Curriculum Vitae

Alba Cervantes Loreto

Statistical and Data Analyst
Tatauranga Aotearoa, Stats NZ
albaricoque.cl.93@gmail.com
+64 22 508 6030

Education

September 2018— December 2021

Degree: PhD in Ecology
Where: University of Canterbury, Christchurch, New Zealand
Advisor: Dr. Daniel B. Stouffer
Expected date of thesis defense : March 2022

August 2013— June 2018

Degree: Bachelor of Science with Honours in Biology
Where: National Autonomous University of Mexico, Mexico City, Mexico
Advisor: Dr. Carlos Martorell

Experience

January 2022— Present

Position: Statistical and Data Analyst
Where: Tatauranga Aotearoa, Stats NZ

Contributions:

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

February 2018— July 2018

Position: Data collector and analyst
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— February 2018

Position: Research Assistant
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 analyisis.
- Developed a mechanisitc 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 analyisis.

Teaching

June 2020— November 2020

Position: Demonstrator to Experimental Design and Data Analyisis
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 analyisis
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 analyisis 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 progarmming 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 LaTeX.
- Development and interpretation of frequentist and bayesian statistical models.