Maryclare Griffin

Assistant Professor
University of Massachusetts Amherst
Department of Mathematics and Statistics
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Employment

Department of Mathematics and Statistics 2019-Present
University of Massachusetts Amherst
Assistant Professor

Center for Applied Mathematics 2018-2019
Cornell University
Postdoctoral Associate

Education

University of Washington, Seattle, WA 2013-2018
Ph.D., Statistics
Advisor: Peter Hoff, Thesis Title: "Model-Based Penalized Regression"

Duke University, Durham, NC 2016-2018
Visiting Ph.D. Student

University of Chicago, Chicago, IL 2008-2012
B.A., Economics with Honors, Statistics

Publications and Manuscripts

In Preparation

Griffin, M., "A Review of Simulation from Exponential Power Densities via a Mixture Representation of Polynomially Tilted Positive α-Stable Random Variables."

Kim D., Griffin M., Nolan D., Kitts J., Gile K. G. "Bayesian Resolution of Discrepant Self-Reported Network Ties."

Submitted/In Revision

Griffin, M., Samorodnitsky, G., Matteson, D. S. "Likelihood Inference for Possibly Non-Stationary Processes via Adaptive Overdifferencing."
Submitted to Technometrics.

Published

Winn-Nuñez, E. T., Griffin, M., Crawford, L. (2024) "A Simple Approach for Local and Global Variable Importance in Nonlinear Regression Models."
Computational Statistics and Data Analysis. 194:1-18

Griffin, M. (2024) "Improved Pathwise Coordinate Descent for Power Penalties."
Journal of Computational and Graphical Statistics. 33(1):310-315.

Griffin, M., Hoff, P. D. (2024) "Structured Shrinkage Priors."
Journal of Computational and Graphical Statistics. 33(1):1-14.

Gelsinger, M., Griffin, M., Matteson, D. S., Guinness, J. (2023) "Log-Gaussian Cox Process Modeling of Large Spatial Lightning Data using Spectral and Laplace Approximations."
Annals of Applied Statistics. 17(3): 2078-2094.

Zhang, W., Griffin, M., Matteson, D. S. "Modeling a Nonlinear Biophysical Trend Followed by Long-Memory Equilibrium with Unknown Change Point."
Annals of Applied Statistics. 17(1):860-880.

Griffin, M., Hoff, P. D. (2020) "Testing Sparsity-Inducing Penalties."
Journal of Computational and Graphical Statistics. 29(1):128-139.

Griffin, M., Hoff, P. D. (2019) "Lasso ANOVA Decompositions for Matrix and Tensor Data."
Computational Statistics and Data Analysis. 137:181-194

Griffin, M., Gile K. J., Fredriksen-Goldsen K., Handcock M. S., Erosheva E. A. (2018) "A simulation-based framework for assessing the feasibility of respondent-driven sampling for estimating characteristics in populations of lesbian, gay and bisexual older adults."
Annals of Applied Statistics. 12(4):2252-2278.

Holstein, C., Griffin, M., Hong J., Sampson P. (2015) "A Statistical Method for Determining and Comparing Limits of Detection of Bioassays."
Analytical Chemistry. 87(19):9795-9801.

Griffin, M. `gnorm`: Generalized Normal/Exponential Power Distribution for `R`, version 1.0.0.

Honors and Awards

National Science Foundation Division of Undergraduate Education 2022-2028
S-STEM Award (#2130262). Direct $1,381,459, Indirect $118,315.

National Science Foundation Division of Mathematical Sciences 2021-2024
Statistics Research Award (#2113079). Direct $94,033, Indirect $55,949.

Institute for Social Science Research (ISSR) Scholar 2021-2022

Mutual Mentoring Team Grant. Direct $5,502. 2020

National Science Foundation Graduate Research Fellowship 2013-2018

Frontiers in Forecasting Best Poster Prize 2018

Women in Statistics and Data Science Conference Travel Award 2016

Survey Research Methods, Government Statistics, and
Social Statistics Sections Student Paper Award 2015

University of Washington, Blalock Fellowship 2013

University of Chicago, Goldberg Award in Economics 2012

Teaching

University of Massachusetts Amherst

Instructor for STAT 535: Statistical Computing F2023

Instructor for STAT 525: Regression Analysis S2020, F2020, S2021, S2023

Instructor for STATISTC 697TS: Time Series Analysis and Applications S2020, S2022

Cornell University

Instructor for STSCI4550/ILRST4550/ORIE5550: Applied Time Series Analysis S2019

University of Washington

Teaching Assistant for CSS&S564: Bayesian Statistics S2016

Presentations

Invited Talks

Log-Gaussian Cox Process Modeling of Large Spatial Lightening Data using Spectral and Laplace Approximations.

Western North American Region of The International Biometric Society Conference. The Western North American Region Anchorage, AK; June 2023.

Log-Gaussian Cox Process Modeling of Large Spatial Lightening Data using Spectral and Laplace Approximations.

New England Statistics Symposium, Boston, MA; June 2023.

