Dr. Maria Luiza Linhares Dantas

PhD in Astrophysics

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🏛 Postdoctoral Experience

Postdoctoral Fellow

Pontifical Catholic University of Chile

📅 Apr. 2024 – Mar. 2027 (expected) 　　　　　📍 Santiago, Chile

🏆 Secured 2nd place out of 29 applicants for the Fondecyt 2024 Fellowship in Astronomy & Astrophysics.

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Postdoctoral Researcher

I. Nicolaus Copernicus Astronomical Center (CAMK), Polish Academy of Sciences

📅 Mar. 2021 – Sept. 2023 　📍 Warsaw, Poland

II. Center for Theoretical Physics (CFT), Polish Academy of Sciences

📅 Oct. 2023 – Feb. 2024 　📍 Warsaw, Poland

🎓 Education

PhD Astrophysics

Institute of Astronomy, Geophysics, and Atmospheric Sciences – University of Sao Paulo (IAG-USP)

📅 Dec. 2015 – Sept. 2020 　📍 São Paulo, Brazil

Supervisor: Paula R. T. Coelho

PhD Secondment

Autonomous University of Madrid

📅 Sept. 2018 – Mar. 2019 　📍 Madrid, Spain

Six-month internship during PhD.

Co-supervisor: Patricia Sánchez-Blázquez

> **Title:** UV bright red-sequence galaxies: a comparative study between UV upturn and UV weak systems

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MSc Astrophysics

IAG-USP

📅 2013–2015 　📍 São Paulo, Brazil

BSc Physics

Institute of Physics – University of Sao Paulo (IF-USP)

📅 2007–2011 　📍 São Paulo, Brazil

💵 Funding

PERIOD	TOTAL STIPEND	FUNDING AGENCY	DURATION
Postdoc III	93,801,000 CLP	National Research and Development Agency (**ANID**), Chile	3yr
	1,080 EUR	IAU grants for IAUGA 2024 and IAUS 395	
Postdoc II*	414,000 PLN	National Science Centre (**NCN**), Poland.	3yr*
Postdoc I	310,000 PLN	NCN, Poland.	2yr 7m
PhD	180,000 BRL	Coordination for the Improvement of Higher Education Personnel (**CAPES**) & National Council for Scientific and Technological Development (**CNPq**), Brazil.	4yr 10m
MSc	35,600 BRL	**CAPES** & **CNPq**, Brazil.	2yr
BSc	3,600 BRL	**CNPq** – Scientific Initiation	1yr
	3,600 BRL	**CNPq** – Outreach project	1yr
	6,000 BRL	**IF-USP** – Computer lab tutor	1yr

* Note: resigned from the position.

👁 Research interests

Stellar Populations | The Milky Way | Galactic Archaeology | Galaxy Evolution | Emission-Lines | AGN | SED Fitting | Astrostatistics

👥 Events

⚙ Organising committees

Deciphering the Cosmic Code for Galaxy Formation Workshop 2024
LOC

📅 2024   📍 Puerto Varas, Chile

III International Workshop on Spectral Stellar Libraries
LOC

📅 2017   📍 Campos do Jordão, Brazil

II IAG Python Boot Camp
LOC & SOC

📅 2017   📍 São Paulo, Brazil

I IAG Python Boot Camp
LOC & SOC

📅 2015   📍 São Paulo, Brazil

Journal Club
Weekly seminar lead by graduate students at IAG-USP

📅 2013–2016   📍 São Paulo, Brazil

📢 Recent selected presentations

XXXII IAU General Assembly
Contributed talk

📅 2024   📍 Cape Town, South Africa

Deciphering Super-Metallicity, Lithium Depletion, and Radial Migration in the Vicinity of Our Solar Neighborhood

European Astronomical Society Meeting (EAS) 2023
Contributed talk

📅 2023   📍 Kraków, Poland

The connection between super-metallicity, lithium depletion, and radial migration in stars in the solar vicinity

XXXI IAU General Assembly
Contributed talk

📅 2022   📍 Busan, South Korea

Old super-metal-rich stars in the solar vicinity: from where did they come?

