

# Lais Borbolato

📍 Universidade de São Paulo - Instituto de Astronomia, Geofísica e Ciências Atmosféricas (IAG)

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## Education

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|------------|---|-------------|
| <b>PhD</b> | <b>University of São Paulo</b> , Ph.D. in Astronomy, Universidade de São Paulo  | 2023 - 2027 |
|            | <ul style="list-style-type: none"> <li>• Advisor: Prof. Dr. Silvia Rossi, co-advisor: Prof. Dr. Hélio D. Perottoni</li> <li>• Thesis title: <i>The Milky Way's disk structures as a memory of its turbulent past</i></li> </ul> |             |
| <b>BSc</b> | <b>University of São Paulo</b> , BSc in Astronomy, Universidade de São Paulo  | 2019 - 2022 |
|            | <ul style="list-style-type: none"> <li>• Advisor: Prof. Dr. Silvia Rossi, co-advisor: Prof. Dr. Hélio D. Perottoni</li> <li>• Thesis title: <i>Kinematics and Detailed Chemistry for Monoceros Overdensity.</i></li> </ul>      |             |

## Work experience

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| <b>Ph.D.</b>                             |  | 2024 - 2027 |
|  | <ul style="list-style-type: none"> <li>• Funding by São Paulo Research Foundation (FAPESP) - Total: 198,000 BRL</li> <li>• Project: The Milky Way's disk structures as a memory of its turbulent past</li> </ul>   |             |
| <b>Ph.D.</b>                             |  | 2023 - 2024 |
|  | <ul style="list-style-type: none"> <li>• Funding by Brazilian Federal Agency for Support and Evaluation of Graduate Education (CAPES) - Total: 79,200 BRL</li> <li>• Project: The Milky Way's disk structures as a memory of its turbulent past</li> </ul>   |             |
| <b>Undergraduate Research</b>            |  | 2021 - 2022 |
|  | <ul style="list-style-type: none"> <li>• Funding by São Paulo Research Foundation (FAPESP) - Total: 7,200 BRL</li> <li>• Project: Kinematics and Detailed Chemistry for Monoceros Overdensity</li> </ul>   |             |
| <b>Undergraduate Research</b>            |  | 2020 - 2021 |
|  | <ul style="list-style-type: none"> <li>• Funding by Institutional Scientific Initiation Scholarship Program of the National Council for Scientific and Technological Development (PIBIC/CNPq) - Total: 4,800 BRL</li> <li>• Project: Chemodynamical properties of the Monoceros Stellar Overdensity</li> </ul> |             |
| <b>Unified scholarship program (PUB)</b> |  | 2019 - 2020 |
|  | <ul style="list-style-type: none"> <li>• Total: 4,800 BRL</li> <li>• Customer service at the Abrahão de Moraes Observatory in Valinhos, São Paulo</li> </ul>   |             |

## Teaching and Outreach

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|----------------------------|--|------|
| <b>Hands-on session:</b>   | Astronomical data visualization with Matplotlib for Brazilian students   | 2025 |
|                            | <ul style="list-style-type: none"> <li>• This course was offered at IAG/USP for undergraduate Astronomy students, aiming to help them create clearer and more visually engaging figures for their academic productions.</li> </ul>                         |      |
| <b>Teaching assistant:</b> | Astronomy for Teachers (IAG-USP)   | 2024 |
|                            | <ul style="list-style-type: none"> <li>• This advanced training course is designed to offer Brazilian high school physics teachers an introductory overview of various fields of astronomy, presented from a modern and up-to-date perspective.</li> </ul> |      |

<b>Astronomical Service at IAG-USP</b>	2022 - 2024
<ul style="list-style-type: none"> <li>Supervisor of guided visits at IAG-USP and teaching assistant in virtual sessions with public school students.</li> </ul>	
<b>Night with the Stars - Abrahão de Moraes Observatory</b>	2019 - 2023
<ul style="list-style-type: none"> <li>Monitor assisting with customer service at the Abrahão de Moraes Observatory (OAM) in Valinhos, São Paulo, including assembling telescopes and leading hands-on workshops with children.</li> </ul>	
<b>ASTROMINAS</b> ( <a href="#">website</a> )	2020 - 2021
<ul style="list-style-type: none"> <li>This project is dedicated to promoting Science and Technology among female high school students, helping to facilitate their access to university.</li> </ul>	
<b>Cecília project</b> ( <a href="#">website</a> )	2020 - 2021
<ul style="list-style-type: none"> <li>This project is dedicated to disseminating and popularizing Earth and Universe sciences in schools.</li> </ul>	

## Learning and Service

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<b>Organizer:</b> "Astronomy at Noon" Seminar Series	2024 - 2025
<ul style="list-style-type: none"> <li>Cycle of Seminars of the Astronomy Department of IAG/USP every Thursday at noon. It is dedicated to undergraduate students in exact sciences</li> </ul>	
<b>Organizer:</b> Milky Way Brazilian Group (MWBR)	2024 - 2025
<b>Member:</b> Brazilian Astronomical Society (SAB)	2019 - 2025
<b>Students representative:</b> Astronomy Program Coordinating Committee (IAG-USP)	2024
<b>Students representative:</b> Defense of Diversity, Human Rights and Democracy Committee, CDDDHD (IAG-USP)	2021 - 2022
<b>Students representative:</b> IAG-USP Council	2020 - 2021
<b>Organizer:</b> Brazilian Astronomy Olympiad (OBA)	2019 - 2020