Estimation of Possibly Non-Stationary Long Memory Processes via Adaptive Overdifferencing.

Conference on Advances in Time Series Analysis with a Celebration of the 70th Birthday and Retirement of Professor Ruey Tsay, Chicago, IL; May 2023.

An Introduction to Model-Based Penalized Regression.

Department of Statistics,
Colby College, Waterville, ME; April 2023.

Structured Shrinkage Priors.

Department of Statistics,
University of Connecticut, Storrs, CT; April 2023.

Likelihood Inference for Possibly Non-Stationary Processes via Adaptive Overdifferencing.

Department of Mathematics and Statistics,
Washington University, Virtual; March 2022.

Likelihood Inference for Possibly Non-Stationary Processes via Adaptive Overdifferencing.

Booth School of Business, Econometrics and Statistics Colloquium,
University of Chicago, Chicago, IL; October 2021.

Likelihood Inference for Possibly Non-Stationary Processes via Adaptive Overdifferencing.

New England Statistics Symposium, Providence, RI; October 2021.

Bayesian generalized linear models for correlated data with fewer latent variables.

CMStatistics, Virtual; December 2020.

Structured Shrinkage Priors.

Department of Statistical Science,
University College London, Virtual; November 2020.

Estimation of Possibly Non-Stationary Long Memory Processes via Adaptive Overdifferencing.

Paul H. Chook Department of Information Systems and Statistics,
Baruch College, Virtual; October 2020.

Estimation of Possibly Non-Stationary Long Memory Processes via Adaptive Overdifferencing.

Department of Mathematics,
University of Maryland, Virtual; October 2020.

A review of the computational aspects of penalized regression from a model-based perspective.

Department of Mathematics and Statistics, Applied Mathematics and Computation Seminar,
University of Massachusetts Amherst, Amherst, MA; February 2020.

Estimation for possibly non-stationary long memory processes.

Department of Biostatistics and Epidemiology,
University of Massachusetts Amherst, Amherst, MA; January 2020.

Estimation for possibly non-stationary long memory processes.
Computational Social Science Institute,
University of Massachusetts Amherst, Amherst, MA; November 2019.

An Introduction to Model-Based Penalized Regression.
Department of Mathematics and Statistics,
Amherst College, Amherst, MA; November 2019.

Too Many Predictors, Too Few Responses.
Research Bytes @ MassMutual,
Western Mass Statistics and Data Science, Amherst, MA; November 2019.

Structured Shrinkage Priors.
Department of Statistics,
George Mason University, Fairfax, VA; September 2019.

Model-Based Penalized Regression.
Department of Mathematics and Statistics,
University of Massachusetts Amherst, Amherst, MA; December 2018.

Testing Sparsity-Inducing Penalties.
Department of Biostatistics and Computational Biology Departmental Colloquia,
University of Rochester, Rochester, NY; October 2018.

Beyond the Bayesian Lasso: A Review of Continuous Shrinkage Priors.
Joint Statistical Meetings, Vancouver, WA; August 2018.

Invited Panels

Wrapping Up and Moving On: Advice for the Final Stretch of Graduate School.
Women in Statistics and Data Science Conference, Virtual; October 2021.

Navigating the World of Data Science.
Voices of Data Science Conference, Virtual; February 2021.

Using Data to Inform the ASA's Policy on Sexual Misconduct.
International Conference on Health Policy Statistics, San Diego, CA; January 2020.

Contributed/Topic Contributed Talks

Estimation of Possibly Non-Stationary Long Memory Processes via Adaptive Overdifferencing.
Joint Statistical Meetings,
Toronto, ON; August 2023.

Generalized Structured Shrinkage Priors Using Correlated Scales.
Joint Statistical Meetings, Virtual; August 2021.

Structured Shrinkage Priors.
Joint Statistical Meetings, Denver, CO; August 2019.

Long Memory Time Series Methods for the Analysis of Electronic Impedance Sensing Data.
Western North American Region of The International Biometric Society Conference.
Portland, OR; June 2019.

Structured Shrinkage Priors.
New England Statistics Symposium, Hartford, CT; May 2019.

Model-Based Testing of Sparsity Inducing Penalties.
Western North American Region of The International Biometric Society Conference.
Santa Fe, NM; June 2017.

Using Hierarchical Models to Understand P300-Wave–Based Brain-Computer Interface Performance Among Disabled Adults.
Joint Statistical Meetings, Chicago, IL; August 2016.

Assessing Feasibility of Respondent-Driven Sampling Using Pilot Data with an Application to Older Lesbian, Gay, and Bisexual Adults.

Joint Statistical Meetings, Seattle, WA; August 2015.

Invited Lightning Session

Log-Gaussian Cox Process Modeling of Large Spatial Lightning Data using Spectral and Laplace Approximations.

American Geophysical Union Fall Meeting, Virtual; December 2021.

Poster Presentations

Testing Sparsity-Inducing Penalties.

21st Meeting of New Researchers in Statistics and Probability.
Fort Collins, CO, August 2019.

