

# 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

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## Academic Appointments

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

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## 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 [Fall 2023](#), [Fall 2022](#), [Fall 2021](#), [Spring 2021](#), [Fall 2020](#),  
[Spring 2020](#), [Fall 2019](#), [Spring 2019](#), [Fall 2018](#)
3. STA 310: Generalized Linear Models [Spring 2022](#)

*University of Virginia*

4. STAT 1100: An Introduction to Statistics [Spring 2018](#), [Fall 2017](#), [Spring 2017](#),  
[Fall 2016](#), [Spring 2016](#), [Fall 2015](#), [Summer 2015](#)
5. STAT 2120: Introduction to Statistical Analysis [Summer 2017](#), [Summer 2016](#)

*Virginia Commonwealth University*

6. SLWK 609: Foundations of Research in Social Work Practice [Spring 2017](#)

*University of Tennessee-Knoxville*

7. STAT 201: Introduction to Statistics [Fall 2010](#), [Spring 2010](#)

*Workshops*

8. [Designing the Data Science Classroom](#). rstudio::conf(2022). National Harbor, MD. July 2022.
9. [STATPrep Workshop](#). Ft. Myers, FL. May 2022.

10. Introduction to R. ENAR Fostering Diversity in Biostatistics Workshop. March 2022.
11. 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.
12. Introduction to R. ENAR Fostering Diversity in Biostatistics Workshop. March 2021.

## Publications

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### *Publications: Peer Reviewed*

(\* indicates undergraduate student)

1. **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](https://doi.org/10.1080/26939169.2023.2165989)
2. 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](https://doi.org/10.1111/test.12345)
3. Easter, M., Schramm-Sapyta, N., **Tackett, M.**, Larsen, I.\*, Tang, B., Ralph, M.\*, Luong, H.\* (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](https://doi.org/10.1089/jchc.22.02.0011)
4. **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](https://doi.org/10.53761/1.20.01.08)
5. 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](https://doi.org/10.1002/cbm.2277)
6. Fannin, D., Ellebya, 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](https://doi.org/10.1044/2022_JSLHR-22-00327)
7. 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](https://doi.org/10.1080/10691898.2020.1848485)
8. 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](https://doi.org/10.3389/feduc.2020.00014)

### *Publications: Forthcoming Book Chapters*

(\* indicates undergraduate student)

9. **Tackett, M.**, Roith, J. *Teaching Probability and Probability Distributions*.
10. 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*.

### *Publications: In Review*

(\* indicates undergraduate student)

11. Schramm-Sapyta, N., Larsen, I.\*, Pandey, M.\*, Feng, W.\*, Tang, B., **Tackett, M.** *Effect of Mental Illness, Substance Abuse and Cash Bail Reform on Rearrest for Low-Level Offenses.*

#### *Publications: Other*

12. **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](https://doi.org/10.1080/09332480.2023.2179279)
13. **Tackett, M.** (2022). My ASA Story: Maria Tackett. *Amstat News*, 20, 5.
14. **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](https://doi.org/10.1080/09332480.2021.1979821)
15. **Tackett, M.** (2021, January 14). *A flipped classroom sparks online engagement*. Duke Covid Diaries Series.
16. **Tackett, M.**, & Çetinkaya-Rundel, M. (2020). COVID-19 Data in the Classroom. *CHANCE*, 33(3), 63-66. [doi.org/10.1080/09332480.2020.1820257](https://doi.org/10.1080/09332480.2020.1820257)
17. **Tackett, M.** (2020, July 23). *Creating Interactive Web Apps for Statistics*. Duke Musings Blog.
18. 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](https://doi.org/10.1080/09332480.2020.1754074)
19. 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.
20. Banks, D., Kafadar, K., Kaye, D., **Tackett, M.** (Eds.), *Handbook of Forensic Statistics*, Chapman & Hall.

#### **Invited Talks**

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1. Tackett, M. *Teaching intro data science*. Preparing to Teach Workshop. George Mason University. August 2022.
2. Tackett, M. *Knit, Commit, and Push: Teaching version control in undergraduate statistics courses*. Toronto Workshop on Reproducibility. Online. February 2022.
3. Tackett, M. *Mentoring Undergraduate Research: Creating productive experiences and sharing student work*. ASA Mentoring Undergraduate Research Panel. Online. February 2022.
4. Tackett, M. *Women in Industry and Academia*. FEMMES+ Hacks Conference. Online. October 2021. (Panelist)
5. Tackett, M. *What a tap class has taught me about teaching statistics*. USCOTS. Online. June 2021.
6. Tackett, M. *Building Websites in RStudio*. RLadies Baltimore. Online. April 2021.
7. Tackett, M. *Building Websites in RStudio*. RLadies Amherst. Online. March 2021.
8. Tackett, M. *Telling stories with data*. Abraham Lincoln High School. Online (Philadelphia, PA). January 2021.
9. Tackett, M. *Undergraduate research in statistics*. OURFA<sup>2</sup>M<sup>2</sup> Conference. Online. December 2020.
10. Tackett, M. *Thinking about lectures in an intro data science course*. Toronto Data Workshop. Online (University of Toronto Department of Statistical Sciences). December 2020.
11. Tackett, M. *Women in Statistics and Computing*. FEMMES Hacks Conference. Online. October 2020. (Panelist)