📊 Presentation statistics

PRESENTATION TYPE	No.
Invited seminars	6
Contributed talks	9
Poster presentations	12
Tutorials	1
Other (e.g. journal clubs)	>18
Chaired sessions	2

📈 Scholar indices

h-index (ADS):   11
i10-index (ADS):   11
Citations (ADS):   911

⚖ *Ad hoc* reviewer

The Astrophysical Journal (2021–)

⭐ Skills

🔤 Languages

English   ●●●●●
Portuguese   ●●●●○
French   ●●●●○
Spanish   ●●●●○
German   ●○○○○
Polish   ○○○○○

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🐧 Programming

python | R | julia | LaTeX | SQL | git | github

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🖥 Astronomical software skills

STARLIGHT | pPXF | Prospect | topcat | galpy

🔧 Panel & board memberships

Hubble Space Telescope Panelist
Cycle 32
📅 2024

Scientific Initiation Symposium
IAG-USP
📅 2017   📍 São Paulo, Brazil

Prize for best PhD and MSc theses
IAG-USP
📅 2017   📍 São Paulo, Brazil

✈ Visiting researcher

University of North Carolina
(Partially funded by the host institute)
Host: Prof. Rafael S. de Souza
📅 Nov. 2017   📍 Chapel Hill, NC, USA

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Eötvös Loránd University
(Partially funded by the host institute)
Host: Prof. Rafael S. de Souza
📅 Sep. 2016   📍 Budapest, Hungary

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Institut d'Astrophysique de Paris
(Partially funded by the host institute)
Host: Prof. Stéphane Charlot
📅 Sep. 2016   📍 Paris, France

🏛 Supervising experience

Student: Klaudia Kowalczyk
Summer project at CAMK for undergrad students (1 month)
📅 July 2021   📍 Warsaw, Poland

💼 Other professional experiences

Freelance creator of school-level Physics content
Oxford University Press & Grupo SM
📅 2015   📍 São Paulo, Brazil

Physics content development at the elementary school level.

🔗 Memberships:

- The International Astrostatistics Association (**IAA**);
- The Cosmostatistics Initiative (**COIN**);
- The Javalambre Physics of the Accelerating Universe (**J-PAS**);
- The Javalambre and Southern Photometric Local Universe Surveys (**J-PLUS and S-PLUS**);
- The **Gaia-ESO** Survey;

✍ Teaching experience

✏ Teaching assistant – 📍 IAG-USP

2014	Galactic & Extragalactic Astrophysics Topics in Astronomy for Teaching Degree
2010	Topics in Astronomy for Geophysicists Position Astronomy
2009	Introduction to Astronomy

✏ School teaching experience

2008–2018	Private tutor	📍 Sao Paulo, Brazil
2012	Substitute teacher @ Bradesco Foundation	📍 Osasco, Brazil

Project management trainee/analyst
Luz Engenharia Financeira
📅 2011–2012   📍 São Paulo, Brazil

Project management trainee (2011) and analyst (2011–2012).

✔ Referees

Prof. Paula Coelho	Prof. Rodolfo Smiljanic	Prof. Rafael S. de Souza	Prof. Alberto Krone Martins
@ pcoelho@usp.br	@ rsmiljanic@camk.edu.pl	@ r.da-silva-de-souza@herts.ac.uk	@ algol@uci.edu
📍 IAG-USP – Sao Paulo, SP, Brazil	📍 Nicolaus Copernicus Astronomical Center (CAMK), Warsaw, Poland	📍 University of Hertfordshire, UK	📍 Donald Bren School of Information and Computer Sciences University of California – Irvine, CA, USA

📄 Publications

ADS link: `https://ui.adsabs.harvard.edu/public-libraries/CjIt6YxOTm-uFdWee1gIOg`

Major contribution

[1] **M. L. L. Dantas**, R. Smiljanic, R. Boesso, et al. "The Gaia-ESO Survey: Old super metal-rich visitors from the inner Galaxy". In: *A&A* 669 (Jan. 2023), A96. DOI: `10.1051/0004-6361/202243667`.

[2] **M. L. L. Dantas**, Guiglion, G., Smiljanic, R., et al. "The Gaia-ESO Survey: Probing the lithium abundances in old metal-rich dwarf stars in the solar vicinity". In: *A&A* 668 (Dec. 2022), p. L7. DOI: `10.1051/0004-6361/202245230`.

