Pedro H. Nogueira

July 31, 2025

Education

2020–2024 **PhD's degree**, *Universidad Diego Portales*, Santiago - Chile, *Astronomy*.

2018–2020 **Master's degree**, *Observatório Nacional*, Rio de Janeiro - Brazil, *Astronomy*.

2012–2017 **Bachelor's degree**, *Universidade Federal do Rio de Janeiro - Observatório do Valongo*, Rio de Janeiro - Brazil, *Astronomy with emphasis in Computational Astronomy*.

Research Experience

2023–2024 η **Tel system: 20 years of astrometrical follow-up and satellite detection limits**.

2020–2023 **Resolving the Binary Components of the Outbursting Protostar HBC 494 with ALMA**.

2018–2020 **Detecting a population of planets around Kepler's faintest stars**.

2015–2018 **Exoplanets' stability in co-orbital configuration**.

Fellowships and Grants

2022-2024 ANID scholarship - Folio 21221084

2021-2022 China-Chile Committee fund

2019-2020 FAPERJ Nota 10 - Detecting a population of planets around Kepler's faintest stars

2018-2019 CAPES - Detecting a population of planets around Kepler's faintest stars

2016-2018 PIBIC/CNPq - Exoplanets' stability in co-orbital configuration

2014-2015 CAPES - Morphology and density of galaxies in the stripe-82 region

2013 CAPES - Young Talents for Science

Accepted proposals

ESO P115 ERIS/NIX Dancing with the Sub-Stars: Satellites and Disks in the Substellar Realm; PI: Lazzoni, C.

ESO P115 SPHERE Satellites around high-contrast imaging companions. A pilot program with CRIRES+; PI: Hoy, K.

ESO P114 SPHERE Looking for satellites/circumplanetary disks around directly imaged companions using star-hopping - survey continue; PI: Dasgupta, A.

ESO P114 Searching for satellites around high-contrast imaging companions with CRIRES+; PI: Zurlo, A.

ESO P113 SPHERE Looking for satellites/circumplanetary disks around directly imaged companions using star-hopping; PI: **Nogueira, P.H.**

ESO P113 Satellites around high-contrast imaging companions. A pilot program with CRIRES+; PI: Hoy, K.

ESO P112 Confirmation of a satellite and circum-substellar disk around DH Tau B with GRAVITY-wide; PI: Lazzoni, C.

ESO P112 Verifying the first directly imaged satellite around DH Tau B with NIX + SPIFFIER; PI: Lazzoni, C.

ESO P112 SPHERE Looking for satellites/circumplanetary disks around DI companions using star-hopping - survey continue; PI: **Nogueira, P.H.**

ESO P112 Searching for satellites around high-contrast imaging companions with CRIRES+; PI: Zurlo, A.

ESO P111 Satellites around high-contrast imaging companions. A pilot program with CRIRES+; PI: Zurlo

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ESO P111 SPHERE	Detecting intrinsic polarization from young brown dwarfs; PI: Bhowmik
ESO P111 SPHERE	Looking for satellites/circumplanetary disks around directly imaged companions using star-hopping; PI: **Nogueira, P.H.**
ESO P110 SPHERE	Detecting circumplanetary disks via polarization around young brown dwarfs and exoplanet; PI: Bhowmik, T.
ESO P110	Satellites around high-contrast imaging companions. A pilot program with CRIRES+; PI: Zurlo, A.
ESO P110 SPHERE	Looking for satellites and/or circumplanetary disks around directly imaged companions using the star-hopping technique; PI: **Nogueira, P.H.**
ALMA cycle-11	Multi-frequency characterization of protoplanetary disks: pushing to the frequency extremes; PI: Cieza, L.
ALMA cycle-10	The first ALMA survey of protoplanetary disks in Band-10; PI: Cieza, L.
ALMA cycle-9	Searching for CPDs and embedded planets in the transition disk EM* SR24S; PI: Jimenez, A. R.
ALMA cycle-9	What is the size distribution of protoplanetary disks in nearbystar-forming regions? - PI: Cieza, L.
ALMA cycle-8	Size distributions and multi-frequency characterization of 100 disks in Ophiuchus; PI: Cieza, L.

