

Curriculum Vitæ - Vinicius Moris Placco

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Personal information

Full name Vinicius [vee-nee-see-uh-s] Moris Placco
Languages Portuguese (native), English (fluent),
Spanish (intermediate), Italian (basic)

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Tucson, AZ 85719, USA
Phone +1 (520) 318-8000 / 318-8566

Website <http://vmplacco.github.io/>
e-mail vmplacco@gmail.com

Employment / Appointments

2023– Head of the US National Gemini Office
Community Science & Data Center
NSF's National Optical-Infrared Astronomy Research Laboratory

2022– Associate Astronomer
Community Science & Data Center
NSF's National Optical-Infrared Astronomy Research Laboratory

2020–2022 Associate Scientist
Community Science & Data Center
NSF's 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

- 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

Leadership 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 Co-coordinator of the Stellar Parameters Value-Added Catalog Group of the J-PLUS Survey
- 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’s NOIR Lab 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’s 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
 Migration and maintenance of the [US NGO Portal](#)
 Migration and maintenance of the [GMOS Cookbook](#)
 Gemini HelpDesk – Responsible for selected Tiers 2 and 3 inquiries
- 2021–present **NSF’s 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
 Add/moderate content for scientific meetings in the [Science Events database](#)
- 2021–2022 **NSF’s 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 university staff and IT personel to ensure physical 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

2023–2025 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

- 2022 Universidade de São Paulo
Instituto de Astronomia, Geofísica e Ciências Atmosféricas
Funding: NOIRLab/USP/FAPESP
- 2020 Universidade de São Paulo
Instituto de Astronomia, Geofísica e Ciências Atmosféricas
Funding: USP/FAPESP/JINA-CEE
- 2018 Universidade de São Paulo
Instituto de Astronomia, Geofísica e Ciências Atmosféricas
Funding: USP/FAPESP/JINA-CEE
- 2018 Chungnam National University
Department of Astronomy & Space Science
Funding: CNU
- 2014 University of Notre Dame
Department of Physics
Funding: Gemini Observatory and JINA (Joint Institute for Nuclear Astrophysics)
- 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
Physics and Astronomy Department
Funding: JINA (USA), FAPESP, PROEX (Brazil)

Academic Experience

Student/Postdoc supervision

Postdoctoral level

2022–2023 Felipe de Almeida Fernandes ([Universidade de São Paulo](#) - Visiting Fellow at NSF's NOIRLab)

Graduate Level (co-advisor)

2023– Eduardo Machado Pereira (Observatório Nacional - Brazil)
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)
2015–2020 Dmitrii Gudin (University of Notre Dame)
2015–2020 Devin Whitten (University of Notre Dame)
2015–2020 Kaitlin Rasmussen (University of Notre Dame)
2015–2017 Geoffrey Lentner (University of Notre Dame)
2010–2016 Rafael Santucci (M.Sc. and Ph.D. - Universidade de São Paulo)

Undergraduate Level (advisor) - 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
2017 Jazmine Jefferson (University of Kansas - REU)
2017 Derek Shank (Ohio Wesleyan University - DISC/REU) - [video report](#)
2017 Diego Fernandez (University of Oregon - REU)
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)
2008–2010 Rafael Santucci (Universidade de São Paulo)

Committee Service - University of Norte 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

- 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

Teaching

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

Undergraduate

University of Notre 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

Computing skills

Linux/Unix/MACOSX/Windows operating systems
Shell Scripting (sh, bash, tcsh, zsh)
L^AT_EX, OpenOffice, MS Office. Co-author of the L^AT_EXtemplate [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

* Invited / Contributed talks

2023

DELVE Collaboration Meeting

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

XIX J-PAS Collaboration Meeting

An R-process Enhanced Extremely Metal-Poor Star Identified with Narrow-band Photometry

- * 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

Observatório Nacional – S-PLUS 18th Collaboration Meeting

An r-process enhanced extremely metal-poor star identified by S-PLUS

- * NSF's NOIRLab – NOIRLab South Colloquium
What else can you find when looking for Carbon Enhanced Ultra Metal-Poor Stars? A GHOST Story

NSF's NOIRLab – GHOST Webinar Series

How to Find What You Are Not Looking For: The curious case of SPLUS J1424-2542

- * Lund University
What else can you find when looking for Ultra Metal-Poor Stars?