[3] **M. L. L. Dantas**, P. R. T. Coelho, and P. Sánchez-Blázquez. "UV upturn versus UV weak galaxies: differences and similarities of their stellar populations unveiled by a de-biased sample". In: *MNRAS* 500.2 (Jan. 2021), pp. 1870–1883. DOI: `10.1093/mnras/staa3447`.

[4] **M. L. L. Dantas**, P. R. T. Coelho, R. S. de Souza, and T. S. Gonçalves. "UV bright red-sequence galaxies: how do UV upturn systems evolve in redshift and stellar mass?" In: *MNRAS* 492.2 (Feb. 2020), pp. 2996–3011. ISSN: 0035-8711. DOI: `10.1093/mnras/stz3609`.

[5] R. S. de Souza, **M. L. L. Dantas**, M. V. Costa-Duarte, et al. "A probabilistic approach to emission-line galaxy classification". In: *MNRAS* 472.3 (Dec. 2017), pp. 2808–2822. DOI: `10.1093/mnras/stx2156`.

[6] R. S. de Souza, **M. L. L. Dantas**, A. Krone-Martins, et al. "Is the cluster environment quenching the Seyfert activity in elliptical and spiral galaxies?" In: *MNRAS* 461.2 (Sept. 2016), pp. 2115–2125. DOI: `10.1093/mnras/stw1459`.

Moderate contribution

[7] P. P. B. Beaklini, A. V. C. Quadros, M. G. B. de Avellar, **M. L. L. Dantas**, and A. L. F. Cançado. "AGN dichotomy beyond radio loudness: a Gaussian mixture model analysis". In: *MNRAS* 497.2 (Sept. 2020), pp. 1463–1474. DOI: `10.1093/mnras/staa2072`.

[8] J. P. Nogueira-Cavalcante, R. Dupke, P. Coelho, **M. L. L. Dantas**, et al. "J-PLUS: Impact of bars on quenching timescales in nearby green valley disc galaxies". In: *A&A* 630, A88 (Oct. 2019), A88. DOI: `10.1051/0004-6361/201935138`.

Minor contribution

[9] L. Magrini, C. Viscasillas Vázquez, L. Spina, S. Randich, D. Romano, E. Franciosini, V. D. Orazi, M. Baratella, R. Smiljanic, **M. L. L. Dantas**, et al. "The Gaia-ESO survey: mapping the shape and evolution of the radial abundance gradients with open clusters". In: *A&A* 669, A119 (Jan. 2023), A119. DOI: `10.1051/0004-6361/202244957`.

[10] S. Nepal, G. Guiglion, R. S. de Jong, M. Valentini, C. Chiappini, M. Steinmetz, M. Ambrosch, E. Pancino, R. D. Jeffries, T. Bensby, D. Romano, R. Smiljanic, **M. L. L. Dantas**, et al. "The Gaia-ESO Survey: Preparing the ground for 4MOST and WEAVE galactic surveys. Chemical evolution of lithium with machine learning". In: *A&A* 671, A61 (Mar. 2023), A61. DOI: `10.1051/0004-6361/202244765`.

[11] G. Gilmore, S. Randich, C. C. Worley, A. Hourihane, A. Gonneau, G. G. Sacco, **(…)**, **M. L. L. Dantas**, et al. "The Gaia-ESO Public Spectroscopic Survey: Motivation, implementation, GIRAFFE data processing, analysis, and final data products". In: *A&A* 666, A120 (Oct. 2022), A120. DOI: `10.1051/0004-6361/202243134`.

[12] E. V. R. Lima, Jr. Sodré L., C. R. Bom, G. S. M. Teixeira, L. Nakazono, M. L. Buzzo, C. Queiroz, F. R. Herpich, J. L. Nilo Castellón, **M. L. L. Dantas**, et al. "Photometric redshifts for the S-PLUS Survey: is machine learning up to the task?" In: *Astronomy and Computing* (Jan. 2022), p. 100510. ISSN: 2213-1337. DOI: `10.1016/j.ascom.2021.100510`.

[13] S. Randich, G. Gilmore, L. Magrini, G. G. Sacco, R. J. Jackson, R. D. Jeffries, (…), **M. L. L. Dantas**, et al. "The Gaia-ESO Public Spectroscopic Survey: Implementation, data products, open cluster survey, science, and legacy ⋆". In: *A&A* 666, A121 (Oct. 2022), A121. DOI: `10.1051/0004-6361/202243141`.

