

Jordan Zambrano

PhD Student - Universidad de Chile

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Employment

Jun. 2022 - Sep. 2022	Research Assistant , Yachay Tech University. Developing opinion formation models and computational implementation in Complex Systems and Sociophysics. Supervised by Mario Cosenza PhD.
Nov. 2020 - Nov. 2021	Scientific Writer , Discience Ecuador, Writting blogs for company's webpage. Quito-Ecuador.

Education

2025 - Present	PhD. Physics , Universidad de Chile. Santiago, Chile.
2018 - 2024	BSc. Physics , Yachay Tech University. Project thesis: "Numerical Study of Hilltop Inflationary (HI) model". Supervised by Dr. Clara Rojas, <i>Cum Laude</i> Mention, 3.7 GPA.

Research Experience

Mar, 2025 - Present	Non gaussianity in the Cosmic Microwave Background , Universidad de Chile, Under supervision of Prof. Domenico Sapone.
Jun, 2022 - Feb. 2025	Inflationary Cosmology Project , Yachay Tech University, Under supervision of Prof. Clara Rojas. Tools: Python, Mathematica, Cobaya
Apr, 2023 - Sep. 2023	Theoretical Spectroscopy Analysis of Graphene with Boron and Nitrogen Defects , Yachay Tech University, Under supervision of Prof. Duncan Mowbray. Tools: ASE, HPC, GPAW
Sep. 2022 - Dec. 2023	Project CEDIA: Applications on Sociophysics. , Yachay Tech University, Under supervision of Prof. Mario Cosenza. Tools: Python, Mathematica, Parallel Programming, HPC

Publications

September 2024	Pozo, D., Zambrano, J. , Villegas, I., Hernández-Jiménez, R., Rojas, C. <i>Some inflationary models under the light of Planck 2018 results</i> , Astroparticle Physics, 102977
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Complementary Education

December 2024	Fundamentals of Accelerated Computing with CUDA C/C++ , NVIDIA, Remote.
November 2024	Advanced Lectures of Theoretical Physics and Mathematics: General Relativity and Cosmology , Physics Latam - ICTP, Remote.
May 2024	Nonlinear Dynamics: Mathematical and Computational Approaches , Complexity Explorer, Santa Fe Institute, Remote, Url
August 2022	Advance Data Science , LA-CoNGA Physics, Remote.
August 2022	Introduction to Data Science , LA-CoNGA Physics, Remote.

Conferences and Workshops

June 2025	Michigan Cosmology Summer School , University of Michigan, Remote.
July 2024	EPIC 4: Harnessing Data for Scientific Discovery , International Center of Theoretical Physics ICTP-PWF - UIDE - Yachay Tech, Quito, Ecuador.
October 2023	Minicurse on Statistical Physics of Complex Systems , Yachay Tech University, Urcuqui, Ecuador.
August 2023	Complex Systems Summer School COSSY-YT , Interdisciplinary Group of Complex Systems, Urcuqui, Ecuador.
January 2023	Theoretical Physics, Astrophysics and Cosmology Symposium , Yachay Tech University, Urcuqui, Ecuador.
August 2021	Hamilton-Jacobi Equation Workshop , Semana de la Astrofisica, Yachay Tech University, Urcuqui, Ecuador.

Talks

Posters and Workshop talks

July 2024	<i>Some inflationary models under the light of Planck 2018 results.</i> , Physics Without Frontiers ICTP-EPIC 4, UIDE.
August 2023	<i>Rise of an alternative majority against mass media in an opinion formation model</i> , NANOPHYS Day vol.2: From Nano to Astrophysics, Yachay Tech University.
July 2023	<i>Numerical Study of Hilltop Inflationary Model (HI) (In spanish)</i> AMV Phys at Yachay Tech, Yachay Tech University.

Grants and awards

December 2024	EPEC International Doctoral Scholarship 2025 , Escuela de Postgrado y Educacion Continua, Universida de Chile, Santiago.
July 2024	First Place Dorothy Coding Challenge, Epic 4, UIDE.
October 2023	Second Place ,Hackathon Co-Afina 2023 by LA-CoNGA physics.
February 2023	Academic Excellence Scholarship , awarded to students with an excellent academic performace, Yachay Tech University.

Conference organization

October 2023	Minicurse on Statistical Physics of Complex Systems, Yachay Tech University.
August 2023	Complex Systems Summer School COSSY-YT, Yachay Tech University.
January 2023	Theoretical Physics, Astrophysics and Cosmology Symposium, Yachay Tech University.
August 2021	Semana de la Astrofisica (Week of Astrophysics), Yachay Tech University.

Teaching responsibilities

June. 2023 - August. 2023	Physics for High School , for students in last year of high school, Unidad Educativa del Milenio "Yachay"
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Extracurricular activities

Nov. 2022 - Nov. 2023	Member of Directive Board Club of Theoretical Physics and Astrophysics, Yachay Tech University.
Sep. 2020 - Jan. 2021	Member of Organizing Committee Hult Prize at Yachay Tech.

Skills

Programming	Experienced: Python, MATLAB, Mathematica, Bash Proficient: C
Tools	Proficient: Machine Learning, Git, mpi4py, PySpark, Parallel programming, Linux, HPC, Cobaya
Markup	Experienced: LaTeX
Languages	Proficient: English, Spanish