last update: August 9, 2024 (click here for the live version)

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# Personal information

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# **Employment / Appointments**

2024–	US National Gemini Office Head – Community Science & Data Center U.S. National Science Foundation National Optical-Infrared Astronomy Research Laboratory
2022–	Associate Astronomer – Community Science & Data Center U.S. National Science Foundation National Optical-Infrared Astronomy Research Laboratory
2023–2024	US National Gemini Office Acting Head – Community Science & Data Center U.S. National Science Foundation National Optical-Infrared Astronomy Research Laboratory
2020–2022	Associate Scientist – Community Science & Data Center U.S. National Science Foundation National Optical-Infrared Astronomy Research Laboratory
2015–2020	Research Assistant Professor – Department of Physics University of Notre Dame
2018–2020	Faculty Fellow – Liu Institute for Asia and Asian Studies University of Notre Dame
2014–2015	Science Fellow Gemini Observatory – Northern Operations Center Association of Universities for Research in Astronomy
2013–2014	Postdoctoral Fellow National Optical Astronomy Observatory Association of Universities for Research in Astronomy
2010–2013	Postdoctoral Fellow Instituto de Astronomia, Geofísica e Ciências Atmosféricas Universidade de São Paulo
2010–2011	External Consultant - Data Science and Statistics Suzuki Veículos do Brasil S/A
2010–2010	Freelance Translator - Astronomy Brasil Magazine Ediouro Duetto Editorial

# Education

2007–2010 Doctorate degree in Astronomy

Search for very metal-poor stars based on carbon over-abundance

Instituto de Astronomia, Geofísica e Ciências Atmosféricas

Universidade de São Paulo

2005–2007 Master's degree in Astronomy

Abundance patterns among very metal-poor stars in the Galaxy: a statistical approach

Instituto de Astronomia, Geofísica e Ciências Atmosféricas

Universidade de São Paulo

2001–2005 Bachelor's degree in Physics (concentration: Astronomy)

Instituto de Física

Universidade de São Paulo

## **Awards**

2024 Outstanding Achievement Award – Science

U.S. National Science Foundation National Optical-Infrared Astronomy Research Laboratory

Association of Universities for Research in Astronomy

2011 Featured Astronomy thesis of the year 2010

Instituto de Astronomia, Geofísica e Ciências Atmosféricas

Universidade de São Paulo

2005 Best Astronomy undergraduate project

Instituto de Astronomia, Geofísica e Ciências Atmosféricas

Universidade de São Paulo

# **Observatory Experience**

# Leardership roles/Service

2020-present	Hubble Space Telescope External Proposal reviewer
2018-present	Member of the J-PAS Survey Science Committee (Javalambre Physics of the Accelerating Universe Survey
2018-present	Co-coordinator of the Resolved Stellar Population Working Group of the J-PAS Survey
2018-present	Member of the Maunakea Spectroscopic Explorer (MSE) Science Team
2017-present	Subaru Telescope Proposal reviewer – category group: Normal Stars, Metal-Poor Stars
2017-present	Member of the S-PLUS Advisory Committee (Southern Photometric Local Universe Survey)
2017-present	Principal Investigator of the S-PLUS Short Survey
2019-2020	Member of the NSF NOIRLab Time Allocation Committee - Galactic Panel 2
2017-2020	US representative for the Gemini Observatory Users Committee
2018-2019	Member of the NOAO Time Allocation Committee - Galactic Panel 2
2017-2018	Member of the Gemini OCS Upgrades Working Group
2018	US Extremely Large Telescope Program – First Stars Key Science Project

## Operations and Instrument/User Support

2020-present NSF NOIRLab: Community Science & Data Center – US National Gemini Office

Product development for the Gemini user community:

Twitter account bots – daily completion, weekly paper, monthly completion, other metrics GitHub repositories – DRAGONS Imaging tutorials, IRAF Spectroscopy tutorials, users dashboard

Co-organization of AAS Splinter Meetings

Responsible for managing the NOIRLab IRAF modernization project

Migration and maintenance of the US NGO Portal Migration and maintenance of the GMOS Cookbook Migration and maintenance of the XDGNIRS Pipeline

Gemini HelpDesk – Responsible for selected Tiers 2 and 3 inquiries

2021-present NSF NOIRLab: Communications, Education & Engagement

Supported the migration of the NOAO Science website to the new NOIRLab Science website

Developed, revised, and curated content for the NOIRLab Science website

Serve as a liaison between RSS and CEE

Support science staff in adding/editing content on the science webpages

Responding/routing science inquiries from usercomms@noirlab.edu and info@noirlab.edu

Responsible for the curation of the NOIRLab Capabilities Brochure

2021–2022 **NSF NOIRLab**: Gemini Observatory – Science User Support Department

Part of the Science Verification effort for the DRAGONS spectroscopic routines

Early testing of the quick-look and interactive tools for DRAGONS Performance comparison between Gemini/IRAF and DRAGONS packages

2014–2015 **Gemini-North**: Operations

Support Scientist for Phase II programs Backup support for instrument teams

Interface between observatory and visitors (staff, scientists, and others) Interactions with astronomers, engineers, IT personnel, and facilities staff

Community support (help-desk and troubleshooting) Write/edit/update internal and external webpages

Weekly operations meetings

Queue observer Data reductions

2014–2015 Gemini-North: GMOS Instrument Team

Instrument performance monitoring pipeline

Throughput characterization

Commissioning of AO capabilities

Write/edit/update internal and external instrument webpages

Data quality assessment

Commissioning of Hamamatsu CCD at GMOS-S

2014–2015 **Gemini-North**: GRACES Instrument Team

Commissioning of the instrument

Developed early data-reduction pipeline

Write/edit/update internal and external instrument webpages Developed exposure time calculator (GRACES ITC v0.1 Beta)

2008–2012 **SOAR Telescope**: remote observing station – University of São Paulo

Responsible for operations and maintenance

Develop data reduction tools

Edit/write manuals and data analysis cookbooks

User support and troubleshooting

Configure, quote, and purchase new workstations and teleconference hardware Work with staff and IT personel to ensure access to buildings and computers Support daytime calibrations / nighttime observations

# Observing Experience

Period	Telescope	# of nights	instrument	mode
2019-present	CTIO/Blanco	16	COSMOS	remote
2011-present	ESO/NTT	12	EFOSC2	visitor
2008-present	SOAR	40+	Goodman OSIRIS	remote
2013–2018	KPNO/Mayall	20+	RCSPEC KOSMOS	visitor/remote
2014–2015	Gemini North	12	GMOS GRACES GNIRS NIRI NIFS	queue observer
2014–2015	Gemini South	2	GMOS	remote
2013	McDonald 2.1m	4	ES2 Spectrometer	visitor

# Research Experience

# **Funding**

### Current

2023-2026 Hubble Space Telescope (Co-I)

Fission of Transuranic Nuclei: A Potential Observational Signature in Metal-Poor Stars

Space Telescope Science Institute (USD 2,873)

## Past (Total: USD 470,229)

2020-2022 Hubble Space Telescope (Co-I)

Testing r-process nucleosynthesis models with two r-process enhanced stars

Space Telescope Science Institute (USD 35,000)

2019–2021 Hubble Space Telescope (Co-PI)

HD 222925: A unique opportunity to study the full range of nuclei produced by a single r-process event

Space Telescope Science Institute (USD 60,732)

2018–2020 Hubble Space Telescope (Co-PI)

The Unexplored Domains of the s-Process

Space Telescope Science Institute (USD 119,104)

2018 Liu Institute for Asia & Asian Studies (PI)

Stellar Archaeology as a Time Machine to the First Stars

University of Notre Dame (USD 600 - Travel support for conference)

2018 Liu Institute for Asia & Asian Studies (PI)

TDLI Workshop on The Exploding Universe

University of Notre Dame (USD 2,600 - Travel support for conference)

2015–2017 Hubble Space Telescope (Co-I)

The First Detections of Phosphorus, Sulphur, and Zinc in a Bona-Fide Second-Generation Star

Space Telescope Science Institute (USD 85,293)

2016–2017 Faculty Research Support Program Initiation Grant (PI)

Identification of CEMP Stars from S-PLUS Photometry using Artificial Neural Networks

University of Notre Dame (USD 10,000)

