

Becky Tang

Middlebury College
Middlebury, VT 05753
(614) 949-5477

EDUCATION *Ph.D.*, Statistical Science
Duke University, Durham, NC, September 2002
Dissertation title: *Bayesian Modeling for Annual Abundance in Ecological Communities Incorporating Zero-Inflation*
Advisors: Alan Gelfand, Amy Herring, James Clark

B.A., Mathematics and Computer Science
Swarthmore College, Swarthmore, PA, May 2018

PROFESSIONAL EXPERIENCE *Department of Mathematics and Statistics* 2022-present
Middlebury College, Middlebury, VT
Assistant Professor of Statistics

AWARDS *Ada Howe Kent Award* 2023
Middlebury College

ASA ENVR Student Paper Award 2022
ASA Section on Statistics and the Environment

PhD BEST Award 2021
Department of Statistical Science, Duke University

Graduate Research Fellowship Spring 2020
National Science Foundation

PUBLICATIONS Peer-reviewed journals

- Tang, B.**, S. M. Roberts, J. S. Clark, and A. E. Gelfand (2023). “Mechanistic modeling of climate effects on redistribution and population growth in a community of fish species”. In: *Global Change Biology (in press)*.
- Tang, B.**, R. Kamakura, D. Barnett, and J. Clark (2023). “Learning from monitoring networks: Few-large versus many-small (FLvMS) plots and multi-scale analysis”. In: *Frontiers in Ecology and Evolution* 11, p. 299.
- Tang, B.**, J. S. Clark, P. P. Marra, and A. E. Gelfand (2023). “Modeling Community Dynamics Through Environmental Effects, Species Interactions and Movement”. In: *Journal of Agricultural, Biological and Environmental Statistics* 28.1, pp. 178–195.
- Easter, M. M., N. L. Schramm-Sapyta, M. A. Tackett, I. G. Larsen, **B. Tang**, M. A. Ralph, and L. N. Huynh (2023). “Reliance on Community Emergency Departments by People Ever Detained in Jail: Retrospective Cross-Sectional Study”. In: *Journal of Correctional Health Care*.
- Schramm-Sapyta, N. L., M. Ralph, L. Huynh, **B. Tang**, M. Tackett, M. Easter, and I. Larsen (n.d.). “Relationships between substance use disorders, ‘severe mental illness’ and re-arrest in a county detention facility: A 4-year follow-up cohort study”. In: *Criminal Behaviour and Mental Health* ().

Tang, B., H. A. Frye, A. E. Gelfand, and J. A. Silander (2023a). “Zero-inflated Beta distribution regression modeling”. In: *Journal of Agricultural, Biological and Environmental Statistics* 28.1, pp. 117–137.

Tang, B., J. S. Clark, and A. E. Gelfand (2021). “Modeling spatially biased citizen science effort through the eBird database”. In: *Environmental and Ecological Statistics* 28.3, pp. 609–630.

Book reviews

Tang, B., A. H. Herring, et al. (2020). “Bayesian statistical methods, Brian J. Reich Sujit K. Ghosh, Boca Raton, FL: Chapman and Hall/CRC, 2019, Hard cover. pp. 288. US \$79.96”. In: *Biometrics* 76.2, pp. 671–672.

MANUSCRIPTS In review

Tang, B., H. A. Frye, A. E. Gelfand, and J. A. Silander (2023b). “Zero-inflated Multivariate Modeling for Continuous Data”. In: *Review*.

TEACHING EXPERIENCE

Assistant Professor of Statistics Fall 2022-present
Department of Mathematics and Statistics
Middlebury College, Middlebury, VT

Teaching undergraduate-level courses in statistics and data science. Courses taught include:

- Bayesian Statistics Fall 2023
- Probability Fall 2023
<https://mid-stat310-fall2023.github.io/>
- Statistical Inference Spring 2023
- Introduction to Statistical Learning Fall 2022, Spring 2023
<https://math218-spring2023.github.io/>
- Introduction to Data Science Fall 2022
<https://math118-fall2022.github.io/website/>

Certificate of College Teaching Summer 2022
Duke University, Durham, NC

Teaching on Purpose Fellow Spring 2022
Duke University, Durham, NC

Selected as a Fellow to participate in the Teaching on Purpose program to explore and deepen understanding about teaching undergraduate students.

Project Manager Fall 2020-Spring 2022
Bass Connections, Duke University, Durham, NC
Mentored undergraduate students in the interdisciplinary research project “Mental Health and the Justice System in Durham County”.

Instructor of Record
Department of Statistical Science, Duke University, Durham, NC
Taught STA 199 - Introduction to Data Science. Summer 2021
<https://sta199-summer2021.github.io/website/>

Taught STA 101 - Data Analysis and Statistical Inference. Summer 2019
https://sites.duke.edu/sta101_011_2ss2019/

Head Teaching Assistant
Department of Statistical Science, Duke University, Durham, NC

Led lab sections, held office hours, and organized and delegated responsibilities for other teaching assistants.

- STA 199 – Introduction to Data Science Fall 2019-Spring 2020
- STA 101 – Data Analysis and Statistical Inference Fall 2018

TALKS

Amherst College Statistics and Data Science Colloquium Series September 2023
Amherst, MA
Invited speaker

Joint Statistical Meetings August 2023
Toronto, Canada
Title: Bringing Bayes to the Students: Activities Before and Beyond the Classroom

Joint Statistical Meetings August 2022
Washington, D.C.
Title: Preferential Sampling in Opportunistic Citizen Science Data

Joint Statistical Meetings August 2022
Washington, D.C.
Title: Species Interactions and Movement: Modeling Environmental Effects on Community Dynamics

International Statistical Ecology Conference June 2022
Cape Town, South Africa
Title: Species Interactions and Movement: Modeling Environmental Effects on Community Dynamics

Bayesian Young Statisticians Meeting September 2021
Online
Title: Species interactions and movement govern environmental effects on bird community dynamics

Ecological Society of America Annual Meeting August 2021
Online
Title: Species interactions and movement govern environmental effects on bird community dynamics

Joint Statistical Meetings August 2021
Online
Title: Zero-inflated Beta Regression modeling

International Society for Bayesian Analysis World Meeting July 2021
Online
Title: Zero-inflated Beta Regression modeling

Bayesian Young Statisticians Meeting November 2022
Online
Title: Modeling Spatially Biased Citizen Science Effort Through the eBird Database

SERVICE

Secretary, Section on Bayesian Education Research and Practice 2022-present
International Society for Bayesian Analysis

Graduate Consultative Committee 2019-2021
Department of Statistical Science, Duke University, Durham, NC

PEER *Bayesian Analysis*
REVIEWER *Statistics in Medicine*
Journal of Statistics and Data Science Education

MEMBERSHIP American Statistical Association
International Society for Bayesian Analysis