

Maria Tackett

Assistant Professor of the Practice

Duke University

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Education

Ph.D. in Statistics 2018
University of Virginia

M.S. in Statistics 2010
University of Tennessee-Knoxville

B.S. in Mathematics 2009
University of Tennessee-Knoxville

Academic Appointments

Assistant Professor of the Practice 2018 - present
Duke University, Department of Statistical Science

Teaching Experience

Duke University

STA 199: Intro to Data Science Fall 2021, Fall 2020, Fall 2019, Spring 2019

STA 210: Regression Analysis Fall 2021, Spring 2021, Fall 2020
Spring 2020, Fall 2019, Spring 2019, Fall 2018

University of Virginia

STAT 1100: An Introduction to Statistics Spring 2018, Fall 2017, Spring 2017,
Fall 2016, Spring 2016, Fall 2015, Summer 2015

STAT 2120: Introduction to Statistical Analysis Summer 2017, Summer 2016

Virginia Commonwealth University

SLWK 609: Foundations of Research in Social Work Practice Spring 2017

University of Tennessee-Knoxville

STAT 201: Introduction to Statistics Fall 2010, Spring 2010

Workshops

Strengthening Conceptual Understanding in Introductory Statistics: Incorporating active and inclusive teaching and learning strategies for in-person and virtual settings (6 session series). UT Austin Dana Center. June - July 2021.

Introduction to R. ENAR Fostering Diversity in Biostatistics Workshop. March 2021.

Invited Talks

1. *Women in Industry and Academia*. FEMMES+ Hacks Conference. Online. October 2021. (Panelist)
2. *What a tap class has taught me about teaching statistics*. USCOTS. Online. June 2021.
3. *Building Websites in RStudio*. RLadies Baltimore. Online. April 2021.
4. *Building Websites in RStudio*. RLadies Amherst. Online. March 2021.
5. *Telling stories with data*. Abraham Lincoln High School. Online (Philadelphia, PA). January 2021.
6. *Undergraduate research in statistics*. OURFA²M² Conference. Online. December 2020.
7. *Thinking about lectures in an intro data science course*. Toronto Data Workshop. Online (University of Toronto Department of Statistical Sciences). December 2020.
8. *Women in Statistics and Computing*. FEMMES Hacks Conference. Online. October 2020. (Panelist)
9. *Opportunities in Statistics and Data Science: Lightning Talks (Academia, Government, & NonProfit)*. StatFest. Online. September 2020. (Panelist)
10. *Who's Underrepresented? Modeling Undercounts in the U.S. Census*. Joint Statistical Meeting. Online. August 2020.
11. *Making remote lectures active and inclusive in a large undergraduate course*. Teaching and Learning Statistics Online Conference. Online (Royal Statistical Society (RSS) Teaching Statistics Special Interest Group). July 2020.
12. *You don't have to be an expert to create something meaningful*. rstudio::conf. San Francisco, CA. January 2020.
13. *Reproducible Research - Education and Practice*. Duke Center for Data and Visualization Sciences. Durham, NC. November 2019. (Panelist)
14. *My Journey in Statistics*. FEMMES Hacks Conference. Durham, NC. November 2019. (Keynote)
15. *Statistics in Practice*. FOCUS Cluster Dinner Series at Duke University: What if? Explaining the Past/Predicting the Future. Durham, NC. November 2019.
16. *Beyond the Buzzword: A Look at Data Science in Practice and How You Can Be a Part of It*. SAMSI Diversity in Data Science and Machine Learning Conference. Washington, DC. October 2019. (Plenary talk)
17. *Women in Machine Learning and Data Science*. Duke Machine Learning Day. Durham, NC. March 2019. (Panelist)
18. *Women in Industry*. Duke University Business Oriented Women Meeting. Durham, NC. September 2018. (Panelist)

Contributed Presentations

1. *Version control as a learning objective in statistics and data science courses*. 63rd World Statistics Congress. Online. July 2021.
2. *GitHub and intro stats: technology to support group and project-based learning*. USCOTS. Online. July 2021. (Poster)
3. *Developing Interactive Statistics Apps: A look at the project and student experience*. USCOTS. Online. July 2021. (Poster)