Pathwise Coordinate Descent for Power Penalized Regression.

Non-convex Optimization and Deep Learning Workshop.
Boston, MA, January 2019.

Testing Sparsity-Inducing Penalties.

Bridging the Divide, Machine Learning in Medicine Symposium.
Ithaca, NY, September 2018.

Testing Sparsity-Inducing Penalties.

Cornell Day of Statistics.
Ithaca, NY, September 2018.

Testing Sparsity-Inducing Penalties.

Frontiers in Forecasting, Institute for Mathematics and Its Applications.
Minneapolis, MN, February 2018.

Sparse, Structured Matrix Estimation via ℓ_1 Penalization of ANOVA Decomposition.

Opening Workshop of the 2016-2017 Program on Optimization, SAMSI.
Research Triangle Park, NC, September 2016.

Postdoctoral and Student Advising

Visiting Assistant Professor Mentor

Sepideh Mosaferi (Joint with Krista Gile)	Fall 2022-Present
Yalin Rao (Joint with John Staudenmayer)	Fall 2021-Present
Yueqiao (Faith) Zhang	Fall 2020-Spring 2023

Dissertation Advisor

Yilin Zhu	2024-Present

Oral Exam Chair

Thomas Robacker	Expected Fall 2024
Ning Duan	Expected Summer 2024
Yilin Zhu	Fall 2023

Honors Thesis Chair

Gabrielle Walczak	Summer 2023-Spring 2024

Oral Exam Committee Member

Yun Jiang, Department of Mathematics and Statistics	Spring 2023

Doctoral Dissertation Committee Member

Dongah Kim, Department of Mathematics and Statistics	2021-2022
Nutcha Wattanachit, Department of Biostatistics and Epidemiology	2022-2023
Gabriel Lewis, Department of Economics	2022-2024

Undergraduate Research Mentoring

Daayisha Daga, Mount Holyoke College — Summer 2021
Thyra Tuttle, UMass Amherst — Spring 2021

Service and Affiliations

Department of Mathematics and Statistics, University of Massachusetts Amherst

Statistics Faculty Search Committee (Elected) — Spring 2023, 2023-2024
Undergraduate Affairs Committee — 2023-2024
Statistics & Probability Seminar Planning Committee — 2019-2020, 2021-2022, 2023-2024
Bylaws Committee — 2022-2023
Statistics Graduate Admissions Committee — 2021-2022
Anti-Racism Committee — 2021-2024
Visiting Assistant Professor Faculty Search Committee (Elected) — 2020-2021
Five College Statistics Liaison — 2020-2021
Climate Committee — 2019-2020

University of Massachusetts Amherst

Computational Social Science Institute (CSSI) Steering Committee — 2021-2022

Committee of Presidents of Statistical Societies (COPSS)

COPSS Diversity, Equity, and Inclusion (DEI) Task Force — 2020-2021

American Statistical Association

Biometrics Section Continuing Education Chair — 2024-2025
SLDS Section Student Paper Award Committee Member — 2021-2024
ASA Task Force on Sexual Harassment and Assault — 2018-2019

University of Washington

StatCom Member — 2016-2018
Graduate Student Representative — 2014-2015
Graduate and Professional Student Senate Representative — 2013-2014

Workshops and Conferences

Invited Session Organizer and Chair, "Modern Solutions to Pressing Problems."
CMStatistics, London, UK (Hybrid); December 2021.

Invited Session Organizer, "Innovations in exact and approximate time series analysis."
New England Statistics Symposium, Providence RI (Hybrid); October 2021.

Invited Session Organizer, "Contemporary Mixed Model Methodology and Applications."
Joint Statistical Meetings, Philadelphia, PA; August 2020.

Invited Session Organizer, "Modern and Practical Solutions to Difficult High Dimensional Regression Problems."
Joint Statistical Meetings, Denver, CO; August 2019.

Invited Session Organizer/Chair, "Cutting Edge Methods for Modern Problems in Statistical Genetics and Genomics"
Western North American Region of The International Biometric Society Conference, Portland, OR; June 2019.

Session Chair, "Modeling."
Joint Statistical Meetings, Vancouver, BC; August 2018.

Session Chair, "Semiparametric Modeling in Biometric Data."
Joint Statistical Meetings, Baltimore, MD; August 2017.

Session Chair, "Model Selection and Sparsity."
Joint Statistical Meetings, Seattle, WA; August 2015.

Reviewer

Annals of Applied Statistics
Biometrika
Biostatistics
Journal of the American Statistical Association, Theory and Methods
Journal of Computational and Graphical Statistics
Journal of Econometrics
Journal of the Royal Statistical Society, Series A
NeuroImage
Observational Studies
Statistica Sinica
Statistics Surveys
NSF 2020, 2021, 2023

Associate Editor

Journal of Computational and Graphical Statistics
Data Science in Science

Member

American Statistical Association
Institute of Mathematical Statistics
Caucus for Women in Statistics
International Biometric Society