2013–2014 FAPESP (State of São Paulo Research Foundation) – Postdoctorate

(re)discovery and analysis of metal-poor stars in the Milky Way

National Optical Astronomy Observatory (USD 71,400)

2010–2013 FAPESP (State of São Paulo Research Foundation) – Postdoctorate

The Milky Way Halo revisited

Universidade de São Paulo (USD 85,500)

### **Fellowships**

2007–2010 Doctorate – FAPESP (07/04356-3) – Universidade de São Paulo Search for very metal-poor stars based on carbon over-abundance
 2005–2007 Master's – FAPESP (05/01023-8) – Universidade de São Paulo Abundance patterns among very metal-poor stars in the Galaxy: a statistical approach
 2004–2005 Undergraduate research project – CNPq/PIBIC – Universidade de São Paulo Descoberta e Análise de Objetos com Linhas em Emissão no Survey HK
 2002–2004 Undergraduate research project – FAPESP (02/04704-8) – Universidade de São Paulo Construção de câmara de alvo gasoso para produção de feixes radioativos

# Visiting Faculty/Postdoc/Graduate Student

2023/2022 Universidade de São Paulo Instituto de Astronomia, Geofísica e Ciências Atmosféricas Funding: NOIRLab, USP/FAPESP (Brazil) 2020/2018 Universidade de São Paulo

Instituto de Astronomia, Geofísica e Ciências Atmosféricas Funding: USP/FAPESP (Brazil), JINA-CEE

2018 Chungnam National University
Department of Astronomy & Space Science
Funding: CNU (Republic of Korea)

2014 University of Notre Dame
Department of Physics

Funding: Gemini Observatory and JINA (Joint Institute for Nuclear Asthophysics)

2014/2012 Massachusetts Institute of Technology

Kavli Institute for Astrophysics and Space Research

Funding: Gemini Observatory, FAPESP (The State of São Paulo Research Foundation - Brazil)

2013/2012 National Optical Astronomy Observatory

Kitt Peak National Observatory Funding: FAPESP (Brazil)

2013 New Mexico State University
Department of Astronomy
Funding: FAPESP (Brazil)

2010/2008 Universität Heidelberg Zentrum für Astronomie

Funding: Universität Heidelberg (Germany), FAPESP, PROEX (Brazil)

2010/2009 Michigan State University

2007 Physics and Astronomy Department

Funding: JINA (USA), FAPESP, PROEX (Brazil)

### Telescope time allocations

# Approved observing projects: 188 Total awarded: 6919.32 hours

\*does not include time allocated through university partnerships

### Principal Investigator

# Approved observing projects: 51 Total awarded: 1771.80 hours

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51. 2023B - Gemini South - GS-2023B-FT-301 (Fast Turnaround): 2.25 hours
50. 2023A - Gemini South - GS-2023A-SV-101 (Band 1): 4.0 hours
49. 2023A - Gemini South - GS-2023A-Q-407 (Band 4): 40.0 hours
48. 2022A - Gemini South - GS-2022A-Q-406 (Band 4): 30.0 hours
47. 2022A - CTIO Blanco - 2022A-210002: 5.0 nights
46. 2021A - Gemini South - GS-2021A-Q-419 (Band 4): 40.0 hours
45. 2021A - CTIO Blanco - 2021A-0000: 5.0 nights
44. 2020A - CTIO Blanco - 2020A-0032: 5.0 nights
43. 2019B - CTIO Blanco - 2019B-0069: 5.0 nights
42. 2019A - Gemini South - GS-2019A-Q-408 (Band 4): 21.0 hours
41. 2019A - Gemini North - GN-2019A-Q-402 (Band 4): 27.0 hours
40. 2018B - Gemini North - GN-2018B-Q-403 (Band 4): 20.0 hours
39. 2018B - Gemini South - GS-2018B-Q-402 (Band 4): 20.0 hours
38. 2018A - Gemini South - GS-2018A-Q-402 (Band 4): 30.0 hours
37. 2017B - Gemini North - GN-2017B-Q-84 (Band 4): 39.0 hours
36. 2017A - Gemini South - GS-2017A-FT-3: 5.5 hours
35. 2017A - KPNO Mayall - 2017A-0295: 7.0 nights
34. 2016B - Gemini North - GN-2016B-Q-85 (Band 4): 50.0 hours
33. 2016B - Gemini South - GS-2016B-Q-86 (Band 4): 50.0 hours
32. 2016A - Gemini South - GS-2016A-Q-107 (Band 4): 50.0 hours
31. 2015B - Gemini North - GN-2015B-Q-100 (Band 4): 30.0 hours
30. 2015B - Gemini South - GS-2015B-Q-104 (Band 4): 50.0 hours
29. 2015B - ESO/NTT - 096.D-0018(A): 5.0 nights
28. 2015A - Gemini North - GN-2015A-Q-401 (Band 4): 30.0 hours
27. 2015A - Gemini South - GS-2015A-Q-205 (Band 4): 50.0 hours
26. 2015A - ESO/NTT - 095.D-0202(A): 4.0 nights
25. 2015A - KPNO Mayall - 2015A-0071: 6.0 nights
24. 2015A - SOAR - 2015A-0071: 5.0 nights
23. 2014B - Gemini South - GS-2014B-Q-85 (Band 4): 30.0 hours
22. 2014B - Gemini North - GN-2014B-Q-102 (Band 4): 30.0 hours
21. 2014A - Gemini South - GS-2014A-Q-92 (Band 4): 33.3 hours
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20. 2014A - Gemini North - GN-2014A-Q-101 (Band 3): 16.7 hours
 2014A - Gemini North - GN-2014A-Q-105 (Band 4): 33.3 hours

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18. 2013B - Gemini South - GS-2013B-Q-89 (Band 4): 25.0 hours
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- 17. 2013B Gemini North GN-2013B-Q-105 (Band 4): 25.0 hours
- 16. 2013B SOAR SO2013B-001: 30.0 hours
- 15. 2013A SOAR SO2013A-018: 34.0 hours
- 14. 2012B Gemini South GS-2012B-Q-65 (Band 3): 10.0 hours queue
- 13. 2012B Gemini South GS-2012B-Q-84 (Band 4): 70.0 hours queue
- 12. 2012B Gemini North GN-2012B-Q-284 (Band 4): 70.0 hours queue
- 11. 2012B ESO/NTT 090.D-0275(A): 4 nights classical
- 10. 2012B SOAR SO2012B-001: 24.0 hours remote
- 9. 2012A Gemini South GS-2012A-Q-76 (Band 3): 6.0 hours queue
- 8. 2012A ESO/NTT 089.D-0331(A): 4 nights classical
- 7. 2012A SOAR SO2012A-003: 24.0 hours remote
- 6. 2011B ESO/NTT 088.D-0344(A): 4 nights classical
- 5. 2011B SOAR SO2011B-002: 24.0 hours remote
- 4. 2011A Gemini South GS-2011A-Q-86 (Band 4): 4.0 hours queue
- 3. 2011A Gemini North GN-2011A-Q-88 (Band 3): 1.3 hours queue
- 2. 2011A Gemini North GN-2011A-Q-122 (Band 4): 6.7 hours queue
- 1. 2011A SOAR SO2011A-010: 17.0 hours remote

### Co-Investigator

# Approved observing projects: 137 Total awarded: 5147.52 hours

- 137. 2024A CTIO/Blanco 2024A-646244 (survey): 85.00 hours
- 136. 2024A Gemini South GS-2024A-Q-109 (Band 1): 3.80 hours
- 135. 2024A Gemini South GS-2024A-Q-112 (Band 1 GT): 50.00 hours
- 134. 2024A Gemini South GS-2024A-Q-130 (Band 1): 13.00 hours
- 133. 2024A Gemini South GS-2024A-Q-206 (Band 2): 21.20 hours
- 132. 2024A Gemini South GS-2024A-Q-225 (Band 2): 16.00 hours
- 131. 2024A Gemini South GS-2024A-Q-233 (Band 2): 1.10 hours
- 130. 2024A Gemini South GS-2024A-Q-324 (Band 3): 4.50 hours
- 129. 2024A Gemini South GS-2024A-Q-333 (Band 3): 3.41 hours
- 128. 2023B CTIO/Blanco 2023B-646244 (survey): 65.00 hours
- 127. 2023B Southern African Large Telescope 2023-2-SCI-005: 14.5 hours
- 126. 2023B Gemini South GS-2023B-FT-210 (Fast Turnaround): 6.84 hours
- 125. 2023B Gemini South GS-2023B-Q-107 (Band 1): 20.00 hours
- 124. 2023B Gemini South GS-2023B-Q-309 (Band 3): 4.09 hours
- 123. 2023B Gemini South GS-2023B-Q-322 (Band 3): 5.06 hours
- 122. 2023A Southern African Large Telescope 2023-1-SCI-007: 8.85 hours
- 121. 2023A Gemini South GS-2023A-Q-412 (Band 4): 42.00 hours
- 120. 2022B Gemini North GN-2022B-Q-211 (Band 2): 11.40 hours

