Tai Lohrer

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EDUCATION

University of Auckland   **December 2022**
BSc(Hons), Statistics. Graduated with first class honours.
GPA: 8.1/9.0
First in class in Bayesian Inference.
Funded through the Sustainable Seas National Science Challenge.
Dissertation: *Multi-Criteria Decision Making for New Zealand Marine Protected Areas*.

University of California, Berkeley   **May 2021**
Bachelor of Arts, Economics, graduated with High Distinction.
GPA: 3.905/4.0.
Phi Beta Kappa.
Recipient of the Economics Department Roy Christie Scholarship, Fall 2019.
Economics Departmental Honours Thesis:
"Do Marine Protected Areas Work as Intended? An Analysis of Bottom Trawling Activity in New Zealand"
- Conducted spatial analysis in R on commercial trawl fishing data. Created spatial polygons from trawl start and end coordinates and used them to extract average bottom temperature and depth, as well as distance from Marine Protected Area boundaries.
- Using regression discontinuity in time methods, I found that the implementation of Marine Protected Areas was associated with increases in fishing activity and total catch in the surrounding area.

EXPERIENCE

Energy & Environment Lab, University of Chicago   **January 2023-Present**
Project Associate
- Project manager of research project led by Michael Greenstone investigating methane leaks at oil and gas facilities in Colorado.
- Redesigned methane leak detection and attribution R model, including restructuring the raw data read in and linkage of wind and methane spatial data.
- Assisted in creation of boosted trees ML model and distributed risk scores to aid inspection targeting.
- Coordinates field team sampling schedule and facilities to target.
- Generates publication quality figures and regression tables.
- Liaises with external partner Colorado Department of Public Health and Environment and internal partners performing field sampling.
- Organizes internal and external project meetings and contributes to quarterly reporting.

National Institute of Water and Atmosphere   **November 2021-January 2023**
Research Assistant
- Refined honours thesis for publication (published March 2023 in Ocean and Coastal Management).
- Implemented new negative binomial models for analysis.
- Created a spatially explicit dataset to visualise changes in trawling intensity before and after MPA designation.

Undergraduate Research Apprenticeship Program   **August 2018-May 2021**
Economics Research Assistant
- Worked with a team of students in conjunction with Professor Clair Brown to develop a country-level government policy index measuring equity, opportunity, and sustainability.
- Conducted background research, collected, and cleaned data using Python and Excel.
- Co-authored a working paper describing the "Shared Prosperity Policy Index."

Te Punaha Matatini   **May 2020-August 2020**
Summer Intern Research Assistant
- Developed impact-metrics for Precision Driven Health, a health-technology firm attempting to apply modern data science and machine learning techniques to New Zealand's healthcare sector.
- Scraped data from SCOPUS using Python and used a k-means clustering algorithm to track changes in topics Precision Driven Health researchers published work on.

Student Researcher Mentoring Program   **September 2019-May 2020**
Economics Research Assistant
- Paired with economics graduate student Damian Vergara on a project measuring how government policy affects long-run inequality particularly focusing on how institutions shape this relationship (Published: "Do policies and institutions matter for pre-tax income inequality? Cross-country evidence", *International Tax and Public Finance*, 2022).
- Collected and prepared country-level tax, income shares and institutional hierarchy panel data in STATA.

PUBLICATIONS & PRESENTATIONS
- Lohrer et al, (2023). "Evidence of rebound effect in New Zealand MPAs: Unintended consequences of spatial management measures." *Ocean and Coastal Management*. https://doi.org/10.1016/j.ocecoaman.2023.106595
- New Zealand Marine Sciences Society/ Freshwater Sciences Society Annual Conference (November 2022).
- Presented at New Zealand's Department of Conservation seminar series (January 2023).
- Interview on University of Auckland's Green Desk radio/podcast (May 2023).