

William Jason Owen

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Education

- 1997 Ph.D. in Statistics, University of South Carolina, Columbia, SC
 Doctoral Advisor: Dr. William J. Padgett
 Title: Some Accelerated Test Models Using the Birnbaum-Saunders Distribution
- 1995 M.S. in Statistics, University of South Carolina, Columbia, SC
 Thesis Advisor: Dr. Stephen D. Durham
 Title: Optimal Design for Binary Data in the Recoil Test
- 1992 B.S. in Mathematics, Salisbury University, Salisbury, MD
 Cum Laude, Minor: Chemistry

Employment and Relevant Experience

- 2007-present Associate Professor of Statistics (with tenure), Department of Mathematics and Computer Science, University of Richmond, VA.
- 2002-2007 Assistant Professor of Statistics, Department of Mathematics and Computer Science, University of Richmond, VA.
- 1997-2002 Assistant Professor of Statistics (tenure track), Department of Mathematics and Statistics, University of New Hampshire, Durham, NH.
- 1992-1997 Teaching/Research Assistant, Department of Statistics, University of South Carolina, Columbia, SC.

Computing Experience

Systems: MS Windows, Unix, OS-X
Languages: R/S-PLUS, C, SAS, HTML
Applications: SPSS, Excel, JMP, Mathcad, MS Access/SQL

Recent Consulting Experience

Buzzeo-PDMA (a division of Dentrte International) Richmond, VA. Internal reconciliation of prescription drug sample inventories and identification of significant loss thresholds attributed to field sales representatives or shipment losses (June 2003 – present).

Expert Witnessing Services: U.S. Department of Justice, Richmond, VA (May-June, 2003). Morris and Morris P. C., Richmond, VA (April-May, 2006). DuretteBradshaw PLC, Richmond, VA (May, 2007).

Research Interests

Reliability models and Lifetime Data Analysis, Cumulative Damage models, the Birnbaum-Saunders distribution, Statistical Computing and Simulation, Distributed Computations.

Funded Research

National Science Foundation, Cyber Trust Program (NSF IIS-0524239): “Ensuring Integrity in Distributed Volunteer Computing Platforms,” with D. Szajda and B. Lawson. Sept. 1, 2005 - Aug. 31, 2008. Amount: \$401,193.

University of Richmond, Summer Research Fellowship Grant: “Paired-Data Analyses for Lifetime Distributions,” Summer, 2003. Amount: \$5000.

Courses Taught (as faculty)

University of Richmond (2002-present)

Math 119: Statistics for Social and Life Sciences (13 times)
Math 219: Introduction to the Design of Experiments (2 times)
Math 329: Probability (6 times)
Math 330: Mathematical Statistics (5 times)
Math 395: Theory of Interest, the Mathematics of Investment (2 times)

various independent studies

University of New Hampshire (1997-2002)

Math 644: Statistics for Engineers and Scientists (6 times)
Math 739: Applied Regression Analysis (3 times)
Math 741: Survival Analysis (1 time)
Math 755: Probability and Stochastic Processes with Applications (2 times)
Math 756: Principles of Statistical Inference (3 times)

Bibliography (lead author indicated by *)

- 2007 “An Exponential Damage Model for Strength of Fibrous Composite Materials,” *IEEE Transactions on Reliability* **56**, No. 3, pp. 459-463*.
- 2006 “A Nonparametric Analysis for Smith-Waterman Alignment Scores” (with B. Lawson and D.Szajda), 2006 JSM Proceedings, ASA Biometrics Section, pp. 315-320*.
- 2006 “A New Three-Parameter Extension to the Birnbaum Saunders Distribution,” *IEEE Transactions on Reliability* **55**, No. 3, pp. 475-479*.
- 2006 “Using R in an Undergraduate Mathematical Statistics Sequence,” *Interstat* May #2 <http://interstat.statjournals.net/>, pp.1-8*.

