

## DEBORAH BURR DOSS

### EDUCATION

Ph.D. Stanford University, Statistics; January 1985

B.S. Furman University, Mathematics (Summa Cum Laude); June 1978

### EXPERIENCE

8/2013 – Lecturer, Department of Statistics, University of Florida.

5/2007 – 5/2013 Independent Statistician, Gainesville, FL; Adjunct Associate Professor, Biostatistics, College of Public Health and Health Professions, University of Florida, 1/2011 – 5/2011.

8/2005 – 5/2007 Associate Professor, Biostatistics, College of Public Health and Health Professions, University of Florida.

10/95 – 8/2005 Assistant Professor, Division of Epidemiology and Biometrics, School of Public Health, Ohio State University.  
On leave 09/96 – 10/97, half-time 10/97 – 09/98, for medical reasons.

9/85 – 5/94 Assistant Professor, Department of Statistics, Florida State University, and member of the Statistical Consulting Center.  
On maternity leave 11/85 – 8/86 and 8/88 – 8/89.

### HONORS

International Ergonomics Association Liberty Mutual Prize, 2003

NSF Graduate Fellow 1978–81

### FIELDS OF INTEREST

Bootstrap, errors-in-variables, meta-analysis, statistical computing, survival analysis. Ergonomics, risks and prevention of lower back disorders.

### PUBLICATIONS: STATISTICAL THEORY AND METHODS

**Burr, D.** (1988). On errors-in-variables in binary regression—Berkson case. *The Journal of the American Statistical Association* 83, 739–743.

**Burr, D.** and Doss, H. (1993). Confidence bands for the median survival time as a function of the covariates in the Cox model. *The Journal of the American Statistical Association* 88, 1330–1340.

**Burr, D.** (1994). A study of bootstrap confidence intervals in the Cox model. *The Journal of the American Statistical Association* 89, 1290–1302.

**Burr, D.** (1994). On inconsistency of Breslow's estimator as an estimator of the hazard rate in the Cox model. *Biometrics* 50, 1142–1145.

**Burr, D.**, Doss, H., Cooke, G.E., and Goldschmidt-Clermont, P.J. (2003). A meta-analysis of studies on the association of the platelet PIA polymorphism of Glycoprotein IIIa and risk of coronary heart disease. *Statistics in Medicine* 22, 1741–1760.

**Burr, D.** and Doss, H. (2005). A Bayesian semi-parametric model for random effects meta analysis. *The Journal of the American Statistical Association* 100, 242–251.

**Burr, D.** (2012). bspmma: An R Package for Bayesian Semi-Parametric Models for Meta-Analysis. *The Journal of Statistical Software* 50(4).

Wu, S.S., Chen, S., **Burr, D.L.**, Zhang, Long (2017). A new data collection technique for preserving privacy. *Journal of Privacy and Confidentiality* 27(3).

## **PUBLICATIONS: APPLICATIONS**

Benford, M.S., Talnagi, J., **Burr, D.**, and Arnold, L.E. (1999). Gamma radiation fluctuations during alternative healing therapy. *Alternative Therapies in Health and Medicine* 7, 51–56.

Allread, G., Marras, B., and **Burr, D.** (2000). Measuring trunk motions in industry: Variability due to task factors, individual differences, and the amount of data collected. *Ergonomics* 43(6), 691–701.

Marras, W.S., Allread, W.G., **Burr, D.L.**, and Fathallah, F.A. (2000). Prospective validation of a low-back disorder risk model and assessment of ergonomic interventions associated with manual materials handling jobs. *Ergonomics* 43(11), 1866–1886.

Marras, W., Ferguson, S., **Burr, D.**, and Gupta, P. (2003). Functional impairment and the prediction of spine loading. *International Society for the Study of the Lumbar Spine*, Conference Poster Paper, “best poster” award, appears in conference proceedings.

Marras, W.S., Ferguson, S.A., **Burr, D.**, Davis, K.G., Gupta, P. (2005). Functional impairment as a predictor of spine loading. *Spine* 30(7), 729–737.

Marras, W.S., Ferguson, S.A., **Burr, D.**, Davis, K.G., and Gupta, P. (2004). Spine loading in low back pain patients during asymmetric lifting exertions. *The Spine Journal* 4(1), 64–75.

Treaster, D. and **Burr, D.** (2004). Gender differences in prevalence of upper extremity musculoskeletal disorders. *Ergonomics* 47, 495–526.

Ferguson, S.A., Marras, W.S., and **Burr, D.** (2004). The influence of individual low back health status on workplace trunk kinematics and risk of low back disorder. *Ergonomics* 47(11), 1226–1237.

Ferguson, S.A., Marras, W.S., **Burr, D.**, Davis, K., and Gupta, P. (2004). Differences in motor recruitment and resulting kinematics between low back pain patients and asymptomatic participants during lifting exertions. *Clinical Biomechanics* 19(10), 992–999.

Zadnik, K., Mutti, D., Mitchell, L., Jones, L., **Burr, D.**, and Moeschberger, M. (2004). Normal eye growth in emmetropic schoolchildren. *Optometry and Vision Science* 81, 819–828.

