

Curriculum Vitae

Alba Cervantes Loreto

Centre for Integrative Ecology, School of Biological Sciences
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Education

September 2018—

Degree: PhD in Ecology

December 2021

Where: University of Canterbury, Christchurch, New Zealand

Advisor: Dr. Daniel B. Stouffer

Expected date of thesis defense : March 2022

August 2013—

Degree: Bachelor of Science with Honours in Biology

June 2018

Where: National Autonomous University of Mexico, Mexico City, Mexico

Advisor: Dr. Carlos Martorell

Experience

January 2022—

Position: Statistical and Data Analyst

Present

Where: Tatauranga Aotearoa, Stats NZ

Contributions:

- Part of the Statistical Methods unit working on the Environment and Economic Collections team.

February 2018—

Position: Data collector and analyst

July 2018

Where: Faculty of Sciences, National Autonomous University of Mexico

Contributions:

- Carried out surveys, interviews and data collection to understand how agroecological techniques helped preserve land and water in the community of Vicente Guerrero, Tlaxcala, Mexico.
- Synthesized and analyzed the information collected in the interviews and surveys to present to the general public.

February 2015—

Position: Research Assistant

February 2018

Where: Faculty of Sciences, National Autonomous University of Mexico

Contributions:

- Designed and implemented seed dispersal experiments in the field.

- Analyzed seed dispersal via abiotic and biotic agents with field-work, database construction and statistical data analysis.
- Developed a mechanistic model to predict distance traveled by native grasses during field experiments.
- Carried out the annual survey to record species richness and abundance in a species rich grassland in Oaxaca, Mexico. I identified plants in the field, carried out data collection and cleaned the data for analysis.

Teaching

*June 2020—
November 2020*

Position: Demonstrator to Experimental Design and Data Analysis
Where: University of Canterbury

I worked as a demonstrator to help students understand how to design and analyze experiments in biology, as well as to develop their programming skills to carry out statistical tests and simulations.

*February 2019—
June 2020*

Position: Demonstrator to Introduction to Biological Data analysis
Where: University of Canterbury

During 2 semesters, I worked as a demonstrator to help students understand basic statistical concepts as well as to carry out and interpret analysis of biological data using the programming language R.

*January 2018—
June 2018*

Position: Teaching Assistant for Mathematics for Biology
Where: Faculty of Science, National Autonomous University of Mexico

Taught one class a week, which focused on understanding mathematical problems through a biological perspective. Demonstrated solutions to problems, proctored exams, and presented extra credit problems for the classes.

Publications

- Cervantes-Loreto A., Ayers C.A., Brosi B.J., Stouffer D.B. *The context dependency of pollinator interference: how environmental conditions and co-foraging species impact floral visitation.* Ecology Letters.
- Cervantes-Loreto A., Pastore A., Clements A., Marraffi M., Mayfield M., Stouffer D.B. *The structural sensitivity of competition models: a probabilistic approach to species coexistence.* In preparation.
- Cervantes-Loreto A., Marraffini M., Stouffer D.B., Flannagan S.P. *Coexistence of alleles : insights of Modern Coexistence Theory in the maintenance of genetic diversity.* In preparation.

Conferences and symposiums

- **Major Transitions in Evolution Symposium** National Autonomous University of Mexico, 2015. Attended lectures and presentations focused on the major transitions in evolution.
- **Computational Technology Program** National Autonomous University of Mexico 2016. Attended lectures focused on the Python and Matlab programing languages.
- **Summer School of Mathematical Biology/ Models of Evolution** ICTP-SAIFR, Sao Paulo, Brazil 2019. Attended lectures and workshop focused on developing tools to model biological systems as well as frontier research in ecology and evolution.
- **New Zealand Ecological Society** Lincoln University, New Zealand, 2019. Presented: *Pollinator functional responses: pollinator interference generates context dependent outcomes*.
- **Ecological Society of America** Annual meeting, online 2020. Presented: *The structural sensitivity of competition models: a probabilistic approach to species coexistence*.

Skills

- Fluent in English and in Spanish.
- Advanced prograrmming in *R* for data wrangling, analysis and vizualization.
- Intermediate knowledge of Phyton.
- Comfortable using Linux shell.
- Reproducible data science using git and version control.
- Experience using L^AT_EX.
- Development and interpretation of frequentist and bayesian statistical models.