Shawn E. Simpson

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Education

- Ph.D. in Statistics, Columbia University, August 2011
- M.A. in Statistics, Columbia University, October 2007
- B.S. in Electrical Engineering, Minor in Mathematics, University of Illinois at Urbana-Champaign, May 2006

Academic Experience

- Assistant Professor, Department of Statistics, Columbia University, Fall 2011-present

Research Interests

- Large-scale data
- Analysis of recurrent events
- Bayesian methods
- Postmarketing drug safety surveillance

Honors and Appointments

- Campus Honors Program, University of Illinois at Urbana-Champaign, 2002-2006
- Intel Research Scholars Program for Undergraduates in Engineering, University of Illinois at Urbana-Champaign, 2005-2006
- Graduate Fellowship, Department of Statistics, Columbia University, 2006-2011
- Graduate Student Representative, Department of Statistics, Columbia University, 2009-2010

Publications

- **SE Simpson**, X Chu, AZ Liu, W Robinson, GJ Nott, J Diettrich, PJ Espy, J Shanklin (2005). Polar stratospheric clouds observed by a lidar at Rothera, Antarctica (67.5°S, 68.0°W). *Proceedings of SPIE*, 5887, 58870T, 178-190.

- D Madigan, P Ryan, **SE Simpson**, I Zorych (2010). Bayesian methods in pharmacovigilance (with discussion). In: JM Bernardo, MJ Bayarri, JO Berger, AP Dawid, D Heckerman, AFM Smith and M West (eds), *Bayesian Statistics 9*, Oxford University Press, 421-438.

- **SE Simpson** (2013). A positive event dependence model for self-controlled case series with applications in postmarketing surveillance. *Biometrics*, 69(1), 128-136.

- MA Suchard, **SE Simpson**, I Zorych, P Ryan, D Madigan (2013). Massive parallelization of serial inference algorithms for a complex generalized linear model. *ACM Trans. Model. Comput. Simul.*, 23, 1, 10:1-10:17.

- MA Suchard, I Zorych, **SE Simpson**, MJ Schuemie, PB Ryan, D Madigan (2013). Empirical performance of the self-controlled case series design: lesson for developing a risk identification and analysis system. *Drug Safety*, 36 (Suppl 1):S83-S93.

- **SE Simpson**, D Madigan, I Zorych, MJ Schuemie, P Ryan, MA Suchard (2013). Multiple self-controlled case series for large-scale longitudinal observational databases. *Biometrics*, 69(4), 893-902.

Invited Presentations

- "Polar stratospheric clouds observed by a lidar at Rothera, Antarctica (67.5°S, 68.0°W)," Lidar Remote Sensing for Environmental Monitoring Conference at SPIE Symposium on Optics & Photonics, San Diego, CA, August 2005.

- "A generalization of the self-controlled case series method allowing for positive event dependence," Joint Statistical Meetings, Miami, FL, August 2011.

- "Self-controlled methods for postmarketing drug safety surveillance in large-scale longitudinal data," Department of Statistics, Rutgers University, New Brunswick, NJ, September 2011.

- "'Burstiness': analyzing cable traffic for known and unknown events," Declassification Engine Conference, Columbia University, New York, NY, May 2013.

Contributed Presentations

- "An introduction to the self-controlled case series method," Observational Medical Outcomes Partnership Symposium, Bethesda, MD, November 2009.

- "A Bayesian self-controlled method for drug safety surveillance in large-scale longitudinal data," Joint Statistical Meetings, Vancouver, BC, August 2010.

- "Self-controlled case series models for longitudinal observational data: extensions and goodness-of-fit diagnostics," Institute of Mathematical Statistics Asia Pacific Rim Meeting, Taipei, Taiwan, July 2014.

Contributed Posters

- "Polar stratospheric clouds observed by a lidar at Rothera, Antarctica (67.5°S, 68.0°W)," Joint CEDAR/GEM Workshop, Santa Fe, NM, June 2005.
- "A Bayesian self-controlled method for drug safety surveillance in large-scale longitudinal data," Conference on Nonparametric Statistics and Statistical Learning, Ohio State University, Columbus, OH, May 2010.
- "A Bayesian self-controlled method for drug safety surveillance in large-scale longitudinal data," Ninth Valencia International Meeting on Bayesian Statistics, Benidorm, Spain, June 2010.

Teaching Experience

- Course Instructor, Department of Statistics, Columbia University
  - STAT W1001 Introduction to Statistical Reasoning (Fall 2007, Summer 2008)
  - STAT W4109 Probability and Statistical Inference (Fall 2011)
  - STAT W2026 Case Studies in Statistics (Spring 2012)
  - STAT W4105 Probability (online) (Fall 2013)
  - STAT W4107 Statistical Inference (online) (Spring 2014)
  - STAT W4315 Linear Regression Models (hybrid in-class and online) (Spring 2014)
- Teaching Assistant, Department of Statistics, Columbia University
  - STAT W1111 Introduction to Statistics (Fall 2006)
  - STAT W4109 Probability and Statistical Inference (Fall 2008)
  - STAT W4150 Introduction to Probability & Statistics (Spring 2011)
  - STAT W4220 Categorical Data Analysis (Spring 2007)
  - STAT W4240 Data Mining (Spring 2010)
  - STAT W4325 Generalized Linear Models (Spring 2008, Spring 2009)
  - STAT W4437 Time Series Analysis (Fall 2010)

Other Experience

- Oncology Business Unit, Pfizer Inc., New York, NY
  - Consultant (Dec 2010-Mar 2012); Summer Intern (June-August 2009)

Worked on design and implementation of cure-rate mixture models to analyze long term survival data from clinical trials of early cancer therapy

Computing Knowledge

- R, Perl, SAS, SQL, C, HPC cluster

Service

- Professional
  - Referee for *AISTATS*, *Journal of the American Statistical Association*, *Pharmicoepidemiology and Drug Safety*
- Departmental
  - Organized student meetings with seminar speakers, 2007-2008
  - Organized doctoral student retreat, October 2008, October 2009
  - Organized Minghui Yu Memorial Conference, a student sponsored conference featuring research talks by doctoral students and an invited keynote speaker, April 2010
  - Worked with the Director of Graduate Studies to assign doctoral students to TA positions, 2009-2010
  - Developed and taught first three classes for the hybrid online/on-campus M.A. in Statistics initiative, Spring 2012 - present
  - Served on Lecturer in Discipline search committee, Spring 2014
- University
  - Served on Provost's Faculty Advisory Committee on Online Learning, Spring 2014 - present

Professional Societies

- American Statistical Association
- Institute of Mathematical Statistics
- International Society for Bayesian Analysis