- Harris, R., Beebe-Donk, J., Doss, H., and **Burr, D.** (2005). Aspirin, ibuprofen, and other non-steroidal anti-inflammatory drugs in cancer prevention: A critical review of non-selective COX-2 blockade (Review). *Oncology Reports* 13, 559–583.
- Ferguson, S.A., Marras, W.S., and **Burr, D.L.** (2005). Differences among outcome measures in occupational low back pain. *Journal of Occupational Rehabilitation* 15(3), 329–341.
- Marras, W.S., Ferguson, S.A., **Burr, D.**, Davis, K.G., and Gupta, P. (2005). Functional impairment as a predictor of spine loading. *Spine* 30(7), 729–737.
- Ferguson, S.A., Marras, W.S., and **Burr, D.** (2005). Workplace design guidelines for asymptomatic vs. low back injured workers. *Applied Ergonomics* 36(1), 86–95.
- Campbell-Kyureghyan, N., Marras, W.S., **Burr, D.**, and Jorgensen, M.J. (2005). The prediction of lumbar spine geometry: method development and validation. *Clinical Biomechanics* 20, 455–464.
- Gallagher, S., Marras, W., Litsky, A., and **Burr, D.** (2005). Torso flexion loads and the fatigue failure of human lumbosacral motion segments. *Spine* 30(20), 2265–2273.
- Treaster, D., Marras, W.S., **Burr, D.**, Sheedy, J.E., and Hart, D. (2006). Myofascial trigger point development from low-level visual and postural exertion. *Electromyography and Kinesiology* 16(2), 115–24.
- Chany, A.M., Parakkat, J., Yang, G., **Burr, D.**, and Marras, W.S. (2006). Changes in spine loading patterns throughout the workday as a function of experience, lift frequency, and personality. *The Spine Journal* 6(3), 296–305.
- Marras, W.S., Parakkat, J., Chany, A.M., Yang, G., **Burr, D.**, and Lavender, S.A. (2006). Spine loading as a function of lift frequency, exposure duration, and work experience. *Clinical Biomechanics* 21(4), 345–52.
- Gallagher, S., Marras, W.S., Litsky, A.S., **Burr, D.** (2006). An exploratory study of loading and morphometric factors associated with specific failure modes in fatigue testing of lumbar motion segments. *Clinical Biomechanics* 21, 228–234.
- Marras, W.S., Ferguson, S.A., **Burr, D.**, Schabo, P., Maronitis, A. (2007). Low back pain recurrence in occupational environments. *Spine* 32(21), 2387–2397.
- Parakkat, J., Yang, G., Chany, A.M., **Burr, D.**, and Marras, W.S. (2007). The influence of lift frequency, lift duration, and work experience on discomfort reporting. *Ergonomics* 50(3), 396–409.
- Yang, G., Chany, A-M., Parakkat, J., **Burr, D.**, and Marras, W.S. (2007). The effects of work experience, lift frequency and exposure duration on low back muscle oxygenation. *Clinical Biomechanics* 22(1), 21–27.
- Chany, A.M., Marras, W.S., and **Burr, D.L.** (2007). The effect of phone design on upper extremity discomfort and muscle fatigue. *Human Factors* 49(4), 602–618.
- Gallagher, S., Marras, W.S. Litsky, A., **Burr, D.**, Landoll, J., and Matkovic, V. (2007). A comparison of fatigue failure responses of old versus middle-aged lumbar motion segments in simulated flexed lifting. *Spine* 32(17), 1832–1839.

Theis, R.P., Dolwick, S.M., **Burr, D.**, Siddiqui, T., Asal, N.R. (2008). Smoking, environmental tobacco smoke, and risk of renal cell cancer: a population-based case-control study. *BMC Cancer* 8, 387. <http://www.biomedcentral.com/1471-2407/8/387>

Dolwick-Grieb, S.M., Theis, R.P., **Burr, D.**, Benardot, D., Siddiqui, T., Asal, N.R. (2009). Food groups and renal cell carcinoma: Results from a case-control study. *Journal of the American Dietetic Association* 109(4), 656–667.

Asal, N.R., Theis, R.P., Dolwick-Grieb, S.M., **Burr, D.**, Benardot, D., Siddiqui, T. (2009). Obesity, body composition, and risk of renal cell cancer: A population-based case-control study. *International Journal of Health Science* 2(1): 167-175.

Ferguson, S.A., Marras, W.S., **Burr, D.L.**, Woods, S., Mendel, E., Gupta, P. (2009). Quantification of a meaningful change in low back functional impairment. *Spine* 34(19): 2060-2065.

Ferguson, S.A., Allread, W.G., **Burr, D.L.**, Heaney, C., Marras, W.S. (2012). Biomechanical, psychosocial and individual risk factors predicting low back functional impairment among furniture distribution employees. *Clinical Biomechanics* 27: 117-123.