- 2006 “Toward a Practical Data Privacy Scheme for a Distributed Implementation of the Smith-Waterman Genome Sequence Comparison Algorithm” (with D. Szajda, M. Pohl¹, and B. Lawson), in *Proceedings of the 2006 ISOC Network and Distributed System Security Symposium*, pages 253-265, San Diego, CA.
- 2005 “Cumulative Damage Models for Strengths of Materials,” *Journal of Applied Statistical Science* **14** No. 3/4, pp. 263-274*.
- 2005 “A Power Analysis with Tests for Paired Lifetime Data,” *Lifetime Data Analysis* **11** No. 2, pp. 233-243*.
- 2005 “Toward an Optimal Redundancy Strategy for Distributed Computations” (with D. Szajda and B. Lawson), in *Proceedings of the 2005 IEEE International Conference on Cluster Computing* (Cluster 2005), Boston, MA.
- 2005 “An Alternate Multiplicity-2 Task Assignment Scheme for Distributed Computations” (with D. Szajda, B. Lawson, A. Charlesworth, and E. Kenney¹), in *Proceedings of the International Conference on Parallel and Distributed Processing Techniques and Applications* (PDPTA-05), Las Vegas, NV.
- 2003 “Hardening Functions for Large Scale Distributed Computations” (with D. Szajda and B. Lawson), in *Proceedings of the 2003 IEEE Symposium on Security and Privacy*, pp. 216-224.
- 2003 “Accelerated Test Models with the Birnbaum-Saunders Distribution” (with W. J. Padgett), *Reliability Engineering Handbook*, H. Pham, Ed., Springer-Verlag, New York*.
- 2000 “A Paired-Data Analysis for a Lifetime Distribution” (with D. Sinha and M. Capozzoli), *The American Statistician* **54**, No. 4, pp. 252-256. With Reply to Comments on “_____,” *The American Statistician* **55** (2001), No. 3, pp. 260*.
- 2000 “An Accelerated Birnbaum-Saunders Life Model” (with W.J. Padgett), *IEEE Transactions on Reliability* **49**, No. 2, pp. 224-229*.
- 2000 “Power-law Accelerated Birnbaum-Saunders Life Models” (with W.J. Padgett), *International Journal of Reliability, Quality and Safety Engineering* **7**, pp. 1-15*.
- 2000 “New Bayesian Approach to Modelling Accelerated Life Test Data” (with D. Sinha and M. Capozzoli), in *Perspectives in Statistical Sciences*, A.K. Basu, *et al.* Eds., Oxford University Press, New Delhi, pp. 276-289.
- 1999 “Acceleration Models for System Strength based on Birnbaum-Saunders Distributions” (with W.J. Padgett), *Lifetime Data Analysis* **5**, pp. 133-147*.
- 1999 “A Bootstrap Procedure Based on Maximum Likelihood Summarization” (with Wanzhu Tu), in *1999 ASA Proceedings, Section on Statistical Computing*, pp. 127-131.
- 1998 “Birnbaum-Saunders-Type Models for System Strength Assuming Multiplicative Damage” (with W.J. Padgett), in *Frontiers in Reliability*, A. P. Basu, *et al.* Eds., World Scientific Publishing Co., River Edge, NJ, pp. 283-294*.

¹ University of Richmond undergraduate student.

- 1997 “A Birnbaum-Saunders-Type Model for System Strength Assuming Multiplicative Damage” (with W.J. Padgett), in 1997 *ASA Proceedings, Section on Physical and Engineering Sciences*, pp. 141-146*.
- 1997 “Localized Load-Sharing Rules and Markov-Weibull Fibers: A Comparison of Micro-composite Failure Data with Monte Carlo Simulations” (with S.D. Durham, *et al.*), *Journal of Composite Materials* **31**, No. 18, pp. 1856-1882.

Unpublished Manuscripts

- 2006 *The R Guide*, an introductory manual for the statistical program R. Freely available at <http://cran.us.r-project.org/> (contributed documentation), 55 pages.