NSF's NOIRLab – SWEETS (Support Work Education and Exchange Talk Series)

The US National Gemini Office

2022

Centro de Estudios de Física del Cosmos de Aragón – 18th J-PAS Collaboration Meeting

The miniJPAS survey: stellar atmospheric parameters from 56 optical filters

NSF's NOIRLab – DECam at 10 years - Looking Back, Looking Forward

Searching for Chemically Pristine Stars with Narrowband Photometry

Centro Brasileiro de Pesquisas Físicas – S-PLUS 17th Collaboration Meeting

Mining S-PLUS for Metal-Poor Stars in the Milky Way

- * Planetário da Gávea, Rio de Janeiro – O Céu do Sul e suas Maravilhas
SPLUS J2104–0049 e a Evolução Química do Universo
- * Universidade de São Paulo – Astronomia ao Meio-dia (watch it on Youtube – in Portuguese)
A Tabela Periódica Astrofísica
- * Universidade de São Paulo – Astrophysics Colloquium (watch it on Youtube)
Is Carbon Ubiquitous in the High-Redshift Universe? A Stellar Archaeology perspective
- Gemini Observatory Science Meeting 2022
Making good use of bad weather: a chemically pristine star found through the clouds with Gemini
- * Observatório Nacional – Seminário da Coordenação de Astronomia e Astrofísica
Stellar Archaeology and Near-Field Cosmology: Understanding the Chemical Evolution of the Universe

2021

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

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

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

Universidade de São Paulo – [S-PLUS 15th Collaboration Meeting](#)
[Searching for low-metallicity stars in S-PLUS](#)

- * NSF's National Optical-Infrared Astronomy Research Laboratory – [Live from NOIRLab @ Hawai'i](#) (watch it on [Youtube](#))
[A chemically-peculiar star found from its colors](#)

2020

- * NSF's National Optical-Infrared Astronomy Research Laboratory – [Live from NOIRLab @ Hawai'i](#) (watch it on [Youtube](#))
[The Age and Chemical Evolution of the Universe from Two Stars in the Milky Way](#)
- * NSF's National Optical-Infrared Astronomy Research Laboratory – Gemini Observatory Science Coffee
[From \$R=40\$ to \$R=40,000\$: Mining narrow-band photometric catalogs in search of low-metallicity stars](#)
- * 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](#)
- * Regional Center for Space Science and Technology Education for West Asia / Arab Union for Astronomy & Space Science
[Our eyes in the skies: How telescopes help us place ourselves in the Universe](#)
- * NSF's National Optical-Infrared Astronomy Research Laboratory
[Near-Field Cosmology with Narrow-Band Photometry and Spectroscopy of Low-Metallicity Stars](#)
- * Universidade de São Paulo – Astrophysics Colloquium
[Near-Field Cosmology using Narrow-Band Photometry and Low-Metallicity Stars](#)
- * 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

- * National Optical Astronomy Observatory
[Stellar Archaeology: Understanding the Chemical Evolution of the Universe through Color Maps of the Night Sky](#)
- * 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](#)
- Consejo Superior de Investigaciones Científicas – 17th J-PAS Collaboration Meeting
[Identification of Low-Metallicity Stars from Narrow-Band Photometry](#)
- * 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

- * 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](#)
- Kavli IPMU at The University of Tokyo – [Introduction to Stellar Archaeology](#)
[Radioactive Stellar Ages](#)
- * 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](#)
- * 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](#)
- * Korea Astronomy and Space Science Institute [Colloquium](#)
[Constraints on Near-Field Cosmology through Abundance Pattern Matching of Ultra Metal-Poor Stars](#)
- * Universidade de São Paulo – [Astronomy Colloquium](#)
[The Southern Photometric Local Universe Survey \(S-PLUS\): An Overview](#)
- Universidade de São Paulo – [S-PLUS Meeting](#)
[Short update on S-PLUS SHORTS](#)
- University of Notre Dame – Astronomy 1-minute talks (23 presenters)

