12 hours

SERVICE AND
 COMMITTEES

National Community Representative, NOIRLab/WIYN Science Steering Committee	2020 – present
Future Missions lead, TESS Atmospheric Characterization Working Group	2020 – present
Transiting exoplanet science PI, HISPEC/MODIS spectrograph team	2019 – present
Member, TESS Follow-up Network SG5 (space-based photometry)	2018 – present
Member, TESS Follow-up Network SG1 (ground-based photometry)	2018 – present
Co-I, JWST Transiting Exoplanet Community Early Release Science Program	2017 – present
Co-I, EarthFinder mission proposal	2017 – present
Penn State Astronomy Department Graduate Admissions Committee	2017 – 2018
Penn State Astronomy Department Climate Committee	2015 – 2018
Reviewer for various NASA, NSF, NOIRLab, and HST Panels	2014 – present
Referee for ApJ, AJ, MNRAS, PASP, and A&A	2012 – present
Astronomy representative, Ohio State Graduate Student Council	2012 – 2014

ADVISING
 EXPERIENCE

7. Nicholas Schragal (U. Arizona graduate student) – Adviser for the project *Next Generation Stellar Parameters from Eclipsing Binaries*, 2021 – present
6. Matthew Murphy (U. Arizona graduate student) – Adviser for the projects *Constraints on Time Variability in the Spitzer Phase Curves of WASP-43b* which is being written up as **Murphy et al. in prep**, and the project *The WFC3 Transmission Spectrum of the Hot Neptune HD 219666b* currently in analysis , 2020 – present
5. Arsh Nadkarni (U. Arizona undergraduate) – Adviser for term-time research simulating JWST/NIRCam observations and his Senior-year honors thesis *The Radial Velocity Confirmation of 5 TESS Hot Jupiters*, 2020 – present

4. Chad Gallego (U. Arizona undergraduate) – Adviser for term-time research and his Senior-year honors thesis, *Investigating the Formation Pathway of a Transiting Brown Dwarf*, 2018 – 2020
3. Leo Liu (Penn State graduate student) – Advisor for his first and second year projects *NIR Eclipse Photometry of WASP-12b* and *Flux-Dependent Non-Linearity Effects in WIRC-POL*, 2016 – 2018
2. Kezman Saboi (Penn State REU student, currently ASU graduate student) – Summer REU project entitled *K2 Photometry of WASP-52b*, 2017
1. Kim Cartier (Penn State graduate student) – Adviser for two projects: *Near-IR Emission Spectrum of WASP-103b Using Hubble Space Telescope/Wide Field Camera 3* which led to the paper **Cartier et al. (2018)**, and *MINERVA Transmission Spectroscopy of WASP-103b*, 2015 – 2017

TEACHING	<i>ASTR 302: Observational Astronomy</i> , undergrad-level, University of Arizona	2020 – present
EXPERIENCE	<i>Undergraduate Indep. Research</i> , undergrad-level, University of Arizona	2018 – present
	<i>Undergraduate Indep. Research</i> , undergrad-level, Penn State University	2016
	Guest Lecturer, <i>The Astronomical Universe</i> , undergrad-level, Penn State University	2017
	Guest Lecturer, <i>Stellar Structure and Evolution</i> , grad-level, Penn State University	2016
	Guest Lecturer, <i>Life in the Universe</i> , undergrad-level, Ohio State University	2014
	Guest Lecturer, <i>Planets and the Solar System</i> , undergrad-level, Ohio State University	2013

INVITED TALKS	NEXSS Technosignatures Seminar, NASA Goddard	2021
	Invited Talk, Technoclimates Conference	2020
	Invited Talk, Tackling the Complexities of Sub-Stellar Objects	2020
	AAS Meeting 237, Special Session: Atmospheric Characterization of TESS Planets	2020
	Invited Talk, LUVOIR Science Working Group	2019
	Astronomy Seminar, Arizona State University	2019
	Astronomy Seminar, Pennsylvania State University	2019
	Astronomy Seminar, University of Texas at Austin	2019
	Invited Talk, Bay Area Exoplanet Meeting	2018
	Exoplanet Seminar, Space Telescope Science Institute	2018
	Astrophysics Seminar, Vanderbilt University	2018
	Astrophysics Seminar, Princeton University	2018
	Astronomy Seminar, NASA Goddard	2017
	Review Talk, BDEXOCON II	2016
	Exoplanet Seminar, Carnegie DTM	2016
	Exoplanet Seminar, NASA JPL	2016
	Astronomy Seminar, University of Pennsylvania	2015
	Harvard/CfA Small Scale Seminar	2015
	Invited Talk, BDEXOCON	2014
	NExSci Weekly Seminar, IPAC/Caltech	2013

OUTREACH	Research featured in an episode of the Physics Today Podcast	2021
	Participant, Astronomy Coffee Hangout	2017
	Public lecture on “Once You’ve Discovered Another Earth, What Comes Next?” delivered over 20 times	2015 – present
	Press coverage includes the New York Times, NBC News, Scientific American, Sky & Telescope, Space.com, Physics World, and CBC News	2012 – present