

Curriculum Vitae

Curtis P. Miller

CEHP, College of Pharmacy
MCS09 5360
1 University of New Mexico
Albuquerque, New Mexico 87171-0001
phone: (505)-272-4048
e-mail: cmille02@salud.unm.edu

Education

Iowa State University, Ames, Iowa. Ph.D, statistics, 2005.
Kansas State University, Manhattan, Kansas. M.S., statistics, 2000.
Indiana University, Bloomington, Indiana. Ph.D, mathematics, 1994.
Brown University, Providence, Rhode Island. M.A., mathematics, 1985.
Haverford College, Haverford, Pennsylvania. B.A., major in mathematics, 1982.

Work History

Research assistant professor, Department of Pharmaceutical Science, College of Pharmacy, University of New Mexico. 5/2012-now. Data analysis and modeling for Community Environmental Health Program, Analyzing data from DiNEH project, Navajo Birth Cohort Study, and studies on Cheyenne River Sioux Reservation. Helping researchers with grant proposals.
Postdoctoral researcher at the Community Environmental Health Program, College of Pharmacy, University of New Mexico, 2/2011-5/2012. Analyzing and modeling data from studies of the effects of uranium mining on members of the Navajo Nation. Also analyzing data for related studies.
Postdoctoral researcher in Museum of Natural History, University of Kansas, Lawrence, Kansas. 2008-2011. Modeling population growth in space and time under migration, selection, under competition, or under evolution. Also analyzing field data for a graduate student.
Postdoctoral researcher in IFAS Statistics, University of Florida, Gainesville, Florida. 2006-2008. Modelling animal motion, both simulated and observed, and home range estimation. Some statistical consulting.
Postdoctoral researcher in Department of Statistics, University of California at Riverside. Worked on methods for analyzing microarray data. 2005-2006.
Teaching assistant in Department of Statistics, Iowa State University, 2004-2005.
Research Assistant in Survey Section, Statistical Laboratory. Iowa State University. 2000-2004. Theory and simulation for nonparametric regression; a neural network application to survey data.
Internship at Los Alamos National Laboratory. Summer, 2002.

Co-op position at Bureau of the Census, Suitland, Maryland, Statistical Methods Division. Summer 2001.

Internship at Monsanto/Pharmacia, Chesterfield, MD. Summer, 2000.

Graduate Assistant at KSU Statistics Department, 1998–2000.

Visiting assistant professor of mathematics, Southeast Missouri State University, 1997–8.

Visiting assistant professor of mathematics, University of Nevada, Las Vegas. 1996–7.

Assistant instructor in mathematics at Brown and Indiana Universities, 1982 – 1994.

Statistics Thesis

“Search for level sets of functions using computer experiments”. Advisor: Max Morris.

Mathematics Thesis

“Some Theorems on Stationary Random Fields with a ρ^* -mixing Condition”. Advisor: Richard Bradley.

Computer skills

R/S-Plus, Matlab/Octave, SAS. Have programmed in Fortran. Some C. Short course in GIS, Summer 2013. Linux, Unix, L^AT_EX.

Activities

Reviewer for 3rd International Conference on Applied Mathematics, Modeling and Simulation (AMMS2020), September, 2020. (see amms2020.org)

Judge at Central New Mexico Science and Engineering Research Challenge, 2012-2019.

Assisted two graduate students in health sciences with data analysis for thesis work, 2013-15.

Collaborated with graduate student in analyzing distribution data for plant species, Summer, 2010.

Teaching: Was assistant instructor on course on animal movement, University of Florida, Spring 2007.

Taught a workshop on simulation with Octave, March 25 & 27, 2008.

Collaboration: Have collaborated with Dr. Inma Estevez and Avanti Mallapur, Animal Science, U. of Maryland, on poultry motion project, 2006–2008.

Consulting: Have analyzed invasive plant species data for ecologist at Santa Lucia Conservancy, Carmel, CA.

Worked part time in Consulting Service, IFAS Statistics, University of Florida.