Organizer

- * University of Notre Dame – [Our Universe Revealed](#)
A day in the life of an Astronomer
- Kavli Institute for Cosmological Physics – [Near-Field Cosmology with the Dark Energy Survey](#)
The Age Structure of the Milky Way Halo revealed by DES
- * 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?
- Centro de Estudios de Física del Cosmos de Aragón – J-PLUS 2nd Virtual Meeting
J-PLUS Stellar Parameter Value Added Catalog
- * 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
- * JINA-CEE Frontiers in Nuclear Astrophysics – [Main Conference](#)
Observational constraints on the origin of the elements: from First stars to Neutron-Star mergers
- * Manhattan College – Physics Department
Understanding the Origin of the Elements in the Universe through a 12-Color Map of the Night Sky
- * JINA-CEE Frontiers in Nuclear Astrophysics – [Junior Workshop](#)
Speaking Skills
- * 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
- Universidade de São Paulo – S-PLUS Collaboration Meeting (online)
Updates on S-PLUS Short Survey(s)

2017

- Universidade de São Paulo – S-PLUS Collaboration Meeting (online)
Updates on S-PLUS Short Survey(s)
- * Michiana Astronomical Society – [MAS monthly meeting speaker](#)
A Tale of Two Stars: Revealing the Age and Chemical Evolution of the Universe
- University of Notre Dame – Astro-Skills Lunch
The do's and don'ts when plotting data
- Red de Infraestructuras de Astronomía – [Early Data Release and Scientific Exploitation of the J-PLUS Survey](#)
Identification of (Bright) Carbon-Enhanced Metal-Poor Stars with J-PLUS Photometry
- 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)
- University of Notre Dame – [The Great American Eclipse at Notre Dame](#)
Co-organizer / Astronomy faculty representative – 3,500 attendees
- * 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
- Centro de Estudios de Física del Cosmos de Aragón – J-PLUS 1st Virtual Meeting
Identifying (Carbon-Enhanced) Metal-Poor Stars from J-PLUS Photometry
- * 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
- * Universidade de São Paulo – [Astrophysics Colloquium](#)
Searching for the Origin of the Elements Using a 12-Color Map of the Night Sky

2016

- * University of Notre Dame – [Astrophysics Seminar](#)
A Monte Carlo approach to find the Progenitors of Ultra Metal-Poor Stars

- * University of Notre Dame – Department of Physics Colloquium
Searching for the Origin of the Elements Using a 12-Color Map of the Night Sky
University of Notre Dame – Astronomy 1-minute talks (19 presenters)
Organizer
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
- * University of Notre Dame – Our Universe Revealed
A day in the life of an Astronomer
University of Notre Dame – Our Universe Revealed
Our eyes in the skies: How telescopes help us place ourselves in the Universe
227th Meeting of the American Astronomical Society
Identifying Bright Carbon-Enhanced Metal-Poor Stars in the RAVE Catalog

2015

- 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?
University of Notre Dame – Astronomy 1-minute talks (15 presenters)
Organizer
- * 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
- * Michigan State University – JINA-CEE Nuclear Astrophysics Lunch Research Discussions
Observing the First Stars through the Atmospheres of Ultra Metal-Poor Stars
Universidade de São Paulo – X-PLUS Collaboration Meeting
Identifying Carbon-Enhanced Metal-Poor Stars from S-PLUS Photometry
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

- * University of Notre Dame – Astronomy Seminar
Exploring the history of the Galactic halo with Carbon-Enhanced Metal-Poor stars
- * Massachusetts Institute of Technology – Kavli Institute
Exploring the history of the Galactic halo with Carbon-Enhanced Metal-Poor stars

2013

- 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

- * Universidade Cruzeiro do Sul - Astronomy Colloquium
Search for Carbon-Enhanced Metal-Poor stars in the Halo(es) of the Galaxy
- * Universidade de São Paulo - Astronomy Colloquium
Spectroscopy from $R=300$ to 30000: metal-poor stars and Galactic chemical evolution

- * Universidade de São Paulo - Invitation to Physics: undergraduate weekly seminar
Galactic Archaeology: chemical evolution of the Universe revealed by metal-poor stars
- Universidade de São Paulo - Astronomy at noon: undergraduate weekly seminar
Census of the Milky Way