4. *You don't have to be an expert to create something meaningful*. Women in Statistics and Data Science Conference. Online. October 2020.
5. *Using GitHub and RStudio to Facilitate Authentic Learning Experiences in a Regression Analysis Course*. Women in Statistics and Data Science Conference. Bellevue, WA. October 2019.
6. *Using GitHub and RStudio to Facilitate Authentic Learning Experiences in a Regression Analysis Course*. Joint Statistical Meeting. Denver, CO. July 2019.
7. *Using GitHub and RStudio to Facilitate Authentic Learning Experiences in a Regression Analysis Course*. United States Conference on Teaching Statistics. State College, PA. May 2019. (Poster)
8. *Teaching Large Classes in Statistics Using Active Learning Spaces*. Innovation in Pedagogy Summit. Charlottesville, VA. May 2016. (Panelist)
9. *Clustering High-Dimensional Categorical Data Using a Bayesian Finite Mixture Model*. Quantitative Collaborative Fellows Poster Session. Charlottesville, VA. April 2017. (Poster)
10. *Understanding Variability Between Groups of Sequences Using a Bayesian Object-Oriented Data Model*. Joint Statistical Meeting. Seattle, WA. August 2016.
11. *Understanding Object-Oriented Data Using Optimal Matching*. Quantitative Collaborative Fellows Poster Session. Charlottesville, VA. April 2015. (Poster)

Grants & Fellowships

Duke Learning Innovation's Carry the Innovation Forward Fund. *Building Community and Self-Efficacy Through Inclusive Teaching Practices*, 2021 - 2023. \$4,616.

Duke Trinity Research Enhancement Fund. *Toward a More Sustainable Culture of Undergraduate Research in Statistical Science*, 2021 - 2022, \$11,000.

Duke Bass Connections - Brain & Society. *Mental Health and the Justice System in Durham*, 2020 - 2023, Role: Co-PI, \$14,200 each academic year.

Duke Data+. *Mental Health and the Justice System in Durham*. 2020 - 2022, Role: Co-PI, \$17,500 each year.

Duke Trinity Research Enhancement Fund. *Toward a More Sustainable Culture of Undergraduate Research in Statistical Science*, 2020 - 2021, \$3,000.

Duke Learning Innovation Jump Start Grant, 2019.

National Science Foundation. *Collaborative Research: Accelerating the Pace of Research and Implementation of Writing-to-Learn Pedagogies Across STEM Disciplines*, 2018 - 2020, Role: Key Faculty.

Duke University Learning Innovation Active Learning Fellows. 2019 - 2020. \$1,000.

University of Virginia Course Design Institute Fellowship, 2016.

Service to Profession

Curriculum development

UT-Austin Dana Center Statistics Curriculum Authoring Group, 2021

UT-Austin Dana Center Statistics Curriculum Advisory Group, 2020

Howard Hughes Medical Institute Data Exploration Course Advisory Committee, 2020 - 2021

Editorial service

Journal of Statistics Education, Associate Editor, 2020 - present

Chance Magazine Statistics Education Column: Taking a Chance in the Classroom, Editor, 2019 - present

Journal Reviews: Journal of Statistics Education; Criminology, Criminal Justice, Law & Society; Technology Innovations in Statistics Education

Book Reviews: Chapman & Hall

ASA & Statistics Education

Symposium on Statistics & Data Science Program Committee, Poster Chair, 2021 - 2022

ASA Section on Statistics and Data Science Education, Communications Officer, 2020 - present

CAUSE Undergraduate Statistics Project Competition Co-Chair, 2020 - present

ASA DataFest Steering Committee, 2019 - present

CAUSE Undergraduate Statistics Project Competition Judge, 2019

ASA Section on Bayesian Statistical Science Student Paper Competition Review Committee, 2019

