Victor Alejandro Ramirez Delgado

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EDUCATION

University of Delaware

Doctor of Philosophy, Astronomy and Astrophysics	(August 2021 – May 2026)
Master of Science, Astronomy and Astrophysics	(August 2021 – May 2023)
Honors Bachelor of Science, Physics	(August 2017 – May 2021)

RESEARCH POSITIONS

University of Delaware

Unidel Distinguished Fellow	(August 2021 – May 2026)

Mathematics and Computer Science Divison, Argonne National Lab

Visiting Student	(April 2024 – January 2025)
Visiting Student	(June 2021 – May 2022)

University of Delaware, Undergraduate Research Program

Summer Fellow	(June 2020 – August 2020)

PUBLICATIONS

Ramirez Delgado, V., Caicedo Vivas J., Dodson-Robinson, S., Haley C. (Submitted). "The Rayleigh Criterion: Resolution Limits of Astronomical Periodograms" *Astronomy & Astrophysics.*

Dodson-Robinson, S., **Ramirez Delgado, V.**, Harrel, J., Haley, C. (2022). Magnitude-squared Coherence: A Powerful Tool for Disentangling Doppler Planet Discoveries from Stellar Activity. *The Astronomical Journal*. DOI: 10.3847/15383881/ac52ed

Ramirez Delgado, V., Dodson-Robinson, S. (2020). Modeling the Quasiperiodic Radial Variations of γ Draconis. *Research Notes of the AAS*. DOI: 10.3847/2515-5172/abb6ee

Zhao, L., Fischer, D., Ford, E., Wise, A., et al. (incl. **Ramirez Delgado, V.**)(2022). The EXPRES Stellar Signals Project II. State of the Field in Disentangling Photospheric Velocities. *The Astronomical Journal*. DOI: 10.3847/15383881/ac5176

Bortle, A.; Fausey, H.; Ji, J.; Dodson-Robinson, S.; **Ramirez Delgado, V**.; Gizis, J. (2021). A Gaussian Process Regression Reveals No Evidence for Planets Orbiting Kapteyn's Star. *The Astronomical Journal.* DOI: 10.3847/15383881/abec89

TALKS & POSTERS

Invited:

Talk: Disentangling Radial Velocities Signals in the Frequency Domain. Gemini North Talks. Hilo, Hawaii. July 30th, 2024.

Contributed:

Poster: Describing the Stellar Activity of the Binary System 83 Leo. SEEC Symposium, NASA Goddard Space Flight Center. April 15th-19th, 2024.

Virtual Talk: Recreating the 10% Incidence of Magnetic Massive Stars through Population Synthesis and Observational Constraints. Magnetic Fields from Clouds to Stars, National Astronomical Observatory of Japan. March 29th, 2024.

Talk: Describing the Radial Velocities of the 83 Leonis System. Annual Meeting of the APS Mid-Atlantic Section, University of Delaware. November 3rd-5th, 2023.

Poster: Exploring the Presence of a new 95-days Signal in the RVs of HD 99492. Emerging Researchers in Exoplanet Sciences, Yale University. June 19-20th, 2023.

Poster: Rayleigh Criterion Applied to Astronomical Time Series. Extreme Precision Radial Velocity V, Santa Barbara, CA. March 26-30th, 2023.

Talk: Exploring the Initial B-Field Function of massive stars by simulating magnetic detectability of in star clusters. Annual Meeting of the APS Mid-Atlantic Section, Penn State University. December 3th, 2022.

Talk: Correcting stellar activity from radial velocity measurements using frequency domain linear regression in exoplanet searches. Annual Meeting of the APS Mid-Atlantic Section, Rutgers University. December 4th, 2021.

Virtual Talk: Disentangling stellar variability from radial velocities using the coherence method. Emerging Researchers in Exoplanet Science Symposium. May 24th, 2021.

Virtual Talk: Analyzing and developing a model for the Radial Velocity data of γ Draconis' Star. 236th Meeting of the AAS. June 1st, 2020.

Virtual Talk: Correcting stellar variability from radial velocity measurements using coherence methods: examples from the EXPRES Stellar Signals Project. Chesapeake Bay Area Exoplanet (CHEXO) Meeting. December 11th, 2020.

AWARDS

Unidel Distinguished Graduate Scholars Award, University of Delaware Graduate College, 2021.

Hancock Award for Best Undergraduate Research, University of Delaware Department of Physics and Astronomy, 2021.

Immigrant Heritage Week Award, Accompany Capital, 2021.

Merit Scholarship, University of Delaware Honors College, 2017– 2021.

TEACHING & OUTREACH

Teaching Assistant, University of Delaware

PHYS 207: Calculus Based Fundamentals of Physics I	(Spring 2021, Fall 2019-2020)
PHYS 202: Algebra Based Introductory Physics II	(Winter 2021)
PHYS 201: Algebra Based Introductory Physics	(Summer 2019)

Department of Physics and Astronomy Committee for Diversity, Equity, and Inclusion

Committee Member (July 2020 – May 2021)

Interview on Gamma Draconis

"Stellar work: Studying the "wobble" of the red giant Gamma Draconis". UDaily. October 30th, 2020.

WORKSHOPS

Sagan Summer Workshop: Exoplanet Science in the Gaia era	(July 2022)
MESA Summer School 2022	(August 2022)

SKILS

Proficient in programming and scripting in `Python`, `Mathematica` and the `UNIX` system. Familiar with `Julia`, `Fortran 90` and `C`.

Proficient in the `Python` libraries `numpy`, `scipy`, `pandas`, `scikit-learn`, `PyMC`.

Proficient in the astronomical python libraries `astropy`, `exoplanet`, `celerite2`, and `radvel`. Familiar with `lightkurve` and `rebound`.

Proficient in the use of Modules for Experiments in Stellar Astrophysics (`MESA`).

Familiar with the operation of the SARA Spectrograph and Photometer at the Kitt Peak National Observatory.

Native Spanish Speaking and Writing skills. Fluent English Speaking and Writing skills. Intermediate Portuguese speaking and writing skills.