Clarissa Rizzo Credidio Do Ó

Physics Ph.D. Candidate and NSF Fellow, UC San Diego

/clarissardoo cdoo@ucsd.edu
Clarissa Do O /clarissardoo

Education

University of California, San Diego September 2020 – Present
Physics, Ph.D. (Expected) *San Diego, CA*

University of California, San Diego September 2020 – February 2023
Physics, M.S. *San Diego, CA*

University of California, Santa Barbara September 2016 – June 2020
Physics, B.S. (Honors) - Minor in Astronomy and Planetary Science *Santa Barbara, CA*

Research and Work Experience

University of California, San Diego September 2020 – Present
Graduate Research Fellow *San Diego, CA*

- Advisor: Prof. Quinn Konopacky
- Analyzing the distribution of exoplanet eccentricities at a population level using observable-based priors and Bayesian statistics.
- Testing and characterizing the EMCCD camera for the Gemini Planet Imager 2.0's (GPI 2.0) new pyramid wavefront sensor.
- Simulated the dynamics and stability of the HR-8799 exoplanet system using NIRC2 data from the Keck II Telescope.

Lockheed Martin January 2020 – September 2020
Test Engineer *Santa Barbara, CA*

- Wrote scripts to automate the testing process of infrared focal plane arrays (FPAs) and used these scripts to test parts.
- Used Object-Oriented programming to automate scripts for analyzing telegraph noise on infrared focal plane arrays.

NASA Jet Propulsion Laboratory June 2019 – September 2019
Astrophysics Research Intern *Pasadena, CA*

- Worked on PARVI (Palomar Radial Velocity Instrument) under the guidance of Drs. Gautam Vasisht and Christopher Matthews.
- Wrote programs to predict the instrument's photon throughput, and performed photometry and spectrophotometry on data to compare my projections to the actual throughput.
- Performed simulations to analyze how the single-mode fiber optics coupling efficiency changes as we introduce optical aberrations into the system.

University of California, Santa Barbara June 2018 – June 2020
Undergraduate Researcher *Santa Barbara, CA*

- Designed and developed a database for the Mazin Lab, an astrophysics laboratory that uses Microwave Kinetic Inductance Technology to directly image extrasolar planets. The database is a website currently available on the laboratory's server.
- Wrote a program that corrected cosmic ray incidents for the new device developed by the lab (MEC - MKID Exoplanet Camera).
- Performed post-processing (angular differential imaging and spectral differential imaging) and made contrast curves on MEC data.

Awards, Grants and Honors

Carol and George Lattimer Award for Graduate Excellence February 2023
NASA ExoExplorers Award January 2023
The School of Physical Sciences Cohort Program Mentorship Award at UCSD September 2022
National Science Foundation Graduate Research Fellowship March 2020
San Diego Fellowship March 2020
Caltech SURF (Summer Undergraduate Research Fellowship) June 2019
Edison GRE Scholarship May 2019
Edison Summer Research Program Scholarship June 2018
Starting Lines Essay Publication Prize at UCSB January 2018

Programming Languages and Skills

Python *Proficient* **MATLAB** *Proficient* **Linux** *Proficient* **C** *Advanced Beginner*

Clarissa Rizzo Credidio Do Ó

Physics Ph.D. Candidate and NSF Fellow, UC San Diego

/clarissardoo cdoo@ucsd.edu
Clarissa Do O /clarissardoo

Languages

English *Fluent* **Portuguese** *Fluent* **Spanish** *Proficient* **German** *Advanced Beginner*

Presentations

1. **Constraining the Formation of Directly Imaged Exoplanets Using Instrumentation and Orbit Fitting Techniques"** - Invited Talk at NASA Ames Research Center Seminar (Santa Clara, CA)
2. **At the Edge of Chaos: The Dynamics of Directly Imaged Exoplanet Systems** - iTelescope Webinar (Online)
3. **Constraining the Formation of Directly Imaged Exoplanets by Upgrading the Gemini Planet Imager (GPI)'s Wavefront Sensor** - NASA ExoExplorers Talks (Online)
4. **Upgrading the Gemini Planet Imager 2.0's Wavefront Sensor** - NYRIA Workshop (Sarcedo, Italy)
5. **The Palomar Radial Velocity Instrument's commissioning** - NASA JPL Intern Talks (Pasadena, CA)

Publications

1. **Clarissa R. Do Ó**, Kelly K. O'Neil, Quinn M. Konopacky, et al. "The Orbital Eccentricities of Directly Imaged Companions Using Observable-Based Priors: Implications for Population-level Distributions", submitted to The Astronomical Journal
2. William Thompson, Christian Marois, **Clarissa R. Do Ó**, et al. "Deep orbital search for additional planets in the HR 8799 system", The Astronomical Journal, Volume 165, Issue 1, id.29, 20 pp.
3. **Clarissa R. Do Ó**, Saavidra Perera, Jêrome Máire, et al. "GPI 2.0: performance evaluation of the wavefront sensor's EMCCD", AO4ELT 2023 Conference Proceedings (In Prep)
4. Saavidra Perera, Jêrome Máire, **Clarissa R. Do Ó**, et al. "GPI 2.0: Pyramid Wavefront Sensor Status", Proceedings of the SPIE, Volume 12185, id. 121854C 7 pp. (2022)
5. Eckhart Spalding, **Clarissa Do Ó**, Dillon Peng, et al. "GPI 2.0: Baseline testing of the Gemini Planet Imager before the upgrade", Proceedings of the SPIE, Volume 12184, id. 1218448 11 pp. (2022)
6. Dillon Peng, Maeve Curliss, et al. (including **Clarissa Do Ó**). "GPI 2.0: performance of upgrades to the Gemini Planet Imager CAL and IFS", Proceedings of the SPIE, Volume 12184, id. 1218443 9 pp. (2022)
7. Jeffrey Chilcote, Quinn M. Konopacky, et al. (including **Clarissa Do Ó**). "GPI 2.0: upgrade status of the Gemini Planet Imager", Proceedings of the SPIE, Volume 12184, id. 121841T 15 pp. (2022)