SWARTHMORE COLLEGE

CURRICULUM VITAE

Suzanne M. Thornton, PhD
Assistant Professor - Tenure track
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Education:

Graduate Education: **Ph.D**., Statistics. Thesis title: Advanced computing methods for statistical inference Thesis advisor: Minge Xie
Rutgers, The State Univeristy of New Jersey; New Brunswick, NJ, 2014 - 2019

Undergraduate: **B.S.,** Statistics. *Summa Cum Laude*, Senior Thesis title: Geometric ergodicity of Gibbs sampler for a hierarchical random effects model: Re-explained. Thesis advisor: James Hobert.
University of Florida, Gainesville, FL, 2010 - 2014
B.S., Mathematics.
University of Florida, Gainesville, FL, 2010 - 2014

Professional Experience:

Assistant Professor (tenure track), Mathematics and Statistics Department, Swarthmore College, Swarthmore, PA, 2020 – Present

Pre-major advisor for four students, 2021 – Present

Statistics minor advisor for 15 students, 2020 – 2021

Special government employee, U.S. Census Bureau National Advisory Committee on Racial, Ethnic, and Other Populations, 2022 – 2025

Facilitator, Strengthening Conceptual Understanding in Introductory Statistics Courses, DANA Center for Mathematics Pathways at University of Texas Austin, Remote, Summer 2021 & Summer 2022

Interdisciplinary faculty panelist, Engaged Scholarship across Divisions: Faculty Panels, Lang Center for Civic and Social Responsibility, Swarthmore, PA, March 2022

Interdisciplinary faculty participant, Environmental Studies (ENVS) Curriculum Workshop, Swarthmore College, remote due to COVID-19, January 2022

Visiting Assistant Professor, Mathematics and Statistics Department, Swarthmore College, Swarthmore PA, 2019 – 2020

Student Consultant, Office of Statistical Consulting, Rutgers University, New Brunswick, NJ, 2016 – 2019

Teaching Assistant, Statistics Department, Rutgers University, New Brunswick, NJ, 2014 – 2019

Teaching Assistant, Statistics Department, University of Florida, Gainesville, FL, 2013 – 2014

Publications:

Papers

Thornton S, Li W, Xie M. Approximate confidence distribution computing. 2022 Jun; *arXiv:2206.01707* (in review at the *New England Journal of Statistics in Data Science*)

Choi H, Detyniecki K, Bazil C, **Thornton** S, Crosta P, Tolba H, Muneeb M, Hirsch LJ, Heinzen EL, Sen A, Depondt C, Perucca P, Heiman GA; EPIGEN Consortium. Development and validation of a predictive model of drug-resistant genetic generalized epilepsy. *Neurology*. 2020 Oct 13;95(15):e2150-e2160. doi: 10.1212/WNL.0000000000010597. Epub 2020 Aug 5. PMID: 32759205; PMCID: PMC7713754.

Michael H, **Thornton** S, Xie M, Tian L. Exact inference on the random-effects model for meta-analyses with few studies. *Biometrics*. 2019 Jun;75(2):485-493. doi: 10.1111/biom.12998. Epub 2019 Apr 13. PMID: 30430540; PMCID: PMC7045874.

Articles

Thornton S. (2022, June) Statistics Education and Reconsidering the Status Quo. *AMSTAT News: The JEDI Corner*. Issue #540, 20–21. https://www.academia.edu/81302006/Statistics_Education_and_Reconsidering_the_Status_Quo

Thornton S, Roy D, Parry S, LaLonde D, Martinez W, Ellis R, Corliss D. (2022). Towards best practices for collecting gender and sex data. *Significance*, 19(1), 40–45. https://doi.org/10.1111/1740-9713.01614

Thornton S, Green B, Benn E. (2019). Friends and allies: LGBT+ inclusion in statistics and data science. *Significance*, 16(3), 39–41. https://doi.org/10.1111/j.1740-9713.2019.01280.x

LaLonde D, Martinez W, Miller J, Ott M, **Thornton** S. (2019, May) LGBT+ resources for statisticians and data scientists. *Significance* (online). https://www.academia.edu/81301435/LGBT_resources_for_statisticians_and_data_scientists

Books and Proceedings

Thornton S and Xie M. (2022) Bridging Bayesian, frequentist and fiducial inferences using confidence distribution. In *Handbook on Bayesian, Fiducial and Frequentist (BFF) Inferences*. (co-editors: Berger JO, Meng XL, Reid N, & Xie M) Chapman & Hall, New York. (forthcoming)

Thornton S and Xie M. (in preparation-2022) A foundational frequentist resolution to connect parameter uncertainty and probability using confidence distributions. *Proceedings of the Biennial Meeting of the Philosophy of Science Association.*

Thornton S. (in preparation-2022) Gender as a framework to conceptualize data identity. *Proceedings of the 2022 Joint Statistical Meetings*.

