

HOWARD D. BONDELL

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Education

Rutgers University, Piscataway, NJ

Ph.D., Statistics, October 2005.

Dissertation Title: *Robust Logistic Regression via the Case-Control Formulation.*

Advisor: *David E. Tyler*

M.S., Statistics, 2002.

B.A., Mathematics, 1998.

State of New Jersey, Department of Education

K-12 Mathematics Teaching Certification, 1998.

Current Research Interests

Variable and Model Selection, Classification and Clustering, Robust Estimation and Inference, Nonparametric and Semiparametric Statistics, Applications in the Medical and Social Sciences.

Professional Experience

North Carolina State University, Department of Statistics

Associate Professor, 2011-present.

Assistant Professor, 2005-2011.

Rutgers University, Department of Statistics

Graduate Research Assistant, 2003-2005.

Statistical Consultant, 2002-2005.

Part-Time Instructor, 2000-2005.

National Institutes of Health, Institute of Child Health and Human Development

Research Internship, 2003. Division of Epidemiology, Statistics, and Prevention.

Point Pleasant Borough High School, Point Pleasant, NJ

High School Mathematics Teacher, 1998-2000.

Teaching Experience

Graduate Courses Taught: Applied Least Squares, Topics in Model Selection, Theory of Statistical Inference, Regression Analysis, Design of Experiments, Statistical Methods in the Biological Sciences.

Undergraduate Courses Taught: Probability and Statistics for Engineers, Basic Statistics for Research, Basic Statistics for Business, Regression Analysis, Statistical Computing, Calculus I, Calculus II, Pre-Calculus.

High School Courses Taught: AP Calculus, Pre-Calculus, Algebra I and II, Geometry.

*Editorial
Service*

Associate Editor:

Biostatistics, 2010-present.

Biometrics, 2008-present.

Journal of the American Statistical Association: Theory and Methods, 2008-present.

Consulting Editor:

Journal of Emergency Nursing, 2003-2008.

Reviewer:

Annals of Applied Statistics, *Biometrics*, *Biometrika*, *Communications in Statistics*, *Journal of the American Statistical Association*, *Journal of Computational and Graphical Statistics*, *Journal of Emergency Nursing*, *Journal of Multivariate Analysis*, *Journal of Statistical Planning and Inference*, *Journal of Statistical Research*, *Statistics and Computing*, *TEST*, *National Science Foundation*.

*Other
Professional
Service*

North Carolina State University

Prelim Exam Committee, 2008, 2011.

Course and Curriculum Committee, 2006-present.

Basic Exam Committee, 2007, 2010.

Seminar Committee, 2006-2008, 2009-2010.

Rutgers University, Department of Statistics

Graduate Student Representative, 2002-2005.

Graduate Student Seminar Chairperson, 2000-2002.

American Statistical Association

Invited Session Chair, JSM, 2006, 2007.

Local Assistance Committee, JSM, 2002.

Biometric Society, ENAR

Invited session organizer, ENAR, 2010.

Invited Session Chair, ENAR, 2006.

International Conference on Artificial Intelligence and Statistics

Senior Program Committee, AISTATS, 2011

*Recent
Presentations
(past 5 years)*

International Conference on Robust Statistics, *Valladolid, Spain*, July 2011.

Chinese Statistical Association Applied Statistics Symposium, *New York, NY*, June 2011.

Duke University, Dept. of Statistical Science, *Durham, NC*, March 2011.

ENAR Spring Meetings, *Miami, FL*, March 2011.

University of South Carolina, Dept. of Statistics, *Columbia, SC*, October, 2010.

ENAR Spring Meetings, *New Orleans, LA*, March 2010.

Rutgers University, Dept. of Statistics, *Piscataway, NJ*, December 2009.

NIH/NICHD Division of Epidemiology, Statistics, and Prevention, *Rockville, MD*, August 2009.

Joint Statistical Meetings, *Washington, DC*, August 2009.

ENAR Spring Meeting, *San Antonio, TX*, March 2009.

Interface 2008, *Durham, NC*, May 2008.

International Conference on Interdisciplinary Statistics, *Greensboro, NC*, October 2007.
Joint Statistical Meetings, *Salt Lake City, UT*, July 2007.
SRCOS / ASA Southern Regional Conference, *Richmond, VA*, June 2007.
SAMSI / NCAR Workshop on Applications to Computer Models, *Boulder, CO*, May, 2007.
NC State University, Dept. of Statistics, *Raleigh, NC*, November 2006.
Joint Statistical Meetings, *Seattle, WA*, August 2006.
International Conference on Robust Statistics (ICORS), *Lisbon, Portugal*, July 2006.
CCMTR Clinical Genomics Core Symposium, *Raleigh, NC*, June 2006.
ENAR Spring Meeting, *Tampa, FL*, March 2006.

Current External Funding National Science Foundation - DMS 1005612, 2010-2013
Role: Individual Grant
(*Principal Investigator*: Howard Bondell, Total Amount: \$130,000)

National Institutes of Health – P01, 2010-2015
Role: Co-investigator - 22% of yearly effort
(*Principal Investigators*: Michael Kosorok, Marie Davidian, and Stephen George, Total Amount: \$12,000,000)

National Institutes of Health - R01MH84022, 2009-2012
Role: Co-investigator - 22% of yearly effort
(*Principal Investigator*: Jung-Ying Tzeng, Total Amount: \$380,000)

Previous External Funding National Science Foundation - DMS 0705968, 2007-2011
Role: Individual Grant
(*Principal Investigator*: Howard Bondell, Total Amount: \$139,999)

NCSU Faculty Research and Professional Development Grant, 2006-2007
Role: Individual Grant
(*Principal Investigator*: Howard Bondell, Total Amount: \$4,000)

Publications (Methodology) Reich, B. J., Bondell, H. D., and Li, L. (2011). Sufficient dimension reduction via Bayesian mixture modeling. *Biometrics*. In Press. DOI: 10.1111/j.1541-0420.2010.01501.x

Storlie, C. B., Bondell, H. D., Reich, B. J., and Zhang, H. H. (2011). Surface estimation, variable selection, and the nonparametric oracle property. *Statistica Sinica*, In Press.

