

Yiran Wang

CONTACT INFORMATION 350 George Street, Academic Office yiran.wang.yw995@yale.edu
New Haven CT 06511 Personal Website

EDUCATION **University of Waterloo**

Ph.D., Statistics, Sep 2019 - Aug 2024

- Thesis: *Modeling and Bayesian Computations for Capture-Recapture Studies*
- Advisor: Audrey Béliveau, Ph.D., Martin Lysy, Ph.D.

University of California, Irvine

M.S., Statistics, Sep 2017 - Jun 2019

Donghua University

B.S., Statistics, Sep 2013 - Jun 2017

- Thesis: *Influence of China's Innovation on Total Factor Productivity Based on Quantile Regression*
- Advisor: Rong Jiang, Ph.D.

PROFESSIONAL EXPERIENCE **Postdoctoral Associate**

Yale School of Public Health, New Haven, CT Nov 2024 - Present
– Advisor: Bhramar Mukherjee, Ph.D.

Teaching Assistant

University of Waterloo, Waterloo, ON Sep 2019 - Apr 2024

- Held regular office hours, proctored tests, marked assignments and tests for:
 - STAT 202 Introductory Statistics for Scientists Fall 2019
 - STAT 230 Probability Winter 2020, Spring 2020
 - STAT 330 Mathematical Statistics Winter 2021, Fall 2021
 - STAT 331 Applied Linear Models Spring 2020, Fall 2020, Winter 2021
 - STAT 371 Applied Linear Models and Process Improvement for Business Fall 2019, Fall 2020, Winter 2022, Fall 2022
 - STAT 431 Generalized Linear Models and their Applications Spring 2022, Spring 2023
 - STAT 436/836 Introduction to the Analysis of Spatial Data in Health Research Winter 2023, Winter 2024

University of California, Irvine, Irvine, CA Apr 2018 - Mar 2019

- Held regular office hours, conducted weekly discussion sections, graded homework and examinations for:
 - STATS 7 Basic Statistics
 - STATS 67 Introduction to Probability and Statistics for Computer Science

Research Assistant

University of Waterloo, Waterloo, ON Jan 2020 - Apr 2024

- Built a new framework for the plant-capture method to estimate population size by incorporating uncertainty in the plants' assessments and also other factors with Bayesian and frequentist inference approaches.

Curriculum Vitae

- Analyzed the stock population, proposed new Bayesian genetic mark-recapture methods, and applied to simulation studies and real-data analysis.
- Supervisor: Audrey Béliveau, Ph.D., Martin Lysy, Ph.D.

Consultant

UW Statistical Consulting & Collaborative Research Unit, Waterloo, ON

Sep 2023 - Apr 2024

- Advising students and faculty members on how to leverage sound statistical approaches in their analyses, with more active involvement in enhanced service projects.

PUBLICATIONS

1. **Y. Wang**, M. Lysy and A. Béliveau. Plant-Capture Methods for Estimating Population Size from Uncertain Plant Captures. *Under revision at Epidemiology*. [Arxiv]
2. **Y. Wang**, M. Lysy and A. Béliveau. Rapid Scaling of Compositional Uncertainty from Sample to Population Levels. *In Progress*.
3. **Y. Wang**, M. Lysy and A. Béliveau. Method of Moments Estimation of the Bayesian Credible Interval for Markov Chain Monte Carlo. *In Progress*.

PRESENTATIONS

1. **Y. Wang** “Plant-Capture Methods for Estimating Population Size from Uncertain Plant Captures” (Invited) Jun 2024
The Statistical Society of Canada 2024 Annual Meeting
St. John’s, Canada
2. **Y. Wang** “Plant-Capture Methods for Estimating Population Size from Uncertain Plant Captures” Oct 2023
2023 Waterloo Student Conference in Statistics, Actuarial Science and Finance
Waterloo, Canada
3. **Y. Wang** “Bayesian Genetic Mark-Recapture Methods for Estimating Seasonal River Run Size of Stock Populations” Aug 2023
2023 Joint Statistical Meetings
Toronto, Canada
4. **Y. Wang** “Genetic Mark-Recapture Methods for Estimating Population Size of Stock Populations” May 2023
The Statistical Society of Canada 2023 Annual Meeting
Ottawa, Canada
5. **Y. Wang** “Bayesian Genetic Mark-Recapture Methods For Estimating Seasonal River Run Size Of Stock Populations” Apr 2023
EURING Analytical Meeting & Workshop 2023
Virtual
6. **Y. Wang** “Genetic Mark-Recapture Methods For Estimating Seasonal River Run Size Of Stock Populations” (Poster) Jun 2022
The 2022 International Society for Bayesian Analysis World Meeting
Montréal, Canada
7. **Y. Wang** “Genetic Mark-Recapture Methods For Estimating Seasonal River Run Size Of Stock Populations” Jun 2022
International Statistical Ecology Conference 2022
Virtual

