

# John R. Lewis

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## Education

- 2009–2014 **Statistics**, *The Ohio State University*, Columbus, OH, *Ph.D. & M.S.*  
Dissertation Title: Bayesian Restricted Likelihood Methods
- 2006–2008 **Mathematics**, *Miami University*, Oxford, OH, *M.S.*
- 2002–2006 **Education & Mathematics and Statistics**, *Miami University*, Oxford, OH,  
*B.A. & B.S.*  
Magna cum Laude

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## Ph.D. Dissertation

- title *Bayesian Restricted Likelihood Methods*
- advisors Dr. Steven N. MacEachern and Dr. Yoonkyung Lee

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## Experience

- 2014–Present **Senior Member of the Technical Staff**, *Sandia National Laboratories*, Albuquerque, NM.
- 2011–2014 **Research Assistant**, *Nationwide Center for Advanced Customer Insights*, Fisher College of Business, *The Ohio State University*, Columbus, OH.
- 2012 **Summer Student Intern**, *JPMorgan Chase & Co.*, Columbus, OH.
- 2010–2011 **Teaching Assistant**, *The Ohio State University*, Columbus, OH.
- 2010 **Research Assistant**, *Summer Undergraduate Mathematical Sciences Research Institute*, *Miami University*, Oxford, OH.
- 2008–2009 **Mathematics Teacher**, *Dupont Manual High School*, *Jefferson County Public Schools*, Louisville, Kentucky.
- 2006–2008 **Teaching Assistant**, *Miami University*, Oxford, OH.

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## Publications

### Journals

- J.D. Tucker, John R. Lewis, C. King, and S. Kurtsek. A geometric approach for computing tolerance bounds for elastic functional data. *ArXiv e-prints*, 2018.
- J.D. Tucker, John R. Lewis, and A. Srivastava. Elastic functional principal

component regression. *ArXiv e-prints*, 2018.

John R. Lewis, Adah Zhang, and Christine M. Anderson-Cook. Comparing multiple statistical methods for inverse prediction in nuclear forensics applications. *Chemometrics and Intelligent Laboratory Systems*, 175:116–129, 2018.

Edward V. Thomas, John R. Lewis, Christine M. Anderson-Cook, Tom Burr, and Michael S Hamada. Selecting an informative/discriminating multivariate response for inverse prediction. *Journal of Quality Technology*, 49(3):228–243, 2017.

#### Conferences

John R. Lewis, Dusty Brooks, and Michael L. Benson. Methods for uncertainty quantification and comparison of weld residual stress measurements and predictions. *ASME 2017 Pressure Vessels and Piping Conference*, 6B: Materials and Fabrication, 2017.

John R. Lewis, Steven MacEachern, and Yoonkyung Lee. Robust inference via the blended paradigm. In *JSM Proceedings, Section on Bayesian Statistical Science*, pages 1773–1786, 2012.

#### Technical Reports

Aubrey C. Eckert-Gallup, John R. Lewis, Nevin S. Martin, Lauren B. Hund, Andrew J Clark, Dusty M. Brooks, and Paul E. Mariner. xLPR scenario analysis report. SAND2017-2854, Sandia National Laboratories, Albuquerque, New Mexico 87185 and Livermore, California 94550, March 2017.

John R. Lewis and Dusty Brooks. Uncertainty quantification and comparison of weld residual stress measurements and predictions. SAND2016-10932, Sandia National Laboratories, Albuquerque, New Mexico 87185 and Livermore, California 94550, October 2016.

John R. Lewis, Steven MacEachern, and Yoonkyung Lee. Bayesian Restricted Likelihood Methods. Technical Report Technical Report No. 878, Department of Statistics, The Ohio State University, 2014.

#### In Progress

J. Derek Tucker, Lyndsay Shand, and John R. Lewis. Bayesian modeling of self-exciting point processes with missing temporal histories.

John R. Lewis, Steven MacEachern, and Yoonkyung Lee. Bayesian restricted likelihood methods.

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#### Presentations

- “Bayesian Modeling of Self-Exciting Marked Point Processes with Missing Histories”, *ISBA World Meetings (Poster Session)*, Edinburgh, Scotland. June, 26 2018.

- “Bayesian Modeling of Self-Exciting Marked Point Processes with Missing Histories”, *University of New Mexico, Statistics Colloquium*, Albuquerque, NM. March, 6 2018.
- “Statistical Applications at Sandia”, *University of Illinois Urbana - Champaign*, Champaign, Illinois, Sept. 27, 2017.
- “Handling Missing Data in Self-Exciting Temporal Point Processes” *Joint Statistical Meetings*, Baltimore, Maryland, July 29 - August 3, 2017.
- “R Projects”, *Statistical Sciences Internal Seminar, Sandia National Laboratories*, July, 18, 2017.
- “Experimental Design”, *NTNFC Monthly Webinar Series*, July, 17 2017.
- “Selecting an Informative/Discriminating Multivariate Response for Inverse Prediction” *Joint Statistical Meetings*, Chicago, Illinois, July 30-August 4, 2016.
- “The Blended Paradigm: Robust Bayesian Modeling using Non-Sufficient Statistics” *Craig Cooley Memorial Prize Talk*, The Ohio State University, Statistics Department, Columbus, Ohio, April 8, 2014.
- “Bayesian Restricted Likelihood Methods”, Nationwide Center for Advanced Customer Insights, Fisher College of Business, The Ohio State University, Columbus, Ohio, April 8, 2014.
- “Bayesian Inference via the Blended Paradigm” *Joint Statistical Meetings*, Montréal, Québec, Canada, August 3 - 8, 2013.
- “Robust Inference via the Blended Paradigm” *Joint Statistical Meetings*, San Diego, California, July 28-August 2, 2012.

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## Honors and Awards

- 2014 Craig Cooley Memorial Prize (OSU)
- 2009 University Fellowship (OSU)
- 2009 Lubrizol Foundation Fellowship (OSU)
- 2008 Graduate Assistant Effective Teaching Award (Miami University)
- 2008 Faculty Prize (Miami University)
- 2006 Graduation with Distinction (Miami University)
- 2006 Alumni Senior Prize (Miami University)
- 2005 Mary Jeanette and Clifford Harvey Scholarship (Miami University)
- 2004 J. Paul and John P. Albert Scholarship (Miami University)
- 2004 Koehler Prize in Mathematics (Miami University)

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## Service

- 2017-2018 ASA Albuquerque Chapter Constitution Committee Member
- 2014–Present Journal Reviewer: Bayesian Analysis, Journal of VV and UQ, Applied Stochastic Models in Business and Industry

2012-2013 Student Co-President, Department of Statistics, The Ohio State University  
2010, 2011 Science Fair Judge, State Science Day, Ohio Academy of Science

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## Computing

Languages R, Python, MATLAB, SAS, JMP, Minitab  
Systems Mac OS, Linux, Windows  
Typesetting  $\text{\LaTeX}$ , RMarkdown, Word  
Software *brlm* - an R package for Bayesian Restricted Likelihood Methods (<https://github.com/jrlewi/brlm>)