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119. 2022B - Gemini South - GS-2022B-Q-227 (Band 2): 7.10 hours
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- 118. 2022B Gemini South GS-2022B-Q-318 (Band 3): 10.96 hours
- 117. 2022B Southern African Large Telescope 2022-2-SCI-011: 20.0 hours
- 116. 2022A SOAR 2022A-001: 8 hours
- 115. 2022A SOAR 2022A-006: 40 hours
- 114. 2022A Subaru KR-2022A-008: 10.00 hours
- 113. 2022A Gemini South GS-2022A-Q-128 (Band 1): 1.20 hours
- 112. 2022A Gemini South GS-2022A-Q-132 (Band 1): 4.60 hours
- 111. 2022A Gemini South GS-2022A-Q-234 (Band 2): 3.10 hours
- 110. 2022A Gemini South GS-2022A-Q-233 (Band 2): 11.60 hours
- 109. 2022A Gemini South GS-2022A-Q-238 (Band 2): 4.00 hours
- 108. 2022A Gemini South GS-2022A-Q-322 (Band 3): 5.20 hours
- 107. 2022A Gemini South GS-2022A-Q-323 (Band 3): 2.20 hours
- 106. 2022A Gemini South GS-2022A-Q-325 (Band 3): 9.40 hours
- 105. 2021B Gemini North GN-2021B-Q-111 (Band 1): 9.70 hours
- 104. 2021B Gemini South GS-2021B-Q-127 (Band 1): 2.20 hours
- 103. 2021B Gemini South GS-2021B-Q-232 (Band 2): 6.10 hours
- 102. 2021B Gemini South GS-2021B-Q-130 (Band 1): 3.60 hours
- 101. 2021B Gemini South GS-2021B-Q-321 (Band 3): 16.60 hours
- 100. 2021A Gemini North GN-2021A-FT-209 (Band 1): 2.20 hours
- 99. 2021A Gemini North GN-2021A-FT-205 (Band 1): 3.00 hours
- 98. 2021A Gemini North GN-2021A-Q-111 (Band 1): 14.20 hours
- 97. 2021A Gemini South GS-2021A-Q-230 (Band 2): 10.00 hours
- 96. 2021A SOAR 2021A-007: 40 hours
- 95. 2020A McDonald 2.7m McD20-1-2.7-7: 7.0 nights
- 94. 2019B Gemini North GN-2019B-Q-403 (Band 4): 9.40 hours
- 93. 2019B McDonald 2.7m McD19-3-2.7-1: 7.0 nights
- 92. 2019B SOAR 2019B-0013: 26 hours
- 91. 2019A Gemini North GN-2019A-Q-309 (Band 3): 22.73 hours
- 90. 2019A McDonald 2.7m McD19-1-2.7-3: 17.0 nights
- 89. 2019A McDonald 2.1m McD19-1-2.7-1: 5.0 nights
- 88. 2018B Gemini North GN-2018B-Q-122 (Band 1): 10.0 hours
- 87. 2018B Gemini North GN-2018B-Q-316 (Band 3): 25.00 hours
- 86. 2018B Gemini South GS-2018B-Q-315 (Band 3): 47.27 hours
- 85. 2018B SOAR 2018B-0010: 26 hours
- 84. 2018A Gemini North GN-2018A-Q-403 (Band 4): 89.10 hours
- 83. 2018A Gemini South GS-2018A-Q-406 (Band 4): 7.90 hours
- 82. 2018A LCO/Magellan Telescope Carnegie Time: 2 nights
- 81. 2018A LCO/duPont Telescope Carnegie Time: 18 nights
- 80. 2018A Apache Point Observatory UW08: 5.0 nights

- 79. 2018A LCO/Magellan Telescope Chilean Time: 3 nights
- 78. 2018A SOAR 2018A-0021: 36 hours
- 77. 2018A McDonald 2.7m McD18-1-2.7-3: 7.0 nights
- 76. 2017B LCO/Magellan Telescope Michigan Time: 2.5 nights
- 75. 2017B Gemini North GN-2017B-Q-18 (Band 1): 10.2 hours
- 74. 2017B Gemini North GN-2017B-FT-7: 6.28 hours
- 73. 2017B Gemini North GN-2017B-Q-75 (Band 3): 41.82 hours
- 72. 2017B Gemini North GN-2017B-Q-79 (Band 4): 63.64 hours
- 71. 2017B Gemini South GS-2017B-Q-75 (Band 3): 20.91 hours
- 70. 2017B Gemini South GS-2017B-Q-84 (Band 4): 107.82 hours
- 69. 2017A Southern African Large Telescope 2017-1-MLT-012: 55.6 hours
- 68. 2017A Gemini North GN-2017A-Q-82 (Band 3): 202.0 hours
- 67. 2017A Gemini South GS-2017A-Q-86 (Band 3): 142.5 hours
- 66. 2017A ESO/NTT 099.D-0428: 5.0 nights
- 65. 2017A LCO/Magellan Telescope Carnegie Time: 3 nights
- 64. 2017A LCO/duPont Telescope Carnegie Time: 19 nights
- 63. 2017A SOAR 2017A-0016: 40 hours
- 62. 2016B Gemini North GN-2016B-Q-77 (Band 3): 6.4 hours
- 61. 2016B Gemini South GS-2016B-Q-81 (Band 3): 32.3 hours
- 60. 2016B ESO/NTT 098.D-0434: 4.0 nights
- 59. 2016B Hubble Space Telescope Cycle 24 HST-GO-14765: 40 orbits
- 58. 2016B LCO/duPont Telescope Carnegie Time: 5 nights
- 57. 2016A ESO/NTT 097.D-0196: 7.0 nights
- 56. 2016A Apache Point Observatory UW07: 2.5 nights
- 55. 2016A Gemini North GN-2016A-Q-17 (Band 1): 9.8 hours
- 54. 2016A Gemini North GN-2016A-Q-75 (Band 3): 79.4 hours
- 53. 2016A Gemini South GS-2016A-Q-76 (Band 3): 74.0 hours
- 52. 2016A SOAR 2016A-0019: 4.0 nights
- 51. 2015B Southern African Large Telescope 2015-2-SCI-056: 117.8 hours
- 50. 2015B Hubble Space Telescope Cycle 23 HST-GO-14231: 18 orbits
- 49. 2015B Gemini North GN-2015B-Q-86 (Band 3): 26.5 hours
- 48. 2015B Gemini South GS-2015B-Q-71 (Band 3): 42.9 hours
- 47. 2015B SOAR 2015B-0020: 5.0 nights
- 46. 2015A ESO/VLT 095.D-0504(A): 30.0 hours
- 45. 2015A Gemini North GN-2015A-Q-76 (Band 3): 45.8 hours
- 44. 2015A Gemini South GS-2015A-Q-77 (Band 3): 42.8 hours
- 43. 2015A Gemini South GS-2015A-Q-92 (Band 4): 26.0 hours
- 42. 2014B ESO/VLT DDT293.D-5036(A): 2.4 hours
- 41. 2014B Gemini South GS-2014B-Q-67 (Band 3): 55.0 hours
- 40. 2014B Gemini North GN-2014B-Q-85 (Band 3): 55.0 hours