Reich, B. J. and Bondell, H. D. (2011). A spatial Dirichlet process mixture model for clustering population genetics data. *Biometrics*. In Press. DOI: 10.1111/j.1541-0420.2010.01484.x

Bondell, H. D., Reich, B. J., and Wang, H. (2010). Non-crossing quantile regression curve estimation. *Biometrika* **97**, 825-838.

- Storlie, C. B., Bondell, H. D., and Reich, B. J. (2010). A locally adaptive penalty for estimation of functions with varying roughness. *Journal of Computational and Graphical Statistics* **19**, 569-589
- Koehler, M. L., Bondell, H. D., and Tzeng, J.-Y. (2010). Evaluating haplotype effects in case-control studies via penalized-likelihood approaches: prospective or retrospective analysis? *Genetic Epidemiology* **34**, 892-911.
- Bondell, H. D., Krishna, A., and Ghosh, S. K. (2010). Joint variable selection of fixed and random effects in linear mixed-effects models. *Biometrics* **66**, 1069-1077.
- Reich, B. J., Bondell, H. D., and Wang, H. (2010). Flexible Bayesian quantile regression for independent and clustered data. *Biostatistics* **11**, 337-352.
- Tzeng, J.-Y. and Bondell, H. D. (2010). A comprehensive approach to haplotype-specific analysis by penalized likelihood. *European Journal of Human Genetics* **18**, 95-103.
- Bondell, H. D. and Li, L. (2009). Shrinkage inverse regression estimation for model-free variable selection. *Journal of the Royal Statistical Society B* **71**, 287-299.
- Krishna, A., Bondell, H. D., and Ghosh, S. K. (2009). Bayesian variable selection using an adaptive powered correlation prior. *Journal of Statistical Planning and Inference* **139**, 2665-2674.
- Bondell, H. D. and Reich, B. J. (2009). Simultaneous factor selection and collapsing levels in ANOVA. *Biometrics* **65**, 169-177.
- Reich, B. J., Storlie, C. B., and Bondell, H. D. (2009). Variable selection in Bayesian smoothing spline ANOVA models: Application to deterministic computer codes. *Technometrics* **51**, 110-120. (This paper was selected to be presented at JSM 2009 as *Technometrics* invited paper.)
- Bondell, H. D. and Reich, B. J. (2008). Simultaneous regression shrinkage, variable selection and clustering of predictors with OSCAR. *Biometrics* **64**, 115-123.
- Bondell, H. D. (2008). A characteristic function approach to the biased sampling model, with application to robust logistic regression. *Journal of Statistical Planning and Inference* **138**, 742-755.
- Bondell, H. D. (2008). On robust and efficient estimation of the center of symmetry. *Communications in Statistics - Theory and Methods* **37**, 318-327.
- Bondell, H. D. (2007). Testing goodness-of-fit in logistic case-control studies. *Biometrika* **94**, 487-495.
- Bondell, H. D., Liu, A., and Schisterman, E. F. (2007). Statistical inference based on pooled data: A moment-based estimating equation approach. *Journal of Applied Statistics* **34**, 129-140.
- Schisterman, E. F., Perkins, N. J., Liu, A., and Bondell, H. D. (2005). Optimal cut-point and its corresponding Youden index to discriminate individuals using pooled blood samples. *Epidemiology* **16**, 73-81.
- Bondell, H. D. (2005). Minimum distance estimation for the logistic regression model. *Biometrika* **92**, 724-731.

Publications Freire, M., Robertson, I., Bondell, H. D., Brown, J., Hash, J., Pease, A. P., Lascelles, B. D. X.
(*Collaborative*) (2011). Evaluation of Radiographic DJD versus macroscopic appearance of cartilage in
appendicular joints in cats. *Veterinary Radiology & Ultrasound*. In Press.

Zamprogno, H., Hansen, B. D., Bondell H. D., Thomson-Sumrell, A., Simpson, W., Robertson, I.,
Brown, J., Pease, A., Roe, S. C., Hardie, E., Wheeler, S. J., Lascelles, B. D. X. (2010).
Development of a questionnaire to assess degenerative joint disease-associated pain in cats: Item
generation and questionnaire format. *American Journal of Veterinary Research* **71**, 1417-1424.

PhD Arun Krishna - May 2009 (Currently at Novartis)

Students Dhruv Sharma - May 2010 (Currently Post-Doc, Harvard University)

Supervised Funda Gunes - May 2010 (Currently at SAS)

Meg Koehler - August 2011 (Currently Assistant Professor of Biostatistics, Duke University)

Liewen Jiang (In progress, joint with Huixia Wang)

Justin Post (In progress)

Chen-Yen Lin (In progress, joint with Hao Helen Zhang)

Dehan Kong (In progress, joint with Yichao Wu)

Anthony Franklin (In progress, joint with Lexin Li)