Media

Stats + Stories Podcast Interview with Suzanne Thornton and Dooti Roy (to appear) 2022

Taylor & Francis Celebrates Pride Month 2022. Twitter @tandfphysci. June 10, 2022

Practical Significance Podcast: Episode 6: American Statistical Association (ASA) Pride. May 28, 2021

Other Professional Activities:

Invited Lectures

A brief reflection on white supremacy in Statistics. Swarthmore College, Swarthmore, PA, November, 2020.

Statistical computing with confidence distributions. Villanova University, Villanova, PA, December, 2019.

Statistical computing with confidence distributions. Icahn School of Medicine at Mount Sinai, New York City, NY, April, 2019.

Introduction to Common Statistical Methods. Rutgers Center for Cell Biology and Neuroscience Weekly Seminar, Piscataway, NJ, 2016.

Abstracts for Conference Papers and Presentations (*organizer/co-organizer)

Berger J, Glymour C, Mayo-Wilson C, **Thornton S**, Mayo D. (2022, November) Invited panelist in *Multiplicity, Data-Dredging, and Error Control*. The 28th Biennial Meeting of the Philosophy of Science Association, Session #DAJNQ4097. Pittsburgh, PA.

Thornton S. (2022, November) *Presentation* (individual slide deck). *The Duality of Parameters and the Duality of Probability*. For Panel at the 28th Biennial Meeting of the Philosophy of Science Association, Session #DAJNQ4097. Pittsburgh, PA.

Corliss D, Sinco BR, **Thornton S**, Warner, S, Asher JL. (2022, August) Data-Driven Ethics as Statistical Practice. Topic contributed panel, Joint Statistical Meeting, Abstract #322960, Session 59. Washington, D.C.

Thornton S. (2022, August) *Presentation* (individual slide deck). *Sex and gender: Data quality and ethical considerations for statistical analyses*. For Panel at Joint Statistical Meeting, Abstract #322960, Session 59. Washington, D.C.

Corliss D, Parker, D, Sharp J, Shilane D, **Thornton S**. (2021, February) Invited panelist in Ethics Panel: Data and Analytic Issues in the Age of COVID-19. Conference on Statistical Practice, Abstract #304217. Virtual (due to coronavirus pandemic).

Auerbach J, Cipolli W, Corliss D, Evans D, **Thornton S**, Tractenberg RE, Carver R. (2020, July) Invited panelist in Balderdash, codswallop, and malarkey: A panel. Joint Statistical Meeting, Abstract #309691, Session 551. Virtual (due to coronavirus pandemic).

Benn E, Green B, Martinez W, Miller J, Ott M, **Thornton S**. (2019, October) *Conference Within a Conference: A Forum for Sharing a Research and Education Agenda*.* Women in Statistics and Data Science Conference, Abstract #306457. Bellevue, WA.

Martinez W and **Thornton S**. (2019, July) *Facilitator* for the first *LGBT Diversity Townhall*.* Other Cmte/Business at Joint Statistical Meeting Abstract #218876. Denver, CO.

Gosh D, de Queiroz G, Hecht J, Martinez W, Ram K, **Thornton S**, Hicks S. (2019, August) Invited panelist in Changing the Statistics Community: Effective Strategies for Promoting an Inclusive and Equitable Culture for Women. Panel at Joint Statistical Meeting, Abstract #301726, Session 400. Denver, CO.

Benn E, Green B, **Thornton S**. (2018, October) *Preparing for Increased Gender Diversity and Inclusion in Statistics and Data Science: Important Perspectives from Gender Non-Conforming and LGBTQ Scholars**. Women in Statistics and Data Science Conference, Abstract #304803. La Jolla, CA.

Thornton S, Li W, Xie M. (2017, June) *Presentation* (individual slide deck). *Approximate Confidence Distribution Computing: A likelihood-free method with statistical guarantees*. Invited speaker for session on Urging a paradigm change: New developments on statistical inferences. International Chinese Statistical Association Applied Statistics Symposium, Session 142. Chicago, IL.

Thornton S. (2017, September) *Presentation* (individual slide deck). *Approximate Confidence Distribution Computing*. Joint Conference of the Central European Network of the International Biometric Society and the International Society of Biopharmaceutical Statistics, Abstract #909-0003-00019. Vienna, Austria.

