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

Duke University

1. STA 199: Introduction to Data Science & Statistical Thinking — Fall 2021, Fall 2020, Fall 2019, Spring 2019
2. STA 210: Regression Analysis — Spring 2025, Fall 2023, Fall 2022, Fall 2021, Spring 2021, Fall 2020, Spring 2020, Fall 2019, Spring 2019, Fall 2018
3. STA 221: Regression Analysis: Theory and Applications — Spring 2025, Fall 2024
4. STA 310: Generalized Linear Models — Spring 2024, Spring 2022

University of Virginia

6. STAT 1100: An Introduction to Statistics — Spring 2018, Fall 2017, Spring 2017, Fall 2016, Spring 2016, Fall 2015, Summer 2015
7. STAT 2120: Introduction to Statistical Analysis — Summer 2017, Summer 2016

Virginia Commonwealth University

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

University of Tennessee-Knoxville

9. STAT 201: Introduction to Statistics — Fall 2010, Spring 2010

Workshops (Facilitator)

10. Introduction to R. ASA/AMATYC Introduction to Data Science Technology Tools. Online. July 2024.
11. Designing the Data Science Classroom. rstudio::conf(2022). National Harbor, MD. July 2022.
12. STATPrep Workshop. Ft. Myers, FL. May 2022.
13. Introduction to R. ENAR Fostering Diversity in Biostatistics Workshop. Online. March 2022.
14. Strengthening Conceptual Understanding in Introductory Statistics: Incorporating active and inclusive teaching and learning strategies for in-person and virtual settings (6 session series). Charles A. Dana Center. June - July 2021.
15. Introduction to R. ENAR Fostering Diversity in Biostatistics Workshop. Online. March 2021.

Publications

Published and In Press: Peer Reviewed

Published

(* indicates undergraduate student)

1. Rubin, N*, **Tackett, M.**, Çetinkaya-Rundel, M., Meyer, E. (2025). Evaluating Student Perceptions of Assessment in Introductory Quantitative Studies. *The International Journal of Assessment and Evaluation*, 32 (1): 129-160. doi.org/10.18848/2327-7920/CGP/v32i01/129-160
2. Easter, M., Schramm-Sapyta, N., Swartz, M., **Tackett, M.**, Greenblatt, L. (2024). Primary care need and engagement by people with criminal legal involvement: Descriptive and associational analysis using retrospective data on the entire population ever detained in one southeastern U.S. county jail 2014-2020. *PLoS One*, 19(10): e0308798. doi.org/10.1371/journal.pone.0308798
3. **Tackett, M.** (2023). Three Principles for Modernizing an Undergraduate Regression Analysis Course. *Journal of Statistics and Data Science Education*, 31(2), 116-127. doi.org/10.1080/26939169.2023.2165989
4. Noll, J., **Tackett, M.** (2023). Insights from DataFest Point to New Opportunities for Undergraduate Statistics Courses: Team collaborations, Designing Research Questions, and Data Ethics. *Teaching Statistics*, 45(S1), S5-S21. doi.org/10.1111/test.12345
5. Easter, M., Schramm-Sapyta, N., **Tackett, M.**, Larsen, I.*, Tang, B., Ralph, M.*,Huynh, L.* (2023). Reliance on Community Emergency Departments by People Ever Detained in Jail: Retrospective Cross-Sectional Study. *Journal of Correctional Health Care.* doi.org/10.1089/jchc.22.02.0011
6. **Tackett, M.**, Viel, S., Manturuk, K. (2023). A validation of the short-form classroom community scale for undergraduate mathematics and statistics students. *Journal of University Teaching & Learning Practice*, 20(1). doi.org/10.53761/1.20.01.08
7. Schramm-Sapyta, N., Ralph, M.*, Huynh, L.*, Tang, B., **Tackett, M.**, Easter, M., Larsen, I.* (2023). Relationships between substance use disorders, 'severe mental illness' and re-arrest in a county detention facility: a 4-year follow-up cohort study. *Criminal Behaviour & Mental Health*, 33(3), 185-195. doi.org/10.1002/cbm.2277
8. Fannin, D., Elleby, J., **Tackett, M.**, Minga, J. (2023). Intersectionality of race and question asking in women after right hemisphere brain damage. *Journal of Speech, Language, and Hearing Research*, 66(1), 314-324. doi.org/10.1044/2022_JSLHR-22-00327
9. 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*, 29(1), 132-144. doi.org./10.1080/10691898.2020.1848485