Talks

Contributed talks:

(With L. Luo, D. MacKenzie, and J. Lewis) “Mediation Analysis of ASQI scores with maternal exposures and cytokines.” Talk presented by self at Annual Meeting of Western National Region (WNAR) of the International Biometric Society, Portland, OR, June 24, 2019.

(With J. Lewis and T. Ozechowski): “Marginal probabilities for conditionally specified logistic regression: A proposed application with public health data”. Poster and talk presented by self at Annual Meeting of Western National Region (WNAR) of the International Biometric Society, Edmonton, AB, July 26, 2018. This poster differed from poster shown at Santa Fe.

(With J. Lewis and T. Ozechowski): “Marginal probabilities for conditionally specified logistic regression: A proposed application with public health data”. Poster presented by self at Joint Research Conference on Statistics in Quality, Industry, and Technology, Santa Fe, NM, July 12, 2018.

(With J-H. Lee, J. Lewis, Native EH Equity Statistical Group, and Navajo Birth Cohort Study): “Selecting and transforming data for modeling with clusters: An example from a public health study.” Poster presented at Annual Meeting of Western National Region (WNAR) of the International Biometric Society, Santa Fe, NM, June, 2017.

“Poisson-Bernoulli Regression for Count Variables.” Poster presented at XXVIIIth International Biometric Conference, Victoria, BC, July 11-14, 2016.

“Marginal distributions and point estimates for conditionally specified logistic regression models.” Poster presented at 60th World Statistics Congress of International Statistical Institute, Rio de Janeiro, July 26-31, 2015.

(with C. Murray-Krezan (presenter) and J. Lewis): “Principal Component Analysis: An Application for Understanding Health Effects of Environmental Mixture Exposures”. At workshop on “Statistical Approaches for Assessing Health Effects of Environmental Chemical Mixtures in Epidemiology studies”, July 13-14, 2015, at National Institute of Environmental Health Sciences, Research Park, NC.

(with E. Erdei (presenter), D. MacKenzie, J. Ong, B. Pacheco, M. Cajero, C. Shuey, & J. Lewis): “Environmental Metal Exposures and Immune System Responses - Results from two community-based participatory research studies on the Navajo Nation”.

(With M. Harmon (presenter), M. Campen, C. Shuey, M. Cajero, B. Pacheco, E. Erdei, G. Stark, S. Ramone, T. Nez, & J. Lewis): “Circulating oxidized LDL and conventional biomarkers of cardiovascular health in a cohort of Navajo community members exposed to uranium-mining metal contaminants”.

(with D. MacKenzie (presenter), E. Erdei, J. Ong, & J. Lewis): “Proximity to uranium mine waste on the Navajo Nation increases serum ANA and IL17”.

All posters at 8th Conference on Metal Toxicity and Carcinogenesis, Albuquerque, NM, October 26-29, 2014. (Not main presenter for these).

(With G. Huerta, G. Stark, C. Shuey, M. Cajero, & J. Lewis): “Multivariate binary responses for a public health survey: Application to the DiNEH Project”. Poster at meeting of the Western National Region (WNAR) of the International Biometrics Society, Honolulu, June 2014.

(With C. Shuey (presenter) and J. Ong (presenter): “DiNEH Project Findings and Update on the Navajo Birth Cohort Study”. Subcommittee of the Resources and Development Committee, Navajo Nation Council, Church Rock Chapter, May 28, 2014.

Next three posters were shown at the 7th Conference on Metal Toxicity and

Carcinogenesis, Albuquerque, NM, October 21-24, 2012. (Not main presenter for these).

(With E. Erdei, J. Ong, D. MacKenzie, B. Pacheco, M. Cajero, A. Ali, & J. Lewis): "Preliminary Statistical Analysis of cytokines in participants of the DiNEH Project". Poster at Research Day, College of Pharmacy, April, 2014.

(With J. Lewis, M. Cajero, G. Huerta, C. Shuey, & G. Stark): "Comparison of two methods of modeling data with multiple binary responses". Poster at Joint Statistical Meetings, Montréal, August 7, 2013.

