Lee McDaniel

Department of Statistics
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Education

University of Wisconsin - Madison, Madison, WI
- Ph.D. Statistics (Expected Summer 2014), Advisor: Richard Chappell
- Dissertation: Additive Hazards in Non-Inferiority Trials

College of William and Mary, Williamsburg, VA
- M.S. Operations Research, 2008

Rose-Hulman Institute of Technology, Terre Haute, IN
- B.S. Mathematics and Economics, 2006

Research Interests

- Design and Analysis of Non-Inferiority Trials
- Analysis of Case-Control Studies
- Statistical Computing in R

Collaboration Interests

- Analysis of Survival Data
- Generalized Linear Models
- Mixed-Effects Models

Publications

1. **L. S. McDaniel**, N. C. Henderson, and P. J. Rathouz. Fast Pure R Implementation of GEE: Application of the Matrix Package. The R Journal, 5(1):181-188, June 2013.

Manuscripts in Progress

1. **L. S. McDaniel**, J. S. Schildcrout, E. F. Schisterman and P J. Rathouz. Sequentially Offset Regression Following Outcome Dependent Sampling. In preparation.
2. M. D. LaFontaine, **L. S. McDaniel**, L. N. Kubicek, R. Chappell, L. J. Forrest, R. Jeraj. Fixed Effects Influencing the Variability of Distributed Parameter Based Models in DCE-CT Kinetic Analysis. Submitted, 2014.
3. **L. S. McDaniel**, M. Yu, and R. Chappell. Sample Size Under the Additive Hazards Model. In preparation.

Presentations at National Meetings

1. **L. S. McDaniel**, M. Yu, and R. Chappell. Sample Size Under the Additive Hazards Model. Scheduled for the Annual Meeting of the Society for Clinical Trials, May 2014.
2. R. Chappell and **L. S. McDaniel**. Imbalanced Randomization in Non-inferiority Trials can be Highly Efficient. Eastern North American Region of the International Biometrics Society Meeting, March 2014.
3. P. J. Rathouz, **L. S. McDaniel**, and J. S. Schildcrout. Robust Outcome-Dependent Sampling for Continuous- and Counted-Response Longitudinal Data. Joint Statistical Meetings, August 2013.
4. P. J. Rathouz, J. S. Schildcrout, and **L. S. McDaniel**. Outcome Dependent Sampling for Continuous-Response Longitudinal Data. Eastern North American Region of the International Biometrics Society Meeting, March 2013.

Software

1. **L. S. McDaniel**. Interactive Sample Size Calculator. Available at `http://pages.stat.wisc.edu/~mcdaniel/samplesize.html`. November, 2013.
2. **L. S. McDaniel**, N. C. Henderson, P. J. Rathouz. geeM: Fit Generalized Estimating Equations. Available on CRAN at `http://cran.r-project.org/web/packages/geeM/index.html`. June, 2013.

Experience

Research Assistant, University of Wisconsin - Madison August 2012 - Present

- Sequentially Offset Regression Following Outcome Dependent Sampling
  - Worked with Paul Rathouz and Jonathan Schildcrout.
  - Developed GEE approach to correct bias from outcome dependent sampling.
- A Pure R GEE Implementation
  - Worked with Paul Rathouz and Nicholas Henderson.
  - Created GEE solver in R allowing for user-specified link function.

Biostatistics Trainee, University of Wisconsin - Madison August 2008 - August 2012

- A Non-Parametric Dose-Finding Study Design Fall 2011
  - Developed design for a dose-finding study based on isotonic regression in a time-to-event context.
- Group and Within-Group Variable Selection for Survival Data Spring 2010
  - Collaborated with Prof. Sijian Wang (Statistics, UW-Madison).
  - Incorporated a convex penalty into the Cox proportional hazards model.
  - Analyzed effectiveness of methodology using simulation studies.

- Regression Analysis of an Alzheimer's Study Fall 2009
  - Collaborated with Dr. Maritza Dowling (Biostatistics, UW-Madison).
  - Investigated covariate effects on survival in longitudinal data.
- Detecting Clusters of More Significant P-Values. Spring 2009
  - Collaborated with Prof. Michael Newton (Statistics, UW-Madison).
  - Implemented a hidden Markov model to identify clusters in expression data.

Statistical Collaboration November 2011 - Present

- Quality of Life Outcomes in cGVHD
  - Collaborating with Erin Costanzo (Department of Psychiatry, UW-Madison).
- Fixed Effects Influencing the Variability of Distributed Parameter Based Models in DCE-CT Kinetic Analysis.
  - Collaborated with Matt LaFontaine (Medical Physics, UW-Madison).
  - Manuscript submitted.
- Analysis of Mortality in Hamsters Due to Prion Diseases
  - Collaborated with Christen Bell Smith (Environmental Chemistry and Technology, UW-Madison).
- Comparison of Radiation Treatment Doses for Canine Nasal Cancer.
  - Collaborated with Dr. Lisa Forrest (School of Veterinary Medicine, UW-Madison).
- Analysis of an Epidemiological Study of Obstetrical Risks
  - Collaborated with Theresa Duello (Obstetrics and Gynecology, UW-Madison).
- Design and Analysis of an Electron Microprobe Experiment
  - Collaborated with Phillip Gopon for his thesis work (Geology, UW-Madison).

Operations Consultant, Colonial Williamsburg January 2008 - May 2008

- Discrete Event Simulation of Restaurant Operations
  - Conducted feasibility study of removal of large distribution center.
  - Determined robustness of Colonial Williamsburg's restaurant network.

NASA Intern, Langley Research Center June 2007 - August 2007

- Automation and Unmanned Aircraft Mishaps
  - Investigated mishaps of unmanned military aircraft.
  - Produced a technical report summarizing causes of mishaps.
  - Researched human factors elements of automation.

Teaching Assistant, College of William and Mary August 2006 - May 2008

- Led lab sessions for undergraduate calculus.
- Held weekly hours in the tutoring center.

Awards

- Finalist, Society for Clinical Trials Thomas Chalmers Student Paper Award, 2014. Awarded for Sample Size Under the Additive Hazards Model.
- Third Place, ASA Biopharmaceutical Student Paper Award, 2014. Awarded for Sample Size Under the Additive Hazards Model.
- Student Travel Award, INFORMS Annual Meeting, 2007.

Professional Membership

- Society for Clinical Trials
- American Statistical Association

Coursework

- Clinical Trials, Epidemiology, Survival Analysis, Theoretical Statistics sequence, Linear Models sequence, Computer Science minor sequence, Discrete Event Simulation.

Miscellaneous

- Computer Skills: Strong knowledge of R, Java, Javascript, LaTeX, Microsoft Office.