- 39. 2014B KPNO Mayall 2014B-0231: 3.0 nights
- 38. 2014B SOAR 2014B-0231: 3.0 nights
- 37. 2014A Gemini South GS-2014A-Q-88 (Band 3): 66.7 hours
- 36. 2014A KPNO Mayall 2014A-0323: 8.0 nights
- 35. 2013B KPNO Mayall 2013B-0046: 6.5 nights
- 34. 2013B Gemini South GS-2013B-Q-75 (Band 3): 50.0 hours
- 33. 2013B Gemini North GN-2013B-Q-81 (Band 3): 50.0 hours
- 32. 2013B SOAR SO2013B-S102: 17.0 hours (long term)
- 31. 2013B ESO/NTT 092.D-0308(A): 6 nights
- 30. 2013B McDonald 2.1m McD13-3: 5 nights
- 29. 2013B LNA/Brazil 2013B-P012: 6 nights
- 28. 2013B NOT (Nordic Optical Telescope) 48-031: 3.5 nights
- 27. 2013A Gemini North GN-2013A-Q-113 (Band 4): 54.5 hours
- 26. 2013A Gemini South GS-2013A-Q-91 (Band 3): 54.6 hours
- 25. 2013A Gemini South GS-2013A-Q-95 (Band 4): 10.9 hours
- 24. 2013A ESO/NTT 091.D-0292(A): 6 nights
- 23. 2013A LNA/Brazil 2013A-P030: 4 nights
- 22. 2013A SOAR SO2013A-LP2: 17.0 hours (long term)
- 21. 2013A NOT (Nordic Optical Telescope) 47-003: 3.0 nights
- 20. 2012B NOT (Nordic Optical Telescope) 46-011: 2.5 nights
- 19. 2012B ESO/VLT (X-Shooter) 090.D-0321(A): 12 hours
- 18. 2012B LCO/Magellan MAG/12B/9: 2 nights
- 17. 2012B AAO/AAT AAT/12B/032: 6 nights
- 16. 2012B SOAR SO2012B-005: 8.0 hours (long term)
- 15. 2012A Gemini South GS-2012A-Q-81 (Band 4): 74.0 hours
- 14. 2012A AAO/AAT AAT/12A/011: 4 nights
- 13. 2012A LCO/Magellan MAG/12A/7: 2 nights
- 12. 2012A SOAR SO2012A-002: 16.0 hours
- 11. 2011B Gemini South GS-2011B-Q-91 (Band 4): 75.0 hours
- 10. 2011B SOAR (SO2011B-008): 24.0 hours
- 9. 2011A Gemini South GS-2011A-Q-85 (Band 3): 63.4 hours
- 8. 2011A CFHT CF2011A-002: 13.9 hours
- 7. 2010B CFHT 10BB05A/10BB99B: 13.9 hours
- 6. 2010A Gemini South GS-2010A-Q-78 (Band 4): 25.0 hours
- 5. 2009B SOAR SO2009B-004: 17.0 hours
- 4. 2009A SOAR SO2009A-0249: 6 nights
- 3. 2009A SOAR SO2009A-014: 32.0 hours
- 2. 2008A SOAR SO2008A-006: 3 nights
- 1. 2007B SOAR SO2007B-006: 3 nights

# **Invited** / Contributed talks

### 2024

**88**. Rare Gems in Big Data
Stellar Genealogy: Rare Gems in the Milky Way as Probes of the Chemical Evolution of the Universe

### 2023

87. DELVE Collaboration Meeting

How to also find what you are not looking for: going on a fishing expedition

86. XIX J-PAS Collaboration Meeting
An R-process Enhanced Extremely Metal-Poor Star Identified with Narrow-band Photometry

- 85. International Research Network for Nuclear Astrophysics Online Seminar Series (watch it on Youtube)

  Neutron-capture in the wild: finding r-process enhanced metal-poor stars in the Milky Way and beyond
- 84. Observatório Nacional S-PLUS 18th Collaboration Meeting

  An r-process enhanced extremely metal-poor star identified by S-PLUS
- 83. NSF's NOIRLab NOIRLab South Colloquium

  What else can you find when looking for Carbon Enhanced Ultra Metal-Poor Stars? A GHOST Story
- 82. NSF's NOIRLab GHOST Webinar Series

  How to Find What You Are Not Looking For: The curious case of SPLUS J1424-2542
- <u>81</u>. Lund University

  What else can you find when looking for Ultra Metal-Poor Stars?
- 80. NSF's NOIRLab SWEETS (Support Work Education and Exchange Talk Series)

  The US National Gemini Office

### 2022

- 79. Centro de Estudios de Física del Cosmos de Aragón 18th J-PAS Collaboration Meeting The miniJPAS survey: stellar atmospheric parameters from 56 optical filters
- 78. NSF's NOIRLab DECam at 10 years Looking Back, Looking Forward Searching for Chemically Pristine Stars with Narrowband Photometry
- 77. Centro Brasileiro de Pesquisas Físicas S-PLUS 17th Collaboration Meeting Mining S-PLUS for Metal-Poor Stars in the Milky Way
- 76. Planetário da Gávea, Rio de Janeiro O Céu do Sul e suas Maravilhas SPLUS J2104–0049 e a Evolução Química do Universo
- 75. Universidade de São Paulo Astronomia ao Meio-dia (watch it on Youtube in Portuguese) A Tabela Periódica Astrofísica
- 74. Universidade de São Paulo Astrophysics Colloquium (watch it on Youtube) Is Carbon Ubiquitous in the High-Redshift Universe? A Stellar Archaeology perspective
- 73. Gemini Observatory Science Meeting 2022

  Making good use of bad weather: a chemically pristine star found through the clouds with Gemini
- <u>72</u>. Observatório Nacional Seminário da Coordenação de Astronomia e Astrofísica Stellar Archaeology and Near-Field Cosmology: Understanding the Chemical Evolution of the Universe

### 2021

71. Universidade de São Paulo – S-PLUS 16th Collaboration Meeting

Mining the S-PLUS catalog to find chemically peculiar stars in the Galaxy

<u>70</u>. Instituto Nacional de Pesquisas Espaciais – Seminários da Divisão de Astrofísica (watch it on watch it on Youtube) Stellar Archaeology and Near-Field Cosmology: Understanding the Chemical Evolution of the Universe

- 69. Universidade Federal de Santa Catarina IX Encontro de Física e Astronomia da UFSC Stellar Archaeology and Near-Field Cosmology: Understanding the Chemical Evolution of the Universe
- 68. Joint Institute for Nuclear Astrophysics Physics of Atomic Nuclei High School Program
  The Age and Chemical Evolution of the Universe from Two Stars in the Milky Way
- 67. Universidade de São Paulo S-PLUS 15th Collaboration Meeting Searching for low-metallicity stars in S-PLUS
- <u>66</u>. NSF's NOIRLab Live from NOIRLab @ Hawai'i (watch it on Youtube) A chemically-peculiar star found from its colors

### 2020

- 65. NSF's NOIRLab Live from NOIRLab @ Hawai'i (Youtube)

  The Age and Chemical Evolution of the Universe from Two Stars in the Milky Way
- 64. NSF's NOIRLab Gemini Observatory Science Coffee
  From R=40 to R=40,000: Mining narrow-band photometric catalogs in search of low-metallicity stars
- 63. Joint Institute for Nuclear Astrophysics Physics of Atomic Nuclei High School Program
  The Age and Chemical Evolution of the Universe from Two Stars in the Milky Way
- **62**. Regional Center for Space Science and Tec Education for West Asia / Arab Union for Astronomy & Space Science Our eyes in the skies: How telescopes help us place ourselves in the Universe
- 61. NSF's NOIRLab Colloquium Near-Field Cosmology with Narrow-Band Photometry and Spectroscopy of Low-Metallicity Stars
- <u>60</u>. Universidade de São Paulo Astrophysics Colloquium Near-Field Cosmology using Narrow-Band Photometry and Low-Metallicity Stars
- <u>59</u>. Universidade de São Paulo Astronomia ao Meio-dia (watch it on Youtube in Portuguese) Agulhas no palheiro: A evolução química e idade do Universo contadas por duas estrelas

### 2019

- 58. National Optical Astronomy Observatory Stellar Archaeology: Understanding the Chemical Evolution of the Universe through Color Maps of the Night Sky
- 57. Joint Institute for Nuclear Astrophysics Physics of Atomic Nuclei High School Program
  The Age and Chemical Evolution of the Universe from two stars in the Milky Way
- 56. Consejo Superior de Investigaciones Científicas 17th J-PAS Collaboration Meeting Identification of Low-Metallicity Stars from Narrow-Band Photometry
- 55. San Francisco State University Physics & Astronomy Colloquium
  Stellar Archaeology: Origin of the Chemical Elements in the Universe through a 59-Color Map of the Sky