10. 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 IGNITE Model. *Frontiers in Education*, 5: 14-24. doi.org/10.3389/feduc.2020.00014

In Press

(* indicates undergraduate student)

11. Viel, S., **Tackett, M.**, Das, S., Choo, J.* Classroom Community amid Covid-19: A Mixed-Methods Study of Undergraduate Students in Introductory Mathematics and Statistics. *Creating More Inclusive and Equitable Teaching and Learning: How Crises Can Transform the Higher Education Landscape*. Preprint available at https://arxiv.org/abs/2206.00590

Published: Other

(* indicates undergraduate student)

12. Roith, J., **Tackett, M.** (2025). Probability and Probability Distributions. *Using Data-Centric Methods to Teach Introductory Statistics*. Mathematical Association of America.

13. Hart, F.*, **Tackett, M.**, Purohit, S., Schramm-Sapyta, N. (2024). A Meta-Analysis of Medication-Assisted Treatment Initiated in Carceral Settings: Six Months Post-Release. *Qeios*. doi.org/10.32388/OGHTNJ

14. **Tackett, M.**, & Çetinkaya-Rundel, M. (2023). Analyzing and Recreating Data Visualizations of W.E.B. Du Bois. *CHANCE*, 36(1), 40-47. doi.org/10.1080/09332480.2023.2179279

15. **Tackett, M.** (2022). My ASA Story: Maria Tackett. *Amstat News*, 20, 5.

16. **Tackett, M.**, Burbank, K., Canner, J., & Çetinkaya-Rundel, M. (2021). Teaching Courses Focused on Social Good. *CHANCE*, 34(3), 69-72. doi.org/10.1080/09332480.2021.1979821

17. **Tackett, M.** (2021, January 14). *A flipped classroom sparks online engagement*. Duke Covid Diaries Series.

18. **Tackett, M.**, & Çetinkaya-Rundel, M. (2020). COVID-19 Data in the Classroom. *CHANCE*, 33(3), 63-66. doi.org/10.1080/09332480.2020.1820257

19. **Tackett, M.** (2020, July 23). *Creating Interactive Web Apps for Statistics*. Duke Musings Blog.

20. Çetinkaya-Rundel, M., & **Tackett, M.** (2020). From drab to fab: Teaching visualization via incremental improvements. *CHANCE*, 33(2), 31-41. doi.org/10.1080/09332480.2020.1754074

21. 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.

22. Banks, D., Kafadar, K., Kaye, D., **Tackett, M.** (Eds.), *Handbook of Forensic Statistics*, Chapman & Hall.

Invited Talks

1. Noll, J., Tackett, M. *What can we learn about teaching undergraduate statistics and data science courses from studying DataFest?* Teaching Statistics Section seminar. Royal Statistical Society. Online. October 2024.

2. Tackett, M. *The data just got real: Preparing students to use statistics beyond the classroom.* Electronic Conference on Teaching Statistics (eCOTS). Online. June 2024. (Keynote).

3. Tackett, M. *More than methods: Preparing students for data-driven work outside the classroom.* CANSSI Applied Research Education seminar. Toronto, ON. April 2024.

4. Tackett, M. *Three principles for modernizing an undergraduate regression analysis course.* Teaching Statistics Section seminar. Royal Statistical Society. Online. February 2024.

5. Tackett, M. *Communication as a learning objective in an intermediate statistics course.* Teaching and Evaluating Data Communication At Scale. Institute for Mathematical and Statistical Innovation. Chicago, IL. January 2024.

6. Tackett, M. *Teaching intro data science.* Preparing to Teach Workshop. George Mason University. August 2022.

7. Tackett, M. *Knit, Commit, and Push: Teaching version control in undergraduate statistics courses.* Toronto Workshop on Reproducibility. Online. February 2022.

8. Tackett, M. *Mentoring Undergraduate Research: Creating productive experiences and sharing student work.* ASA Mentoring Undergraduate Research Panel. Online. February 2022.

