

# Jorge Anais Vilchez

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## Education

**Master in Astronomy** 2021

*Universidad de Antofagasta*

Thesis: Search and Characterization of Star Cluster Candidates at the Far End of the Galactic Bar.

Advisors: Dr. Sebastian Ramírez Alegría & Dra. Karla Peña Ramírez

Graduated with maximum distinction.

**Licentiate in Astronomy** 2014

*Potifcia Universidad Católica de Chile*

Internship: Implementation of an astrometrical software for the Swope Telescope (LCO).

Advisor: Dra. Manuela Zoccali & Dr. Francesco Di Mille

Graduated with two votes of distinction.

## Work & Research Experience

**Research Assistant, CITEVA, Universidad de Antofagasta.** 2020

*Study on transmission spectroscopy models for Earth-like and Mini-Neptunes planetary atmospheres.*

Under the supervision of Dr. Jeremy Tregloan-Reed

**Observer. Las Campanas Observatory.** 2017-2020

*1M2H survey. Photometric transients follow-up.*

Under the supervision of Dr. Ryan Foley

**Research Assistant, IA, Universidad Católica del Norte.** 2016

*Data reduction FORS and Mage instruments.*

Under the supervision of Dr. Christian Moni-Bidin

**Telescope Operator and Technical Assistant, LCO.** 2014-2015

*CSP II. Photometric SN follow-up.*

Under the supervision of Dr. Mark M. Phillips

**Research Assistant. Santa Martina Observatory, PUC.** 2014

*Data Reduction and observations using ESO50/PUCHEROS spectrograph.*

Under the supervision of Dr. Leonardo Vanzi.

## Further Degrees & Studies

**Universidad del Desarrollo**, Santiago, Chile. 2021  
*Diploma in Data-Science*

**AURA Observatory**, La Serena, Chile. 2019  
*La Serena School for Data Science. Applied Tools for Data Driven Science.*

**Duoc UC**, Santiago, Chile. 2018  
*Diploma in Software Development*

**Universidad de Antofagasta**, Antofagasta, Chile. 2016  
*Diploma in Astro-engineering*

## Languages

Spanish (native) and English

## Software Skills

**Astronomical software:** IRAF, Topcat and DS9.

**Computer Programming:** Python: experience with astronomical data reduction and analysis, machine learning and big data related modules and parallel computing. Others: R, JAVA, C, SQL, UNIX Shell scripting, MATLAB.

**Productivity Applications:** L<sup>A</sup>T<sub>E</sub>X and most common office software.

**Operating Systems:** Linux and Windows.

**Github:** <https://github.com/jorgeanais>

## Observing Experience

**Las Campanas Observatory.**

Swope 1m Telescope / CCD (>250 nights)

**UA Ckoirama Observatory.**

Chakana 0.6 m telescope / CCD (10 nights)

**Calar Alto Astronomical Observatory.**

Zeiss 1.23m telescope / CCD (8 nights)

**PUC Santa Martina Observatory.**

ESO 50cm Telescope / PUCHEROS Spectrograph (6 nights)

## Teaching experience

**Pontificia Universidad de Chile.**

2010-2014

*Teaching assistant* for the following courses: Introduction to physics for biological sciences, Static and Dynamics for Civil Engineers, Thermodynamics, Optics, Astronomical Instrumentation and Electricity and Magnetism.

## Outreach Activities

Public Talk: Formación de Sistemas Planetarios y Panspermia. UA. 2019

Facilitador Museo Interactivo Mirador MIM. 2018

Volunteer in [Física Itinerante](#). 2010-2012

## Conferences

Antofagasta, Chile, 3-8 November 2019. *The XVI Latin American Regional IAU Meeting*.

York, United Kingdom, 16-20 September 2019. *Conference From Gas to Stars: The Links between Massive Star and Star Cluster*. **Contributed Poster**: Massive Open Clusters in VVV data using unsupervised clustering algorithms.

## Publication List

1. Tregloan-Reed, J., Otarola, A., Unda-Sanzana, Haeussler, B., et al. including **Anais, J.**, 2021, *A&A*, 647, A54. Optical to NIR magnitude measurements of the Starlink LEO Darksat satellite and effectiveness of the darkening treatment.
2. Tregloan-Reed, J., Otarola, A., Ortiz, E., Molina, V., **Anais, J.**, González, R., Colque, J. P., Unda-Sanzana, E., 2020, *A&A*, 637, L1. First observations and magnitude measurement of Starlink's Darksat.
3. Burns, C. R., Ashall, C., Contreras, C. et al. including **Anais, J.** 2020, submitted to *ApJ*, arXiv:2004.13069. SN 2013aa and SN 2017cbv: Two Sibling Type Ia Supernovae in the spiral galaxy NGC 5643.
4. Stritzinger, M. D., Taddia, F., Fraser, M., et al. including **Anais, J.** 2020, submitted to *A&A*, arXiv:2005.00319. The Carnegie Supernova Project II. Observations of the intermediate luminosity red transient SNhunt120.
5. Stritzinger, M. D., Taddia, F., Fraser, M., et al. including **Anais, J.** 2020, submitted to *A&A*, arXiv:2005.00076. The Carnegie Supernova Project II. Observations of the luminous red nova AT 2014ej.
6. Holmbo, S.; Stritzinger, M. D.; Shappee, B. J., et al. including **Anais, J.** 2019, *A&A*, 627, A174. Discovery and progenitor constraints on the Type Ia supernova 2013gy.
7. Phillips, M. M., Contreras, C., Hsiao, E. Y., et al. including **Anais, J.** 2019, *PASP*, 131, 014001. Carnegie Supernova Project-II: Extending the Near-infrared Hubble Diagram for Type Ia Supernovae to  $z \sim 0.1$ .
8. Burns, Christopher R.; Parent, Emilie; Phillips, M. M., et al. including **Anais, J.** 2018, *ApJ*, 869, 56. The Carnegie Supernova Project: Absolute Calibration and the Hubble Constant.
9. Stritzinger, M. D., Anderson, J. P., Contreras, C., et al. including **Anais, J.** 2018, *A&A*, 609, A134. The Carnegie Supernova Project I. Photometry data release of low-redshift stripped-envelope supernovae.
10. Krisciunas, K., Contreras, C., Burns, C. R., et al. including **Anais, J.** 2017, *AJ*, 154, 211. The Carnegie Supernova Project. I. Third Photometry Data Release of Low-redshift Type Ia Supernovae and Other White Dwarf Explosions.
11. Coulter, D. A., Kilpatrick, C. D., Foley, R. J., **Anais, J.** et al. 2017, *ATel*, #10167: Swope Photometric Observations of SN 2017cbv= DLT17u.

## References

Upon request

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Personal webpage curriculum vitæ.