

Ann Michelle Norris
Department of Mathematics and Statistics
California State University, Sacramento
norris@csus.edu
(916) 278-6435

Research Interests

- Bayesian Nonparametrics
- Longitudinal Diagnostic Screening for Disease
- Markov Chain Monte Carlo Methods for Statistics
- Collaborative research in physical and life sciences
- Sampling Theory

Refereed Publications:

Norris, M., Johnson, W.O. and Gardner, I.A. (2009). Modeling bivariate longitudinal diagnostic outcome data in the absence of a gold standard. *Statistics and Its Interface*. 2 pp. 171-185. ([Click here to view the manuscript in pdf format.](#))

Utts, J., Norris, M., Suess, E. and Johnson, W. (2010) The strength of evidence versus the power of belief: are we all Bayesians? *Proceedings of the Eighth International Conference on Teaching Statistics*.

Jafarzadeh, S.R., Norris M., Thurmond M.C. (2014) Prediction of province-level outbreaks of foot-and-mouth disease in Iran using a zero-inflated negative binomial model. *Preventive Veterinary Medicine*. 115 pp. 101-8.

Norris, M., Johnson, W.O. and Gardner, I.A. (2014). Bayesian semi-parametric joint modeling of biomarker data with a latent changepoint: Assessing the temporal performance of Enzyme-Linked Immunosorbent Assay (ELISA) testing for paratuberculosis. *Statistics and Its Interface*. 7 pp. 417-438

Solt, M.J., Deocampo, D.M., Norris, M. (2015) Spatial Distribution of Lead in Sacramento, California, USA. *Int. J. Environ. Res. Public Health* 12, pp. 3174-3187.

Norris, M. Sample Design for Audit Populations (2018) (<https://arxiv.org/abs/1802.03778> and submitted).

PhD Dissertation: Parametric and Semiparametric Models for Longitudinal Data: Application to Joint Modeling of Longitudinal Diagnostic Test Outcomes
Advisor: Professor Wesley O. Johnson, UC Irvine

Education

2008	PhD in Statistics , University of California, Davis. GPA 4.0
2000-2002	Coursework for BS Electrical and Electronic Engineering , California State University, Sacramento (CSUS). GPA 3.96
1995	Master of Arts in Mathematics , CSUS. GPA 3.97
1992	Bachelor of Arts in Mathematics (Summa Cum Laude) , CSUS

Work Experience

Teaching:

2014-present	Associate Professor , CSUS Department of Mathematics and Statistics
2008-2014	Assistant Professor , CSUS Department of Mathematics and Statistics

2010 (winter) **Visiting Lecturer**, University of California, Davis
2007 **Adjunct Professor**, American River College Mathematics Dept
2006-2007 **Adjunct Professor**, Folsom Lake College Mathematics Dept
2003-2008 **Teaching Assistant** in the Department of Statistics at UC Davis
1995-2003 **Adjunct Lecturer** in the Dept of Mathematics and Statistics at CSUS

Research/Consulting

2007 **Graduate Student Researcher**, developed novel statistical methodology for diagnostic screening data with Ian Gardner and Wes Johnson
2005-2006 **Graduate Student Researcher**, Center for Animal Disease Modeling and Surveillance, worked on statistical models related to the evolution and spread of the foot-and-mouth disease virus with Mark Thurmond and Wes Johnson
1993-2000 **Statistical Consultant**, California Department of Conservation, responsible for statistical aspects of statewide recycling studies used to set statewide fees and determine refunds for the beverage container recycling program; worked with Prof. Francisco Samaniego of UC Davis to implement novel estimation methodology

Courses Taught

CSUS: Introduction to Statistics, Introduction to Probability and Statistics (calculus-based), Calculus II (Math and Engineering), Calculus for Life Sciences Differential Equations, Intermediate Algebra, PreCalculus, Introduction to Proofs, Introduction to Real Analysis

Community College: Arithmetic, Pre-algebra, Elementary Algebra, Geometry, Introduction to Probability and Statistics

Computer Skills

Proficiency in Windows environment using the following software:

R, S-Plus, WinBUGs, Minitab, Excel, Word, WinEdit, Latex, Blackboard Academic Suite, Webassign

Familiarity with UNIX operating system and relational databases, webpage construction, and SAS.

Talks:

- ICSA/Graybill Conference, June 15, 2015. Title “Bayesian semi-parametric joint modeling of biomarker data with a latent changepoint: Assessing the temporal performance of Enzyme-Linked Immunosorbent Assay (ELISA) testing for paratuberculosis.”
- Panelist, “Careers in Higher Education,” March, 2015. Seminar at University of California, Davis
- Expanding your Horizons, Oct 11, 2014. Title “Math fun with Brainteasers and Card Tricks”
- CSUS Math Club/SIAM joint talk, April, 2010. Title “Is There Scientific Evidence for ESP?”
- Panelist, “Careers in Higher Education,” Nov, 2009. Seminar at University of California, Davis
- Sacramento City College Math Day, Aug, 2009. Title “Using Statistics to Know the “Unknowable” in Disease Screening Problems”
- CSUS Society for Industrial and Applied Mathematics Colloquium, Spring 2008. Title “Using Statistics to Know the “Unknowable” in Disease Screening

Problems”

- 2008 American Public Health Association, San Diego, CA. Title “Bayesian Modeling and Statistical Inference for Longitudinal Diagnostic Outcomes”

Masters Thesis Consulting and/or Committee Member

- Mike Solt, Geology, CSUS (2010) - “Multivariate analysis of lead in urban soil in Sacramento, California”
- Seyed Reza Jafarzadeh, Preventive Veterinary Medicine, UC Davis (2011) – “A zero-inflated negative binomial model for the province-level outbreaks of foot-and-mouth disease in Iran”

Grants and Consulting

- **2015 California Board of Equalization**, conducted training in audit sampling
- **2011-present State Controllers Office**, consulting on sample design
- **2011 Office of the Inspector General**, consulting on sample size issues
- **2010 Department of Managed Health Care**, principal investigator of \$20,000 grant to review sampling methodology for audits of health maintenance organizations (grant was terminated early due to change in management)
- **2000 California Integrated Waste Management Board**, co-principal investigator of \$38,000 grant to review accuracy of statistical studies for measuring solid waste diversion from landfills

Awards and Achievements

- Chancellor’s Doctoral Incentive Program Awardee, \$30,000 forgivable loan for Doctoral studies
- Continuous graduate assistanceship at UC Davis, 2003-2008
- Elected to Pi Mu Epsilon National Honorary Mathematics Society by CSUS faculty, 1991
- Paul Douglas Teaching Scholarship Awardee (\$10,000)

Service to Profession

2014 Referee for **Statistics and its Interface**

2010 Referee for **Biometrics**

2007 Referee for **Computational Statistics** and **Bayesian Analysis**

Community Service

2009 *Pro Bono* Statistical Consulting for **The Pain Exhibit**, a non-profit organization whose mission is to educate health care providers and the public about chronic pain through art