Jorge Anais Vilchez

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
Potificia 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. May 2021
Diploma in Data-Science (expected)

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: LaTeX 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∼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