Aline **Novais (Ribeiro)**

PHD CANDIDATE · SCIENCE COMMUNICATOR

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Education

PhD Candidate in Astronomy · Valongo Observatory, Federal University of Rio de Janeiro (OV/UFRJ)   2019 – PRESENT
· Guest researcher at the Ludwig Maximilian University of Munich (LMU-Munich)   February 1 – July 31, 2023

Master Degree in Astronomy · Valongo Observatory, Federal University of Rio de Janeiro (OV/UFRJ)   2017 – 2019

Bachelor Degree in Astronomy · Valongo Observatory, Federal University of Rio de Janeiro (OV/UFRJ)   2012 – 2017
· Research at the National Observatory (ON), Rio de Janeiro   2015 – 2017

Publication

3. A. Lueber & **A. Novais**, C. Fisher, K. Heng (submitted). *From data to knowledge: a thorough investigation of recent findings of WASP-39b using JWST ERS data.* Astronomy & Astrophysics (A&A).

2. **A. Novais**, C. Fisher, K. Heng, L. Ghezzi (submitted). *Parameter degeneracies associated with interpreting transmission spectra of exoplanetary atmospheres.* Monthly Notices of the Royal Astronomical Society (MNRAS).

1. **A. Novais**, D. Andrade, H. Boechat-Roberty, 2020. *Formation and destruction of organic molecules in the upper atmosphere of Titan.* Bulletin of the Brazilian Astronomical Society (SAB), v. 32, n. 1, p. 10-11. ISSN: 0101-3440. [PDF]

Projects

From data to knowledge: a thorough investigation of recent findings of WASP-39b using JWST ERS data
Members: A. Novais, A. Lueber, C. Fisher, K. Heng   2019 – PRESENT
· In this study, we use data from JWST ERS Program from different instruments (NIRCam, NIRISS, NIRSpec G395H, and NIRSpec PRISM) to reassess the atmospheric composition and thermal structure of WASP-39b. We attempt to address longstanding questions in the literature, e.g., if transit chords are isothermal and chemical abundances are uniform.

Parameter Degeneracies Associated with Interpreting Transmission Spectra of Exoplanetary Atmospheres
Members: A. Novais, C. Fisher, L. Ghezzi, K. Heng   2019 – PRESENT
· This work consists on revisiting 38 previously studied HST WFC3 planetary transmission spectra ir order to identify and possibly overcome degeneracies between parameters in atmospheric retrievals

Formation and Destruction of Organic Molecules in the Upper Atmosphere of Titan
Members: A. Novais, D. P. P. Andrade, H. M. Boechat-Roberty   2017 – 2019
· We used the DASSLC/MATLAB model by Pinotti & Boechat-Roberty (2016) to simulate the chemical reactions and obtain molecule abundances that possibly occur in Titan's atmosphere [link for full thesis]

Study of Possible Atmospheres from a Sample of Terrestrial Exoplanets Identified by the Kepler Mission
Members: A. Novais, M. Garcia, M. Borges Fernandes   2015 – 2017
· We used the photochemical code written by Kasting et al. (1985) and Pavlov et al. (2001), and their two separate models – high O_2 and high CO_2/CH_4 – to study the atmospheres of seven rocky planets [link for full thesis]

Presentation

ORAL PRESENTATION

XVII Latin American Regional IAU Meeting (LARIM) · Montevideo, Uruguay   November 28, 2023

XLVI Anual Meeting of the Brazilian Astronomical Society (SAB)* · Rio de Janeiro, Brazil   October 2, 2023
*Plenary session

Goldschmidt · Lyon, France   July 11, 2023

CN-2 "Planets and other Habitats" Science Afternoon · Garching, Germany   March 6, 2023

XLV Anual Meeting of the Brazilian Astronomical Society (SAB) · Online   September 28, 2022

