# Aníbal Luciano Olivera Morales

# Currículum Vitae



#### Personal Information

Date of Birth 23/09/1997

Nationality Chilean

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Residence

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#### Education

2012 - 2015 High School Education, Colegio Santa Sabina, Concepción.

03/2016 - 09/2019 **B.Sc. in Physics**, Faculty of Physical and Mathematical Sciences, Universidad de Concepción.

03/2016 - 04/2022 **Professional Title of Physicist**, Faculty of Physical and Mathematical Sciences, Universidad de Concepción.

03/2020 - 04/2022 **M.Sc. in Physics**, Faculty of Physical and Mathematical Sciences, Universidad de Concepción.

03/2023 - Present **Ph.D. in Social Complexity Science**, Research Center for Social Complexity (CICS), Universidad del Desarrollo.

07/2024 - 03/2025 **Diploma in University Teaching**, Faculty of Education, Universidad del Desarrollo.

# Honors and Awards

2012 - 2015 o Top Academic Achievement, Class of 2015, Colegio Santa Sabina.

2022 o Thesis Defense for the degree of Physicist, approved with maximum distinction (7.0 out of 7.0), *Universidad de Concepción* (UdeC).

o Thesis Defense for the M.Sc. in Physics, approved with maximum distinction (7.0 out of 7.0), *Universidad de Concepción* (UdeC).

2025 o Sunbelt 2025 Student Award: an annual recognition for young scholars, *International Network for Social Network Analysis* (INSNA).

# Scholarships and Grants

- 2016 o Enrique Molina Garmendia Scholarship Recipient, Class of 2016, *Universidad de Concepción* (UdeC).
- 2023 Present o Grant: Beca Doctorado Nacional, *Agencia Nacional de Investigación y Desarrollo* (ANID).
- 2025 Present o Grant: Beca Complementaria, Gastos Operacionales, with a score of 5.0 out of 5.0, Agencia Nacional de Investigación y Desarrollo (ANID).

# Academic Activities

# Conferences

- 2019, Attendee o Winter School HEP-PUC, Topics on Graviticulas, *Pontificia Universidad Católica de Chile* (PUC).
- 2019, Attendee o 2<sup>nd</sup> UdeC School on CFT and String Theory, *Universidad de Concepción* (UdeC).
- 2022, Presenter o  $53^{\rm rd}$  Annual Meeting of the APS Division of Atomic, Molecular and Optical Physics.

  Online Poster: "Atom-atom van der Waals Interactions through a Lens".

  American Physical Society (APS).
- 2024, Presenter o Computational Social Science 2024 Annual Conference, Santa Fe, NM, USA.
  In-person Poster: "How does network structure in Agent-Based Models affect epidemiological parameters? A large simulation study".

  Computational Social Science Society of the Americas (CSSSA).
- 2025, Presenter o Sunbelt 2025, Paris, France.

  Oral Presentation: "Diffusion of Innovations with Individual Preferences: The Role of Social Reinforcement and Homophilic Ties".

  International Network for Social Network Analysis (INSNA).
  - 2025, Session o Sunbelt 2025, Paris, France.
    Co-organizer Session co-organized with Thomas Valente (USC): "Contagion and Diffusion processes through Social Networks".

    International Network for Social Network Analysis (INSNA).

#### **Talks**

- 2024, Speaker o 'How does network structure in ABMs affect epidemiological parameters? A large simulation study', Epidemiological Division, Internal Medicine, University of Utah (UofU), Salt Lake City, Utah.
- 2024, Speaker o 'New capabilities of netdiffuseR package: Multidiffusion models', Epidemiological Division, Internal Medicine, University of Utah (UofU), Salt Lake City, Utah.
- 2024, Speaker o 'How does network structure in ABMs affect epidemiological parameters? A large simulation study', Center for Applied Network Analysis, University of Southern California (USC), Los Angeles, California.

2024, Speaker o 'Social Contagion in Networks: Exploring Diffusion Dynamics and Research Insights', Research Center for Social Complexity, Universidad del Desarrollo (CICS), Santiago, Chile.

# Workshops

- 2024, Instructor o *NetdiffuseR Workshop*. Center for Applied Network Analysis, University of Southern California (USC), Los Angeles, California.
- 2025, Instructor o Understanding Diffusion with netdiffuseR. Sunbelt 2025 (INSNA), Paris, France.

#### **Publications**

- o Olivera, A., Sinha, K., Solano, P., *Dipole-dipole interactions through a lens*, Phys. Rev. A 106, 013703. doi.org/10.1103/PhysRevA.106.013703.
- 2024 o Valente, T., Vega Yon, G., Olivera, A., A NetdiffuseR Tutorial: Estimating Network Influences on Behavior within the Diffusion Paradigm, Connections-D-25-00002-. [Under Review].
- o Vega Yon, G., Valente, T., Olivera, A., *The netdiffuseR R package: Analysis of Diffusion and Contagion Processes on Networks*, Journal of Open Source Software. [Under Review].

# Software Development

o Vega Yon, G., Olivera, A., Valente, T. (2025). netdiffuseR: Analysis of Diffusion and Contagion Processes on Networks. doi:10.5281/zenodo.1039317, R package version 1.23.0, github.com/USCCANA/netdiffuseR.

#### Other Academic Activities

- 2019, Speaker o Physics Forums, Title: *Battle of Reality*. Aula Magna CFM, Universidad de Concepción (UdeC).
- 2022, Speaker o Science, Talks and Beer, Title: *Anthology of Physics, a selection of eternal ideas*. Castillo Bar.
- 2024, Reviewer o Academic reviewer for the journal Social Networks, Elsevier Editorial.

# Work and Teaching Experience

- 04/2019 01/2020 **Teaching Assistant**, *Universidad de Concepción*, Concepción, Courses in Physics I, Physics II, and Physics III for the core Engineering program.
- 07/2021 12/2021 **Teaching Assistant**, *Universidad de Concepción*, Concepción, Statistical Physics course for the final year of the B.Sc. in Physics program.
- 06/2022 12/2023 Physics and Mathematics Teacher, CPECH, Concepción
- 08/2022 12/2023 Physics Teacher, Mozart Schule, Concepción, Elective Physics course.

03/2024 - 05/2024	<b>Mathematics Instructor</b> , Research Center for Social Complexity, Santiago, Doctoral leveling courses.
03/2024 - 05/2024	<b>Assistant Instructor</b> , Research Center for Social Complexity, Santiago, Network Theory.
04/2024 - 04/2025	<b>Research Assistant</b> , <i>ANID</i> , FONDECYT 1231131:, The role of political expertise in collegiate decisions: The case of the 2021-2022 Chilean Constitutional Convention.
01/2025 - 05/2025	<b>Research Assistant</b> , <i>ANID</i> , FONDECYT 1210254:, Risk and Prognosis of Recidivism among Closed-Regime Inmates in Chilean Prisons.
03/2025 - 05/2025	Mathematics Instructor, Research Center for Social Complexity, Santiago, Doctoral leveling courses.

# Skills and Interests

Languages English: Advanced Proficiency.

Programming Python: Advanced Level.

R: Advanced Level.

Humanities Second Place National, UNAB Literature Contest, 2016.

Third Place Regional, UNAB Litigation Contest, 2016. Third Place Regional, UNAB Debate Contest, 2016.

Selected Short Story, Antología Nuevas Esquirlas Contest BAJ, 2018.

Business Workshop: Learn to Import from Anywhere in the World. Corfo, Desafío Latam,

2022.

Sports Mountain biking.