Michael R. Schwob

michaelschwob.github.io michaelschwob

EDUCATION

University of Texas at Austin (UT) **Austin, TX**
Ph.D. in Statistics (GPA: 4.00) *2021 - Present*

University of Nevada, Las Vegas (UNLV) - Honors College **Las Vegas, NV**
B.S. in Mathematics (GPA: 3.96) *2016 - 2021*
Thesis: *Addressing the Ecological Fallacy with Lagrangian Inference*

FELLOWSHIPS

- **National Science Foundation Graduate Research Fellowship** (2021-2026)
- **Dean's Prestigious Fellowship - University of Texas at Austin** (2021-2026)

PUBLICATIONS

- **MR Schwob**, MB Hooten, V Narasimhan. "Composite Dyadic Models for Spatio-Temporal Data," *in review.* 2024 ASA ENVR Student Paper Competition - Honorable Mention.
- MB Hooten, **MR Schwob**, DS Johnson, JS Ivan. "Geostatistical capture-recapture models," *in review.*
- **MR Schwob**, MB Hooten, T McDevitt-Galles. "Dynamic Population Models with Temporal Preferential Sampling to Infer Phenology," *Journal of Agricultural, Biological, and Environmental Statistics*, (2023). 2023 ISBA EnviBayes Student Paper Competition - Winner.
- MB Hooten, **MR Schwob**, DS Johnson, JS Ivan. "Multistage hierarchical capture-recapture models," *Environmetrics*, (2023).
- **MR Schwob**, P Shiue, R Venkat. "Novel Theorems and Algorithms Relating to the Collatz Conjecture," *International Journal of Mathematics and Mathematical Sciences*, (2021).
- R Venkat, **MR Schwob**. "Novel Sequences of Prime Palindromes in Various Bases," *International Journal of Advanced Research in Computer Science*, 12:2 (2021).
- M Hooten, C Wikle, **MR Schwob**. "Statistical Implementations of Agent-based Demographic Models," *International Statistical Review*, 88:2 (2020).
- **MR Schwob**, A Dempsey, F Zhan, J Zhan, A Mehmood. "Robust Multimodal Heartbeat Detection Using Hybrid Neural Networks," *IEEE Access* (2020).
- **MR Schwob**, J Zhan, A Dempsey. "Modeling Cell Communication with Time-Dependent Signaling Hypergraphs," *IEEE/ACM Transactions on Computational Biology and Bioinformatics- Early Access* (2019).
- A Hart, B Smith, S Smith, E Sales, J Hernandez-Camargo, Y Mayor Garcia, F Zhan, L Griswold, B Dunkelberger, **MR Schwob**, S Chaudhry, J Zhan, L Gewali, P Oh. "Resolving intravoxel white matter structures in the human brain using regularized regression and clustering," *Journal of Big Data*, 6:61 (2019).

PRESENTATIONS

Italics denotes the presenting author.

- *MB Hooten*, C Wikle, MR Schwob. "Statistical Implementations of Demographic Agent-based Models," *The Wildlife Society's 30th Annual Conference*, Louisville, KY, November, 2023.
- *MR Schwob*, MB Hooten, and T McDevitt-Galles. "Dynamic Population Models with Temporal

Preferential Sampling to Infer Phenology," *EnviBayes Workshop on Complex Environmental Data*, Fort Collins, CO, August 2023.

- *MR Schwob*, MB Hooten, V Narasimhan. "Spatio-temporal Mechanism Discovery with Composite Likelihoods," *Spatial Statistics 2023: Climate and the Environment*, University of Colorado, Boulder, July 2023.
- *MB Hooten*, MR Schwob, D Johnson, J Ivan. "Geostatistical Capture-Recapture Models," *Spatial Statistics 2023: Climate and the Environment*, University of Colorado, Boulder, July 2023.
- *MB Hooten*, MR Schwob, D Johnson, J Ivan. "Geostatistical Capture-Recapture Models," *International Indian Statistical Association (IISA) Conference*, Colorado School of Mines, June 2023.
- *MB Hooten*, MR Schwob, D Johnson, J Ivan. "Geostatistical Capture-Recapture Models," *Conference on Applied Statistics in Agriculture and Natural Resources*, Purdue University, May 2023.
- *MR Schwob*, M Hooten, and T McDevitt-Galles. "Mechanistic Modeling for Population Dynamics with Temporal Preferential Sampling," *Joint Statistical Meetings*, District of Columbia, August 2022.
- *MB Hooten*, MR Schwob, DS Johnson, JS Ivan. "Recursive Computing Strategies Inspire New Model Specifications," *Conference on Applied Statistics in Agriculture and Natural Resources*, Utah State University, May 2022.
- *MB Hooten*, C Wikle, MR Schwob. "Statistical Implementations of Demographic Agent-based Models," *Joint Statistical Meetings*, Philadelphia, PA, August 2020.
- *MR Schwob*, A Dempsey, F Zhan, J Zhan, A Mehmood. "Robust Multimodal Heartbeat Detection Using Hybrid Neural Networks," *Autonomy Technology Research – AFRL Presentations*, Dayton, OH, August 2019.
- *MR Schwob*, J Zhan. "Mapping Neural Pathways Using Statistical Theory," *Honors & Research Symposium*, Las Vegas, NV, November 2018.
- *MR Schwob*, S Chaudhry, J Zhan, L Gewali, P Oh. "Resolving Intravoxel White Matter with Bayesian Statistics," *American Statistical Association's Nevada Annual Research Symposium*, Las Vegas, NV, October 2018.