9. Tackett, M. *Women in Industry and Academia.* FEMMES+ Hacks Conference. Online. October 2021. (Panelist)

10. Tackett, M. *What a tap class has taught me about teaching statistics.* USCOTS. Online. June 2021.

11. Tackett, M. *Building Websites in RStudio.* RLadies Baltimore. Online. April 2021.

12. Tackett, M. *Building Websites in RStudio.* RLadies Amherst. Online. March 2021.

13. Tackett, M. *Telling stories with data.* Abraham Lincoln High School. Online (Philadelphia, PA). January 2021.

14. Tackett, M. *Undergraduate research in statistics.* OURFA^{2}M^2 Conference. Online. December 2020.

15. Tackett, M. *Thinking about lectures in an intro data science course.* Toronto Data Workshop. Online (University of Toronto Department of Statistical Sciences). December 2020.

16. Tackett, M. *Women in Statistics and Computing.* FEMMES Hacks Conference. Online. October 2020. (Panelist)

17. Tackett, M. *Opportunities in Statistics and Data Science: Lightning Talks (Academia, Government, & NonProfit).* StatFest. Online. September 2020. (Panelist)

18. Tackett, M. *Who's Underrepresented? Modeling Undercounts in the U.S. Census.* Joint Statistical Meeting. Online. August 2020.

19. Tackett, M. *Making remote lectures active and inclusive in a large undergraduate course.* Teaching Statistics Teaching and Learning Statistics Online. Online (Royal Statistical Society Teaching Statistics Special Interest Group). July 2020.

20. Tackett, M. *You don't have to be an expert to create something meaningful.* rstudio::conf. San Francisco, CA. January 2020.

21. Tackett, M. *Reproducible Research - Education and Practice.* Duke Center for Data and Visualization Sciences. Durham, NC. November 2019. (Panelist)

22. Tackett, M. *My Journey in Statistics.* FEMMES Hacks Conference. Durham, NC. November 2019. (Keynote)

23. Tackett, M. *Statistics in Practice.* FOCUS Cluster Dinner Series at Duke University: What if? Explaining the Past/Predicting the Future. Durham, NC. November 2019.

24. Tackett, M. *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)

25. Tackett, M. *Women in Machine Learning and Data Science.* Duke Machine Learning Day. Durham, NC. March 2019. (Panelist)

26. Tackett, M. *Women in Industry.* Duke University Business Oriented Women Meeting. Durham, NC. September 2018. (Panelist)

Contributed Talks & Posters

1. *Teaching-Intensive Positions at R1 Universities in the US*. Joint Statistical Meeting. Portland, OR. August 2024.

2. Viel, S., Tackett, M. *Classroom Community in Introduction Undergraduate Mathematics and Statistics.* The Converging Challenges for Inclusive Education. Online. July 2024. (Poster)

3. Tackett, M., *Using Quarto for Making and Organizing Teaching Materials.* Joint Statistical Meeting. Toronto, ON. August 2023.

4. Tackett, M., Viel, S. *Undergraduate Students' Sense of Community in Introductory Math and Statistics Courses.* eCOTS. Online. May 2022.

5. Tackett, M., Çetinkaya-Rundel, M., Presman, R. *Modernizing the undergraduate regression analysis course.* eCOTS. Online. May 2022.

6. Tackett, M., Viel, S. *Undergraduate Students' Sense of Community in Introductory Math and Statistics Courses.* Pandemic Pedagogy Research Symposium. Online. May 2022.

7. Tackett, M. *Version control as a learning objective in statistics and data science courses.* 63rd World Statistics Congress. Online. July 2021.

8. Horton, N., Tackett, M. *GitHub and intro stats: technology to support group and project-based learning.* USCOTS. Online. July 2021. (Poster)

9. Tackett, M., Li, S. Mokel, M., Tian, S. *Developing Interactive Statistics Apps: A look at the project and student experience.* USCOTS. Online. July 2021. (Poster)

10. Tackett, M. *You don't have to be an expert to create something meaningful.* Women in Statistics and Data Science Conference. Online. October 2020.

11. Tackett, M. *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.

12. Tackett, M. *Using GitHub and RStudio to Facilitate Authentic Learning Experiences in a Regression Analysis Course.* Joint Statistical Meeting. Denver, CO. July 2019.