Textbook Reviews

- 2006 Review of *Computational Statistics* by Geof Givens and Jennifer Hoeting, *Technometrics* **48**, pp. 309-310.
- 2004 Review of *Modeling the Internet and the Web: Probabilistic Methods and Algorithms* by Pierre Baldi, Paolo Frasconi, and Padhraic Smyth, *Technometrics* **46**, pp. 369.
- 2003 Review of *Elements of Computational Statistics* by James E. Gentle, *Technometrics* **45**, pp. 268-269.
- 2000 Review of *Statistical Data Analysis* by Glen Cowan, *Technometrics* **42**, pp. 311-312.

Recent Presentations at Professional Meetings

- 2007 useR!2007, Ames, IA (August). “The R Guide: A Manual on R for Everyone.”
- 2006 Joint Statistical Meetings (JSM), Seattle, WA (August). “Analysis of DNA Gene Sequences with the Smith-Waterman Algorithm.”
- 2005 IEEE International Conference on Cluster Computing (Cluster 2005), Boston, MA, September 2005. “Toward An Optimal Redundancy Strategy for Distributed Computations.”
- 2005 International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA-05), as part of the workshop entitled Scheduling and Resource Management for Parallel and Distributed Systems (SRMPDS-05), Las Vegas, NV (June). “An Alternate Multiplicity-2 Task Assignment Scheme for Distributed Computations.”
- 2004 Mathematical Methods in Reliability (MMR), Santa Fe, NM (June). “Another Look at the Birnbaum Saunders Distribution.”
- 2004 Spring Research Conference (SRC), National Institutes of Standards and Technology (NIST), Gaithersburg, MD (May). “Another Look at the Birnbaum Saunders Distribution.”

- 2003 International Conference in Reliability and Survival Analysis (ICRSA), Columbia, SC (May). “A Power Analysis for Tests Using Paired Lifetime Data.”
- 2001 15th Anniversary Alumni Conference, Department of Statistics, University of South Carolina, Columbia, SC (March). “A Paired-Data Analysis for a Lifetime Distribution,” Section on Advances in Basic Research. *Invited Presentation.*
- 2000 37th Annual Technical Meeting of the Society of Engineering Science (SES), University of South Carolina, Columbia, SC (October). “Cumulative Damage Models Applied to Carbon Fibrous Composite Data,” Section on Complex Materials/Composites. *Invited presentation.*
- 2000 INFORMS (Institute for Operations Research and the Management Sciences) Annual Meeting, Salt Lake City, UT (May). “Cumulative Damage Models for Strengths of Materials,” Section on Reliability. *Invited presentation.*
- 1999 Joint Statistical Meetings (JSM), Baltimore, MD (August). “A Bootstrap Confidence Interval Procedure Based on Maximum Likelihood Summarization.”
- 1999 Spring Research Conference (SRC), Minneapolis, MN (June). “Testing the Equality of Lifetime Distributions for Paired Observations.”
- 1998 Sixth Valencia International Meetings on Bayesian Statistics, Valencia, Spain (June). “Modeling of Accelerated Life Test Data Using A Bayesian Approach,” Poster Session, with D. Sinha and M. Capozzoli.
- 1998 International Conference in Reliability and Survival Analysis (ICRSA), DeKalb, IL (May). “Power Law Accelerated Birnbaum-Saunders Life Models.”
- 1997 Joint Research Conference on Statistics in Industry and Technology, New Brunswick, NJ (June). “Birnbaum-Saunders-Type Models for System Strength Assuming Multiplicative Damage.”

Professional Service

Member: *The American Statistical Association*

Associate Editor: *Journal of Statistical Computation and Simulation*

Reviewer For

Communications in Statistics: Theory and Methods, Lifetime Data Analysis, Journal of Statistical Computation and Simulation, Journal of Statistics Education, Technometrics.