

M. L. L. DANTAS

PhD in Astrophysics

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🏠 Post-doctoral Experience

Post-doctoral Researcher

Nicolaus Copernicus Astronomical Center (CAMK)

📅 Mar. 2021 – current 📍 Warsaw, Poland

🎓 Education

PhD Astrophysics

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

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

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

Supervisor: Prof. Paula R. T. Coelho

Internship

Universidad Autónoma de Madrid

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

Six-month internship during PhD. Co-supervisor: Prof. Patricia Sánchez-Blázquez

MSc Astrophysics

IAG-USP

📅 2013–2015 📍 São Paulo, Brazil

Advisor: Prof. Laerte Sodré Jr.

BSc Physics

Instituto de Física – Universidade de São Paulo (IF-USP)

📅 2007–2011 📍 São Paulo, Brazil

👥 Events: LOC and/or SOC

III International Workshop on Spectral Stellar Libraries (IWSSL) – 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

🏢 Supervising experience

Klaudia Kowalczyk

Summer Project at CAMK for under-graduated students

📅 July 2021 📍 Warsaw, Poland

🗣️ Invited talks

Event: Semana Universitária (University Week)

Universidade de Brasília (UnB)

📅 2017 📍 Brasília, Brazil

Two Years of Astrostatistics: My Experience as an Astrophysicist

📄 General Info

Date of birth: 📅 Aug. 20, 1986

Place of birth: 📍 Brasília, Brazil

Citizenship: 🇧🇷 Brazilian

📈 Scholar indices

h-index (ADS) 6
i10-index (ADS) 6
Citations (ADS) 400
Research Gate score 17.2

⚖️ Reviewer

The Astrophysical Journal (since 2021)

🏆 Awards

PhD funding (total stipend)

Brazil ~ US\$ 30,000
Spain ~ 7,800 €+ other benefits

Research grants: ~ US\$ 8,000

Funding agencies: CAPES & CNPq

MSc funding (total stipend)

Salary: ~ US\$ 10,500 – Funding agency: CAPES

BSc funding (total stipend)

Scientific initiation ~ US\$ 2,300
University outreach project ~ US\$ 2,300
Computer lab tutor ~ US\$ 5,700

🐍 Programming

Python R Julia \LaTeX SQL Git Github

📖 Other skills

STARLIGHT pPXF Topcat

🔍 Research interests

Galaxy formation & evolution SED fitting
Stellar populations Astrostatistics

🌐 Affiliations

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

✈ Visiting researcher

University of North Carolina

Host: Prof. Rafael S. de Souza

📅 Nov. 2017

📍 Chapel Hill, NC, USA

Partially funded by the host institute.

Eötvös Loránd University

Host: Prof. Rafael S. de Souza

📅 Sep. 2016

📍 Budapest, Hungary

Partially funded by the host institute.

Institut d'Astrophysique de Paris

Host: Prof. Stéphane Charlot

📅 Sep. 2016

📍 Paris, France

Partially funded by the host institute.

📄 Publications

Major contribution

- [1] **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.
- [2] **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.
- [3] R. S. de Souza, **M. L. L. Dantas**, M. V. Costa-Duarte, E. D. Feigelson, M. Killedar, P. -Y. Lablanche, R. Vilalta, A. Krone-Martins, R. Beck, F. Gieseke, and COIN Collaboration. "A probabilistic approach to emission-line galaxy classification". In: *MNRAS* 472.3 (Dec. 2017), pp. 2808–2822. DOI: 10.1093/mnras/stx2156.
- [4] R. S. de Souza, **M. L. L. Dantas**, A. Krone-Martins, E. Cameron, P. Coelho, M. W. Hattab, M. de Val-Borro, J. M. Hilbe, J. Elliott, A. Hagen, and COIN Collaboration. "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

- [5] P. P. B. Beaklini, A. V. C. Quadros, M. G. B. de Avellar, **M. L. L. Dantas**, and A. L. F. Caçado. "AGN dichotomy beyond radio loudness: a Gaussian mixture model analysis". In: *MNRAS* 497.2 (Sept. 2020), pp. 1463–1474. DOI: 10.1093/mnras/staa2072.
- [6] J. P. Nogueira-Cavalcante, R. Dupke, P. Coelho, **M. L. L. Dantas**, and 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

- [7] G. Gilmore, S. Randich, C. C. Worley, A. Hourihane, A. Gonneau, G. G. Sacco, J. R. Lewis, L. Magrini, (...), **M. L. L. Dantas**, and et al. "The Gaia-ESO Public Spectroscopic Survey : motivation, implementation , GIRAFFE data processing , analysis, final data products". In: (2022). Submitted to *A&A*.

