

ROMY RODRÍGUEZ MARTÍNEZ

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RESEARCH INTERESTS/GOALS

I am interested in the detection and characterization of extrasolar planets. My chief research goals are to combine precise measurements of small exoplanets's masses and radii with the chemical abundances of their host stars to constrain planetary structure and composition.

EDUCATION

PhD, Astronomy The Ohio State University	August 2017 - Present
Master of Science, Physics University of Puerto Rico, Río Piedras	August 2015 - June 2017
Bachelor of Science, Physics University of Puerto Rico, Río Piedras	August 2009 - May 2015

PUBLICATIONS

7 total; 5 first author

8. **Rodríguez Martínez, R.**, Gaudi, B.S., Schulze, J., et al. "A reanalysis of the USP super-Mercury candidate K2-106b", in preparation
7. **Rodríguez Martínez, R.**, Stevens, D.J., Gaudi, B.S., Panero, W., "Analytic Estimates of the Achievable Precision on the Physical Properties of Transiting Planets using Purely Empirical Measurements", 2021, *The Astrophysical Journal*, 911, 84.
6. Godoy-Rivera, D., Tayar, J., Pinsonneault, M., **Rodríguez Martínez, R.**, et al., "Testing the Limits of Precise Subgiant Characterization with APOGEE and Gaia: Opening a Window to Unprecedented Astrophysical Studies", *Accepted to the Astrophysical Journal*
5. **Rodríguez Martínez, R.**, Gaudi, B.S., Rodriguez, Joseph E., "KELT-25b and KELT-26b, a Hot Jupiter and a Substellar Companion Transiting Young A-stars observed by TESS", 2020, *The Astronomical Journal*, 160, 3.
4. Rodriguez, J. E., Eastman, J. D., Zhou, G., et al., "KELT-24b: A $5M_J$ Planet on a 5.6 day Well-Aligned Orbit around the Young V=8.3 F-star HD 93148", 2019, *The Astronomical Journal*, 158, 197.
3. **Rodríguez Martínez, R.**, Lopez, L., Shappee, B., Kochanek, C.S., Jayasinghe, T., Schmidt, S., "A Catalog of Flares on M dwarfs with ASAS-SN", 2020 *The Astrophysical Journal*, 892, 144.
2. **Rodríguez Martínez, R.**, Ballard, S., Mayo, A., Vanderburg, A., Montet, B., Christiansen, J. L., "Characterization of Low Mass K2 Planet Hosts Using Near-Infrared Spectroscopy", 2019, *The Astronomical Journal*, 158, 155.
1. **Rodríguez Martínez, R.**, Schmidt, S. J., Jayasinghe, T., Stanek, K. Z., Prieto, J. L., Shappee, B., Kochanek, C.S., Thompson, T. A., Holoiu, T. W.-S., Bersier, D., Brimacombe, J., "ASASSN-18di: Discovery of a Powerful Flare on a Mid-M Dwarf", 2018, *Research Notes of the American Astronomical Society*, 2, 2.

TALKS PRESENTED

"Revisiting the Composition of K2-106b: an Ultra-dense, Ultra-short Period Exoplanet"
NASA JPL Exoplanet Seminar (Invited Talk)

April 25, 2022

“Journey into the Centers of Super-Earths: Constraining the Interior Structure and Composition of Low-Mass Exoplanets” Carnegie Observatories invited seminar talk	March 18, 2022
“Revisiting the Composition of K2-106b: an Ultra-dense, Ultra-short Period Exoplanet” ExoExplorer Science Talks	March 18, 2022
“Analytic Estimates of the Achievable Precision on the Physical Properties of Transiting Exoplanets” Habitable Worlds 2021 conference	February 2021
“Analytic estimates of the achievable precision of the properties of transiting exoplanets” National Society of Black Physicists conference	November 2020
“Finding Flares with ASAS-SN” Invited talk at Cool Stars conference 2020	Cancelled due to COVID-19
“KELT-25b & KELT-26b: A hot Jupiter and a substellar companion transiting young A-stars observed by TESS” Invited “Astronomy Tea” talk - Carnegie Observatories	July 2020
“Searching for Hot Planets Around Hot Stars with the KELT Survey”, Harvard-Smithsonian Center for Astrophysics, Stars & Planets Seminar invited talk	October 2019
“Strange New Worlds”, Arecibo Observatory invited seminar talk	April 2017

