

# YAN-HAN CHEN

✉ yanhanc@iastate.edu    🌐 yanhanchen.github.io

## EDUCATION

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### Iowa State University

*Ph.D., Statistics, jointly advised by Arka Ghosh, Ruoyu Wu and Hailiang Liu*

Ames, Iowa

2020-2026(*Expected*)

### National Chiao Tung University

*M.S., Statistics, advised by Hui-Nien Hung*

Hinschu, Taiwan

2014-2016

### National Chiao Tung University

*B.S., Applied Mathematics*

Hinschu, Taiwan

2010-2014

## RESEARCH INTERESTS

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Stochastic Processes, Optimal Transport, Machine Learning, Mean-field Systems

## PUBLICATIONS & PREPRINTS

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Neural solver for Wasserstein geodesics and optimal transport dynamics. With Hailiang Liu. Submitted to *SIAM Journal on Scientific Computing*

Limit theorems for heterogeneous graphon JSQ( $d$ ) model. With Arka Ghosh and Ruoyu Wu. Near completion (draft available upon request)

Estimating retention benchmarks for salvage logging to protect biodiversity. With Simon Thorn, Anne Chao et al. *Nature communications* (2020)

Rare species, functional groups, and evolutionary lineages drive successional trajectories in disturbed forests. With Simon Thorn, Anne Chao et al. *Ecology* (2020)

Salvage logging changes the taxonomic, phylogenetic and functional successional trajectories of forest bird communities. With Kostadin Georgiev, Anne Chao et al. *Journal of Applied Ecology* (2020)

## PRESENTATIONS

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### Neural Solver for Wasserstein Geodesics and Optimal Transport Dynamics

- SIAM Central States Section Annual Meeting (Oct 2025), Fayetteville, AR — Contributed Talk
- Great Lakes Section of SIAM (Sep 2025), Chicago, IL — Mini-session Talk

### Limit Theorems for Heterogeneous Graphon JSQ( $d$ ) Model

- INFORMS Annual Meeting (Oct 2024), Seattle, WA — Invited Talk
- Analysis and Probability Seminar (Oct 2024), Iowa State University — Seminar Talk

## RESEARCH EXPERIENCE

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**Student Contractor**, Corteva Agriscience, supervised by Dr. Carl Walker

Aug 2022 – Aug 2025

- Adaptive experiments using Bayesian optimization with Gaussian process regression.
- Reinforcement learning to control water valves in a two-tank system.

**Research Assistant**, National Tsing Hua University, supervised by Dr. Anne Chao

Aug 2017 – Jun 2020

- Statistical ecology with nonparametric models, including diversity estimation, diversity decomposition/dissimilarity, and extensions to hierarchical structures.

## TEACHING & OUTREACH

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**Instructor**, Department of Statistics, Iowa State University

- STAT 5280: Visual Business Analytics (Fall 2025)
- STAT 226: Introduction to Business Statistics I (Spring 2022)

**Lab Assistant / Grader**, Department of Statistics, Iowa State University

- STAT 326: Introduction to Business Statistics II (Spring 2022)
- STAT 330: Probability and Statistics for Computer Science (Summer 2022)
- STAT 305: Engineering Statistics (Summer 2021)

**Volunteer Tutor**, CyMath, Iowa State University

Jan 2024 – Dec 2024

- Volunteer tutor in ISU CyMath, a math tutoring program for students in grades 3–12.

**Substitute Military Service (Education Service)**, Taiwan

Aug 2016 – Jul 2017

- Tutored and mentored underprivileged junior high school students in mathematics.

## AWARDS & HONORS

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**Travel Award**

October 2025

*SIAM Central States Section Annual Meeting*

*Fayetteville, AR*

**Government Fellowship for Studying Abroad**

2020 — 2023

*Ministry of Education, Taiwan*

- Full fellowship covering tuition and living expenses for the first three years of Ph.D. study (total support up to \$150,000 USD).

**Funded Summer School Student**

July 2014

*Institute of Mathematics, Academia Sinica*

*Taipei, Taiwan*

- Financial support for the Summer School on Mathematical Finance

**Funded Summer School Student**

July 2013

*Mathematics Division, National Center for Theoretical Sciences*

*Hsinchu, Taiwan*

- Financial support for the Summer School on Probability

## PROFESSIONAL ACTIVITIES

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**Analysis and Probability Reading Group**

Fall 2024 – Present

- Weekly meeting to study topics including weak convergence of probability measures, large deviations, and interacting particle systems.