Marie Ozanne

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Education

University of Iowa — Iowa City, IA
Ph.D., Biostatistics — 2019
Dissertation Title: Bayesian Compartmental Models for Zoonotic Visceral Leishmaniasis in the Americas
Advisors: Dr. Jacob Oleson and Dr. Grant Brown

The Ohio State University — Columbus, OH
M.S., Statistics — 2014

Mount Holyoke College — South Hadley, MA
B.A., Chemistry, Statistics, *Cum Laude*, High Honors in Chemistry — 2012

Research Interests

- Infectious disease modeling
- Bayesian statistics
- Spatio-temporal modeling
- Epidemiology

Academic Experience

Mount Holyoke College — South Hadley, MA
Clare Boothe Luce Assistant Professor, Dept. of Mathematics & Statistics — July 2019 - *present*

University of Iowa — Iowa City, IA
Graduate Research Associate, Dept. of Biostatistics — June 2016 - *May 2019*
Graduate Research Associate, Dept. of Epidemiology — January - *May 2018*
Graduate Teaching Associate, Dept. of Biostatistics — January 2016 - *May 2016*

The Ohio State University — Columbus, OH
Junior Statistician, Statistical Consulting Service — June 2015 - *December 2015*
Graduate Teaching Associate, Dept. of Statistics — August 2013 - *May 2015*
Graduate Fellow, Dept. of Statistics — August 2012 - *July 2013*

Mount Holyoke College — South Hadley, MA
Undergraduate Research Assistant, Dept. of Astronomy — June 2011 - *July 2012*
Undergraduate Research Assistant, Dept. of Chemistry — August 2010 - *May 2011*
Undergraduate Teaching Assistant, Dept. of Chemistry — September 2009 - *May 2012*

Teaching

Spring 2020

STAT 140: Introduction to the Ideas and Applications of Statistics

STAT 242: Intermediate Statistics

Fall 2019

STAT 140: Introduction to the Ideas and Applications of Statistics

Publications (Research Gate)

Peer Reviewed Journal Publications

- **M.V. Ozanne**, G.D. Brown, A.J. Toepp, et al. (2019). Bayesian Compartmental Models and Associated Reproductive Numbers for an Infection with Multiple Transmission Modes. *Biometrics*, 1-11, https://10.1111/biom.13192.
- **M.V. Ozanne**, G.D. Brown, J.J. Oleson, et al. (2019). Bayesian Compartmental Model for an Infectious Disease with Dynamic States of Infection. *Journal of Applied Statistics*, 46(6), 1043-1065.
- A. Toepp, G.R. Monteiro, J.F. Coutinho, A.L. Lima, M. Larson, G. Wilson, T. Grinnage-Pulley, C. Bennett, K. Mahachi, B. Anderson, **M. Ozanne**, M. Anderson, H. Fowler, M. Parrish, J. Saucier, P. Tyrrell, Z. Palmer, J. Buch, R. Chandrashekar, G. Brown, J. Oleson, S.M.B. Jeronimo, and C. Petersen. (2019). Comormid Infections Induce Progression of Visceral Leishmaniasis. *Parasites & Vectors*, 12(1):54.
- R.A. Scheperle, V. Tejani, J.K. Omtvedt, C.J. Brown, P.J. Abbas, M.R. Hansen, B.J. Gantz, J.J. Oleson, **M.V. Ozanne**. (2017). Delayed Changes in Auditory Status in Cochlear Implant Users with Preserved Acoustic Hearing. *Hearing Research*, 350, 45-57.
- T.F. Boucher, **M.V. Ozanne**, M.L. Carmosino, et al. (2015). A Study of Machine Learning Regression Methods for Major Elemental Analysis of Rocks Using Laser-Induced Breakdown Spectroscopy. *Spectrochemica Acta Part B Atomic Spectroscopy*, 107, 1-10.
- M.D. Dyar, E.A. Breves, E. Emerson, S.W. Bell, M. Nelms, **M.V. Ozanne**, S.E. Peel, M.L. Carmosino, J.M. Tucker, M.E. Gunter, J.S. Delaney, A. Lanzirotti, and A.B. Woodland (2012). Accurate determination of ferric iron in garnets by bulk Mössbauer spectroscopy and synchrotron micro-XANES. *American Minerologist*, 97(10), 1726-1740.
- M.D. Dyar, M.L. Carmosino, E.A. Breves, **M.V. Ozanne**, S.M. Clegg, and R.C. Wiens (2012). Comparison of partial least squares and lasso regression techniques as applied to laser-induced breakdown spectroscopy of geological samples. *Spectrochimica Acta Part B*, 70, 51-67.

Editorials

- G.D. Brown and **M.V. Ozanne** (2019). Statistical models for infectious diseases: a useful tool for practical decision-making. *American Journal of Tropical Medicine & Hygiene.* 101, 1-2.