### 2018

- 54. Kavli IPMU at The University of Tokyo Stellar Archaeology as a Time Machine to the First Stars The Mass Distribution of the First Stars revealed by Abundance Pattern Matching of Ultra Metal-Poor Stars
- 53. Kavli IPMU at The University of Tokyo Introduction to Stellar Archaeology Radioactive Stellar Ages
- 52. Texas A&M University Commerce Physics & Astronomy Colloquium Stellar Archaeology: Understanding the Origin of the Chemical Elements through a 59-Color Map of the Night Sky

- 51. Chungnam National University Department of Astronomy & Space Science Seminar
  The Origin of the Chemical Elements in the Universe revealed by a 12-Color Map of the Night Sky
- 50. Korea Astronomy and Space Science Institute Colloquium

  Constraints on Near-Field Cosmology through Abundance Pattern Matching of Ultra Metal-Poor Stars
- 49. Universidade de São Paulo Astronomy Colloquium
  The Southern Photometric Local Universe Survey (S-PLUS): An Overview
- 48. Universidade de São Paulo S-PLUS Meeting Short update on S-PLUS SHORTS
- 47. University of Notre Dame Astronomy 1-minute talks (23 presenters) Organizer and Presenter
- <u>46</u>. University of Notre Dame Our Universe Revealed A day in the life of an Astronomer
- 45. Kavli Institute for Cosmological Physics Near-Field Cosmology with the Dark Energy Survey The Age Structure of the Milky Way Halo revealed by DES
- **44**. Joint Institute for Nuclear Astrophysics Physics of Atomic Nuclei High School Program

  Can we talk about the Age and Chemical Evolution of the Universe by looking at only two stars?
- 43. Centro de Estudios de Física del Cosmos de Aragón J-PLUS 2<sup>nd</sup> Virtual Meeting J-PLUS Stellar Parameter Value Added Catalog
- 42. Shanghai Jiao Tong University Tsung-Dao Lee Institute Workshop on The Exploding Universe Probing the mass distribution of the first stars through abundance pattern matching of ultra metal-poor stars
- 41. JINA-CEE Frontiers in Nuclear Astrophysics Main Conference
  Observational constraints on the origin of the elements: from First stars to Neutron-Star mergers
- 40. Manhattan College Physics Department Colloquium Understanding the Origin of the Elements in the Universe through a 12-Color Map of the Night Sky
- 39. JINA-CEE Frontiers in Nuclear Astrophysics Junior Workshop Speaking Skills
- <u>38</u>. Centro de Estudios de Física del Cosmos de Aragón 16th J-PAS Collaboration Meeting Pathfinder science Constraints on First-Star Nucleosynthesis from J-PAS Photometry of Low-Metallicity Stars
- 37. Universidade de São Paulo S-PLUS Collaboration Meeting (online)
  Updates on S-PLUS Short Survey(s)

### 2017

- 36. Universidade de São Paulo S-PLUS Collaboration Meeting (online) *Updates on S-PLUS Short Survey(s)*
- 35. Michiana Astronomical Society MAS monthly meeting speaker

  A Tale of Two Stars: Revealing the Age and Chemical Evolution of the Universe
- 34. University of Notre Dame Astro-Skills Lunch *The do's and don'ts when plotting data*
- 33. Red de Infraestructuras de Astronomia Early Data Release and Scientific Exploitation of the J-PLUS Survey Identification of (Bright) Carbon-Enhanced Metal-Poor Stars with J-PLUS Photometry
- 32. GMT Community Science Meeting Chemical Evolution of the Universe

  A Monte Carlo approach to find the Progenitors of Ultra Metal-Poor Stars (Rapid Poster Talk)
- 31. University of Notre Dame The Great American Eclipse at Notre Dame Co-organizer / Astronomy faculty representative 3,500 attendees
- <u>30</u>. University of Notre Dame Research Experiences for Undergraduates (REU) Program

  A needle in a haystack: What one star can tell us about the age and chemical evolution of the entire Universe

- 29. Centro de Estudios de Física del Cosmos de Aragón J-PLUS 1<sup>st</sup> Virtual Meeting *Identifying (Carbon-Enhanced) Metal-Poor Stars from J-PLUS Photometry*
- **28**. Joint Institute for Nuclear Astrophysics Physics of Atomic Nuclei High School Program Stellar Archaeology: The Age and Chemistry of the Universe revealed by old Stars
- **27**. Universidade de São Paulo Astrophysics Colloquium

  Searching for the Origin of the Elements Using a 12-Color Map of the Night Sky

### 2016

- **26**. University of Notre Dame Astrophysics Seminar

  A Monte Carlo approach to find the Progenitors of Ultra Metal-Poor Stars
- <u>25</u>. University of Notre Dame Department of Physics Colloquium

  Searching for the Origin of the Elements Using a 12-Color Map of the Night Sky
- 24. University of Notre Dame Astronomy 1-minute talks (19 presenters) Organizer and Presenter
- 23. Universidade de São Paulo X-PLUS Collaboration Meeting

  \*Identifying Bright Carbon-Enhanced Metal-Poor Stars from S-PLUS Photometry\*
- University of Notre Dame Research Experiences for Undergraduates (REU) Program
   Near-Field Cosmology with Metal-Poor Stars
- **21**. University of Notre Dame Our Universe Revealed A day in the life of an Astronomer
- 20. University of Notre Dame Our Universe Revealed
  Our eyes in the skies: How telescopes help us place ourselves in the Universe
- 19. 227th Meeting of the American Astronomical Society Identifying Bright Carbon-Enhanced Metal-Poor Stars in the RAVE Catalog

### 2015

- 18. University of Notre Dame Our Universe Revealed

  The stuff we are made of: how do we determine the chemical elements in stars and the Universe?
- 17. University of Notre Dame Astronomy 1-minute talks (15 presenters) Organizer and Presenter
- 16. Joint Institute for Nuclear Astrophysics / University of Notre Dame High School On Air Talk Stellar Archaeology: The Age and Chemistry of the Universe revealed by old Stars YouTube video
- 15. Michigan State University JINA-CEE Nuclear Astrophysics Lunch Research Discussions Observing the First Stars through the Atmospheres of Ultra Metal-Poor Stars
- 14. Universidade de São Paulo X-PLUS Collaboration Meeting Identifying Carbon-Enhanced Metal-Poor Stars from S-PLUS Photometry
- 13. University of Notre Dame Research Experiences for Undergraduates (REU) Program Galactic Archaeology: The Chemical Evolution and Age of the Universe revealed by old Stars

#### 2014

- 12. University of Notre Dame Astronomy Seminar

  Exploring the history of the Galactic halo with Carbon-Enhanced Metal-Poor stars
- <u>11</u>. Massachusetts Institute of Technology Kavli Institute

  Exploring the history of the Galactic halo with Carbon-Enhanced Metal-Poor stars

## 2013

10. National Optical Astronomy Observatory (Carbon Enhanced) metal-poor stars and the chemical evolution of the Universe

 Gemini Observatory – Northern Operations Center Metal-poor stars as tracers of the chemical evolution of the Galaxy

### 2012

- **8**. Universidade Cruzeiro do Sul Astronomy Colloquium Search for Carbon-Enhanced Metal-Poor stars in the Halo(es) of the Galaxy
- 7. Universidade de São Paulo Astronomy Colloquium Spectroscopy from R=300 to 30000: metal-poor stars and Galactic chemical evolution
- **6**. Universidade de São Paulo Invitation to Physics: undergraduate weekly seminar Arqueologia Galáctica: a evolução química do universo revelada por estrelas pobres em metais
- 5. Universidade de São Paulo Astronomy at noon: undergraduate weekly seminar Census of the Milky Way

### 2011

- 4. Universidade de São Paulo Chemical Evolution Group Seminar Rediscovering the Dual Halo of the Milky Way via Hierarquical Clustering
- 3. Universidade de São Paulo Astronomy at noon: undergraduate weekly seminar Stellar Archaeology
- 2. Universidade de São Paulo Astronomy Colloquium

  Making good use of bad weather: finding extremely metal-poor stars in the clouds
- 1. ESO Headquarters Santiago Astronomy Colloquium Searches for Metal-Poor Stars from the Hamburg/ESO Survey using the CH G-band

# Academic Experience

# Student/Postdoc supervision

```
Postdoctoral level
```

2022-2023 Felipe de Almeida Fernandes (Universidade de São Paulo - Visiting Fellow at NSF NOIRLab)

