

EDUCATION

- **University of Michigan (2006-2011), Ann Arbor, MI**
 - M.A., Statistics, May 2007
 - Ph.D., Statistics, May 2011
- **Duke University (2005-2006), Durham, NC**
 - Ph.D. Student, Institute for Statistics and Decision Sciences
- **UCLA (2002-2005), Los Angeles, CA**
 - B.S. Mathematics
 - Specialization in Computing
 - Summa Cum Laude

EXPERIENCE

- **North Carolina State University (2011-Present), Raleigh, NC**
 - Assistant Professor, Department of Statistics
- **University of Michigan (2008-2011), Ann Arbor, MI**
 - Research Assistant, Institute for Social Research
 - Directed by Susan A. Murphy
- **Journal of Sociological Methodology (2008-2010), Ann Arbor, MI**
 - Editor's assistant
 - Editor Yu Xie
- **University of Michigan (2008), Ann Arbor, MI**
 - Research Assistant, Department of Industrial and Operations Engineering
 - Directed by Judy Jin
- **Google, Inc., New York, NY**
 - Intern, Statistics Research Group
 - Directed by Diane Lambert

RESEARCH INTERESTS

Broadly, I am interested in reinforcement learning, optimization, empirical processes and the bootstrap, and analysis of large and complex data sets. Using these tools, I am interested in developing methodology that can effectively use data to inform clinical decision making. Particular areas of application include the treatment of chronic depression, schizophrenia, and attention deficit hyperactivity disorder.

PUBLICATIONS

Peer Reviewed

- Zhang, B., Tsiatis, A., **Laber, E.B.**, Davidian, M. “Robust estimation of optimal dynamic treatment regimes for sequential treatment decision,” under review.
- Vock, D., Tsiatis, A., Davidian, M., **Laber, E.B.**, Tsuang, W.M., Finland-Copeland, A., Palmer, S.M. “Estimating the causal effect of organ transplantation on the distribution of residual lifetime,” under review.
- **Laber, E.B.**, Shedden, K., Yang, Y. “An imputation method for estimating the learning curve in classification,” under review.
- Zhao, Y., Zeng, D., **Laber, E.B.**, Kosorok, M. “New statistical learning methods for estimating optimal dynamic treatment regimes,” under review.
- Chakraborty, B., **Laber, E.B.**, Zhao, Y. “Inference for optimal dynamic treatment regimes using an adaptive m-out-of-n bootstrap scheme,” under review.
- Schulte, P., Tsiatis, A., **Laber, E.B.**, Davidian, M. “A Comparison and Q- and A-Learning,” under review.
- **Laber, E.B.**, Lizotte, D.J., Qian, M., Pehlam, W.E., Murphy, S.A., “Statistical Inference in Dynamic Treatment Regimes,” under review.
- Shortreed, S.M., **Laber, E.B.**, Stroup, T.S., Pineau, J., Murphy, S.A., “Overcoming missing data in a sequential, multiple assignment, randomized clinical trial of patients with schizophrenia,” under review.
- Zhang, B., Tsiatis, A., **Laber, E.B.**, Davidian, M., “A robust method for estimating optimal treatment regimes,” *Biometrics*, to appear.
- **Laber, E.B.**, Murphy, S.A., “Rejoinder: Adaptive Confidence Intervals for the Test Error in Classification,” *Journal of the American Statistical Association*, September 2011.
- **Laber, E.B.**, Murphy, S.A., “Adaptive Confidence Intervals for the Test Error in Classification,” *Journal of the American Statistical Association*, with discussion, September 2011.
- Shortreed, S.M., **Laber, E.B.**, Lizotte, D.J., Stroup, T.S., Pineau, J., Murphy, S.A., “Informing sequential clinical decision-making through reinforcement learning: an empirical study,” *Machine Learning*, 2011.
- **Laber, E.B.**, Murphy, S.A., “Small Sample Inference for Generalization Error in Classification Using the CUD Bound,” *Uncertainty in Artificial Intelligence*, 2008. *Machine Learning*, July 2011.

In Progress

- **Laber, E.B.**, Janes, H. “Uncertainty in the value of information added for treatment selection.”
- Stefanski, L., **Laber, E.B.**, Linn, K.A., “Interactive Q-learning.”
- **Laber, E.B.**, Lizotte, D.J., Ferguson, B. “Set-valued dynamic treatment regimes for competing outcomes.”
- Lizotte, D.J., **Laber, E.B.** “Non-deterministic fitted-Q for decision support.”
- **Laber, E.B.**, Shedden, K., “Margin-density estimators of the learning curve.”
- **Laber, E.B.**, Pillai, N., “Local Confidence Intervals for High Dimensional Problems.”