(With E. Erdei, R. Rubin, B. Pacheco, J. Ong, M. Cajero, C. Shuey, & J. Lewis): "Immune system responses related to environmental uranium exposures - DiNEH Project results".

(With M. Harmon, M. Campen, C. Shuey, M. Cajero, B. Pacheco, E. Erdei, J. DeGroat, G. Stark, S. Henio-Adeky, S. Ramone T. Nez, & J. Lewis):

"Environmental predictors of oxidized LDL cholesterol (*Ox-LDL*) in Navajo populations exposed to uranium-contaminated mining sites".

(With J. Ong, E. Erdei, R. Rubin, C. Ducheneaux, M. O'Leary, M. Pollard, & J. Lewis): "Immune system responses related to environmental mercury and arsenic exposures among Cheyenne River Sioux Tribe members".

"Conditionally specified logistic regression for ordinal responses: An application to effects of exposure to uranium mining". Contributed talk at Second Joint Biostatistics Symposium, Renmin University, Beijing, China, July 8, 2012.

(with Andréas Lira-Noriega and Jorge Soberón) "Modeling of Processes of a Mistletoe Population in the Southwestern United States". Poster at meeting of Ecological Society of America, Austin, TX, August 6, 2011.

(with Mary Christman) "Testing for differences in concentration parameters among several populations of angular variables". Poster at the Joint Statistical Meetings, Vancouver, BC, August 3, 2010.

(with Jorge Soberón) "Convergence of growth of subpopulations on a grid with migration". Poster at the Annual Meeting of the Society for Industrial and Applied Mathematics, Pittsburgh, PA, July 14, 2010.

(with Jorge Soberón) "Niche conservatism in a heterogeneous environment". Poster at the Annual Meeting of the Ecological Society of America, Albuquerque, July 7, 2009.

(with M. Christman [exhibitor]) "Alternating sequences of motion and pausing". Poster at the International Statistical Ecology Conference, St. Andrews, Scotland, July 9-11, 2008.

(with M. Christman) "Fitting random walk models to motion data with measurement error". Poster at the Meeting of the International Environmetrics Society, Kelowna, BC, June 8-13, 2008.

(with M. Christman) "Measures of tortuosity for animal movement in confined spaces". Poster. 56th session of International Statistical Institute, Lisbon, August, 2007.

"A test for difference of concentration parameters for populations of an angular variable". Meeting of Florida chapter of American Statistical Society, University of West Florida, Pensacola, February 24, 2007.

“New measures of path tortuosity for motion in confined space”. Seminar series for Program in Environmental Statistics, University of Florida, February 14, 2007. “Search for level sets of functions by computer experiments”. Poster, New Researchers Conference, Seattle, July, 2006.

(With J. Opsomer). “Selecting the Amount of Smoothing in Local Polynomial Regression Estimation for Complex Surveys”. Contributed talk at Joint Statistical Meetings, San Francisco, August 2003, based on work with Jean Opsomer.

Two contributed talks given at American Mathematical Society meeting in Philadelphia, April 4–5, and IMS meeting at Pittsburgh, March 29–April 1, 1998.

Papers

Marginal probabilities and point estimation for conditionally specified logistic regression. Published online by Communications in Statistics, Simulation and Computation, December 6, 2019, doi:10.1080/03610918.2019.1643478.

(with E. O’Donald, J-H. Lee, J. Ong, B. Pacheco, K. Foos, K. Enright, M. O’Leary, P. Nez Henderson, J. Lewis, J. Henderson, E. Erdei) Active Smoking, Secondhand Smoke Exposure, and Serum Cotinine Levels among Cheyenne River Sioux Communities in Context of a Tribal Public Health Policy.

Published online by Tobacco Control,

<https://tobaccocontrol.bmj.com/content/early/2019/08/28/tobaccocontrol-2019-055056>.

