Sara A. Stoudt

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Research Interests: applied and computational statistics in ecology and environmental science

Education

Smith College, Northampton, MA

B.A., Mathematics and Statistics , 2015
Magna Cum Laude with Highest Honors 3.95/4.0
Major GPA: 4.0/4.0

University of California, Berkeley, Berkeley, CA

Ph.D., Statistics, August 2015 - expected 2020
Advisors: Will Fithian (Department of Statistics) and Perry de Valpine (Department of Environmental Science, Policy and Management)

Graduate Research

Dissertation Research

- Identifiability in Species Distribution Models
- Robustness to Model Misspecification in Species Distribution Models

Collaborations in Ecology

- Fitting Models with Phylogenetic and Measurement Errors (with Soorim Song)
- Understanding Variability in Water Quality with San Francisco Estuary Institute (SFEI) (with David Senn, Erica Spotswood, Perry de Valpine, and Marcus Beck)

Job Experience

Data Science Intern Summer 2018

- Farmers Business Network
  - Supervisor: Matt Meisner, Ph.D
  - Crop Yield Prediction

Summer (Undergraduate/Graduate) Research Fellow Summers 2013-2017

- Statistical Engineering Division, National Institute of Standards and Technology
  - Supervisor: Antonio Possolo, Ph.D
  - Measuring Optical Apertures for Solar Irradiance Monitoring
  - Homogenization of Surface Temperature Records
  - Errors in Variables Modeling for Force Calibrations
  - Interpolation of Atmospheric Greenhouse Gas Fluxes
  - Evaluation of the accuracy, consistency, and stability of measurements of the Planck constant

Awards

- Berkeley Institute for Data Science Fellow 2018-2020
- National Physical Science Consortium Fellow 2015-2018
- Data Sciences for the 21st Century: Environment and Society Graduate Training Program 2015-2017
- Gertrude M. Cox Scholarship 2015
- Geocomputation Conference Best Poster Award 2015
- Goldwater Scholar 2014
- First Place: Statistics in Sports Undergraduate Research Competition at JSM 2014
- Best in Show- Five College Data Fest 2014, 2015

Programming Languages

- Proficient: R, Matlab, LaTeX
- Experience With: Python, SQL, Mathematica, WinBUGS, Java, GIS, AMPL, NIMBLE, D3, JavaScript, bash

Publications

- Possolo, A., Schlamminger, S., **Stoudt, S.**, Pratt, J. R., and Williams, C. J. "Evaluation of the accuracy, consistency, and stability of measurements of the Planck constant used in the redefinition of the International System of Units" *Metrologia* Volume 55, Number 1, December 2017
- **Stoudt, S.** "Geostatistical Models for the Spatial Distribution of Uranium in the Continental United States" *Advances in Geocomputation: Geocomputation 2015 - The 13th International Conference* Springer Advances in Geographic Information Science, 2017, pp. 325-334.
- **Stoudt, S.**, Badian-Pessot, P., Mahop, B. N., Earley, E., Menter, J., Flores, Y., Williams, D., Zhang, W., Maharajan, L., Bao, Y., Rosenbauer, L., Nguyen, V., Mendiratta, V., Tania, N. "Modeling Internet Traffic Generations Based on Individual Users and Activities for Telecommunication Applications" *American Journal of Undergraduate Research* Volume 13, Issue 3, August 2016, pp. 53-65.
- Bartel, T., Possolo, A., and **Stoudt, S**. "Force Calibrations using Errors-in-Variables Regression and Monte Carlo Uncertainty Evaluations" *Metrologia* Volume 53, Number 3, June 2016, pp. 965-980(16).
- **Stoudt, S.**, Cao, Y., Udwin, D., and Horton, N. J. "What Percent of the Continental US is Within One Mile of a Road?" *Statistics Education Web,* 2014.
- **Stoudt, S.**, Santana, L., and Baumer, B. "In Pursuit of Perfection: An Ensemble Method for Predicting March Madness Match-Up Probabilities" *JSM 2014 Proceedings*

Teaching Experience

Graduate Student Instructor, Statistics, UC Berkeley Fall 2017

- Communicating with Data: The Art of Writing for Data Science with Deborah Nolan
- Assist with course development and instruction of new course
- Outstanding GSI award

Relevant Activities

- Co-organizer of and writer for Statbites 2017-ongoing
- Graduate Workshop on Environmental Data Analytics 2016
- SAMSI Summer Program: The International Temperature Initiative 2014

Departmental Service

- Co-president of the Statistics Graduate Student Association, Fall 2017-Spring 2018
- Co-organizer of UC Berkeley DataFest, Springs 2016-2018
- Co-organizer of Statistics Graduate Student Association Gender Issues Roundtable Discussion, Fall 2016
- Co-organizer of Statistics Graduate Student Association Diversity Discussion, Spring 2017