Thornton S, Xie M. (2017, June) *Presentation* (individual slide deck). *Approximate Confidence Distribution Computing*. Session on New developments in fusion learning and statistical inferences. First International Conference on Econometrics and Statistics, Abstract #0834, Session EO210. Hong Kong University of Science and Technology, Hong Kong.

Thornton S. (2016, December) *Presentation* (individual slide deck). *Approximate Confidence Distribution Computing (ACC)*. Invited speaker to Special Invited Session:BFF (Bayesian/frequentist/fiducial) Inferences in the New Era of Data Science, The 10th International Chinese Statistical Association Conference, Abstract #00776, Session 138. Shanghai, China.

Abstracts for Conference Posters (*corresponding author)

Thornton S and Tractenberg RE. (2022, November) *Stewardship and Stakeholders: Making ethical quantitative practice practical*.* Philosophy of Science Symposium, Pittsburgh, PA. (submitted)

Thornton S. (2017, October) *Approximate Confidence Distribution Computing: An effective likelihood-free method with statistical guarantees.** Women in Statistics and Data Science Conference, Abstract #303836, Speed Session 4. La Jolla, CA.

Thornton S and Xie M. (2017, April) *Approximate Confidence Distribution Computing: An effective likelihood-free method with statistical guarantees*.* New England Statistics Symposium, Abstract #2190. Storrs, CT.

Thornton S and Xie M. (2017, July) Invited Poster, *Approximate Confidence Distribution Computing: An effective likelihood-free method with statistical guarantees*.* Joint Statistical Meeting, Abstract #322649, Session 83, Baltimore, MD.

Thornton S and Xie M. (2016, December) Invited Poster, *Approximate confidence distribution computing (ACC): An effective likelihood-free computing method with statistical guarantees.** 72nd Annual Deming Conference on Applied Statistics, Atlantic City, NJ.

Thornton S and Xie M. (2016, September) *Approximate Confidence Distribution Computing*.* Workshop on Higher-Order Asymptotics and Post-Selection Inference, St. Louis, MI.

Thornton S and Xie M. (2016, October) *Approximate Confidence Distribution (ACC) Computing Method.** Women in Statistics and Data Science Conference, Abstract #303234, Charlotte, NC.

Thornton S and Xie M. (2016, April) *Approximate Confidence Distribution Computing.** Fusion Learning & Bayesian, Frequentist, and Fiducial Inferences and Statistical Foundations Workshop, Piscataway, NJ.

Research Funding:

Submitted

Spencer Research Grant on Education — February 2023 – January 2025 — $216,896
Education in Flux: Measuring the role of education in displacement decisions for families of school-age children in Syria

Dubai Cares and INEE E-Cubed Grant — August 2022 – July 2024 — $461,348
Education in Flux: Measuring the role of education in displacement decisions for families of school-age children in Syria

Current

Lang Center for Civic and Social Responsibility — Summer 2022 — $6300
Faculty-led Engaged Research: Gender as a concept in data science

Completed

Lang Center for Civic and Social Responsibility — Summer 2021 — $4800
Faculty-led Engaged Research: Designing an ethical statistics curriculum for all majors

Institutional Funding:

Swarthmore College	Faculty Research Support Grant	2020 – 2022	$3000
Swarthmore College	Faculty Travel Fund	2021 – 2022	$2687.50
Swarthmore College	NCFDD Faculty Success Program	Spring 2021	$3950
Swarthmore College	Faculty Research Support Grant	2019 – 2020	$1750
Rutgers University	Assistant Professional Development Fund	2018 – 2019	$752
Rutgers University	Assistant Professional Development Fund	2017 – 2018	$925
Rutgers University	Assistant Professional Development Fund	2016 – 2017	$1082
Rutgers University	Conference Travel Support	Fall 2015	$829.70

Teaching:

Swarthmore College

Mathematical Statistics I (STAT061)	Fall 2022
Statistical Methods II (STAT021)	Spring 2022, Spring 2021, Fall 2020, Fall 2019
Statistical Methods I (STAT011)	Fall 2021, Spring 2020

Rutgers University

Regression Analysis (STAT 463/563)	Fall 2017, Summer 2015

University of Florida

Intro to Statistics I (STA 2023 - lab) Spring 2014

Mentoring: (*co-mentor)

Shikha Shrestra, Swarthmore College Summer 2022

Ms. Shrestra is a student Research Assistant whose work with me was sponsored by the Lang Center for Civic and Social Responsibility. The intended output of her engaged research on "Gender as a concept in data science" includes an undergraduate poster presentation at a 2023 conference (either Women in Statistics and Data Science or Conference on Statistical Practice - depending on travel funding).

