

Silvio Varela Lavin — Curriculum Vitae

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Ph.D. in Astronomy — La Serena University, La Serena, Chile

[Webpage](#)

Research Interests

Galaxy formation and evolution, Galaxy Dynamics, Baryonic and Dark matter distribution, Numerical simulations of galaxies, Interaction between galaxies, Galactic Archaeology.

Education

- **La Serena University** **Ph.D. Astronomy**
Advisor: Facundo A. Gomez *December 2023*
Thesis: Disk Galaxies in a Cosmological Context: Linking stellar distributions, morphological perturbations and the dark matter halo.
- **Andrés Bello University** **B.Sc. Astronomy**
Advisor: Patricia B. Tissera *July 2018*
Thesis: Properties of the stellar populations on the outskirts of disc galaxies.

Conferences, workshops and contributions

Talks.....

- **Galaxy Group and Clusters III**
ULS, La Serena, Chile *May 2023*
Title: Lopsided galaxies in a cosmological context: a new galaxy-halo connection
- **XVIII Annual Meeting Chilean Astronomical Society (SOCHIAS)**
UFRO, Temuco, Chile *March 2023*
Title: Lopsided galaxies in a cosmological context: a new galaxy-halo connection
- **Area 1 Centro de Excelencia en Astrofísica y Tecnologías Afines (CATA) Workshop**
ULS, La Serena, Chile *November 2022*
Title: Lopsided galaxies in TNG50
- **IV Workshop of Numerical and Theoretical Astrophysics**
PUC, Santiago, Chile *May 2022*
Title: Lopsided galaxies in TNG50
- **Partner Group - Max Planck Institute for Astrophysics y Universidad de La Serena (MPA-ULS)**
ULS, La Serena, Chile *April 2022*
Title: Lopsided galaxies in TNG50

- **XVII Annual Meeting Chilean Astronomical Society (SOCHIAS)**
virtual conference, Chile January 2022
 Title: Lopsided galaxies in TNG50
- Posters.....
- **15th S-PLUS Collaboration Meeting**
virtual conference, Brazil June 2021
 Title: Lopsided galaxies in TNG50
- **XIII Annual Meeting Chilean Astronomical Society (SOCHIAS)**
Antofagasta, Chile March 2016
 Title: The stellar mass distribution of disc galaxies
- **7th VVV Science Meeting**
Antofagasta, Chile March 2016
 Title: The stellar mass distribution of disc galaxies

Work Experience

Postdoctoral experience.....

- **Research assistant** **Pontifical Catholic University of Chile**
Sponsor Prof. Paula Jofre and Prof. Patricia Tissera March 2024– September 2024
 Millenium initiative Evolutionary Reconstruction of the Interstellar Medium (ERIS)

Awards and internships.....

- **Flatiron Institute, New York, USA** **Center for Computational Astrophysics (CCA)**
Sponsor Nicolas Garavito-Camargo May 2022–June 2022
 Awarded by Simmons Foundation
- **National Grant** **Chile**
Granted by Agencia Nacional de Investigacion y Desarrollo (ANID) since May 2022
- **"Beca Doctorales Institucionales ULS"** **Chile**
 March 2019–May 2022
 Granted by "Vicerrectoria de Investigacion y Postgrado de la Universidad de La Serena"

Others activities.....

- **CHilean Automatic Supernovae sEarch (CHASE)** **Giuliano Pignata**
Research assistant March 2013–June 2015
 Analysis and inspection of potential supernova candidates through an automated system that is updated every day.

Outreach activities.....

- **Preguntas Relámpago** **Universidad de La Serena**
 December 2021
 Audiovisual capsule. www.youtube.com/watch?v=07NxgvGIR8I
- **Campamento Mundo ideal** **Millennium Institute of Astrophysics (MAS)**
Monitor January 2018

Activity of astronomical observation for children's camp, with solar and normal telescope.

- **Fiesta de la ciencia** **Millennium Institute of Astrophysics (MAS)**
Monitor *October 2017*
Participation in scientific fair, in a stand focused on the Sun.
- **Colegio Farellones** **AstroClub**
Monitor *April 2017*
Day of exhibition and nocturnal observation to children in a school located in Farellones.
- **Campamento Mundo ideal** **Millennium Institute of Astrophysics (MAS)**
Monitor *January 2017*
Night of observation and exhibition with didactic games to a children's camp.
- **Feria de la ciencia** **Universidad Andrés Bello**
Monitor *October 2013*
Exhibition in scientific fair, in Campus Viña del Mar (UNAB).
- **Una nueva ventana al universo** **Associated Universities Inc (AUI)**
Monitor *March 2013*
Exhibition focused on radioastronomy, for all public in the subway of Santiago.

Languages.....

Spanish (native), English(Intermediate)

Computational.....

- **Programming languages:** Advanced in: Python.
Notion: C++, Javascript .
- **Operative Systems:** Linux (Various distributions).
- **Other scientific software and tools:** Iraf, SkyCat, Topcat, pyEXP/EXP, Github, \LaTeX .

Publications

Links: **ORCID**, **ADS**

First author papers.....

- **Varela-Lavin, S.**; Gomez, F. A; Tissera, P. B; Besla, G.; Garavito-Camargo, N.; Marinacci, F.; Laporte, C.F.P, 2023, *Lopsided Galaxies in a cosmological context: a new galaxy-halo connection* , 2023MNRAS.523.5853V, *Published in MNRAS*
- **Varela-Lavin, S.**; Tissera, P. B; Gomez, F. A; Bignone, L. A.; Lagos, C. P , 2022, *Exploring the outskirts of the EAGLE disc galaxies*, 2022MNRAS.514.5340V, *Published in MNRAS*

Papers as co-author.....

- Dolfi, A. ; Gomez, F. A. ; Monachesi, A. ; **Varela-Lavin, S.** ; Tissera, P. B. ; Sifon, C. ; Galaz, G., 2023, *Lopsidedness as a tracer of early galactic assembly history*, 2023arXiv230604639D, *Published to MNRAS*
- Rosito, M. S.; Pedrosa, S. E.; Tissera, P. B; Avila-Reese, V.; Lacerna, I.; Bignone, L. A.; Ibarra-

Medel, H. J.; **Varela, S.**, 2018, *Field spheroid-dominated galaxies in a Λ -CDM Universe*, eprint arXiv:1803.00034

- Tissera, Patricia B.; Machado, Rubens E. G.; Vilchez, José M.; Pedrosa, Susana E.; Sanchez-Blazquez, Patricia; **Varela, Silvio**, 2017, *Mild evolution of the stellar metallicity gradients of disc galaxies*, *Astronomy & Astrophysics*, Volume 604, id.A118, 8 pp.