Curriculum Vitae

8. **Y. Wang** “Genetic Mark-Recapture Methods For Estimating Seasonal River Run Size Of Stock Populations” Jun 2022
The Statistical Society of Canada 2022 Annual Meeting
Virtual
9. **Y. Wang** “Bayesian Genetic Mark-Recapture Methods For Estimating Seasonal River Run Size Of Stock Populations” Jun 2021
The Statistical Society of Canada 2021 Annual Meeting
Virtual
10. **Y. Wang** “Bayesian Genetic Mark-Recapture Methods For Estimating Seasonal River Run Size Of Stock Populations” (Poster) Jun 2021
EURING 2021 Analytical Meeting & Workshop
Virtual
11. **Y. Wang** “Assessing Integrated Population Model Using Parametric Bootstrap” Feb 2021
Bayesian Club Meeting, University of Waterloo
Virtual
12. **Y. Wang** “Introduction to Markov Chain Monte Carlo” Jan 2021
Bayesian Club Meeting, University of Waterloo
Virtual
13. **Y. Wang** “A Simple Simulation about Convergence Diagnostics” Jan 2021
Bayesian Club Meeting, University of Waterloo
Virtual

SERVICE

Event and Organization

- Committee Member* May 2023 - Apr 2024
University of Waterloo Graduate International Student Advisory Committee (ISAC-G)
- Conference Organizing Committee* Sept 2022 - May 2023
The Eleventh Annual Canadian Statistics Student Conference (CSSC)
- Conference Organizing Volunteer* Nov 2021
The 2nd Waterloo Student Conference in Statistics, Actuarial Science and Finance

Mentorship

- Mentor* Jan 2024 - Apr 2024
University of Waterloo Women in Mathematics Directed Reading Program
- Mentor* May 2023 - Aug 2023
University of Waterloo Women in Mathematics Directed Reading Program
- Mentor Volunteer* Apr 2021, Apr 2022, Apr 2023, Apr 2024
ASA DataFest

PROFESSIONAL DEVELOPMENT

- Canadian Statistical Sciences Institute CRT Workshop: *Modern Methods in Survey Sampling* 2024
University of Ottawa

Curriculum Vitae

Canadian Ecological Forecasting Initiative Summer School: *Forecasting for Decision-Making: An Epidemiological & Ecological Perspective* 2023
The Fields Institute for Research in Mathematical Sciences

Workshop: *NIMBLE virtual short course* 2023
NIMBLE Development Team

Canadian Statistical Sciences Institute CRT Summer School: *Modern Methods in Survey Sampling* 2022
University of Ottawa

AWARDS

University of Waterloo

- Doctoral Thesis Completion Award Apr 2024
- Women in Mathematics Directed Reading Program Distinguished Service Award Apr 2024
- Women in Mathematics Directed Reading Program Mentorship Award Aug 2023, Apr 2024
- Graduate Student Research Dissemination Award May 2023, Mar 2024
- The Eleventh Annual Canadian Statistics Student Conference Travel Award May 2023
- Graduate Studies Conference Assistantship May 2022
- University of Waterloo Senate Graduate Scholarship Mar 2022
- Waterloo Special Graduate Student Entrance Award Sep 2019

Donghua University

- Donghua University Outstanding Graduate Jun 2017
- Donghua University Merit Scholarship Dec 2016
- Donghua University Tianji Scholarship Dec 2016
- Donghua University Social Work Excellence Scholarship Dec 2015, Dec 2016
- Donghua University Outstanding Student Leader Dec 2015, Dec 2016
- 1st Prize in Donghua University Mathematical Modelling Contest Jun 2015

Other Awards

- Statistical Society of Canada Annual Meeting Student Grant May 2024