Exoplanet Atmospheres Workshop · Online   March 9, 2022

IV Anual Meeting of the Brazilian Society of Astrobiology (SBAstrobio) · Online   November 26, 2021

Astrobiology Graduate Conference (AbGradCon) · Online   September 17, 2021

XLIV Anual Meeting of the Brazilian Astronomical Society (SAB) · Online — September 14, 2021
Astrobiology Graduates in Europe (AbGradE) · Online — September 2, 2021
Exoplanet Atmosphere Characterization: from HST and Spitzer to JWST · Online — March 11, 2021
1st Brazilian Women's Meeting in Astrophysics, Gravitation and Cosmology · Online — February 8, 2021
Precision Spectroscopy Stellar Connections: From Galaxy Evolution to Exoplanets · Online — February 1, 2021
II Anual Meeting of the Brazilian Society of Astrobiology (SBAstrobio) · São Paulo, Brazil — October 17, 2019
Astrochemistry LLAMA Meeting (ALLAM) · São Paulo, Brazil — August 9, 2019
Astrobiology Graduate Conference (AbGradCon) · Salt Lake City, USA — July 22, 2019
Precision Spectroscopy 2018: From the First Stars to Exoplanets · São Paulo, Brazil — September 10-11, 2018

Poster Presentation

Astrobiology Graduates in Europe + Europlanet Early Career Network (AbGradEPEC) · La Palma, Spain — May 5, 2023
Exoplanets III · Online — July 31, 2020
XLIII Anual Meeting of the Brazilian Astronomical Society (SAB) · São Paulo, Brazil — September 12, 2019
XLII Anual Meeting of the Brazilian Astronomical Society (SAB) · São Paulo, Brazil — July 12, 2018
1st Anual Meeting of the Brazilian Society of Astrobiology (SBAstrobio) · São Paulo, Brazil — July 11, 2018
XL Anual Meeting of the Brazilian Astronomical Society (SAB) · Ribeirão Preto, Brazil — August 31, 2016

Teaching Experience

Mentoring for Freshmen Students: "Astrobiology and Exoplanets" — 2021 – PRESENT
Federal University of Rio de Janeiro (UFRJ)

Teaching Traineeship: "Planetary Systems" Bachelor's Course — 2020
Federal University of Rio de Janeiro (UFRJ)

Teaching Traineeship: "Astrobiology" Bachelor's Course — 2019
Federal University of Rio de Janeiro (UFRJ)

Introduction Course: "Astrochemistry and the Molecules of Life" — May 2, 2019
Museum of Astronomy and Related Sciences (MAST)

Undergraduate Tutor: "Physics IV (Optics, Special Relativity)" Bachelor's Course — 2015
Federal University of Rio de Janeiro (UFRJ)

Referee Experience

Abstract Reviewer for Astrobiology Graduate Conference (AbGradCon) 2023 · Online — March, 2023

Bachelor Thesis Examining Board: "Use of Machine Learning for Stellar Spectral Classification"; bachelor student Julia Camões Alves · Federal University of Rio de Janeiro (UFRJ) — August 19, 2022

Honors and Awards

Honorable Mention · National Observatory (ON/MCTIC) — 2017
Scientific Initiation Journey at the National Observatory (JICON) for the work "Study of the Possible Atmospheres from a Sample of Terrestrial Exoplanets Identified by the Kepler Mission"

Extracurricular Activities

Graduate Students Representative — 2017 – 2019, 2021 – 2022
Valongo Observatory, Federal University of Rio de Janeiro (OV/UFRJ)

Science Outreach on Social Media — 2017 – PRESENT
Twitter, Instagram, YouTube

Science Outreach Talks and Roundtable Discussions — 2018 – PRESENT
Valongo Observatory (OV/UFRJ), Institute of Physics (IF/UFRJ), "*Pint of Science*"

Interviews, Podcasts, and Live Streams — 2019 – PRESENT
"*Superinteressante*", "*g1*", "*CNN Brazil*", "*Canal Tech*"