

## Maryclare Griffin

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

<b>Department of Mathematics and Statistics</b> <b>University of Massachusetts Amherst</b> Assistant Professor	2019-Present
<b>Center for Applied Mathematics</b> <b>Cornell University</b> Postdoctoral Associate	2018-2019

### Education

<b>University of Washington</b> , Seattle, WA Ph.D., Statistics Advisor: Peter Hoff, Thesis Title: “Model-Based Penalized Regression”	2013-2018
<b>Duke University</b> , Durham, NC Visiting Ph.D. Student	2016-2018
<b>University of Chicago</b> , Chicago, IL B.A., Economics with Honors, Statistics	2008-2012

### Publications and Manuscripts

#### In Preparation

Griffin, M., “A Review of Simulation from Exponential Power Densities via a Mixture Representation of Polynomially Tilted Positive  $\alpha$ -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. (2023) “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.

### Software

\* Griffin, M. (2018) **gnorm**: Generalized Normal/Exponential Power Distribution for R, version 1.0.0.

## Funding

National Science Foundation Division of Undergraduate Education S-STEM Award (#2130262). Direct \$1,381,459, Indirect \$118,315.	2022-2028
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National Science Foundation Division of Mathematical Sciences Statistics Research Award (#2113079). Direct \$94,033, Indirect \$55,949.	2021-2024
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Mutual Mentoring Team Grant. Direct \$5,502.	2020
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National Science Foundation Graduate Research Fellowship	2013-2018
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University of Washington, Blalock Fellowship	2013
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## Honors and Awards

College of Natural Sciences Faculty Peer Mentoring Award	2024
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Advance Fellow	2023-2024
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Institute for Social Science Research (ISSR) Scholar	2021-2022
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National Science Foundation Graduate Research Fellowship	2013-2018
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Frontiers in Forecasting Best Poster Prize	2018
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Women in Statistics and Data Science Conference Travel Award	2016
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Survey Research Methods, Government Statistics, and Social Statistics Sections Student Paper Award	2015
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University of Chicago, Goldberg Award in Economics	2012
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\* Completed before starting at UMass Amherst in September 2019.

## Teaching

### University of Massachusetts Amherst<sup>†</sup>

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 Lightning 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 Lightning 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.*

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<sup>†</sup> 500-numbered courses are regular upper-undergraduate level, 600-numbered courses are graduate topics courses.

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  $\ell_1$  Penalization of ANOVA Decomposition.  
*Opening Workshop of the 2016-2017 Program on Optimization, SAMSI.*  
*Research Triangle Park, NC, September 2016.*

## Postdoctoral and Student Advising

### 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

Gabriel Lewis, Department of Economics 2022-2024

Nutch Wattanachit, Department of Biostatistics and Epidemiology 2022-2023

Dongah Kim, Department of Mathematics and Statistics 2021-2022

### Undergraduate Research Mentoring

Daayisha Daga, Mount Holyoke College Summer 2021

Thyra Tuttle, UMass Amherst Spring 2021

Assigned Visiting Assistant Professor Research Mentor 2020-2024

## 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