Michael Jauch   ✉ maj225@cornell.edu   🌐 michaeljauch.github.io

Education

2014 - 2019	PhD in Statistical Science Duke University Advisers: Peter Hoff and David Dunson
2011 - 2012	Graduate Study in Mathematics Central European University
2007 - 2011	BA in Mathematics Rice University

Employment

2019 - now	Postdoctoral Associate Center for Applied Mathematics & Department of Statistics and Data Science Cornell University Adviser: David Matteson
2012 - 2014	Data Scientist Civitas Learning, Inc.

Research interests

Multivariate data, time series, functional data, inference under shape or stochastic order constraints, random matrices, computational statistics, statistical methods for single molecule experiments

Preprints

Michael Jauch, Andrés F. Barrientos, Víctor Peña, and David S. Matteson (2021). Mixture representations for likelihood ratio ordered distributions. [arxiv] [code]

Phillip A. Jang, **Michael Jauch**, and David S. Matteson (2021). Functional stochastic volatility.

James Losey, **Michael Jauch**, Axel Cortes-Cubero, Haoxuan Wu, Roberto Rivera, David S. Matteson, and Mahmoud Moradi (2021). Simulating freely-diffusing single-molecule FRET data with consideration of protein conformational dynamics. [biorxiv]

Publications

Michael Jauch, Peter D. Hoff, and David B. Dunson (2021). Monte Carlo Simulation on the Stiefel Manifold via Polar Expansion. *Journal of Computational and Graphical Statistics*. Vol. 30, No. 3, 622-631. [journal] [arxiv] [code]

Michael Jauch, Peter D. Hoff, and David B. Dunson (2020). Random orthogonal matrices and the Cayley transform. *Bernoulli*. Vol. 26, No. 2, 1560–1586. [journal] [arxiv] [code]

Michael Jauch, Paolo Giordani, and David B. Dunson (2017). A Bayesian oblique factor model with extension to tensor data. *Proceedings of the Conference of the Italian Statistical Society*.

Michael Jauch and Víctor Peña (2016). Bayesian optimization with shape constraints. *NeurIPS Workshop on Bayesian Optimization*. [arxiv]

Yan Digilov, Leobardo Rosales, Anand Shah, Michael Wolf, William Eggert, Robert Hardt, James Hart, **Michael Jauch**, Rob Lewis, Conor Loftis, Aneesh Mehta, and Hector Perez. (2010) Energy-minimizing unit vector fields. *Involve*. Vol. 3, No. 4, 435–45. [journal]

Work in progress

Michael Jauch and Peter D. Hoff. Projection of random matrices onto the Stiefel manifold: limit theorems and statistical applications.

Michael Jauch, James Losey, Mahmoud Moradi, and David S. Matteson. Analysis of single molecule FRET experiments based on mixing density estimation.

Teaching experience

Instructor of record at Cornell

    STSCI4550: Applied Time Series Analysis. Spring 2021.

    STSCI4550: Applied Time Series Analysis. Spring 2020.

Teaching assistant at Duke

    STA623: Statistical Decision Theory with David Dunson. Fall 2018.

    STA642: Time Series and Dynamic Models with Mike West. Fall 2017.

    STA832: Multivariate Statistical Analysis with Peter Hoff. Spring 2017.

    STA360/STA601: Bayesian Methods and Modern Statistics with Rebecca Steorts. Spring 2016.

    STA360/STA601: Bayesian Methods and Modern Statistics with David Dunson. Fall 2015.

    STA101: Data Analysis and Statistical Inference with Mine Çetinkaya-Rundel. Fall 2014.

Talks and posters

Invited talk at CMStatistics via Zoom. December 2021.

Contributed talk at Joint Statistical Meetings via Zoom. August 2021.

Invited talk at BayesComp in Gainesville. January 2020.

Contributed poster at Joint Statistical Meetings in Denver. July 2019.

Invited talk at Statistics and Data Science Seminar at Cornell. March 2019.

Contributed talk at Joint Statistical Meetings in Vancouver. August 2018.

Invited talk at ISBA World Meeting in Edinburgh. June 2018.

Contributed poster at Joint Statistical Meetings in Baltimore. August 2017.

Invited talk at Conference of the Italian Statistical Society in Florence. June 2017.

Contributed poster at NeurIPS Workshop on Bayesian Optimization in Barcelona. December 2016.

Contributed poster at ISBA World Meeting in Sardinia. June 2016.

Service

Referee for Bayesian Analysis, Journal of the American Statistical Association, Journal of Applied Statistics, and Journal of Econometrics

Assistant editor for the new journal Data Science in Science [webpage]

Duke Statistical Science GCC representative (2015-2016)

Awards

ISBA Student Travel Award, 2018

Duke Graduate School Travel Award

Duke Statistical Science Fellowship, 2014-2015

Central European University Full Fellowship, 2011-2012

National Merit Scholarship, 2007-2011

Miscellanea

David Kil, Jorgen Harmse, Michael Jauch, et al. US Patent Application No. 14/592,821. 2015.