University & Department Service

Women in Research House Course, Faculty Advisor, 2021

Library Council, 2021 - present

A.B. Duke Scholars Program Interviewer, 2021

Statistical Science Anti-Racism Committee, 2021

Trinity Arts & Sciences Committee on Curriculum, 2019 - present

ASA DataFest@Duke Organizer, 2019 - present

Master in Interdisciplinary Data Science Admissions Committee, 2020

Statistical Science Undergraduate Curriculum Committee, 2019 - present

Statistical Science Master's Student Advisor, 2019 - present

Duke SPIRE Mentor, 2019 - present

Statistical Science Undergraduate Major Advisor, 2018 - present

Statistical Science Committee on Departmental Code of Conduct, 2019

Females Excelling More in Math, Engineering, & Science (FEMMES) Capstone, 2019

Statistical Science Master's Program Admissions Committee, 2019, 2021

Duke Datathon Judge, 2018 & 2021

Publications

Peer Reviewed Papers

1. Beckman, M. D., Çetinkaya-Rundel, M., Horton, N. J., Rundel, C. W., Sullivan, A. J., & Tackett, M. (2020). *Implementing version control with Git and GitHub as a learning objective in statistics and data science courses*. Journal of Statistics Education, 1-35.

- Dotson, M., Alvarez, V., Tackett, M., Asturias, G., Leon, I., Ramanujam, M. (2020) *Design Thinking-Based STEM Learning: Preliminary Results on Achieving Scale and Sustainability Through the IG-NITE Model*. *Frontiers in Education*, 5: 14-24.

In-Review Papers

- Schramm-Sapyta, N., Ralph, M., Huynh, L., Tang, B., Tackett, M., Easter, M., Larsen, I. (2021) *Role of substance use and mental illness diagnosis in rearrest in a county detention facility*.
- Easter, M., Schramm-Sapyta, N., Tackett, M., Larsen, I., Tang, B., Ralph, M., Huynh, L. (2021) *Emergency department utilization by people ever detained in a county jail*.

Other

- Tackett, M., Burbank, K., Canner, J., & Çetinkaya-Rundel, M. (2021). Teaching Courses Focused on Social Good. *Chance*, 34(3), 69-72.
- Tackett, M. (2021, January 14). [A flipped classroom sparks online engagement](#). Duke Covid Diaries Series.
- Tackett, M., & Çetinkaya-Rundel, M. (2020). COVID-19 Data in the Classroom. *CHANCE*, 33(3), 63-66.
- Tackett, M. (2020, July 23). [Creating Interactive Web Apps for Statistics](#). Duke Musings Blog.
- Çetinkaya-Rundel, M., & Tackett, M. (2020). From drab to fab: Teaching visualization via incremental improvements. *CHANCE*, 33(2), 31-41.
- Banks, D., Tackett, M. (2020). Bayesian Methods and Forensic Evidence. In Banks, D., Kafadar, K., Kaye, D., Tackett, M. (Eds.), *Handbook of Forensic Statistics* (pp. 73 - 90), Chapman & Hall.
- Banks, D., Kafadar, K., Kaye, D., Tackett, M. (Eds.), *Handbook of Forensic Statistics*, Chapman & Hall.

Advising

Undergraduate thesis committee

Malavi Ravindran, 2021
Michael Model, 2020
Daniel Levine, 2019

Ben Feder, 2019
Srini Sunil, 2019

Doctoral thesis committee

Meng Xie, 2021

Independent study

Steven Herrera, 2020
Caroline Levenson, 2019

Other supervised research

Sean Li, 2021
Emmanuel Mokel, 2021
Shari Tian, 2021

Matthew Ralph, 2020 - 2021
Isabella Larson, 2020 - 2021
Liz Huynh, 2020 - 2021

Joe Choo, 2020

Glenn Morgenstern, 2020

Abbey List, 2020

Samantha Owusu-Antwi, 2020

Professional Experience

Senior Statistician

2013

Capital One, Richmond, VA

Developed the first generation of statistical models to perform deposit forecasts for Capital One Bank.

Statistician

2011 - 2012

Capital One, Richmond, VA

Designed experiments for mail marketing campaigns in Capital One Bank.

Professional Affiliations

RStudio Certified Instructor, 2020 - present

American Statistical Association, 2017 - present

National Math Alliance, 2019 - present

Center for Statistics and Applications in Forensic Evidence, 2017 - 2019