AWARDS AND HONORS

ExoExplorers Program (ExoPAG Executive Committee/ NASA Exoplanet Exploration Program)	January 2021
Presidential Fellowship, Ohio State University	December 2021
Two Sigma Diversity PhD Fellowship Grant (\$2000)	March 2021
Two Sigma Diversity PhD Fellowship Finalist	March 2021
8 Hours Observing Time awarded at PEPSI Spectrograph on LBT	August 2020
Honorable Mention for Ford Foundation Predoctoral Fellowship	January 2019
Beth A. Brown Award for Best Graduate Poster Presentation National Society of Black Physicists conference	November 2018
Ann S. Tuttle Scholarship	September 2017

TEACHING & ADVISING

The Columbia High School Science Research Program <i>Mentor for a high school student in the Science Research Program</i>	January 2021 - Present
The SciAccess Zenith Mentorship Program <i>Mentor for a high school student in the Space Science Mentoring Program at OSU</i>	September 2020 - December 2020
Polaris Mentorship Program <i>Mentor for physics & astronomy undergraduate student</i>	August 2019 - May 2020
University of Puerto Rico, Río Piedras, Intermediate Lab II Graduate Teaching Assistant (TA)	January 2016
University of Puerto Rico, Río Piedras, Introduction to Physics Lab I Graduate Teaching Assistant (TA)	August 2015
A tiempo Tutoring Center Math and Physics Tutor for Middle School students	August 2011

OUTREACH & SERVICE

Panelist for <i>Galaxy Quest</i> Monthly Movie Nights - Science Fiction vs Science Fact Q&A webinar, Astronomy Department, OSU	August 2021
American Astronomical Society Journal Author Series Discussion of the paper “Analytic Estimates of the Achievable Precision on the Physical Properties of Transiting Planets Using Purely Empirical Measurements”	May 2021
Speaker for “Magnifying Voices in Physics” event though Womxn in Physics and Astronomy (WiPA) at UC Irvine	May 2021
Invited speaker at the Columbus School for Girls	April 2021
Invited speaker for middle and high school students at Colegio Congregacion Mita (Virtual)	March 2021
Panelist for Space4Women Show (Webinar)	February 2021
Invited Speaker for OSU’s Astronomical Society	November 2020
Speaker for Friends of Ohio State Astronomy and Astrophysics (FOSAA) event “The Search for Life in the Universe and the Exoplanet Revolution”	October 2020
Panelist for <i>Women in Space</i> Q&A webinar for elementary school and high school students	September 2020
Panelist for <i>The Martian</i> Monthly Movie Nights - Science Fiction vs Science Fact Q&A webinar, Astronomy Department, OSU	August 2020
Invited speaker for the Planetary Habitability Lab’s “AstroChat” series event University of Puerto Rico Arecibo campus	December 2019
Invited speaker at elementary school Myrna M. Fuentes Caguas, Puerto Rico	December 2019
Creator and co-organizer of symposium: “The Hunt for Alien Habitable Worlds” Speakers: Sarah Ballard, Noemí Pinilla-Alonso, Abel Méndez University of Puerto Rico, Río Piedras	March, 2017

PRESS COVERAGE

Media appearance: “Puerto Rican scientists mourn loss of Arecibo Observatory’s iconic telescope” Article by Meghan Bartels for Space.com	
ASAS-SN-18di (Articles on this paper were published in phys.org, medium.com, renfrewshireastro.co.uk, and others.)	April 2018

POSTER PRESENTATIONS

Rodríguez et al., “Finding Flares with ASAS-SN”, National Society of Black Physicists Meeting	November 2018
Rodríguez et al., “Finding Flares with ASAS-SN”, SACNAS - National Diversity in STEM	October 2018
Rodríguez et al., “Characterization of Low-mass K2 planet hosts using Near-Infrared Spectroscopy”, 229th American Astronomical Society Meeting, #240.14	January 2017
Rodríguez et al., “Characterization of Low-mass K2 planet hosts using Near-Infrared Spectroscopy”, SACNAS - National Diversity in STEM	October 2016

CONFERENCES ATTENDED

Habitable Worlds 2021 (Virtual)	February 2021
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Exoplanet Demographics Conference (Virtual)	November 2020
National Society of Black Physicists (Virtual)	November 2020
233rd American Astronomical Society Meeting, (Seattle, WA)	January 2019
National Society of Black Physicists, (Columbus, OH)	November 2018
SACNAS - National Diversity in STEM Conference, (San Antonio, TX)	October 2018
Planets around Hot Stars Meeting, (Nashville, TN)	June 2018
2nd Earth-Like Worlds Workshop, (Manati, PR)	February 2017
229th American Astronomical Society Meeting (Grapevine, TX)	January 2017
SACNAS - National Diversity in STEM Conference (Long Beach, CA)	October 2016
Astrobiology Science Conference (Chicago, IL)	June 2015