#### **Graduate Level**

```
2023-
            Eduardo Machado Pereira (Observatório Nacional, Brazil - Visiting Student at NSF NOIRLab)
2019-2022
            Carlos Andrés Galarza Arevalo (Observatório Nacional - Brazil)
2019-2022
            Joseph Zepeda (University of Notre Dame)
2019-2022
            Derek Shank (University of Notre Dame)
2015-2020
            Sarah Dietz (University of Notre Dame)
            Dmitrii Gudin (University of Notre Dame)
2015-2020
            Devin Whitten (University of Notre Dame)
2015-2020
2015-2020
            Kaitlin Rasmussen (University of Notre Dame)
            Geoffrey Lentner (University of Notre Dame)
2015-2017
2010-2016
            Rafael Santucci (M.Sc. and Ph.D. - Universidade de São Paulo)
```

### Undergraduate Level - University of Notre Dame

```
2020
            Dante Komater (Physics Major)
2019-2020
            Lucas Pinheiro (Engineering Major)
     2019
            Shenghua Liu (Physics Major)
     2019
            Winter Allen (Arkansas Tech University - REU)
     2019
            Yihao Zhou (Shanghai Jiao Tong University - REU)
2016-2018
            Erik Peterson
2016-2018
            David Kalamarides
2015-2018
            Spencer Clark (Glynn Family Honors Program) - Senior Thesis
2016-2017
            John Roach
2016-2017
            Cristobal Gonzales
2016-2017
            Michael Kurkowski
            Jazmine Jefferson (University of Kansas - REU)
     2017
     2017
            Derek Shank (Ohio Wesleyan University - DISC/REU) - video report
            Diego Fernandez (University of Oregon - REU)
     2017
     2016
            Travis Hodges (Austin Peay State University - DISC/REU)
     2016
            Miguel Correa (San Diego State University - REU)
     2015
            Siyu He (Xi'an Jiaotong University - REU)
2012-2014
            William Alves (Universidade de São Paulo)
            Rafael Santucci (Universidade de São Paulo)
2008-2010
```

# Committee Service - University of Notre Dame

2019-2020	Undergraduate Research, Department of Physics
2016-2018	Graduate Recruitment, Department of Physics
2015-2018	Preliminary Exam Committee, Department of Physics
2015-2018	University Committee on Research & Sponsored Programs, Notre Dame Research

# Thesis Defense Committee

2024	Fábio Carneiro Wanderley (Ph.D.)
	Observatório Nacional
2024	Elvis William Carvalho Cantelli (Ph.D.)
	Universidade de São Paulo
2023	Yuri Abuchaim de Oliveira (M.Sc.)
	Universidade de São Paulo
2023	Fabricia Oliveira Barbosa (M.Sc.)
	Universidade de São Paulo
2018-2022	Heitor Ernandes (Ph.D committee chair)
	Universidade de São Paulo
2021	Raphaela Fernandes de Melo (M.Sc.)
	Observatório Nacional
2019	Henrique Reggiani (Ph.D.)
	Universidade de São Paulo
2016	Rafael Miloni Santucci (Ph.D.)
	Universidade de São Paulo
2016	Camilo Francisco Javier Muñoz Peña (M.Sc.)
	Universidade de São Paulo

# Organizing Committee - Conferences and Workshops

```
    2024 Rare Gems in Big Data
        NSF NOIRLab

    2022 DECam at 10 years - Looking Back, Looking Forward
        NSF NOIRLab
```

# **Teaching**

# Lead Instructor (LI) / Co-Instructor (CI) / Guest Lecturer (GL)

# Undergraduate

		University of Notice Dame
2020	(LI)	Descriptive Astronomy (SU20-PHYS-10140)
		Course Instructor Feedback: 5.0/5.0 - link to full report
	(LI)	Descriptive Astronomy (SP20-PHYS-10140)
		Course Instructor Feedback: 5.0/5.0 - link to full report
	(LI)	General Physics B - E & M Laboratory (SP20-PHYS-11422)
		Course Instructor Feedback: 5.0/5.0 - link to full report
	(GL)	Engineering Physics II Laboratory (SP20-PHYS-11320)
	(GL)	Engineering Physics I Laboratory (SP20-PHYS-11310)
2019	(LI)	Physics A - Mechanics Laboratory (FA19-PHYS-11411)
		Course Instructor Feedback: 5.0/5.0 - link to full report
	(LI)	Descriptive Astronomy (SU19-PHYS-10140)
		Course Instructor Feedback: 5.0/5.0 - link to full report
2018	(GL)	Descriptive Astronomy (FA18-PHYS-10140)
2017	(CI)	Descriptive Astronomy (FA17-PHYS-10140)
	(LI)	General Physics B - E & M Laboratory (SP17-PHYS-11422)
		Course Instructor Feedback: 4.8/5.0 - link to full report
2016	(GL)	Descriptive Astronomy (FA16-PHYS-10140)
2015	(GL)	Modern Observational Techniques (FA15-PHYS-30481)
		Universidade Virtual do Estado de São Paulo
2012	(LI)	Sky and Stars: An introduction
	(LI)	Galaxies: An introduction
2011	(LI)	Sky and Stars: An introduction
	(LI)	Galaxies: An introduction
Graduate		
		University of Notre Dame
2017	(CI)	Astrophysics: Stars (SP17-PHYS-80202)
2016	(CI)	Large-Scale Astronomical Surveys (SP16-PHYS-70210)
2015	(GL)	Astrophysics: Stars (SP15-PHYS-80202)
		Universidade de São Paulo
2012	(GL)	Observational Astronomy

# Teaching Assistant - Universidade de São Paulo

2009	Introduction to Astronomy
	Fundamental Astronomy
2008	Introduction to Astronomy
2007	Fundamental Astronomy

## Other relevant information

## Technical skills

Linux/Unix/MACOSX/Windows operating systems

Shell Scripting (sh, bash, tcsh, zsh)

LATEX, OpenOffice, MS Office. Co-author of the LATEX template IAGTESE

Python (iPython/Jupyter Notebooks): scipy, numpy, pandas, scikitlearn, pyfits, astropy

R-project (terminal/RStudio): FITSio, tidyverse, cluster, sciviews

Databases: SQL (PostgreSQL/pgAdmin3), SDSS CasJobs, ADQL (J-PLUS/J-PAS/TAPVizieR) Web: html, ccs, wordpress, apache, curl, wget, ssh, ftp, drupal, Google Analytics, Matomo

Graphics: Gnuplot, ggplot2, matplotlib, bokeh, tableau

Data reduction: IRAF/Pyraf packages, DRAGONS, ESO Reflex/Gasgano

Astronomy tools: WCSTools, CDSclient, STILTS, SkyCalc

Documentation: Sphinx, readthedocs

Version control and DevOps: Git, GitHub, GitLab

### Online Resources

Webpage: http://vmplacco.github.io/

LinkedIn: https://www.linkedin.com/in/vinicius-placco/

GitHub: https://github.com/vmplacco/

stackoverflow: https://stackoverflow.com/users/5964833/vinicius-placco

pythonanywhere: https://vplacco.pythonanywhere.com/

Sample webpages/

side projects: http://vmplacco.github.io/#resources

### Professional Affiliations/Service

Member of the American Astronomical Society

Member of the Brazilian Astronomical Society

Member of the Brazilian Physical Society

Member of the JINA Center for the Evolution of the Elements

Referee for the American Astronomical Society Journals

Referee for the AAAS Science Magazine

Referee for Astronomy & Astrophysics

Referee for Monthly Notices of the Royal Astronomical Society

Referee for Astronomy & Computing

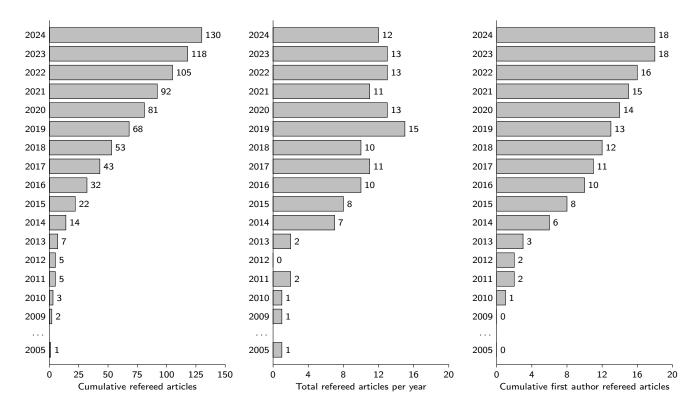
# Quantitative Indicators

- ADS: 8819 citations / h-index = 42 / i10-index = 105 (August 9, 2024 ADS link)
- Google Scholar: 10501 citations / h-index = 46 / i10-index = 106 (August 9, 2024 Google Scholar link)
- ADS Publication List (complete ADS link) / (refereed only ADS link)
- ORCID iD 0000-0003-4479-1265 / ResearcherID C-6864-2015