2011

- Universidade de São Paulo - Chemical Evolution Group Seminar
Rediscovering the Dual Halo of the Milky Way via Hierarchical Clustering
- Universidade de São Paulo - Astronomy at noon: undergraduate weekly seminar
Stellar Archaeology
- Universidade de São Paulo - Astronomy Colloquium
Making good use of bad weather: finding extremely metal-poor stars in the clouds
- * ESO Headquarters - Santiago - Astronomy Colloquium
Searches for Metal-Poor Stars from the Hamburg/ESO Survey using the CH G-band

Quantitative Indicators

- ADS: **8131 citations** / **h-index = 41** / **i10-index = 103** (February 8, 2024 - [ADS link](#))
- Google Scholar: **9563 citations** / **h-index = 45** / **i10-index = 101** (February 8, 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: 123 publications (incl. 18 first, 12 second, 16 third, and 14 fourth author articles)



123. 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, submitted
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, in press
121. Dvornik, 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](#) | [PDF](#))
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
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119. Spalding, E., Wilhelm, R., De Lee, N., Long, S., Beers, T. C., **Placco, V. M.**, Kielkopf, J., Lee, Y. S., Pepper, J., Carrell, K.
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](#) | [PDF](#))
- 118. 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., Díaz, 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](#) | [PDF](#))
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](#) | [PDF](#))
116. Barbuy, B., Friaça, A., Ernandes, H., Moura, T., Masseron, T., Cunha, K., Smith, V., Souto, D., Pérez-Villegas, A., Souza, S., Chiappini, C., Queiroz, A., Fernández-Trincado, J., da Silva, P., Santiago, B., Anders, F., Schiavon, R., Valentini, M., Minniti, D., Geisler, D., **Placco, V. M.**, et. al.
Light elements Na and Al in 58 bulge spheroid stars from APOGEE
2023, *Monthly Notices of the Royal Astronomical Society*, vol. 526, 2365 ([ADS](#) | [PDF](#))
115. Roederer, I. U., Pace, A., **Placco, V. M.**, Caldwell, N., Koposov, S., Mateo, M., Olszewski, E., Walker, M.
Abundance Analysis of Stars at Large Radius in the Sextans Dwarf Spheroidal Galaxy
2023, *The Astrophysical Journal*, vol. 954, 55 ([ADS](#) | [PDF](#))
114. Almeida-Fernandes, F., **Placco, V. M.**, Rocha-Pinto, H. J., Borges Fernandes, M., Limberg, G., Beraldo e Silva, L., Amarante, J., Perottoni, H. D., Overzier, R., Schoenell, W., Ribeiro, T., Kanaan, A., Mendes de Oliveira, C.
Chemodynamical Properties and Ages of Metal-Poor Stars in S-PLUS
2023, *Monthly Notices of the Royal Astronomical Society*, vol. 523, 2934 ([ADS](#) | [PDF](#))
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2023, *The Astrophysical Journal*, vol. 949, 48 ([ADS](#) | [PDF](#))
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J-PLUS: characterisation of high velocity stars in the second data release
2023, *Monthly Notices of the Royal Astronomical Society*, vol. 522, 3898 ([ADS](#) | [PDF](#))
111. Jeong, M., Lee, Y. S., Beers, T. C., **Placco, V. M.**, Kim, Y. K., Koo, J.-R., Lee, H.-G., Yang, S.-C.
Search for Extremely Metal-Poor Stars with GEMINI-N/GRACES I. Chemical-abundance Analysis
2023, *The Astrophysical Journal*, vol. 948, 38 ([ADS](#) | [PDF](#))
110. Zepeda, J., Beers, T. C., **Placco, V. M.**, Shank, D., Gudin, D., Hirai, Y., Yoon, J., Mardini, M., Pifer, C., Catapano, T., Calagna, S.
Chemo-Dynamically Tagged Groups of CEMP Stars in the Halo of the Milky Way. I. Untangling the Origins of CEMP-s and CEMP-no Stars
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- 109. Placco, V. M.** & Stanghellini, L.
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108. Garro, E. R., Fernández-Trincado, J. G., Minniti, D., Moya, W. H., Palma, T., Beers, T. C., **Placco, V. M.**, Barbuy, B., Sneden, C., Alves-Brito, A., Dias, B., Afşar, M., Frelíj, H., Lane, R. R.
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107. Shank, D., Beers, T., **Placco, V. M.**, Gudin, D., Catapano, T., Holmbeck, E. M., Ezzeddine, R., Roederer, I. U., Sakari, C. M., Frebel, A. Hansen, T. T.
The R-Process Alliance: Chemo-Dynamically Tagged Groups II. Extended Sample of Halo r-Process-Enhanced Stars
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106. Yuan, H. -B., Yang, L., Cruz, P., Jiménez-Esteban, F., Daflon, S., **Placco, V. M.**, Akas, S., Alfaro, E. J., Galarza, C. A., Gonçalves, D., Liu, J. -F., Cenarro, A., Marín-Franch, A., Varela, J., Ederoclite, A., López-Sanjuan, C., Abramo, R., Alcaniz, J., Benítez, N., Bonoli, S., Cristóbal-Hornillos, D., Dupke, R. A., Hernán-Caballero, A., Mendes de Oliveira, C., Moles, M., Sodr   Jr., L. Vázquez Rami  , H., Taylor, K.
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104. Razera, R., Barbuy, B., Moura, T., Ernandes, H., P  rez-Villegas, A., Souza, S. O., Chiappini, C., Queiroz, A. B. A., Anders, F., Fern  ndez-Trincado, J. G., Fria  a, A. C. S., Cunha, K., Smith, V. V., Santiago, B. X., Schiavon, R. P., Valentini, M., Minniti, D., Schultheis, M., Geisler, D., Sob  ck, J., **Placco, V. M.**, Zoccali, M.
Abundance analysis of 58 APOGEE metal-poor spheroid bulge stars
2022, Monthly Notices of the Royal Astronomical Society, vol. 517, 4590 ([ADS](#) | [PDF](#))
103. Mardini, M., Frebel, A., Ezzeddine, R., Chiti, A., Meiron, Y., Ji, A., **Placco, V. M.**, Roederer, I., Mel  ndez, J.
The chemical abundance pattern of the extremely metal-poor thin disc star 2MASS J1808  5104 and its origins
2022, Monthly Notices of the Royal Astronomical Society, vol. 517, 3993 ([ADS](#) | [PDF](#))
- 102. Placco, V. M.**, Almeida-Fernandes, F., Arentsen, A., Lee, Y. S., Schoenell, W., Ribeiro, T., Kanaan, A.
Mining S-PLUS for Metal-Poor Stars in the Milky Way
2022, The Astrophysical Journal Supplement Series, vol. 262, 8 ([ADS](#) | [PDF](#))
101. Roederer, I. U., Cowan, J. J., Pignatari, M., Beers, T. C., Den Hartog, E. A., Ezzeddine, R., Frebel, A. Hansen, T. T., Holmbeck, E. M., Mumpower, M. R., **Placco, V. M.**, Sakari, C. M., Surman, R., Vassh, N.
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R-Process Peaks