[14] S. Bonoli, A. Marín-Franch, J. Varela, H. Vázquez-Ramió, L R Abramo, A. J. Cenarro, R. A. Dupke, (…), **M. L. L. Dantas**, et al. "The miniJPAS survey: A preview of the Universe in 56 colors". In: *A&A* 653, A31 (Sept. 2021), A31. DOI: `10.1051/0004-6361/202038841`.

[15] M. V. Costa-Duarte, L. Sampedro, A. Molino, H. S. Xavier, F. R. Herpich, A. L. Chies-Santos, C. E. Barbosa, A. Cortesi, W. Schoenell, A. Kanaan, T. Ribeiro, C. Mendes de Oliveira, S. Akras, A. Alvarez-Candal, C. L. Barbosa, J. L. N. Castellón, P. Coelho, **M. L. L. Dantas**, et al. "The S-PLUS: a star/galaxy classification based on a Machine Learning approach". In: (Sept. 2019). **Pre-print.** arXiv: `1909.08626`.

[16] C. Mendes de Oliveira, T. Ribeiro, W. Schoenell, A. Kanaan, R. A. Overzier, A. Molino, L. Sampedro, P. Coelho, (…), R. Cid Fernandes, **M. L. L. Dantas**, et al. "The Southern Photometric Local Universe Survey (S-PLUS): improved SEDs, morphologies, and redshifts with 12 optical filters". In: *MNRAS* 489.1 (Oct. 2019), pp. 241–267. DOI: `10.1093/mnras/stz1985`.

[17] N. Benitez, R. Dupke, M. Moles, L. Sodre, Cenarro, …, M. V. Costa-Duarte, A. A. da Costa, (…), **M. L. L. Dantas**, et al. "J-PAS: The Javalambre-Physics of the Accelerated Universe Astrophysical Survey". In: *arXiv e-prints* (Mar. 2014). **Pre-print.** arXiv: `1403.5237`.

Proceedings

[18] L. J. Zenocratti, M. E. De Rossi, A. V. Smith Castelli, F. R. Faifer, **M. L. L. Dantas**, and L. Sodré. "Synthetic S-PLUS photometry of simulated galaxies in Fornax-like clusters". In: *Boletin de la Asociacion Argentina de Astronomia La Plata Argentina* 63 (July 2022). **Peer-reviewed proceedings.**, pp. 205–207.

[19] A. V. Smith Castelli, C. Mendes de Oliveira, F. Herpich, C. E. Barbosa, C. Escudero, M. Grossi, L. Sodré, C. R. de Bom, L. Zenocratti, M. E. De Rossi, A. Cortesi, R. Cid Fernandes, A. R. Lopes, E. Telles, G. B. Oliveira Schwarz, **M. L. L. Dantas**, et al. "The Fornax Cluster through S-PLUS". In: *Boletin de la Asociacion Argentina de Astronomia La Plata Argentina* 62 (July 2021). **Peer-reviewed proceedings.**, pp. 180–182.

[20] Vinicius Branco, Paula R T Coelho, Ana Chies Santos, and **Maria Luiza L. Dantas**. "Synthetic photometry for J-PLUS and S-PLUS and the multiple populations in globular clusters". In: *Boletim da Sociedade Astronômica Brasileira* 30.1 (2018), pp. 156–157.

Other

[21] Michele Delli Veneri, Rafael S. de Souza, Alberto Krone-Martins, E. E. O. Ishida, **M. L. L. Dantas**, and Noble Kennamer. "How Have Astronomers Cited Other Fields in the Last Decade?" In: *Research Notes of the AAS* 6.6 (June 2022), p. 113. DOI: `10.3847/2515-5172/ac74c7`.

[22] **M. L. L. Dantas**, E. Cameron, Rafael S. de Souza, et al. "Women in academia: a warning on selection bias in gender studies from the astronomical perspective". In: (Dec. 2020). arXiv: `2012.09784 [physics.soc-ph]`.

[23] William J Ripple, Christopher Wolf, Thomas M Newsome, Phoebe Barnard, William R Moomaw, and **11,258 SCIENTIST SIGNATORIES FROM 153 COUNTRIES**. "World Scientists' Warning of a Climate Emergency". In: *BioScience* (Nov. 2019). **M. L. L. Dantas is a co-signatory**. ISSN: 0006-3568. DOI: `10.1093/biosci/biz088`.