## Publication list

### Refereed articles

Total: 130 publications (incl. 18 first, 13 second, 16 third, and 14 fourth author articles)



- 130. Ferreira Lopes, C. E., Gutiérrez-Soto, L. A., Ferreira Alberice, V. S., Monsalves, N., Hazarika, D., Catelan, M., Placco, V. M., Limberg, G., Almeida-Fernandes, F., Perottoni, H. D., Smith Castelli, A. V., Akras, S., Alonso-García, J., Cordeiro, V., Jaque Arancibia, M., Daflon, S., Dias, B., Machado-Pereira, E., Lopes, A. R., Bom, C. R., Thom de Souza, R., de Oliveira, N., Alvarez-Candal, A., De Rossi, M., Bonatto, C., Cubillos Palma, B., Borges Fernandes, M., Humire, P., Oliveira Schwarz, G., Schoenell, W., Kanaan, A., Mendes de Oliveira, C. Stellar atmospheric parameters and chemical abundances of ∼5 million stars from S-PLUS multi-band photometry 2024, Astronomy & Astrophysics, submitted
- 129. Bandyopadhyay, A., Ezzeddine, R., Allende Prieto, C., Aria, N., Shah, S. P., Beers, T., Frebel, A., Holmbeck, E. M., Hansen, T. T., Placco, V. M., Roederer, I. U., Sakari, C. M. The R-Process Alliance: Fifth Data Release from the Search for R-process-enhanced Metal-poor Stars in the Galactic Halo with the Gran Telescopio Canarias 2024, The Astrophysical Journal, in press

128. Herpich, F. R., Almeida-Fernandes, F., Oliveira Schwarz, G. B., Lima, E., Nakazono, L., Alonso-Garcia, J., Fonseca-Faria, M., Sartori, M., Bolutavicius, G., Fabiano de Souza, G., Hartmann, E., Li, L., Espinosa, L., Kanaan, A, Schoenell, W., Werle, A., Machado-Pereira, E., Gutierrez-Soto, L., Santos-Silva, T., Smith Castelli, A., Lacerda, E., Barbosa, C., Perottoni, H., Ferreira Lopes, C., Valença, R., Re Martho, P., Bom, C., Bonatto, C., Carvalho, M., Cernic, V., Coelho, P., Cortesi, A., Cubillos Palma, B., Ferreira Alberice, V., Huaynasi, F., Jacob Perin, G., Jaque Arancibia, M., Krabbe, A., Lima-Dias, C., Lomeli-Nunez, L., Lopes de Oliveira, R., Luiz Figueiredo, A., Losch, E., Navarete, F., Oliveira, J., Overzier, R., Placco, V. M., et al. *The Fourth S-PLUS Data Release: 12-filter photometry covering 3000 square degrees in the Southern Hemisphere* 2024, Astronomy & Astrophysics, in press

- 127. Kowkabany, J., Ezzeddine, R., Charbonnel, C., Roederer, I. U., Wang, E. X., Li, Y., Hackshaw, Z., Beers, T. C., Frebel, A. Hansen, T. T., Holmbeck, E. M., Placco, V. M., Sakari, C. M. Discovery of a Metal-Poor Red Giant Star with the Highest Ultra-Lithium Enhancement 2024, The Astrophysical Journal, in press
- 126. Deibert, E. K., Langeveld, A., Young, M. E., Flagg, L., Turner, J. D., de Mooij, E., Jayawardhana, R., Smith, P., Chiboucas, K., Gamen, R., Hayes, C. R., Heo, J., Jeong, M., Kalari, V., Martioli, E., Placco, V. M., Venn, K., Xu, S., Diaz, R., Gomez-Jimenez, M., Henderson, D., Prado, P., Quiroz, C., Ruiz-Carmona, R., Simpson, C., Urrutia, C., McConnachie, A. W., Pazder, J., Burley, G., Ireland, M., Waller, F., Berg, T. A. M., Robertson, J. G., Hartman, Z., Jones, D. O., Labrie, K., Lee, J., Miller, B., Perez, G., Ridgway, S., Thomas-Osip, J. Results from the GHOST/Gemini South System Verification Run: High-Resolution Dayside Spectroscopy of WASP-189b
  2024, The Astrophysical Journal, in press
- 125. Perottoni, H. D., Placco, V. M., Almeida-Fernandes, F., Herpich, F. R., Rossi, S., Beers, T., Smiljanic, R., Amarante, J., Limberg, G., Werle, A., Rocha-Pinto, H., Beraldo e Silva, L., Daflon, S., Alvarez-Candal, A., Schoenell, W., Ribeiro, T., Kanaan, A. *The S-PLUS Ultra-Short Survey: First Data Release* 2024, Astronomy & Astrophysics, in press
- 124. Roederer, I. U., Beers, T. C., Hattori, K., **Placco, V. M.**, Hansen, T. T., Ezzeddine, R., Frebel, A., Holmbeck, E., Sakari, C. M.

  The R-Process Alliance: 2MASS J22132050-5137385, the Star with the Highest-known r-process Enhancement at [Eu/Fe] = +2.45

  2024, The Astrophysical Journal, in press
- 123. Xylakis-Dornbusch, T., Hansen, T. T., Beers, T. C., Christlieb, N., Ezzeddine, R., Frebel, A., Holmbeck, E., Placco, V. M., Roederer, I. U., Sakari, C. M., Sneden, C. *The R-Process Alliance: Analysis of Limited-r Stars*2024, Astronomy & Astrophysics, in press
- 122. Shah, S., Ezzeddine, R., Roederer, I. U., Hansen, T. T., Placco, V. M., Beers, T. C., Frebel, A., Ji, A. P., Holmbeck, E. M., Marshall, J., Sakari, C. M. The R-Process Alliance: Detailed Chemical Composition of an R-Process Enhanced Star with UV and Optical Spectroscopy 2024, Monthly Notices of the Royal Astronomical Society, vol. 529, 1917 (ADS)
- 121. Dovgal, A., Venn, K., Sestito, F., Hayes, C., McConnachie, A., Navarro, J., Placco, V. M., Starkenburg, E., Martin, N. F., Pazder, J., Chiboucas, K., Deibert, E., Gamen, R., Heo, J., Jeong, M., Kalari, V., Martioli, E., Xu, S., Diaz, R., Gomez-Jimenez, M., Henderson, D., Prado, P., Quiroz, C., Robertson, J., Ruiz-Carmona, R., Simpson, C., Urrutia, C., Waller, F., Berg, T., Burley, G., Hartman, Z., Ireland, M., Margheim, S., Perez, G., Thomas-Osip, J.

