

WILLIAM L. WELBOURN, JR.

Permanent: 1734 East Creek Villas Lane
Sandy, Utah 84093
Phone: 323.868.2965
Email: biostatsguy@yahoo.com

EDUCATION

Ph.D., Mathematical Sciences (Emphasis: Statistics).

Utah State University, May 2012, Logan, Utah.

M.Sc., Biostatistics.

University of Southern California, May 2006, Los Angeles, California.

B.A., Mathematics (Emphasis: Probability and Statistics).

California State University at Fullerton, January 2001, Fullerton, California.

PROFESSIONAL EXPERIENCE

Biostatistician, October 2013 – Present

Actavis, Inc., Salt Lake City, UT

Summary: provide statistical support on Phase I-IV clinical trials – write statistical methods section of protocols; review case report forms (CRFs); prepare randomization schedules; power (sample size) calculations; write statistical analysis plans, including the preparation of shell tables, listings, and graphs (TLGs); review integrity of clinical trial databases prior to database lock; prepare and verify CDISC formatted datasets for FDA submission using SAS; prepare and verify TLGs for clinical study reports (CSRs) using SAS; draft or review verification plans and verification reports; assist the Principal Scientist in their writing of the CSR.

Biostatistician II, July 2012 – October 2013

Myriad Genetics, Inc., Salt Lake City, UT

Summary: provide statistical support for collaborative research projects – includes writing statistical analysis plans, power calculations, auditing clinical data, management of clinical and molecular data, analysis of study data, and writing statistical methods and results sections of research articles; validating the results produced by the primary statistician of a given project; development of technical/training documents related to statistical analyses; training of Myriad Account Executives on terminology related to basic statistics and survival analysis.

Clinical Data Analyst, June 2006 – December 2006

Banner Health, Corporate Office, Phoenix, AZ

Summary: conducted retrospective statistical analysis in coherence with DRG and ICD-9 medical guidelines, with the aim of improving performance within in-house quality control metrics.

Pension Administrator, February 2001 – March 2003

Actuarial Consultants, Inc., Torrance, CA

Summary: performed annual administration of Defined Contribution retirement plans – 404(k), Profit Sharing, and Money Purchase Pension Plans; annual administration of Defined Benefit Pension Plans.

AWARDS AND HONORS

Technology Expert Award.

Department of Mathematics and Statistics, Utah State University (2010).

Research Writing Award.

Department of Mathematics and Statistics, Utah State University (2009).

Inducted into the Golden Key International Honour Society.

Utah State University Chapter (2009).

Inducted into The Honor Society of Phi Kappa Phi.

University of Southern California Chapter (2006).

GRADUATE ASSISTANTSHIPS

Graduate Research Assistant.

Department of Mathematics and Statistics, Utah State University, Fall 2007 – Fall 2011 (under the direction of Dr. Christopher Corcoran).

Graduate Teaching Instructor.

Department of Mathematics and Statistics, Utah State University, Fall 2007 – Spring 2012.

Course	Number	Semesters Taught
College Algebra	MATH 1050	2
Statistical Methods	STAT 2000	2
Business Statistics	STAT 2300	1
Statistics for Scientists	STAT 3000	4
Linear Regression and Time Series SAS/R Software Lab Instructor	STAT 5100	2
Experimental Designs SAS/R Software Lab Instructor	STAT 5200	2

Graduate Teaching Assistant.

Division of Biostatistics, Keck School of Medicine, University of Southern California, Summer 2005 – Fall 2005.

- SPSS Computer Lab Instructor for PM 510 – *Principles of Biostatistics*. Summer 2005.
- Teaching Assistant (Dr. Stanley Azen, Instructor) for PM 510 – *Principles of Biostatistics*. Fall 2005.

RESEARCH INTERESTS**Statistical Computing.**

Developing statistical applications within the C and NVIDIA CUDA for C language environments, to harness the power of intra-personal computer parallel (i.e., multi-threaded applications) computing; resampling theory; database management within the Structured Query Language (SQL) environment, interfacing with each of the R and C language environments. In particular, data management of extravagant genetic databases; conglomeration of data management techniques and parallel algorithms for efficient implementation of the maxT and minP permutation-based multiple testing procedures; graphical user interface (GUI) programming within the R software environment; developing animated presentations and lectures using the Beamer class of L^AT_EX.