12. Tackett, M. *Opportunities in Statistics and Data Science: Lightning Talks (Academia, Government, & NonProfit)*. StatFest. Online. September 2020. (Panelist)
13. Tackett, M. *Who's Underrepresented? Modeling Undercounts in the U.S. Census*. Joint Statistical Meeting. Online. August 2020.
14. 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.
15. Tackett, M. *You don't have to be an expert to create something meaningful*. rstudio::conf. San Francisco, CA. January 2020.
16. Tackett, M. *Reproducible Research - Education and Practice*. Duke Center for Data and Visualization Sciences. Durham, NC. November 2019. (Panelist)
17. Tackett, M. *My Journey in Statistics*. FEMMES Hacks Conference. Durham, NC. November 2019. (Keynote)
18. Tackett, M. *Statistics in Practice*. FOCUS Cluster Dinner Series at Duke University: What if? Explaining the Past/Predicting the Future. Durham, NC. November 2019.
19. 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)
20. Tackett, M. *Women in Machine Learning and Data Science*. Duke Machine Learning Day. Durham, NC. March 2019. (Panelist)
21. Tackett, M. *Women in Industry*. Duke University Business Oriented Women Meeting. Durham, NC. September 2018. (Panelist)

## Contributed Talks & Posters

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1. Tackett, M., *Using Quarto for Making and Organizing Teaching Materials*. JSM. Toronto, ON. August 2023.
2. Tackett, M., Viel, S. *Undergraduate Students' Sense of Community in Introductory Math and Statistics Courses*. eCOTS. Online. May 2022.
3. Tackett, M., Çetinkaya-Rundel, M., Presman, R. *Modernizing the undergraduate regression analysis course*. eCOTS. Online. May 2022.
4. Tackett, M., Viel, S. *Undergraduate Students' Sense of Community in Introductory Math and Statistics Courses*. Pandemic Pedagogy Research Symposium. Online. May 2022.
5. Tackett, M. *Version control as a learning objective in statistics and data science courses*. 63rd World Statistics Congress. Online. July 2021.
6. Horton, N., Tackett, M. *GitHub and intro stats: technology to support group and project-based learning*. USCOTS. Online. July 2021. (Poster)
7. 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)
8. Tackett, M. *You don't have to be an expert to create something meaningful*. Women in Statistics and Data Science Conference. Online. October 2020.
9. 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.

10. Tackett, M. *Using GitHub and RStudio to Facilitate Authentic Learning Experiences in a Regression Analysis Course*. Joint Statistical Meeting. Denver, CO. July 2019.
11. 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)
12. Tackett, M. *Teaching Large Classes in Statistics Using Active Learning Spaces*. Innovation in Pedagogy Summit. Charlottesville, VA. May 2016. (Panelist)
13. Tackett, M. *Clustering High-Dimensional Categorical Data Using a Bayesian Finite Mixture Model*. Quantitative Collaborative Fellows Poster Session. Charlottesville, VA. April 2017. (Poster)
14. Tackett, M. *Understanding Variability Between Groups of Sequences Using a Bayesian Object-Oriented Data Model*. Joint Statistical Meeting. Seattle, WA. August 2016.
15. Tackett, M. *Understanding Object-Oriented Data Using Optimal Matching*. Quantitative Collaborative Fellows Poster Session. Charlottesville, VA. April 2015. (Poster)

## Grants & Fellowships

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

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

Duke Learning Innovation's Carry the Innovation Forward Fund. *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, \$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, \$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

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*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 and Statistics Education*

GAISE Revision Steering Committee, 2023 - present

Bill & Melinda Gates Foundation High School Math Pathways Advisory Group, 2023 - present

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

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

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

Symposium on Statistics & Data Science 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 & Department Service**

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College Advisor, 2022 - present

Library Council, 2021 - present

Women in Research House Course, Faculty Advisor, 2021

A.B. Duke Scholars Program Interviewer, 2021

Statistical Science Anti-Racism Committee, 2021 - present

Trinity Arts & Sciences Committee on Curriculum, 2019 - 2021

ASA DataFest@Duke Organizer, 2019 - 2022

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

## Advising

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

Irene Biju, 2023 - present

Brianna Cellini, 2021 - 2022

Foxx Hart, 2023 - present

William Feng, 2021 - 2023

Will Lieber, 2023 - present

John Liakos, 2021

Jordan Hamelsky, 2022 - present

Isabella Larson, 2020 - 2023

Zoe Svec, 2022 - 2024

Andrew Shi, 2022

Liz Huynh, 2020 - 2023

Maya Pandey, 2021 - 2024

Matthew Ralph, 2020 - 2022

### *Undergraduate thesis advisees*

Naomi Rubin, 2023

### *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*

Joe Choo, 2022

Larry Chen, 2022

Steven Herrera, 2020

Caroline Levenson, 2019

### *Other supervised research*

Garrett Allen, 2022

Joe Choo, 2020

Martin Olarte, 2022

Abbey List, 2020

Sean Li, 2021

Glenn Morgenstern, 2020

Emmanuel Mokel, 2021

Shari Tian, 2021

Samantha Owusu-Antwi, 2020

## Professional Experience

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### 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

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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