Prog. lang.	Python (Main), Fortran (basic), C (basic), bash, LaTeX
Languages	Portuguese, English, Spanish

Membership

2022-current	Millennium Nucleus on Young Exoplanets and their Moons (YEMS)
2018-2022	Brazilian Astronomical Society (SAB)

Miscellaneous Experience and outreach

2022–2023	Student representative at UDP PhD program	
2021	Astrobiology virtual lecture	*2 hours lecture for external funds*
2018–2019	Member of astronomical brazilian outreach group: Astrotubers	
2013	Knowing UFRJ (Universidade Federal do Rio de Janeiro)	

"Astrotubers" is a group of physics and astronomy undergraduate and graduate students students throughout Brazil who do science communication producing videos about astronomy in YouTube. The "Astrotubers" are recognized by the Brazilian Astronomical Society (SAB) as trustworthy.

Scientific presentations

2024 - Oral	Unveiling the Origins of Brown Dwarfs (ESO, Santiago, Chile) - **Hunting exo-satellites with high-contrast imaging and the case of η Tel B**
2023 - Oral	The 6th China-Chile Bilateral Conference for Astronomy (Puerto Varas, Chile) - **Astrometric and photometric characterization of η Tel B and constraints on satellites around it**
2023 - Oral	Roman Science Inspired by Emerging JWST Results (STScI, Baltimore, USA) - **Eta Tel B: 20 years of follow-up**
2023 - Oral	Jornada Anual de Estudiantes de Doctorados UDP (UDP, Santiago, RM, Chile) - **Eta Tel system - 20 years of astrometrical follow-up and companion characterization**

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2022 - Oral Accretion/Ejection Processes in Star Formation: In Theory and in Practice (ESO, Santiago, Chile) - **Resolving the Binary Components of the Outbursting Protostar HBC 494 with ALMA**

2022 - Oral Millenium Nucleous on Young Exoplanets and their Moons (YEMS) Workshop (Concepción/Chile) - **Resolving the Binary Components of the Outbursting Protostar HBC 494 with ALMA**

2019 - Oral XLIII Anual Meeting of Brazilian Astronomical Society (São Paulo, SP, Brazil) - **Detecting a population of planets around Kepler's faintest stars**

2019 - Oral Astrobiology Graduate Conference (Salt Lake City, Utah, USA) - **Detecting a population of planets around Kepler's faintest stars**

2018 - Oral Precision Spectroscopy (Universidade de São Paulo, São Paulo, SP, Brazil) - **Detecting a population of planets around Kepler's faintest stars**

2017 - Oral Scientific initiation day of the National Observatory; JICON (Rio de Janeiro, RJ, Brazil) - **Exoplanets' stability in co-orbital configuration**

2016 - Oral Scientific initiation day of the National Observatory; JICON (Rio de Janeiro, RJ, Brazil) - **Study of co-orbital configurations of Kepler-9 and Kepler-56 using numerical simulations with the package SWIFT**

2014 - Oral Scientific initiation day of the Federal University of Rio de Janeiro (Rio de Janeiro, RJ, Brazil) - **Morphology and density of galaxies in the stripe-82 region**

2014 - Poster XXXVIII Annual Meeting of Brazilian Astronomical Society (Búzios, SP, Brazil) - **Morphology and density of galaxies in the stripe-82 region**

List of publications

A&A The Ophiuchus DIsk Survey Employing ALMA (ODISEA): Complete Size Distributions for the 100 Brightest Disks Across Multiplicity and SED Classes; Dasgupta, A. et al., accepted

Thesis A mm and near-IR study of YSOs: from outbursting protostars to satellites **Nogueira, P.H., 2024** - https://ui.adsabs.harvard.edu/abs/2024arXiv240713897N/abstract

A&A Astrometric and photometric characterization of η Tel B combining two decades of observations; **Nogueira, P.H. et al., 2024** - https://ui.adsabs.harvard.edu/abs/2024A%26A...687A.301N/abstract

A&A Implications of the discovery of AF Lep b: The mass-luminosity relation for planets in the β Pic Moving Group and the L-T transition for young companions and free-floating planet; Gratton et al. 2024

MNRAS Resolving the Binary Components of the Outbursting Protostar HBC 494 with ALMA; **Nogueira, P.H. et al., 2023**; https://ui.adsabs.harvard.edu/abs/2023MNRAS.523.4970N/abstract

A&A Orbital and dynamical analysis of the system around HR 8799. New astrometric epochs from VLT/SPHERE and LBT/LUCI; Zurlo et al., 2022

ApJ Discovery of a Brown Dwarf with Quasi-spherical Mass Loss; Ruíz-Rodríguez et al., 2022

MNRAS The Ophiuchus DIsc Survey Employing ALMA (ODISEA) - III. The evolution of substructures in massive discs at 3-5 au resolution. Cieza et al., 2021

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