13. Tackett, M. *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)

14. *Teaching Large Classes in Statistics Using Active Learning Spaces.* Innovation in Pedagogy Summit. Charlottesville, VA. May 2016. (Panelist)

15. Tackett, M. *Clustering High-Dimensional Categorical Data Using a Bayesian Finite Mixture Model.* Quantitative Collaborative Fellows Poster Session. Charlottesville, VA. April 2017. (Poster)

16. Tackett, M. *Understanding Variability Between Groups of Sequences Using a Bayesian Object-Oriented Data Model.* Joint Statistical Meeting. Seattle, WA. August 2016.

17. Tackett, M. *Understanding Object-Oriented Data Using Optimal Matching.* Quantitative Collaborative Fellows Poster Session. Charlottesville, VA. April 2015. (Poster)

Honors & Awards

Bass Connections Leadership Award, 2024.

Mathematically Gifted and Black Circle of Excellence Honoree, 2020.

Grants & Fellowships

National Institutes of Health R25: Research Education Program. *Developing a Pathway for Preparing Underrepresented Minority Students for a Career in Otolaryngology and Communication Sciences*, 2024 - 2029, Role: Statistician, $154,416.

Collaborative Project Courses Faculty Fellows, 2024 - 2025.

National Science Foundation ECR: Broadening Participation in STEM. *Achieving Critical Transformations in Undergraduate Programs in Mathematics (ACT UP MATH)*, 2022 - 2025, Role: Duke Co-PI, $237,749 (to Duke).

Duke Trinity Research Enhancement Fund. *Toward a More Sustainable Culture of Undergraduate Research in Statistical Science*, 2022 - 2023,Role: PI, $13,000.

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

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

Duke Bass Connections - Brain & Society. *Mental Health and the Justice System in Durham*, 2020 - 2024, Role: Co-PI, $14,200 each academic year.

Duke Data+. *Mental Health and the Justice System in Durham.* 2020 - 2024, 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, Role: PI, $3,000.

Duke Learning Innovation Jump Start Grant, 2019, Role: PI.

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.

University of Virginia Course Design Institute Fellowship, 2016.

Service to Profession

Course design & Curriculum development

Guidelines for Assessment and Instruction in Statistics Education (GAISE) Revision Steering Committee, 2023 - present

- Revising guidelines for teaching undergraduate statistics and data science
- Revising learning objectives for introductory statistics
- Part of sub-team focused on learning objectives and course design for introductory data science
- Authoring revised report expected to release 2025

Charles A. Dana Center High School Math Pathways, 2023 - 2024

- Invited as major contributor for Data Science Course Framework

- Served as a contributor for the Statistics Course Framework and the Integrated Statistics and Quantitative Reasoning Course Framework
- Each framework includes course design principles and learning objectives for high school courses

Charles A. Dana Center Introductory Statistics Curriculum Authoring Group, 2021

- Authored 5 lessons for the Statistical Reasoning curriculum used by educators teaching undergraduate introductory statistics. Each lesson contained a preview assignment, in-class assignment with student and instructor guides, practice assignment, and co-requisite assignment.
- Invited to join sub-team that developed 3 projects for an introductory statistics course. Each project contained a student guide, instructor guide, and rubric.

Charles A. Dana Center Introductory Statistics Curriculum Design Team, 2020

- Developed course design principles and learning objectives for introductory statistics courses

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

- Advised the development of data-driven high school biology lessons

Editorial service

Journal of Data Science Special Issue: Symposium on Data Science and Statistics, Associate Editor, 2022 & 2024

Journal of Statistics and Data Science Education, Associate Editor, 2020 - present

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

Journal Reviews: *Journal of Statistics and Data Science Education*, *Technology Innovations in Statistics Education*, *Harvard Data Science Review*, *Criminology*, *Criminal Justice, Law & Society*

Book Reviews: Chapman & Hall

ASA and Statistics Education

Justice, Equity, Diversity, and Inclusion (JEDI) Outreach Group Secretary, 2025 - present

Bill & Melinda Gates Introductory Statistics and Chemistry Courseware Expert Panel, 2023 - 2024