TEACHING EXPERIENCE

- Assistant Instructor for Mevin Hooten - Statistical Modeling I (UT SDS 383C)
- NSF Workshop on Bayesian Inference for Ecologists, Colorado State University, June 2023.
- Co-instructor with Abhra Sarkar - Statistical Thinking (UT SDS 315)
- NSF Workshop on Bayesian Inference for Ecologists, Colorado State University, June 2022.
- Teaching Assistant for Cory Zigler - Design Principles & Causal Inference (UT DSC 384)
- Teaching Assistant for Stephen Walker - Readings in Statistics (UT SDS 190)
- Assistant Instructor - Fundamentals for Teaching Assistants (UT GRS 097)

AWARDS

- **ENVR Student Paper Competition (Honorable Mention)** - ASA (2024)
- **EnviBayes Student Paper Competition (Winner)** - ISBA (2023)
- **Keller Award** - UT (2023)
- **Professional Development Award** - UT (2023)
- **Goldwater Scholar** - The Barry Goldwater Scholarship Foundation (2019-2020, 2020-2021)
- **Best Honors Thesis** - UNLV (2021)
- **Outstanding Graduate** - UNLV (2021)
- **Sam Lieberman Regents' Award** - Nevada System of Higher Education (2021)
- **Lance and Elena Calvert Award** - UNLV Libraries (2021)
- **Congressional Award** - United States Congress (2018)
- **Undergraduate Researcher of the Year** - UNLV (2019)

- **Sophomore of the Year** - UNLV (2018)
- **Excellence Scholarship** - UNLV (2016-2021)
- **Governor Guinn Millennium Scholarship** - Nevada State's Treasurer Office (2016-2021)
- **Bhatnagar Mathematics Award** - UNLV (2020-2021)
- **Chris McNamee Memorial Scholarship** - UNLV (2020-2021)
- **Sands Sustainability Scholarship** - UNLV (2020-2021)
- **Frank A DiCicco Endowed Scholarship** - UNLV (2019-2020)
- **Brenda and Russell L. Frank Honors Scholarship** - UNLV (2019-2020)

COMMUNITY SERVICE

Refereed manuscripts for the following journals:
- *The Annals of Applied Statistics*, Institute of Mathematical Statistics.
- *Biometrics*, Wiley-Blackwell Publishing Ltd.
- *Environmetrics*, John Wiley and Sons Ltd.

SPEECHES & SEMINARS

- Seminar, "How to Get into Research Programs," *UNLV Honors College*, October 2020.
- Keynote Speaker, "The Benefits of Conducting Research", *UNLV Honors + Research Symposium*, October 2019.

VOLUNTEER SERVICE

- **National Institute of Statistical Sciences (NISS) Graduate Student Liaison:** *connect my peers with resources to bolster their career and experience as a graduate student in statistics* (2021-present)
- **UT Graduate Student Assembly:** *serve as one of my department's representatives and vote on resolutions presented to the assembly* (2021-present)
- **Army Education Outreach Program:** *coordinated a summer research project in STEM with local high school teachers and students* (2017)
- **Conference Service:** *volunteered to work for many local conferences, including the American Statistical Association Nevada Symposium, UNLV Honors & Research Symposium, and State of Data Science in Las Vegas* (2017-2020)
- **Tutoring:** *committed five hours a week to provide free tutoring in mathematics and statistics to local college and high school students* (2017-2020)

ORGANIZATIONS

- **American Statistical Association (ASA)** *Student Member*
- **UT ASA Student Chapter** *Founder and President*
- **International Society for Bayesian Analysis (ISBA)** *Student Member*
- **Omicron Delta Epsilon - National Economics Honor Society** *Student Member*
- **Phi Kappa Phi - National Honor Society** *Student Member*
- **Pi Mu Epsilon - National Mathematics Honor Society** *Student Member*
- **UNLV ASA Student Chapter** *Founder and Former President*