<http://repository.cmu.edu/jpc/vol17/iss3/5>

#### **M.P.H. STUDENTS GRADUATED (OHIO STATE)**

Shannon Snyder, 2002, Final Paper “On the Use of Ipecac for Poison Treatment in Children, in Central Ohio from 1990–1999”

Greg Daniel, Summer 2002, Final Paper: “On Cost-Effectiveness of Flu Vaccine in Healthy Subjects”

Suzanne Graden, Summer 2002, Final Paper: “Characteristics of Adult Asthmatics from the 1995 NHIS”

Rodel Desamu-Thorpe, Winter 2003, Final Paper: “Assessment of Birth Outcomes and Risks in Franklin County Using Statewide Birth-Certificate Data”

Heather Wiseman, Spring 2003, Final paper: “Establishing Thresholds for Detecting the Presence of an Epidemiological Outbreak”

#### **M.S. STUDENT GRADUATED (OHIO STATE)**

Deedra Nicolet, Spring 2006, Thesis “Enhancement of SAS and R for Meta-Analysis of Observational Studies”

#### **Ph.D. STUDENT GRADUATED (FLORIDA STATE)**

Shanti Gomatam, “A Study of Nonparametric Regression for Interval-Censored Data,” defended December 1994.

#### **M.S./Ph.D. COMMITTEES**

The number of exam or thesis/dissertation committees completed is 36.

## **COURSES TAUGHT AT FLORIDA STATE**

Statistics in Applications I, II.

Statistical Procedures for the Behavioral Sciences.

Applied Regression Analysis.

Design of Experiments and ANOVA.

## **COURSES TAUGHT AT OHIO STATE**

PUBH-BIO 701. Design and Analysis of Comparative Biomedical Research.

This is the first course in the three-quarter sequence in biostatistics for MPH, MS, and PhD students in the School of Public Health, as well as students from a variety of medical colleges.

PUBH-BIO 794. Principles of Biometrics.

This is the core course in Biostatistics, 4 credit hours, which fulfills the requirement for a Biostatistics course for the MPH program.

PUBH-BIO 786. Biometrics Lab.

This is a practicum course. Up to five students attend lab sessions at which statistical advice is given to clients from several of the divisions in the School of Public Health, from a large number of departments in various medically-related colleges and schools, and local and state public health departments. Students do three–five projects during the quarter.

PUBH-BIO 794. Computational Methods in Biostatistics.

This was a new course I developed to introduce students to biostatistical computing in the S-PLUS (R) language. One section of the course was on essentials of programming in the language. I included a section on the bootstrap each of the five times I taught it. Other topics changed from year to year, and included regression smoothing and an introduction to mixed modelling for longitudinal data.

PUBH-BIO 793. Independent Study.

I gave many Independent Studies, in particular in the following topics: Bootstrap methodology; Logistic regression; Meta analysis; Statistical computing.

## **COURSES TAUGHT AT UNIVERSITY OF FLORIDA**

PHC 6050. Biostatistics I.

This is the core course in biostatistics for MPH students, non-biostatistics majors. I taught it in classroom format in Fall 2005 and in a distance-learning, web format in Spring 2007 (videotaped lectures by B. Brumback from Fall 2006)

PHC 6937. Biostatistics II.

This is the followup course in biostatistics, primarily for Epidemiology majors.

STA 6177/PHC 6937 Survival Analysis.

This is the course in applied survival analysis, which I taught in Fall 2006 to a mixed group of epidemiology students and others from the UF Health Sciences Center, and to Master's and Ph.D. students from the Statistics Department. Both SAS and R were used for computing.

STA 3024 Introduction to Statistics 2

STA 3032 Engineering Statistics

STA 4210 Regression Analysis  
STA 4211 Design and Analysis of Experiments  
STA 4504 Categorical Data Analysis  
STA 6126 Statistical Methods for the Social Sciences I  
STA 6127 Statistical Methods for the Social Sciences II  
STA 6166 Statistical Methods in Research I

## **SERVICE**

- OSU: Consultant on statistical design and analysis for faculty, students and researchers from: Ergonomics (many), College of Nursing, College of Dentistry, College of Optometry, College of Pharmacy, College of Veterinary Medicine, Dept. of Allied Medical Professions, Dept. of Emergency Medicine, Dept. of Internal Medicine, Dept. of Nephrology, Dept. of Pathology, Dept. of Physical Medicine and Rehabilitation, Columbus Health Department, Ohio Department of Health, Children's Hospital, Riverside Methodist Hospital.
- Major Committee Work
  - OSU: Chair of Biostatistician Recruiting Committee, 2000–2001.
  - OSU: Several committees for revising various criteria of the self-studies for both initial accreditation of the School of Public Health in 2000 and the re-accreditation in 2003.
  - UF: Biostatistics curriculum committee, 2005–2007.
  - UF: Epidemiology search committee, 2005–2007.

## **Continuing Education**

The Data Scientists Toolbox by Johns Hopkins University on Coursera. Certificate earned on May 3, 2015. Grade achieved: 100%

R Programming by Johns Hopkins University on Coursera. Certificate earned on May 31, 2015 Grade achieved: 100%

Getting and Cleaning Data by Johns Hopkins University on Coursera. Certificate earned on June 28, 2015. Grade achieved: 100%.