Charles A. Dana Center High School Math Pathways Advisory Group, 2023 - 2024

ASA/MAA Joint Committee on Undergraduate Statistics and Data Science Education, 2022 - 2024

Bill & Melinda Gates Foundation Statistics Courseware Advisory Group, 2022 - 2024

Symposium on Data Science and Statistics Program Committee, Short Course Chair, 2022 - 2023

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

CAUSE Undergraduate Statistics Project Competition Co-Chair, 2020 - 2023

ASA Section on Statistics and Data Science Education, Communications Officer, 2020 - 2022

ASA DataFest Steering Committee, 2019 - 2022

CAUSE Undergraduate Statistics Project Competition Judge, 2019

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

University & departmental service

Service to Duke University

College Advisor, 2022 - present

Master in Interdisciplinary Data Science Faculty Search Committee, 2022

Library Council, 2021 - 2024

Women in Research House Course, Faculty Advisor, 2021

A.B. Duke Scholars Program Interviewer, 2021

Trinity Arts & Sciences Committee on Curriculum, 2019 - 2021

Master in Interdisciplinary Data Science Admissions Committee, 2020 - 2021, 2024 - 2025

Duke SPIRE Fellows Program Mentor, 2019 - present

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

Service to Department of Statistical Science

Statistical Science Anti-Racism Committee, 2021 - 2022

ASA DataFest@Duke Lead Organizer, 2020 - 2021

ASA DataFest@Duke Organizing Committee, 2019 - present

Statistical Science Undergraduate Curriculum Committee, 2019 - present

Statistical Science Master's Student Advisor, 2019 - present

Statistical Science Committee on Departmental Code of Conduct, 2019

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

Statistical Science Undergraduate Major Advisor, 2018 - present

Duke Datathon Judge, 2018 & 2021

Advising

Mental Health and the Justice System in Durham County (Data+ & Bass Connections)

- Jacqueline Dinh, 2024 - present
- Christina Lee, 2024 - present
- Miranda Li, 2024 - present
- Irene Biju, 2023 - present
- Madeline Brown, 2023 - present
- Will Lieber, 2023 - present
- Foxx Hart, 2023 - 2024
- Jordan Hamelsky, 2022 - present
- Zoe Svec, 2022 - 2024
- Andrew Shi, 2022
- Maya Pandey, 2021 - 2024
- Brianna Cellini, 2021 - 2022
- William Feng, 2021 - 2023
- John Liakos, 2021
- Isabella Larson, 2020 - 2023
- Liz Huynh, 2020 - 2023
- Matthew Ralph, 2020 - 2022

Undergraduate thesis advisees

- Nathan Yang, 2024 - 2025
- Jordan Hamelsky, 2024 - 2025
- Shelby Tisdale, 2024 - 2025
- Naomi Rubin, 2022 - 2023

Undergraduate thesis committees

- Sofia Hletko, 2025
- Kareena Legare, 2025
- Dav King, 2025
- Jerry Hou, 2024
- Benjamin Thorpe, 2024
- Malavi Ravindran, 2021
- Michael Model, 2020
- Daniel Levine, 2019
- Ben Feder, 2019
- Srini Sunil, 2019

Doctoral thesis committees

- Meng Xie, 2021

Independent study

- Nathan Yang, 2024
- Joe Choo, 2022
- Larry Chen, 2022
- Steven Herrera, 2020
- Caroline Levenson, 2019

Other supervised research

- Garrett Allen, 2022
- Martin Olarte, 2022
- Angela Kan, 2022
- Allison Li, 2022
- Aarushi Verma, 2022
- Jenny Yang, 2022
- Sean Li, 2021
- Emmanuel Mokel, 2021
- Shari Tian, 2021
- Joe Choo, 2020
- Abbey List, 2020
- Glenn Morgenstern, 2020
- Samantha Owusu-Antwi, 2020

Professional Experience

Data Science Academy Mentor 2022
Posit

Led cohort of industry professionals through 10-session curriculum to learn R programming skills for data science

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

Mathematical Association of America, 2022 - present

International Statistical Institute, 2022 - present

Caucus for Women in Statistics, 2021 - present

International Society for Bayesian Analysis, 2021 - present

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