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100. Arentsen, A., **Placco, V. M.**, Lee, Y. S., Aguado, D. S., Martin, N. F., Starkenburg, E., Yoon, J.
On the inconsistency of $[C/Fe]$ abundances and the fractions of carbon-enhanced metal-poor stars among various stellar surveys
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99. Shank, D., Komater, D., Beers, T., **Placco, V. M.**, Huang, Y.
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2022, *The Astrophysical Journal Supplement Series*, vol. 261, 19 ([ADS](#) | [PDF](#))
98. Roederer, I. U., Lawler, J. E., Den Hartog, E. A., **Placco, V. M.**, Surman, R., Beers, T. C., Ezzeddine, R., Frebel, A., Hansen, T. T., Hattori, K., Holmbeck, E. M., Sakari, C. M.
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Metal-Poor Stars Observed with the Southern African Large Telescope II. An Extended Sample
2022, *The Astrophysical Journal*, vol. 927, 13 ([ADS](#) | [PDF](#))
95. Almeida-Fernandes, F., Sampedro, L., Herpich, F. R., Molino, A., Barbosa, C. E., Buzzo, M. L., Overzier, R. A., de Lima, E. V. R., Nakazono, L. M. I., Oliveira Schwarz, G. B., Perottoni, H. D., Bolutavicius, G. L., Gutiérrez-Soto, L. A., Santos-Silva, T., Vitorelli, A. Z., Werle, A., Whitten, D. D., Costa Duarte, M. V., Bom, C. R., Coelho, P., Sodré Jr., L., **Placco, V. M.**, Teixeira, G. S. M., Alonso-García, J., Beers, T. C., Kanaan, A., Ribeiro, T., Schoenell, W., Mendes de Oliveira, C.
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90. Arentsen, A., Starkenburg, E., Aguado, D. S., Martin, N. F., **Placco, V. M.**, Carlberg, R., González Hernández, J. I., Hill, V., Jablonka, P., Kordopatis, G., Lardo, C., Mashonkina, L. I., Navarro, J. F., Venn, K. A., Buder, S., Lewis, G. F., Wan, Z., Zucker, D. B.
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6. Kennedy, C., Beers, T. C., Nordstrom, B., [Placco, V. M.](#); Rossi, S., Sivarani, T., *CNO Abundances in Metal-Poor Stars*, **Proceedings of the 11th Symposium on Nuclei in the Cosmos, 2010** ([ADS](#))
5. Kennedy, C. R., Sivarani, T., Beers, T. C., Rossi, S., [Placco, V. M.](#), Johnson, J., Masseron, T., *Near-IR Spectroscopy of CEMP Stars with OSIRIS*, **American Astronomical Society, AAS Meeting #213, 2009**
4. Rossi, S., [Placco, V. M.](#); Beers, T. C., Marsteller, B., Kennedy, C. R., Sivarani, T., Masseron, T., Plez, B., *Refined Estimates of Carbon Abundances for Carbon-Enhanced Metal-Poor Stars*, **First Stars III Conference. AIP Conference Proceedings, 2008**, vol. 990, pp. 154-156 ([ADS](#))
3. Rossi, S., [Placco, V. M.](#); Beers, T. C., Kennedy, C. R., Marsteller, B., *Refined Estimates of [Fe/H] and [C/Fe] in Metal-Poor Stars*, **Proceedings of the 10th Symposium on Nuclei in the Cosmos, 2008** ([ADS](#))