(with M. Harmon, J. Lewis, J. Hoover, A-M Ali, C. Shuey, M. Cajero, S. Lucas, B. Pacheco, E. Erdei, S. Ramone, T. Nez, M. Campen, & M. Gonzales) Arsenic association with circulating oxidized low-density lipoprotein in a Native American community. *Journal of Toxicology and Environmental Health, Part A*. Volume 81, Issue 13, pp. 535-548. Published online, April 11, 2018, doi:10.1080/15287394.2018.1443860.

(with M. Harmon, J. Lewis, J. Hoover, A-M. Ali, C. Shuey, M. Cajero, S. Lucas, K. Zychowski, B. Pacheco, E. Erdei, S. Ramone, T. Nez, M. Gonzales, M. Campen) Residential Proximity to abandoned uranium mines and serum inflammatory potential in chronically exposed Navajo communities. *Journal of Exposure Science and Environmental Epidemiology*. Volume 27, Issue 4 (July 2017), pp. 365-378.

(with M. Harmon, J. Lewis, A-M Ali, C. Shuey, M. Cajero, S. Lucas, B. Pacheco, E. Erdei, S. Ramone, T. Nez, M. Campen, M. Gonzales) Associations of Circulating Oxidized LDL and Conventional Biomarkers of Cardiovascular Disease in a Cross-Sectional Study of the Navajo Population. Published by PLOS ONE, March, 2016.

(with L. Hund, E. Bedrick, G. Huerta, M. Cajero, & J. Lewis) A Bayesian framework for estimating disease risk due to exposure to uranium mine and mill waste on the Navajo Nation. *Journal of the Royal Statistical Society, Series A*. Volume 178, Issue 4 (October 2015), pp. 1069-1091. doi:10.1111/rssa.12099.

(with J. Ong, E. Erdei, R. Rubin, C. Duchesneaux, M. O’Leary, B. Pacheco,

- M. Mahler, P.N. Henderson, K.M. Pollard, & J. Lewis) Mercury, autoimmunity, and environmental factors on Cheyenne River Sioux Tribal Lands. *Autoimmune Diseases*, 2014 (online), do:10.1155/2014/325461
- (with A. Lira-Noriega & J. Soberón) Process-based and correlative modeling of desert mistletoe distribution: a multiscalar approach. *Ecosphere* 4 (2013), article 99.
- (with M. Christman & I. Estevez) Movement in a confined space: Estimating path tortuosity. *Applied Animal Behaviour Science* 135 (2011), pp. 13–23.
- (with Jorge Soberón) Evolución de los nichos ecológicos [Evolution of ecological niches]. *Miscelánea Matemática* 49 (2009), pp. 83–99.
- (with A. Mallapur, M. Christman, & I. Estevez) Short-term and long-term movement patterns in confined environments by domestic fowl: Influence of group size and enclosure size. *Applied Animal Behaviour Science* 117 (2009), pp. 28–34.
- (With P. Mukhopadhyay and T. Maiti) Neural Network Imputation: An experience with the National Resources Inventory Survey. *Journal of Agricultural, Biological, and Environmental Statistics* 13 (2008), pp. 255–269.
- (with M. Christman) A random walk model for animal motion in a confined space. Technical report 2006–0028, UF statistics department.
- (With J. Opsomer) Selecting the Amount of Smoothing in Local Polynomial Regression Estimation for Complex Surveys. (Based on same material as contributed talk of same title), in *Journal of Nonparametric Statistics* 17 (2005), pp. 593–611.
- (with J. Opsomer) Theorems on bandwidth selection in local polynomial regression with survey data. Technical report, ISU statistics department. To accompany previous paper. Available upon request.
- Spectral Densities for Third Order Cumulants under Strong Mixing Conditions. *Journal of Multivariate Analysis*, V. 74(2000)
- A CLT for the Periodograms of a ρ^* -mixing Random Field. In *Stochastic Processes and their Applications*, V. 60(1996).
- Three Theorems on ρ^* -mixing Random Fields. In *The Journal of Theoretical Probability*, V. 7(1994)

Memberships

International Biometric Society (Western National Region), American Statistical Association, Institute of Mathematical Statistics, The International Environmetrics Society, Society for Industrial and Applied Mathematics.