

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, 2023 – 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, in prep.
From data to knowledge: a thorough investigation of recent findings of WASP-39b using JWST ERS data
2. **A. Novais**, C. Fisher, K. Heng, L. Ghezzi, in prep.
Parameter degeneracies associated with interpreting transmission spectra of exoplanetary atmospheres
1. **A. Novais**, D. Andrade, H. Boechat-Roberty, 2020. *Boletim da Sociedade Astronômica Brasileira*, 32, no. 1, 10-11
Formation and destruction of organic molecules in the upper atmosphere of Titan

Projects

Parameter Degeneracies Associated with Interpreting Transmission Spectra of Exoplanetary Atmospheres

Members: Aline Novais, Chloe Fisher, Luan Ghezzi, Kevin Heng 2019 – PRESENT
· This work consists on revisiting 38 previously studied HST WFC3 planetary transmission spectra in order to identify and possibly overcome degeneracies between parameters in atmospheric retrievals

Formation and Destruction of Organic Molecules in the Atmosphere of Titan

Members: Aline Novais, Diana P. P. Andrade, Heloisa 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: Aline Novais, Matias Garcia, Marcelo 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 O₂ and high CO₂/CH₄ – to study the atmospheres of seven rocky planets [link for full thesis]

Presentation

ORAL PRESENTATION

- Goldschmidt** · Lyon, France July 11, 2023
- CN-2 “Planets and other Habitats” Science Afternoon** · Garching, Germany March 6, 2023
- XLV Annual Meeting of the Brazilian Astronomical Society (SAB)** · Online September 28, 2022
- Exoplanet Atmospheres Workshop** · Online March 9, 2022
- IV Annual Meeting of the Brazilian Society of Astrobiology (SBAstrobio)** · Online November 26, 2021
- Astrobiology Graduate Conference (AbGradCon)** · Online September 17, 2021
- XLIV Annual 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 Annual 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 March, 2023
Online

Participation in the Examining Board of Julia Camões Alves’ Bachelor Thesis: “Use of Machine Learning for Stellar Spectral Classification” August 19, 2022
Federal University of Rio de Janeiro (UFRJ)

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: “astroaline” 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 Brasil”, “Canal Tech”