Robert C. Foster

CONTACT
INFORMATION

Office 03-132-345
Los Alamos National Laboratory
www.robertcfoster.com

Phone: (505) 667-6055
Work: rcfoster@lanl.gov
Personal: rcfoster@gmail.com

Ph.D. statistician with a strong applied background in the sciences and engineering, skilled communicator, and excellent team member.

RESEARCH
INTERESTS

Applied statistical methods with a focus on science and engineering applications, Bayesian and empirical Bayesian methods, uncertainty quantification, and quantum computation.

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

RESEARCH
EXPERIENCE

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

Postdoctoral Researcher, Oct. 2016 - Present
- Research topics include 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 earth's magnetic field using geospatial methods and predicting time-to-event based on observed logs of activity.

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).

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

POSTER SESSIONS	*Towards Random Generation of Microstructures of Spatially Varying Materials from Orthogonal Sections,* Computational Data Science Approaches for Materials 2019
	Uncertainty, Noise, and Beyond Moore's Law, CoDA 2018 - Conference on Data Analysis
	Generation of Spatially Varying Digital Microstructures for Additively Manufactured Materials, 2017 Materials Capability Review on Manufacturing Science

TEACHING EXPERIENCE	**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.

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