Jordan Zambrano

Physics Graduate

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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

2018 - 2023	**BSc. Physics**, Yachay Tech University. Project thesis: "Numerical Study of Hilltop Inflationary (HI) model". Supervised by Dr. Clara Rojas, **Cum Laude** Mention, 3.7 GPA.

Research Experience

Jun, 2022 - Present	**Project with Prof. Clara Rojas**, Yachay Tech University. Computational Inflationary Cosmology, study of Inflationary potentials. Tools: Python, Mathematica, Cobaya
Apr. 2023 - Sep. 2023	**Project with Prof. Duncan Mowbray**, Yachay Tech University. Theoretical Spectroscopy Analysis of Graphene with Boron and Nitrogen Defects. Tools: ASE, HPC, GPAW.
Sep. 2022 - Dec. 2023	**Project with Prof. Mario Cosenza**, Yachay Tech University. Project CEDIA: Applications on Sociophysics. Tools: Python, Mathematica, Parallel Programming, HPC

Publications

September 2024	Pozo, D., **Zambrano, J.**, Villegas, I., Hernández–Jiménez, R., Rojas, C. *Some inflationary models under the light of Planck 2018 results*, Astroparticle Physics, 102977

Complementary Education

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

July 2024	**EPIC 4: Harnessing Data for Scientific Discovery**, International Center of Theoretical Physics ICTP-PWF, 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.

Talks

Posters and Workshop talks

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

Grants and awards

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.

Teaching responsibilities

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

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