2. Kennedy, C. R., Sivarani, T., Beers, T. C., Lee, Y. S., Rossi, S., **Placco, V. M.**, *Near-IR Observations Of CEMP Stars With OSIRIS*, **American Astronomical Society, AAS Meeting #211, 2007**
1. Lichtenthäler, R., Lépine-Szily, A., Guimarães, V., Perego, C., **Placco, V. M.**, Camargo, O., Denke, R., de Faria, P., Benjamim, E., Kuramoto, R., Added, N., Lima, G., Hussein, M., Kolata, J., Arazi, A., *Radioactive Ion Beams in Brazil (RIBRAS)*, **Exotic Nuclei 2004. Proceedings of the International Symposium, 2005.** ([ADS](#))

Telescope time allocations

Approved observing projects: 185

Total awarded: 6719.32 hours

Principal Investigator

Approved observing projects: 51

Total awarded: 1771.80 hours

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
20. 2014A - Gemini North - GN-2014A-Q-101 (Band 3): 16.7 hours
19. 2014A - Gemini North - GN-2014A-Q-105 (Band 4): 33.3 hours

18. 2013B - Gemini South - GS-2013B-Q-89 (Band 4): 25.0 hours
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: 134

Total awarded: 4947.52 hours

134. 2024A - Gemini South - GS-2024A-Q-109 (Band 1): 3.80 hours
133. 2024A - Gemini South - GS-2024A-Q-130 (Band 1): 13.00 hours
132. 2024A - Gemini South - GS-2024A-Q-206 (Band 2): 21.20 hours
131. 2024A - Gemini South - GS-2024A-Q-225 (Band 2): 16.00 hours
130. 2024A - Gemini South - GS-2024A-Q-233 (Band 2): 1.10 hours
129. 2024A - Gemini South - GS-2024A-Q-324 (Band 3): 4.50 hours
128. 2024A - Gemini South - GS-2024A-Q-333 (Band 3): 3.41 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
119. 2022B - Gemini South - GS-2022B-Q-227 (Band 2): 7.10 hours
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