Haron Mwangangi Kalii and Nancy Vu, Swarthmore College 2021 – 2022

Mr. Kalii and Ms. Vu were quantitative Research Assistants working with me and Prof. Amy Kapit (Swarthmore, Peace & Conflict Studies) in our Education in Conflict Interdisciplinary Research Group with two other undergraduate qualitative Research Assistants. The output of this work included two grant applications to continue collaborative work with the Assistance Coordination Unit (international).

Nancy Vu, Swarthmore College Summer 2021

Ms. Vu was a student Research Assistant whose work with me was sponsored by the Lang Center for Civic and Social Responsibility. Her engaged research on "Designing an ethical statistics curriculum for all majors" resulted in a poster titled *Creating an Ethical Statistics Course from Scratch: A Student's Perspective* which she presented at the annual Sigma Xi (Swarthmore Chapter) Student Poster Presentation.

Xoe Porterfield, Swarthmore College Summer 2019

Mx. Porterfield independently studied statistical survey methodology for gender and sex minories under my guidance.

Ryan Gross*, Rutgers University Summer 2018

Mr. Gross participated in the Rutgers Center for Discrete Mathematics & Theoretical Computer Science (DIMACS) REU where he studied approximate computing under advisement of Dr. Minge Xie and myself. He presented this work twice and published his work and results as publicly available material on the DIMACS website.

Service:

Department Level

Hiring Committee 2020 – 2021, 2021– 2022

Appointed to evaluate candidates for both tenure track and VAP positions

General Colloquium Coordinator 2021 – 2022

Appointed to invite, plan, and manage schedules for colloquium speakers

Liberal Arts Collective (LACOL) 2021 – 2022

Appointed faculty representative

Swarthmore Statisticians' Coffee Hour Spring 2021

Organizer and host of virtual discussions

Gender Minorities in Math/Stats Student Group 2020 – 2021
Appointed faculty liaison
Math/Stat Placement Committee Summer 2020
Appointed statistics course placement consultant

College Level

Sanctuary Committee, Swarthmore College 2021 – Present
Selected faculty member
Students' Disability Service Committee, Swarthmore College 2021 – Present
Selected faculty member
Graduate Student Association, Rutgers University 2017 – 2018
Elected vice president
University Senate, Rutgers University 2016 – 2017
Elected graduate student representative to the University (Faculty) Senate

National Level

ASA Education Council 2020 – Present
Appointed Isolated Statisticians (ISOSTAT) representative.
ASA LGBTQ+ Advocacy Committee 2019 – Present
Member and selected advisor for the Pride Fellowship.
Justice, Equity, Diversity, and Inclusion (JEDI) Organizing Group 2021 – 2022
Appointed Chair of the Communications Committee.
JEDI Organizing Group 2020 – 2021
Selected member of the Organizing Committee
Quantitative Study of Inclusion, Diversity, and Equity Fall 2021
Volunteer faculty participant for the inaugural Datathon4Justice
Undergraduate Statistics Project Competition Spring 2020
Volunteer Undergraduate Statistics Research Project Judge
ASA Presidential Appointee 2020
Chair of LGBTQ+ Inclusion Working Group

International Level

International Mathematical Statistics Association Watercooler Chat 2021
Selected representative to provide feedback on engaging young professionals.
Reviewer for *Synthese* 2021
Reviewer for the *Journal of the American Statistical Association* 2019

Honors and Awards:

International Chinese Statistical Association Student Paper Award for the paper entitled *Approximate confidence distribution computing: an effective likelihood-free method with statistical guarantees*. June 14, 2018

The 31st New England Statistics Symposium IBM Watson Research Center Student Research Award, April 21–22, 2017

In honor of outstanding research in the field of Statistics and Probability presented at the 31st New England Statistics Symposium at the University of Connecticut, STorrs, CT.

Deming Scholar Award 2016

Award presented at the 72nd annual Deming Conference on Applied Statistics to foster and recognize a select number of outstanding graduate students who are helping their statistics/biostatistics department.

Rutgers Presidential Fellowship 2015 – 2019

Presidential Fellowships are awarded to the most highly qualified candidates admitted to the Rutgers Graduate School.

Rutgers Excellence Fellowship 2014 – 2015

Fellowships offered only to a limited number of students at Rutgers, who demonstrate outstanding qualifications.

Professional Society Memberships:

Institute for the Quantitative Study of Inclusion, Diversity, and Equity

International Mathematical Statistics Association

American Statistical Association (ASA)

Communications Committee for the ASA's Justice, Equity, Diversity, and Inclusion Organizing Group

ASA LGBTQ+ Advocacy Committee Member