  Probing the early Milky Way with GHOST spectra of an extremely metal-poor star in the Galactic disk

2024, Monthly Notices of the Royal Astronomical Society, vol. 527, 7810 (ADS)

120. Quispe-Huaynasi, F., Roig, F., Placco, V. M., Beraldo e Silva, L., Pereira, C. B., Daflon, S., Kanaan, A., Mendes de Oliveira, C., Ribeiro, T., Schoenell, W. Characterisation of high velocity stars in the S-PLUS internal fourth data release 2024, Monthly Notices of the Royal Astronomical Society, vol. 527, 6173 (ADS)

- Spalding, E., Wilhelm, R., De Lee, N., Long, S., Beers, T. C., Placco, V. M., Kielkopf, J., Lee, Y. S., Pepper, J., Carrell, K.
   BDI FF: Software for Congreting and Applying Metallicity Collibrations for BB Lyran Variable Stars Agrees a Wide
  - RRLFE: Software for Generating and Applying Metallicity Calibrations for RR Lyrae Variable Stars Across a Wide Range of Phases and Temperatures
  - 2024, Monthly Notices of the Royal Astronomical Society, vol. 527, 828 (ADS)
- Placco, V. M., Almeida-Fernandes, F., Holmbeck, E. M., Roederer, I. U., Mardini, M. K., Hayes, C. R., Venn, K., Chiboucas, K., Deibert, E., Gamen, R., Heo, J., Jeong, M., Kalari, V., Martioli, E., Xu, S., Diaz, R., Gomez-Jimenez, M., Henderson, D., Prado, P., Quiroz, C., Ruiz-Carmona, R., Simpson, C., Urrutia, C., McConnachie, A. W., Pazder, J., Burley, G., Ireland, M., Waller, F., Berg, T. A. M., Robertson, J. G., Hartman, Z., Jones, D. O., Labrie, K., Perez, G., Ridgway, S., Thomas-Osip, J. SPLUS J142445.34—254247.1: An R-Process Enhanced, Actinide-Boost, Extremely Metal-Poor star observed with GHOST
  2023, The Astrophysical Journal, vol. 959, 60 (ADS)
- 117. Roederer, I. U., Vassh, N., Holmbeck, E. M., Mumpower, M. R., Surman, R., Cowan, J. J., Beers, T. C., Ezzeddine, R., Frebel, A., Hansen, T. T., Placco, V. M., Sakari, C. M. Element abundance patterns in stars indicate fission of nuclei heavier than uranium 2023, Science, vol. 382, 1177 (ADS)
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# Press releases, articles, and media resources

### 2023

### Phys.org

Ancient stars made extraordinarily heavy elements, researchers find

### Indiana Daily Student

IU professor provides insight into evolution of stars (external opinion)

### 2022

#### Hawaii Tribune-Herald

Cloud of matter could be remains of oldest stars (external opinion)

### Space.com

Stunning time-lapse videos show the Super Flower Blood Moon in bloom

#### digg

Footage From Gemini Observatory's Fisheye Lens Captures A Stunning Glimpse Of The Milky Way

#### Associated Press

Twinkle, twinkle giant star, astronomers see how far you are (external opinion)

#### 2021

### **NBC News**

An ancient star casts new light on the birth of the universe

#### Phys.org

Reseachers detect a new ultra-metal-poor star

#### **NOIRLab Stories**

Ultra Metal-Poor Star Discovery

### Revista FAPESP (featured article)

Star Fossil

#### S-PLUS Press Release

Astronomers discover an ultra metal-poor star that challenges models for the evolution of the first stars

#### India Education Diary

University Of São Paulo: Astronomers Discover Star That Challenges Current Models Of Evolution Of The Universe

### Jornal da USP (in Portuguese)

Astrônomos descobrem estrela que desafía modelos atuais de evolução do Universo

### Ravista FAPESP (in Portuguese)

Fóssil Estelar

### Observatório Nacional (in Portuguese) - Audio interview

Astrônomos descobrem estrela que desafía modelos atuais de evolução do Universo

### Revista Planeta (in Portuguese)

Achada estrela que desafía modelos atuais de evolução do universo

### tilt UOL (in Portuguese)

"Ultrapobre": brasileiros encontram uma das estrelas mais raras do universo

### Sputnik News Brasil (in Portuguese)

Detectada estrela recordista em carência metálica que pode explicar evolução inicial do Universo

### Hypeness (in Portuguese)

Telescópio com tecnologia brasileira localiza estrela mais velha que o Sol

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La humanidad podría haber descubierto una de las estrellas más antiguas del universo

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The rise of the remote Ph.D. defense

Gemini Observatory - GeminiFocus 2019 Year In Review (online)

Making Good Use of Bad Weather: Finding Metal-poor Stars Through the Clouds

2019

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Explosions of universe's first stars spewed powerful jets

Gemini Observatory News (online)

Making Good Use of Bad Weather: Finding Metal-poor Stars Through the Clouds

Gemini Observatory - GeminiFocus April 2019 Lead Science Article (online)

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2018

Notre Dame Science - Department of Physics News (online)

Summertime Stargazing event draws large crowd

Notre Dame Stories (online)

Heavy Metals

2017

Revista FAPESP (in Portuguese - online)

Fonte de ouro e régua do universo

Agência FAPESP (in Portuguese - online)

Nova fonte de ondas gravitacionais é observada

Notre Dame News (online)

Students in right place, right time witness first-ever detected neutron star collision

Notre Dame College of Science News (online)

Astrophysics graduate students witness first-ever detected neutron star collision

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École Polytechnique News (online)

The inaugural issue of Nature Astronomy features the work of F. Andrade-Santos

Jornal da USP (in Portuguese - online)

Cientistas descobrem poderosa colisão cósmica dupla

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Quando aglomerados de galáxias colidem e um buraco negro gigante entra no meio da história

Nature Astronomy (online - issue cover)

The case for electron re-acceleration at galaxy cluster shocks

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The Discovery of Particle Re-acceleration in a Galaxy Cluster Collision

Notre Dame News (online)

Notre Dame astrophysicist confirms source of galaxy collision

2016

Nature Physics (online - issue cover)

The age structure of the Milky Way's halo

Notre Dame News (online)

Second-generation stars identified, giving clues about their predecessors

Science Alert (online)

Astronomers have created the most detailed age map of the Milky Way yet

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Best picture yet of Milky Way's formation 13.5 billion years ago

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Detailed age map shows how Milky Way came together

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How the Milky Way formed: Stunning 3D maps show how 130,000 stars came together 13.5 billion years ago

Daily Mail (online)

Graphic shows age structure of the Milky Way's halo

Astrobites (online)

Our halo is getting younger, spatially speaking

UPI (online)

New map details formation of the Milky Way galaxy

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Detailed age map shows how Milky Way came together

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MSU Today (online)

Astronomers pinpoint how Milky Way Galaxy was formed

Ancient Code (online)

How the Milky Way formed: Awesome 3D map shows how 130,000 stars merged

Astro Watch (online)

Detailed Age Map Shows How Milky Way Came Together

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The age structure of the Milky Way's halo

Jornal da USP (in Portuguese - online)

Astrônomos brasileiros mapeiam estrutura de idades do halo da Via Láctea

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Pesquisadores mapeiam a distribuição cronológica dos astros da Via Láctea

Revista Galileu (in Portuguese - online)

Brasileiros confirmam que estrelas na borda da Via Láctea são as mais novas

O Povo (in Portuguese - online)

Como os astros da Via Láctea se distribuem?

Space Today TV (in Portuguese - online)

Como a Via Láctea Se Formou

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Así se formó la Vía Láctea

Geofísica Brasil (in Portuguese - online)

IAG-USP mapeia distribuição cronológica dos astros da Via Láctea

Planeta Universitário (in Portuguese - online)

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News Rondônia (in Portuguese - online)

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Physics team creates Milky Way galaxy map

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Discovery of the Brightest Ultra Metal-Poor Star

Agência FAPESP (in Portuguese - online)

Via Láctea cresceu de dentro para fora

Exame.com (in Portuguese - online)

Via Láctea cresceu de dentro para fora, diz pesquisa

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European Southern Observatory Photo Press Release (online)

ESO Telescopes Spy a Rare Relic

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Newly discovered star offers opportunity to explore origins of first stars in the early universe

Space Daily (online)

How the first stars sprung to life in early universe

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Ancient star provides insight into stellar origins in early universe

Empresa Brasil de Comunicação (in Portuguese - online)

História da Via Láctea ganha novos capítulos com descoberta de estrela por equipe da USP

Correio Braziliense (in Portuguese - online)

Astrônomos brasileiros identificam estrela rara na Via Láctea

Globo.com (in Portuguese - online)

Professor da USP descobre estrela tão antiga quanto o Universo

G1.globo.com (in Portuguese - online)

Astrônomos identificam estrela antiga e rara na Via Láctea

Agência USP de Notícias (in Portuguese - online)

Estrela traz evidências do início da Via Láctea

Universidade de São Paulo - Notícias (in Portuguese - online)

Equipe liderada pela USP identifica estrela chave para entender o início da Via Láctea

Agência FAPESP (in Portuguese - online)

Astrônomos brasileiros identificam estrela rara na Via Láctea

Folha de São Paulo (in Portuguese - online)

Astrônomos encontram uma estrela quase tão velha quanto o próprio Universo

JINA-CEE Newsletter (online)

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Galactic archeologists create the first map of Milky Way's stellar halo

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