

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

9 total; 6 first author

9. **Rodríguez Martínez, R.**, Gaudi, B.S., Schulze, J., et al. "A Reanalysis of the Composition of K2-106b: an Ultra-short Period Super-Mercury Candidate", *Under Review*
8. Fitzmaurice, E., Martin, D. V., **Rodríguez Martínez, R.**, et al. "Spectroscopy of TOI-1259B - an unpolluted white dwarf companion to an inflated warm Saturn", *Monthly Notices of the Royal Astronomical Society*
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., Pinnsonneault, M., **Rodríguez Martínez, R.**, et al., "Testing the Limits of Precise Subgiant Characterization with APOGEE and Gaia: Opening a Window to Unprecedented Astrophysical Studies", *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., Holoién, 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, The Ohio State University	December 2021
Two Sigma Diversity PhD Fellowship Grant (\$2000)	March 2021
Two Sigma Diversity PhD Fellowship Finalist	March 2021
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

OBSERVING EXPERIENCE

10 Hours Observing Time awarded at PEPSI Spectrograph on the Large Binocular Telescope	May 2022
8 Hours Observing Time awarded at PEPSI Spectrograph on the Large Binocular Telescope	August 2020

TEACHING & ADVISING

[The Ohio State University](#)

The Columbia High School Science Research Program

Informal advisor for Nicholas Pugliese, high school student in the Science Research Program January 2021 - December 2021

The SciAccess Zenith Mentorship Program

Informal mentor for Olivia Wilkerson, high school student in the Space Science Mentoring Program at OSU September 2020 - December 2020

Polaris Mentorship Program

Co-advisor with Alison Duck for OSU astronomy undergraduates

Kevin Hoy and Hannah Parsons

August 2019 - May 2020

University of Puerto Rico, Río Piedras

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 *Women in Space*

Q&A webinar for elementary school and high school students

May 2022

Panelist for *Galaxy Quest* 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 *Women in Space*

Q&A webinar for elementary school and high school students

September 2020

Panelist for *The Martian* 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

AAS Journal Author Series: Presentation of my Research on “Analytic Estimates of the Achievable Precision on the Physical Properties of Transiting Planets using Purely Empirical Measurements”

Media appearance: “Puerto Rican scientists mourn loss of Arecibo

Observatory’s iconic telescope” Article by Meghan Bartels for Space.com

POSTER PRESENTATIONS

“Is K2-106b truly a Super-Mercury?” (Exoplanets IV Conference)	May 2022
“Finding Flares with ASAS-SN” , (National Society of Black Physicists Meeting), won Beth Brown Award for Best Graduate Poster	November 2018
“Finding Flares with ASAS-SN” , Society for Advancement of Chicanos/Hispanics & Native Americans in Science (SACNAS) Conference	October 2018
“Characterization of Low-mass K2 planet hosts using Near-Infrared Spectroscopy” 229th American Astronomical Society Meeting	January 2017
“Characterization of Low-mass K2 planet hosts using Near-Infrared Spectroscopy” Society for Advancement of Chicanos/Hispanics & Native Americans in Science (SACNAS) Conference	October 2016

CONFERENCES ATTENDED

Exoplanets IV (Las Vegas, NV)	May 2022
Habitable Worlds 2021 (Virtual)	February 2021
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