

# Maria Tackett

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Assistant Professor of the Practice  
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## Education

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**Ph.D. in Statistics** 2013 - 2018  
University of Virginia

- Dissertation: *Creating Fingerprint Databases and a Bayesian Approach to Quantify Dependencies in Evidence*
- Advisor: Dan Spitzner

**M.S. in Statistics** 2009 - 2010  
University of Tennessee-Knoxville

**B.S. in Mathematics** 2005 - 2009  
University of Tennessee-Knoxville

## Academic Appointments

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

## Teaching Experience

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### *Duke University*

- STA 199: Intro to Data Science Fall 2020, Fall 2019, Spring 2019
- STA 210: Regression Analysis 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

## Invited Talks

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1. *Telling stories with data.* Abraham Lincoln High School. Online (Philadelphia, PA). January 2021.
2. *Undergraduate research in statistics.* OURFA<sup>2</sup>M<sup>2</sup> Conference. Online. December 2020.

3. *Thinking about lectures in an intro data science course.* Toronto Data Workshop. Online (University of Toronto Department of Statistical Sciences). December 2020.
4. *Women in Statistics and Computing.* FEMMES Hacks Conference. Online. October 2020. (Panelist)
5. *Opportunities in Statistics and Data Science: Lightning Talks (Academia, Government, & NonProfit).* StatFest. Online. September 2020. (Panelist)
6. *Who's Underrepresented? Modeling Undercounts in the U.S. Census.* Joint Statistical Meeting. Online. August 2020.
7. *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.
8. *You don't have to be an expert to create something meaningful.* rstudio::conf. San Francisco, CA. January 2020.
9. *Reproducible Research - Education and Practice.* Duke Center for Data and Visualization Sciences. Durham, NC. November 2019. (Panelist)
10. *My Journey in Statistics.* FEMMES Hacks Conference. Durham, NC. November 2019. (Keynote)
11. *Statistics in Practice.* FOCUS Cluster Dinner Series at Duke University: What if? Explaining the Past/Predicting the Future. Durham, NC. November 2019.
12. *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)
13. *Women in Machine Learning and Data Science.* Duke Machine Learning Day. Durham, NC. March 2019. (Panelist)
14. *Women in Industry.* Duke University Business Oriented Women Meeting. Durham, NC. September 2018. (Panelist)

## Contributed Presentations

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1. *You don't have to be an expert to create something meaningful.* Women in Statistics and Data Science Conference. Online. October 2020.
2. *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.
3. *Using GitHub and RStudio to Facilitate Authentic Learning Experiences in a Regression Analysis Course.* Joint Statistical Meeting. Denver, CO. July 2019.
4. *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)
5. *Teaching Large Classes in Statistics Using Active Learning Spaces.* Innovation in Pedagogy Summit. Charlottesville, VA. May 2016. (Panelist)
6. *Clustering High-Dimensional Categorical Data Using a Bayesian Finite Mixture Model.* Quantitative Collaborative Fellows Poster Session. Charlottesville, VA. April 2017. (Poster)
7. *Understanding Variability Between Groups of Sequences Using a Bayesian Object-Oriented Data Model.* Joint Statistical Meeting. Seattle, WA. August 2016.

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

## Grants & Fellowships

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Duke University Bass Connections Brain & Society Grant. *Mental Health and the Justice System in Durham*, 2020 - 2022, Role: Co-PI, \$14,200 each academic year.

Duke University Data+. *Mental Health and the Justice System in Durham*. 2021 - 2021, Role: Co-PI, \$17,500 each year.

Duke University Trinity Research Enhancement Fund. *Toward a More Sustainable Culture of Undergraduate Research in Statistical Science*, 2019, \$3,000.

Duke University 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 Authoring Group, 2021

UT-Austin Dana Center Statistics 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

### *Statistics education & student competitions*

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

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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

## Publications

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### *Peer Reviewed Papers*

1. 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-print Papers*

1. Beckman, M., Çetinkaya-Rundel M., Horton, N., Rundel, C., Sullivan, A., Tackett, M. Implementing version control with Git as a learning objective in statistics courses. [arxiv.org/abs/2001.01988](https://arxiv.org/abs/2001.01988).

### *Other*

1. Tackett, M. (2021, January 14). *A flipped classroom sparks online engagement*. Duke Covid Diaries Series.
2. Tackett, M., Çetinkaya-Rundel M. (2020). *COVID-19 Data in the Classroom*, Chance Magazine Statistics Education Column, Taking a Chance in the Classroom, 33(3): 63 - 66.
3. Tackett, M. (2020, July 23). *Creating Interactive Web Apps for Statistics*. Duke Musings Blog.
4. Çetinkaya-Rundel M., Tackett, M. (2020). *From Drab to Fab: Teaching Visualization via Incremental Improvements*, Chance Magazine Statistics Education Column, Taking a Chance in the Classroom, 33(2): 31 - 41.
5. 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.
6. Banks, D., Kafadar, K., Kaye, D., Tackett, M. (Eds.), *Handbook of Forensic Statistics*, Chapman & Hall.

## Advising

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### *Undergraduate thesis committee*

- Michael Model, 2020
- Ben Feder, 2019
- Daniel Levine, 2019
- Srini Sunil, 2019

### *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
- Abbey List, 2020
- Glenn Morgenstern, 2020
- Samantha Owusu-Antwi, 2020

## Professional Experience

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### **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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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