Robert C. Foster

CONTACT INFORMATION

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Los Alamos National Laboratory
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Ph.D. statistician with a strong applied background, skilled communicator, and excellent team member.

WORK EXPERIENCE

Los Alamos National Laboratory, Los Alamos, NM
CCS-6, Statistical Sciences group

Postdoctoral Researcher, Oct. 2016 - Present

- Utilized applied statistical skills to perform research in multiple topics, including sources of uncertainty for computation techniques that lie "Beyond Moore's Law" and the statistical properties of resulting errors from propagation of BML uncertainties, simulation of microstructures from samples of additively manufactured materials, and applications of quantum computing in statistics. Current projects are modeling measurements of earth's magnetic field using geospatial statistical techniques, exploring properties of nonnegative matrix factorization, and modeling discretization error in solutions of differential equations probabilistically.
- Summarized finding and presented results in both writing and oral presentations.
- Tools used include R, python, matlab, JMP.

Iowa State University, Ames, IA USA
Department of Statistics

Instructor, August 2010 to May 2016

- Principles of Statistics: Fall 2010, Spring 2011, Summer 2011, Fall 2011, Spring 2012, Summer 2012
- Probability and Statistics for Computer Science: Fall 2012, Spring 2013, Fall 2013, Spring 2014
- Engineering Statistics: Fall 2014
- Probability and Statistical Inference for Engineers: Spring 2015, Spring 2016
- All courses other than "Principles of Statistics" taught without direct supervision.

Iowa State University, Ames, IA
Department of statistics

Research Assistant, 2007-2010

- Engaged in multiple consultation projects with various departments and research groups at Iowa State University, including animal science and the agriculture experiment station (AES).

Education

Ph.D. in Statistics

Iowa State University, Ames, IA, October 2016

- Thesis title: Topics in Empirical Bayesian Analysis
- Adviser: Mark S. Kaiser
- 3.65 GPA

M.S. in Statistics

Iowa State University, Ames, IA, December 2010

- Thesis title:Simulation Analysis of a Bayesian Test Plan for Sequential Data from a Homogeneous Poisson Process
- Adviser: Alyson Wilson
- 3.65 GPA

B.S. in Mathematics and Statistics

Oklahoma State University, Stillwater, OK, May 2007

- Summa cum laude
- Minor in Computer Science
- 3.948 GPA
- Honors college degree

Preprints

Foster, R., Weaver, B. and Gattiker, J., 'Applications of Quantum Computing in Statistics," arXiv:1904.06819 [stat.CO]

Foster, R., 'A Bayesian framework for classical test theory," PsyArXiv

Publications in Preparation

Foster, R., Vander Wiel, S., Livescu, V., and Bronkhorst, C., 'Towards Recreation of Microstructure of Spatially Varying Materials from Orthogonal Sections'

Note: "In preparation" is defined as a manuscript in the final stages of editing before submission, and is available upon request.

Technical Reports

Foster, R., Weaver, B., Picard, R., and Gattiker, J., 'Beyond Moore's Law Uncertainty," LA-UR-18-28596 (2018)

Abendroth, Lori; Marlay, Stephanie; Myers, Anthony J.W.; Elmore, Roger W.; and **Foster, Robert C.**, "*Regional Corn Planting Date Recommendations for Iowa*" (2010). Iowa State Research Farm Progress Reports. 410.

Other Cited Works

Blog post 'Confidence Interval for wOBA Based on the Multinomial Model,' cited in VanDerwerken, D., ' Slugging percentage is not a percentage – and why that matters,' *The American Statistician* (2019)

Invited Talks	*Towards Recreation of Microstructure in Additively Manufactured Materials*, International Conference on Plasticity, Jan. 2018
	Towards Recreation of Microstructure in Additively Manufactured Materials, Albuquerque ASA spring meeting, Apr. 2018
Contributed Talks	*Applications of Quantum Annealing in Statistics*, Joint Statistical Metings, Aug. 2019 (Forthcoming)
Local Talks	*Applications of Quantum Annealing in Statistics*, Talking to Ourselves, CCS-6 (2019)
	Uncertainty, Noise and Beyond Moore's Law, Statistical Sciences Seminar Series, CCS-6 (2018)
Professional Membership	• American Statistical Association, Albuquerque chapter
Computing Expertise	Statistical Software: R, JMP, SAS, Matlab Programming Languages: Python, Java, C Applications: TEX, LATEX, BIBTEX, Microsoft Office Operating Systems: Microsoft Windows, macOS, Unix