Categorical Data Analysis.

Applications involving the multinomial and binomial distributions; logistic regression modeling; exact inference in case-control and family-based genome-wide association studies, applying permutation procedures for control over the family-wise Type I error rate; gene-environment interaction.

PUBLICATIONS

Bishoff JT, Freedland SJ, Gerber L, Tennstedt P, Reid J, **Welbourn W**, Graefen M, Sangale Z, Tikishvili E, Park J, Younus A, Gutin A, Lanchbury JS, Sauter G, Brawer M, Stone S, Schlomm T (2014). “Prognostic utility of the cell cycle progression score generated from biopsy in men treated with prostatectomy,” *Journal of Urology*, 192(2):409-14.

Mithal P, Allott E, Gerber L, Reid J, **Welbourn W**, Tikishvili E, Park J, Younus A, Sangale Z, Lanchbury J, Stone S, Freedland S (2014). “PTEN loss in biopsy tissue predicts poor clinical outcomes in prostate cancer,” *International Journal of Urology*, DOI: 10.1111/iju.12571.

Shore N, Concepcion R, Saltzstein D, Lucia MS, van Breda A, **Welbourn W**, Lewine N, Gustavsen G, Pothier K, Brawer MK (2014). “Clinical utility of a biopsy-based cell cycle gene expression assay in localized prostate cancer,” *Curr Med Res Opin*,30(4):547-553.

Freedland SJ, Gerber L, Reid J, **Welbourn W**, Tikishvili E, Park J, Younus A, Guitin A, Sangale Z, Lanchbury JS, Salama JK, Stone S (2013). “Prognostic utility of cell cycle progression score in men with prostate cancer after primary external beam radiation therapy,” *Int J Radiat Oncol Biol Phys*, 86:848-53.

Atreya CE, Sangale Z, Xu N, Matli MR, Tikishvili E, **Welbourn W**, Stone S, Shokat KM, Warren RS (2013). “PTEN expression is consistent in colorectal primaries and metastases and associates with patient survival,” *Cancer Medicine*, 2(4):496-506.

Welbourn W (2012). “Robust computational tools for multiple testing with genetic association studies,” *All Graduate Theses and Dissertations*, Paper 1172.
<http://digitalcommons.usu.edu/etd/1172>.

Slattery ML, Lundgreen A, **Welbourn B**, Wolff RK, and Corcoran C (2012). “Oxidative balance and colon and rectal cancer: Interaction of lifestyle factors and genes,” *Mutat Res*, 734:30-34.

Slattery ML, Lundgreen A, **Welbourn B**, Corcoran C, and Wolff RK (2012). “Genetic variation in selenoprotein genes, lifestyle, and risk of colon and rectal cancer,” *PLoS ONE*, 7(5):e37312.

EXTRAMURAL FUNDING

Consultant, “Exact Tests for Genetic Association Studies” (National Institutes of Health Phase II Small Business Innovation and Research (SBIR); Principal Investigators: Dr. Christopher Corcoran, Utah State University (Logan, UT), and Dr. Pralay Senchaudhuri, Cytel Software Corporation (Cambridge, MA); award period, 1/2013 – 12/2014). **Roles**: (1) develop permutation procedures for multiple hypothesis testing in genetic association studies. This includes a parallel processing approach to the maxT and minP procedures within the context of each of the population based case-control study design and family-based study designs; and (2) aid with the implementation of these approaches upon the StatXact and SAS software packages.

COMPUTER LANGUAGES

Proficiency.

R, SAS, Mathematica, SQL (via interfacing with R by way of the RSQLite package).

Skilled.

C, NVIDIA CUDA for C, L^AT_EX (including the Beamer class and interfacing with R via Sweave), HTML, SQL (via interfacing with C).