🗣 Languages

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

👥 Committees

Undergraduate Scientific Symposium

IAG-USP

📅 2017

📍 São Paulo, Brazil

Worked as a referee of the works therein presented.

Thesis/Dissertation Prize

IAG-USP

📅 2017

📍 São Paulo, Brazil

Participated in the committee that decided the best MSc dissertation and PhD thesis of that year.

🏢 Other professional experiences

Project trainee/analyst in finance

Luz Engenharia Financeira

📅 2011–2012

📍 São Paulo, Brazil

The work with *Luz* started at the last semester of the undergraduate course; the official hiring happened upon graduation.

Freelance

Oxford University Press & Grupo SM

📅 2015

📍 São Paulo, Brazil

Developed Physics content at elementary school level.

Referees

Prof. Dr. Paula R. T. Coelho

📧 pcoelho@usp.br

✉ Astronomy Dept., IAG-USP – São Paulo, SP, Brazil

Prof. Dr. Rafael S. de Souza

📧 drsouza@shao.ac.cn

✉ Shanghai Astronomical Observatory – Shanghai, China

Prof. Dr. Rodolfo Smiljanic

📧 rsmiljanic@camk.edu.pl

✉ Nicolaus Copernicus Astronomical Center (CAMK), Warsaw, Poland

Prof. Dr. Alberto Krone Martins

📧 algol@uci.edu

✉ Donald Bren School of Information and Computer Sciences University of California – Irvine, CA, USA

- [8] E. V. R. Lima, Jr. Sodr e L., C. R. Bom, G. S. M. Teixeira, L. Nakazono, M. L. Buzzo, C. Queiroz, F. R. Herpich, J. L. Nilo Castell on, **M. L. L. Dantas**, O. L. Dors, R. C. T. Souza, S. Akras, Y. Jim enez-Teja, A. Kanaan, T. Ribeiro, and W. Schoennell. "Photometric redshifts for the S-PLUS Survey: is machine learning up to the task?" In: *Astronomy and Computing* (2022), p. 100510. ISSN: 2213-1337. DOI: 10.1016/j.ascom.2021.100510.
- [9] S. Randich, G. Gilmore, L. Magrini, G. G. Sacco, R. J. Jackson, R. D. Je, C. C. Worley, A. Hourihane, (...), **M. L. L. Dantas**, and et al. "The Gaia-ESO Survey : Survey implementation, data products, open cluster survey, and legacy." In: (2022). **Submitted to A&A**.
- [10] S Bonoli, A. Mar n-Franch, J Varela, H. V zquez-Rami o, L R Abramo, A J Cenarro, R A Dupke, (...), **M. L. L. Dantas**, and 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.
- [11] 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. Castell on, P. Coelho, **M. L. L. Dantas**, and et al. "The S-PLUS: a star/galaxy classification based on a Machine Learning approach". In: (Sept. 2019). arXiv: 1909.08626.
- [12] 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**, and 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.
- [13] N. Benitez, R. Dupke, M. Moles, L. Sodre, Cenarro, ..., M. V. Costa-Duarte, A. A. da Costa, (...), **M. L. L. Dantas**, and et al. "J-PAS: The Javalambre-Physics of the Accelerated Universe Astrophysical Survey". In: *arXiv e-prints* (Mar. 2014). arXiv: 1403.5237.

Proceedings

- [14] A. V. Smith Castelli, C. Mendes de Oliveira, F. Herpich, C. E. Barbosa, C. Escudero, M. Grossi, L. Sodr e, 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**, F. R. Faifer, A. Chies Santos, J. Saponara, V. Reynaldi, I. Andruchow, L. Sesto, M. F. Mestre, A. L. de Amorim, E. V. R. de Lima, J. C. R. Abboud, V. Cernic, and I. Souza de Almeida Garcia. "The Fornax Cluster through S-PLUS". In: *Boletim de la Asociacion Argentina de Astronomia La Plata Argentina* 62 (July 2021). **Peer-reviewed proceedings.**, pp. 180-182.
- [15] 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 Astron mica Brasileira* 30.1 (2018), pp. 156-157.

Other

- [16] **M. L. L. Dantas**, E. Cameron, Rafael S. de Souza, A. R. da Silva, A. L. Chies-Santos, C. Heneka, P. R. T. Coelho, A. Ederoclite, I. S. Beloto, V. Branco, Morgan S. Camargo, V. M. Carvalho de Oliveira, C. de S -Freitas, G. Gonalves, T. A. Pacheco, and Isabel Rebolledo. "Women in academia: a warning on selection bias in gender studies from the astronomical perspective". In: (Dec. 2020). arXiv: 2012.09784 [physics.soc-ph].
- [17] 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.