## Publications

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### 1st Author Publications - Journal Articles

<i>Early Co-formation of the Milky Way's Thin and Thick Disks at Redshift <math>z &gt; 2</math></i>	2025
<b>Borbolato, L.;</b> Rossi, S.; Perottoni, H. D.; Limberg, G.; Amarante, J A. S.; Queiroz, A. B. A.; Chiappini, C.; Anders, F.; Santucci, R. M.; Barbosa, F. O.; Nogueira-Santos, J. V.; Submitted to ApJ. <a href="#">arXiv</a>	
<i>All-sky Kinematics and Chemistry of Monoceros Stellar Overdensity</i>	2024
<b>Borbolato, L.;</b> Perottoni, H. D.; Rossi, S.; Limberg, G.; Pérez-Villegas, A.; Anders, F.; Antoja, T.; Laporte, C. F. P.; Rocha-Pinto, H. J.; Santucci, R. M.; 2024, ApJ, 960, 52. <a href="#">10.3847/1538-4357/ad02fb</a>	

### Co-authored Publications - Journal Articles

<i>Extending the Chemical Reach of the H3 Survey: Detailed Abundances of the Dwarf-galaxy Stellar Stream Wukong/LMS-1</i>	2024
Limberg, G.; Ji, A. P.; Naidu, R. P.; Chiti, A.; Rossi, S.; Usman, S. A.; Ting, Y.; Zaritsky, D.; Bonaca, A.; <b>Borbolato, L.;</b> Speagle, J. S.; Chandra, V.; Conroy, C.; 2024, MNRAS, 530, 3. <a href="#">10.1093/mnras/stae969</a>	

Searching for Extragalactic Exoplanetary Systems: The Curious Case of BD+20 2457  
 Perottoni, H. D.; Amarante, J. A. S.; Limberg, G.; Rocha-Pinto, H. J.; Rossi, S.; Anders, F.;  
**Borbolato, L.**; 2021, ApJL, 913, L3..  
[10.3847/2041-8213/abfb06](https://doi.org/10.3847/2041-8213/abfb06)

2021

## Conferences, Workshops & Contributed talks

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<b>Talk</b>	Deciphering the Cosmic Code for Galaxy Formation (Puerto Varas, Chile) • Title: <i>Deciphering the old Milky Way thin disk formation</i>	Dec 2024
<b>Poster</b>	IAU Symposium 395: Stellar populations in the Milky Way and beyond (Paraty, Brazil) • Title: <i>The Early and Fast Settlement of Milky Way Disk</i>	Nov 2024
<b>Talk</b>	XLVII Annual Meeting of the Brazilian Astronomical Society (Águas de Lindóia, Brazil) • Title: <i>Deciphering the earliest stages of the Milky Way disk formation</i>	Sep 2024
<b>Talk</b>	XXXII IAU General Assembly (Cape Town, South Africa) • Title: <i>The Early and Fast Settlement of Milky Way Disk</i>	Aug 2024
<b>Talk</b>	XVII Latin American Regional IAU Meeting (Montevideú, Uruguai) • Title: <i>All-sky Kinematics and Chemistry of Monoceros Stellar Overdensity</i>	Nov 2023
<b>Talk</b>	XLVI Annual Meeting of the Brazilian Astronomical Society (Rio de Janeiro, Brazil) • Title: <i>Kinematics and Detailed Chemistry for Monoceros Overdensity</i>	Oct 2023
<b>Poster</b>	75th Annual Meeting of the Brazilian Society for the Advancement of Science (Curitiba, Brazil) • Title: <i>Kinematics and Detailed Chemistry for Monoceros Overdensity</i>	Jun 2023
<b>Poster</b>	30th International Symposium on Scientific and Technological Initiation at USP (São Paulo, Brasil) • Title: <i>Kinematics and Detailed Chemistry for Monoceros Overdensity</i>	Oct 2022
<b>Poster</b>	XLV Annual Meeting of the Brazilian Astronomical Society (Virtual) • Title: <i>Kinematics and Detailed Chemistry for Monoceros Overdensity</i>	Sep 2022
<b>Poster</b>	29th International Symposium on Scientific and Technological Initiation at USP (Virtual) • Title: <i>Chemodynamical properties of the Monoceros Stellar Overdensity</i>	Oct 2021
<b>Poster</b>	XLIV Annual Meeting of the Brazilian Astronomical Society (Virtual) • Title: <i>Chemodynamical properties of the Monoceros Stellar Overdensity</i>	Sep 2021

## Honors and Awards

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Work awarded at the 75th Annual Meeting of the Brazilian Society for the Advancement of Science (SBPC) • Title: <i>Chemodynamical properties of the Monoceros Stellar Overdensity</i>	2023
Honorable mention at the 30th International Symposium on Scientific and Technological Initiation at USP (SIICUSP) • Title: <i>Chemodynamical properties of the Monoceros Stellar Overdensity</i>	2022
Gold medal at the Brazilian Astronomy and Astronautics Olympiad (OBA)	2018

Gold medal at the Brazilian Astronomy and Astronautics Olympiad (OBA)	2017
Honorable mention at the Brazilian Public School Mathematics Olympiad (OBMEP)	2015

## Skills

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**Languages:** Portuguese (native), English, Spanish

**Programming:** Python (main), R-project

**Other resources:** TOPCAT (large data sets), AGAMA/galpy/Gala (dynamics)