Journal Papers in Revision

- K. Mahachi, E. Kontowicz, B. Anderson, A.J. Toepp, A.L. Lima, M. Larson, G. Wilson, T. Grinnage-Pulley, C. Bennett, **M. Ozanne**, M. Anderson, H. Fowler, M. Parrish, J. Saucier, P. Tyrell, Z. Palmer, J. Buch, R. Chandrashekar, B. Scorza, G. Brown, J.J. Oleson, and C.A. Petersen. Predominant risk factors for tick-borne coinfections in US hunting dogs, Submitted to: *Parasites & Vectors.*

Journal Papers in Preparation

- **M.V. Ozanne**, G.D. Brown, J.J. Oleson, et al. Bayesian latent class model for identifying canine visceral leishmaniosis using dichotomized diagnostic tests in the absence of a gold standard.
- **M.V. Ozanne**, G.D. Brown, J.J. Oleson, et al. Bayesian latent class model for canine visceral leishmaniosis using continuous and dichotomized diagnostic tests in absence of a gold standard.

Presentations

Invited Talks

- Bayesian Compartmental Models and Reproductive Numbers for an Infection with Multiple Infectious Sources and Transmission Modes. *Joint Mathematics Meetings, Denver, CO.* 2020

Contributed Talks

- Bayesian Compartmental Model for an Infectious Disease with Multiple Infectious States. *Women in Statistics and Data Science, Bellevue, WA.* 2019
- Bayesian Compartmental Model for an Infectious Disease with Multiple Infectious States. *Joint Statistical Meetings, Denver, CO.* 2019
- Whose Fault Is It Anyway? Calculating Reproductive Numbers for Multiple Infectious Sources. *Great Plains Emerging Infectious Diseases Conference, Iowa City, IA.* 2019
- Modeling Vertical Transmission of Canine Visceral Leishmaniasis in Foxhounds in the United States. *Joint Statistical Meetings, Vancouver, BC.* 2018
- A Comparison of Transition Probability Structures for a Stochastic Compartmental Model: Analyzing Visceral Leishmaniasis in Brazil. *Joint Statistical Meetings, Baltimore, MD.* 2017

Contributed Posters

- Visceral Leishmaniasis in Brazil: A Quest for a Reproductive Number. *Great Plains Emerging Infectious Diseases Conference, Iowa City, IA.* 2018
- Bayesian Epidemic Compartmental Model for an Infectious Disease with Multiple Transition Paths: Analyzing Visceral Leishmaniasis in Brazil. *Great Plains Emerging Infectious Diseases Conference, Iowa City, IA.* 2017
- Comparison of Lasso and Elastic Net Regression for Major Element Analysis of Rocks Using Laser-Induced Breakdown Spectroscopy (LIBS). *Forty-third Lunar and Planetary Science Conference, The Woodlands, TX.* 2012

Service

Mount Holyoke College

- Judge, HackHolyoke 2019 (24-hour hackathon)

Five College Statistics

- Webmaster, 2019-*present*

R Ladies Iowa City

- Co-organizer and founder, 2018-2019

Department of Biostatistics, University of Iowa

- Student Representative, Computation & Informatics Committee, 2017-2018

Department of Statistics, The Ohio State University

- Graduate Student Co-President, 2014-2015

Professional

- Ad-hoc Journal Reviewer: *Acta Tropica* (1), *Journal of Applied Statistics* (1), *Journal of the Academy of Nutrition and Dietetics* (1), *Journal of Infection* (1), *Journal of Racial and Ethnic Health Disparities* (1)
- Volunteer, Statistics in Education/History Booth; Joint Statistical Meetings 2019
- Organizer, Topic-contributed Session: *Modeling for the Masses - Tackling Infectious Disease for the Public Good*; Sponsor: Biometrics; Joint Statistical Meetings 2020

Honors and Awards

- William R. Clarke Research Graduate Assistant Award, University of Iowa 2019
- Delta Omega Honorary Society in Public Health, Alpha Phi Chapter 2019
- University of Iowa Dare to Discover Banner Campaign, Featured Researcher 2019
- Great Plains Emerging Infectious Diseases Conference Poster Competition, First Place 2017
- Graduate Student University Fellowship, The Ohio State University 2012-2013
- Corporate Fellowship, The Ohio State University 2012
- NASA Space Grant Fellowship, Mount Holyoke College 2012
- Phi Beta Kappa, Mount Holyoke College 2012
- Mu Sigma Rho, Mount Holyoke College 2012
- Sigma Xi, Mount Holyoke College 2012
- Connecticut Valley Section Award, Chemistry 2012
- American Chemical Society Award in Analytical Chemistry 2011
- Louisa Stone Stevenson Prize for Excellence in Chemistry 2011
- Leadership Scholarship, Mount Holyoke College 2008-2012

Professional Activity

- Member, American Statistical Association (ASA)
- Member, American Mathematical Society (AMS)
- Member, American Chemical Society (ACS)

Computer Skills

- Statistical Software: R, SAS, Python
- Application Software: LaTeX, Microsoft Word, Excel, Powerpoint

Languages

- English (fluent)
- Mandarin Chinese (working)
- Spanish (working)
- Portuguese (elementary)

References

Dr. Grant Brown
Assistant Professor
Department of Biostatistics
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Email: grant-brown@uiowa.edu

Dr. Jacob Oleson
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Dr. Christine Petersen
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