

# CURRICULUM VITAE

**Oswaldo Martin**

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## Academic Background

PhD in Biology. *Chemical Shifts-Driven Monte Carlo Simulations*. National University of San Luis. 2007-2012.

## Research positions

*Investigador Independiente*. National Scientific and Technical Research Council (CONICET). 2022-present

Postdoc Researcher. Aalto University. March 2021 – April 2022

*Investigador Adjunto*. National Scientific and Technical Research Council (CONICET). 2017-present

*Investigador Asistente*. National Scientific and Technical Research Council (CONICET). 2014-2017

## Recent scientific publications

Only last five years, visit [google scholar](https://scholar.google.com/citations?user=aloctavodia) for the entire list.

Niborski M.J.; Martin, O.A.; Murray F.; Jobbágy EG; Nosetto MD; Paez RA; Magliano PN. *Modeling Rainwater Harvesting and Storage Dynamics of Rural Impoundments in Dry Chaco Rangelands*. Aater (2023)

Mikkola, P. Martin, O.A. Chandramoul, S. Hartmann, M. Abril-Pla, O. Thomas, O. Pesonen. Corander, J. Vehtari, Aki. Kaski S. Bürkner, PC. Klami A. *Prior knowledge elicitation: The past, present, and future*. Bayesian Analysis (2023).

Capretto, T. Piho, C. Kumar, R. Westfall, J. Yarkoni, Tal. **Martin O.A.** *Bambi: A simple interface for fitting Bayesian linear models in Python*. Journal of Statistical Software (2022).

**Martin O.A.**, ; Teste F.P. *A call for changing data analysis practices: from philosophy and comprehensive reporting to modeling approaches and back*. Plant and Soil (2022).

Arroyuelo, A. Vila, J.A. **Martin O.A.** *Exploring the quality of protein structural models from a Bayesian perspective*. Journal of Computational Chemistry (2021).

**Martin O.A.**, Vila J.A. *The Marginal Stability of Proteins: How Jiggling and Wiggling of Atoms are Connected to Neutral Evolution*. Journal of molecular evolution (2020).

Arroyuelo A., **Martin, O.A** Scheraga H.A. Vila, J. A. *Assessing the One-Bond Ca-H Spin-Spin Coupling Constants in Proteins: Pros and Cons of Different Approaches*. The Journal of Physical Chemistry B. (2020)

Icazatti A.A, Loyola J.M., Szleifer I, Vila J.A. **Martin O.A.** *Classification of RNA backbone conformations into rotamers using  $^{13}C'$  chemical shifts: exploring how far we can go*. PeerJ 7, e7904 (2019)

**Martin O.A.** Vorobjev Y, Scheraga HA, Vila JA. *Outline of an experimental design aimed to detect protein A mirror image in solution*. PeerJ Physical Chemistry 1, e2 (2019)

Baldi G, Schauman S.A, Texeira M, Marinaro S, **Martin O.A.**, Gandini P, Jobbágy E.G. *Nature representation in South American protected areas: country contrasts and conservation priorities*. PeerJ 7, e7155 (2019)

Kumar, R. Carroll C, Hartikainen A, **Martin, O.A** *ArviZ a unified library for exploratory analysis of Bayesian models in Python*. The Journal of Open Source Software (2019)

## Preprints

Quiroga M, Garay P. G. ,Alonso J. M. , Loyola J. M., and **Martin O.A.** *Bayesian additive regression trees for probabilistic programming*. ArXiv 2022.

## Books

Bayesian Modeling and Computation in Python. Martin O.A. Kumar R, Lao J. CRC press. ISBN 978-0367894368. 2021.

Bayesian Analysis with Python. Martin O.A. Packt Publishing. Second Edition. ISBN-13: 978-1789341652. 2018

## Research projects funding as main researcher/principal investigator

*Bayesian additive regression trees: automatic inference, variable selection, and interpretability.* FONCYT (2023-2024)

Create educational material and give workshops related to exploratory analysis of Bayesian models with ArviZ. NumFOCUS small grants. (2019)

*Probabilistic programming for Structural Bioinformatics* FONCYT. PICT-Joven (2017-2019)

## Advisor for undergrad and graduate students

### Current projects

PhD Advisor: Lic. Miriana Quiroga. *Bayesian additive regression trees: automatic inference, variable selection and interpretability.* National University of San Luis. (2020-2024)

### Previous projects

PhD Advisor: Lic Agustina Arroyuelo. *Structural determination of biomolecules by statistical inference.* National University of San Luis. (2016-2021)

Co-advisor Phd Thesis: Alejandro Icazatti. *Validation and determination of the structure of nucleic acids.* National University of San Luis. (2014-2019).

Co-advisor Phd Thesis: Pablo Garay. *CheSweet: Determination and validation of glycans and glycoproteins.* National University of San Luis.(2013-2017).

Advisor BSc Thesis: Agustina Arroyuelo. *Development of a software application for creating, viewing and analyzing models of macromolecules.* Thesis to get the degree of Bachelor in Molecular Biology. National University of San Luis. Approved September 2019.

Advisor BSc Thesis: Pedro Ramírez. *Protein structure refinement guided by  $^{13}\text{C}^{\alpha}$  y  $^{13}\text{C}^{\beta}$  chemical shifts.* Thesis to get the degree of Bachelor in Molecular biology. National University of San Luis. Approved December 2014.

Co-advisor BSc Thesis: Ezequiel Frigini. *Is the cell membrane, permeable to the diffusion of glyphosate?* Thesis to get the degree of Bachelor in Molecular biology. National University of San Luis. Approved December 2014.

## Software development

### Current projects

Core developer of [ArviZ](#). Exploratory analysis of Bayesian models

Core developer of [Bambi](#). Bayesian Model-Building Interface in Python.

Core developer of [PyMC](#). Probabilistic Programming in Python

### Older projects

[CheShift](#): A web-server for protein-structure validation.

[PyMOL](#) Plugins: PyMOL is a molecular visualization system

## Synergistic activities

Member of the PhD in Biology Committee. National University of San Luis. 2019-2021.

Head of the organizing committee of PyData, San Luis, Argentina 2017. This was the first PyData in Latin-America. Member of the PyData San Luis chapter.

Co-host La Búsqueda, popular science radio-show and podcast.

Radio UNSL. 2008-2009

Radio Ciudad. 2010

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