- **Laber, E.B.**, Murphy, S.A., “Adaptive Inference After Model Selection.”
- Zhang, B., Tsiatis, A., Davidian, M., Zhang, M., **Laber, E.B.** “A classification perspective of optimal treatment regimes.”
- Prescott, J.J., **Laber, E.B.**, “Prosecutorial Declination Behavior and Defendant Outcomes.”

INVITED PRESENTATIONS

- Personalized medicine cluster seminar, North Carolina State University, Raleigh, NC, August 2012.
- Joint meeting of y-BIS and jSPE, Lisbon, Portugal, 2012.
- ASA Section on Statistical Learning and Data Mining, Ann Arbor, MI, 2012.
- International Chinese Statistical Association Applied Statistics Symposium, Boston, MA, 2012.
- Society for Clinical Trials, Miami, FL, 2012.
- ENAR, Washington, D.C., 2012.
- ISBIS, Bangkok, Thailand, 2012.
- Department of Statistics, University of Minnesota, Minneapolis, MN, February 2012.
- IMPACT, Durham, NC, 2011.
- INFORMS, Charlotte, NC, 2011.
- Department of Statistics, University of Washington, Seattle, WA, February 2011.
- Department of Statistics, Rutgers University, New Brunswick, NJ, January 2011.
- Department of Statistics, Columbia University, New York, NY, January 2011.
- Department of Statistics, North Carolina State University, Raleigh, NC, January 2011.
- Department of Statistics, University of Florida, Gainesville, FL, January 2011.
- 28th European Meeting of Statisticians, Pireaus, Greece, 2010.
- Joint Statistical Meetings, Vancouver, B.C., Canada, 2010.
- International Chinese Statistical Association Applied Statistics Symposium, Indianapolis, IN, 2010.
- Student Symposium for Interdisciplinary Statistical Sciences, Ann Arbor, MI, 2010. Highlighted student talk.
- Ford Credit, Dearborn MI, 2009.
- Workshop on Challenges in Statistical Theory: Complex Data Structures and Algorithmic Optimization, Oberwolfach Germany, 2009.
- Joint Statistical Meetings, Washington D.C., 2009.

HONORS AND AWARDS

- SAMSI faculty fellow, 2012-2013 program on data-driven decisions in healthcare.
- Selected for the 2011 JASA Theory and Methods invited paper.
- Rackham Predoctoral Fellowship, University of Michigan, 2010.
- Selected for highlighted student talk, MSSISS, 2010.
- US Junior Oberwolfach Fellow, Oberwolfach Germany, 2009.
- 20th Annual Albert J. Silverman Trainee Poster Award, 3rd Place, Ann Arbor, Mi.
- Best poster, Second Midwest Statistics Research Colloquium, Chicago, IL, 2009.
- Nominated by University of Michigan for Microsoft Graduate Fellowship, 2008.
- Travel Grant, IPAM, Workshop on Multiscale Resolution, UCLA, 2008.
- Travel Grant, Uncertainty in Artificial Intelligence, Helsinki, Finland, 2008.
- Travel Grant, Rackham Graduate School, University of Michigan, 2008.
- Interdisciplinary Statistics Working Group Grant, University of Michigan, 2008.
- Quantitative Methodology Program Fellowship, University of Michigan, 2007.
- Outstanding First Year Ph.D. Student, University of Michigan, Department of Statistics, 2007.
- JB Duke Fellowship, Duke University, 2006.
- Sherwood Award in Mathematics, UCLA, 2005.

SERVICE

- Reviewer for Annals of Statistics, Biometrika, International Statistical Review, Journal of the American Statistical Association, Annals of Applied Statistics, Statistica Sinica, Journal of Statistical Research, and the Journal of Sociological Methodology.
- Chair young researchers advisory committee STAT journal of statistics, 2012.
- Guest editor Communications in Statistics: Simulation and Computation, special issue on the joint meeting of y-BIS and jSPE, TBD.
- Organizing committee joint meeting of ASA Section of Statistical Learning and Data Mining and ISBIS, Durham, NC, 2014.
- Organized invited sessions at
 - ISI Meeting, Hong Kong, 2013.
 - Joint Statistical Meeting, San Diego, CA, 2012.
 - ASA Section on Statistical Learning and Data Mining, Ann Arbor, MI, 2012.
 - ISBIS, Bangkok Thailand, 2012.
 - ISBIS Joint Meeting with the Portuguese Statistical Association, Lisbon, Portugal, 2012.

SUPPORT

- Investigator, NIH grant P01 CA142538.

ODDITIES

- Spent 12 years as a professional magician, performed more than 3000 shows
- Currently collects books on magic tricks and magic history
- Once hung upside down from a crane and escaped from a straight jacket