Press releases, articles, and media resources

2023

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 desafia modelos atuais de evolução do Universo](#)

Ravista FAPESP (in Portuguese)

[Fóssil Estelar](#)

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

[Astrônomos descobrem estrela que desafia modelos atuais de evolução do Universo](#)

Revista Planeta (in Portuguese)

[Achada estrela que desafia 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](#)

Notícias da Universidade Federal de Santa Catarina (in Portuguese)

[Projeto internacional de astronomia com participação da UFSC descobre estrela rara](#)

Agência Brasil - Rádio Nacional (in Portuguese - with audio interview)

[*Universo: cientistas descobrem estrela rara e considerada ultrapobre*](#)

CAPES - Ministério da Educação (in Portuguese)

[*Estrela rara desafia lógica da astrofísica*](#)

TEKCRISPY (in Spanish)

[*La humanidad podría haber descubierto una de las estrellas más antiguas del universo*](#)

NOIRLab Stories (in Spanish)

[*Descubrimiento de una estrella ultra pobre en metal*](#)

2020

Phys.org (online)

[*Peculiar chemical abundance pattern detected in the star RAVE J183013.5-455510*](#)

Inside Higher Ed (online)

[*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

MIT News (online)

[*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)

[*Making Good Use of Bad Weather: Finding Metal-poor Stars Through the Clouds*](#)

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*](#)

Agência FAPESP (in Portuguese - online)

[*Estudo detecta elétrons duplamente acelerados no choque de aglomerados de galáxias*](#)

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*](#)

Folha de São Paulo (in Portuguese - online)

[*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*](#)

Chandra X-ray Observatory Blog (online)

[*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*](#)

Universe Today (online)

[*Best picture yet of Milky Way's formation 13.5 billion years ago*](#)

Notre Dame News (online)

[*Detailed age map shows how Milky Way came together*](#)

Daily Mail (online)

[*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*](#)

International Business Times (online)

[*How Did The Milky Way Form? New Chronographic Map Provides Answers*](#)

Phys.org (online)

[*Detailed age map shows how Milky Way came together*](#)

Reddit Journal of Science (online)

[*Detailed age map shows how Milky Way came together*](#)

Science Daily (online)

[*Detailed age map shows how Milky Way came together*](#)

Laboratory Equipment (online)

[*Detailed age map shows how Milky Way came together*](#)

Geek Journal (online)

[*Detailed age map shows how Milky Way came together*](#)

AboNewsCast (online)

[*Detailed age map shows how Milky Way came together*](#)

Science Newslane (online)

[*Detailed age map shows how Milky Way came together*](#)

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](#)

Science Bulletin (online)
[Detailed Age Map Shows How Milky Way Came Together](#)

Science Blog (online)
[Astronomers pinpoint how Milky Way Galaxy was formed](#)

EurekAlert! (online)
[Detailed Age Map Shows How Milky Way Came Together](#)

nano werk! (online)
[Detailed Age Map Shows How Milky Way Came Together](#)

Life Science Network (online)
[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](#)

Agência FAPESP (in Portuguese - online)
[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](#)

Público (in Spanish - online)
[Así se formó la Via Láctea](#)

Geofísica Brasil (in Portuguese - online)
[IAG-USP mapeia distribuição cronológica dos astros da Via Láctea](#)

Planeta Universitário (in Portuguese - online)
[Pesquisadores mapeiam a distribuição cronológica dos astros da Via Láctea](#)

News Rondônia (in Portuguese - online)
[Pesquisadores mapeiam a distribuição cronológica dos astros da Via Láctea](#)

JINA-CEE Newsletter (online - Page 2)
[Evidence for Multiple Progenitors of CEMP-no Stars](#)

Space Daily (online)
[Relics of the Milky Way's first generation of stars](#)

University of Michigan News (online)
[Relics of the Milky Way's first generation of stars](#)

Notre Dame News (online)
[Astrophysicists release new study of one of the first stars](#)

Newswise (online)

[*Astrophysicists release new study of one of the first stars*](#)

EurekAlert! - AAAS (online)

[*Astrophysicists release new study of one of the first stars*](#)

Scientia (online - page 13)

[*Physics team creates Milky Way galaxy map*](#)

JINA-CEE Newsletter (online)

[*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)

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