

CURRICULUM VITAE

Jeffrey MacKenzie Bay

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Education

Ph.D., Statistics, North Carolina State University, August 1997. Advisor: L. A. Stefanski

M.A., Statistics, University of Missouri-Columbia, August 1987. Advisor: John Hewett

B.A., Mathematics (Physics minor), DePauw University, May 1985.

Experience

Professor of Statistics, Division of Mathematics and Computer Science, Maryville College. Teach courses in statistics, guide undergraduate research, co-develop major in analytics, co-chair faculty salary group, led committee on mathematical reasoning component of core. August 2011 – present.

Chair, Division of Mathematics and Computer Science, Maryville College. Mentor faculty, conduct personnel reviews, lead faculty searches, prepare budgets, guide strategic initiatives, developed and carry out annual assessment of student learning outcomes. January 2011 – present.

Consultant, Total Rehabilitation at Springbrook, Blount Memorial Hospital. Provided statistical analyses, including applying ANOVA to preliminary studies and estimating sample size for future studies, to assess effect of shoe type on various running outcomes. September 2016 – January 2018.

Consultant, University of Tennessee Center for Literacy Studies. Applied logistic regression to assess factors related to success of students pursuing GEDs; identified and developed resources for the Common Core State Standards in statistics. November 2001 – February 2002, August 2011 – January 2012.

Associate Professor of Statistics, Division of Mathematics and Computer Science, Maryville College. Taught courses in statistics, developed a senior seminar, guided undergraduate research, modeled first-year GPA using multiple regression, chaired committees on personnel standards, strategic planning, and budgeting. April 2003-August 2011. [Promoted to full professor in August 2011.]

Consultant, Tampa Bay Rays Major League Baseball Team. Explored the use of regression methods to predict future performance of minor league baseball prospects. January 2010 – April 2010.

Assistant Professor of Statistics, Division of Mathematics and Computer Science, Maryville College. Developed and taught courses in statistics, modeled retention using logistic regression, participated in college governance. August 1997 – April 2003. [Granted tenure and promoted in April 2003.]

Research Assistant Statistician, Department of Statistics, NC State University. Coordinated statistical analyses for the Environmental Monitoring and Assessment Program and supervised a staff of three statisticians. Activities included estimation of variance components and assessment of the effect of measurement error in support of indicator development. January 1993 – June 1997.

Research Assistant, Department of Statistics, NC State University. Modeled distributions of weeds in agricultural fields and evaluated how to best sample from such distributions. July 1992 – May 1993.

Statistician, Department of Statistical and Mathematical Sciences, Eli Lilly & Company. Contributed to the design of clinical trials and the development of assessment tools. October 1987 – August 1991.

Recent Training

Faculty Training for Online Teaching using the SUNY Online Course Quality Review Rubric, Maryville College. Summer 2020

Online Learning Workshops with Dr. Kelly Battles, Maryville College. Summer 2020

Teaching R online with RStudio Cloud Webinar, RStudio. March 2020

Online Course Facilitation using Blackboard Collaborate Workshop, Blackboard. March 2020

Certificate in Effective Instruction, Association of College and University Instructors. This certificate signifies completion of a 25-module course in effective teaching practices requiring the implementation of evidence-based instructional approaches. August 2018 – May 2019

Data Science: Computation and Visualization Workshop, Grinnell College. June 2018

Publications and Presentations

Bay, Jeff (2016). Lessons in Teaching Statistics at a Liberal Arts College, presentation as part of the 75th Anniversary of the NC State Department of Statistics.

Bay, Jeff (2010). Evaluating the Use of Logistic Regression for Predicting Success of Baseball Prospects, internal report for the Tampa Bay Rays.

Wills, Eric (2005) Course at Maryville College Teaches Seniors All About the National Pastime, Syllabus column of *The Chronicle of Higher Education*.

Bay, J. (2004). A Method to Transform Data to Account for Measurement Error, presentation to the Department of Statistics at the University of Missouri, Columbia.

Bay, J. (2002). Adjusting Data for Measurement Error, Colloquium of the University of Tennessee Department of Statistics.

Bay, J. (2000). Adjusting Data for Measurement Error to Reduce Bias When Estimating the Coefficients of a Quadratic Model, *American Statistical Association 2000 Proceedings of the Section on Survey Research Methods*.

Hellkamp, A. S., Bay, J. M., Campbell, C. L., Easterling, K. N., Fiscus, D. A., Hess, G. R., McQuaid, B. F., Munster, M. J., Olson, G. L., Peck, S. L., Shafer, S. R., Sidik, K., and Tooley, M. B., (2000). Assessment of the Condition of Agricultural Lands in Six Mid-Atlantic States, *Journal of Environmental Quality*, 29, 795-804.

Hess, G. R., and Bay, J. M. (2000). A Regional Assessment of Windbreak Habitat Suitability, *Environmental Monitoring and Assessment*, 61, 237-254.

Hess, G. R., and Bay, J. M. (1997). Generating Confidence Intervals for Composition-based Landscape Indexes, *Landscape Ecology*, 12, 309-320.

Stefanski, L. A., and Bay, J. M. (1996). Simulation Extrapolation Deconvolution of Finite Population CDF Estimators, *Biometrika*, 83, 407-417.

Gold, H. J., Bay, J., and Wilkerson, G. G. (1996). Scouting for Weeds, Based on the Negative Binomial Distribution, *Weed Science*, 44, 504-510.

Bay, J., Easterling, K., Barrows, C., and Sidik, K. (1995). Agroecological Indicator Development: Some Statistical Perspectives, *American Statistical Association 1995 Proceedings of the Section on Statistics & the Environment*, 132-137.

Hellkamp, A. S., Bay, J. M., Easterling, K. N., Hess, G. R., McQuaid, B. F., Munster, M. J., Neher, D. A., Olson, G. L., Sidik, K., Stefanski, L. A., Tooley, M. B., and Campbell, C. L. (1995). Environmental Monitoring and Assessment Program-Agricultural Lands Pilot Field Program Report-1993. EPA/620/R-95/004. U. S. Environmental Protection Agency, Washington D. C.

Hess, G. R., and Bay, J. M. (1994). Environmental Monitoring and Assessment Program-Agroecosystem Resource Group-Assessing the Suitability of Windbreaks as Wildlife Habitat-1994 Pilot Plan. EPA/620/R-94/023. U. S. Environmental Protection Agency, Washington D. C.

Chappell, Amy S., Bay, J. M., Botzum, G. D., Cohen, M. L. (1994). Zatosetron, a 5-HT₃ Receptor Antagonist in a Multicenter Trial for Acute Migraine, *Neuropharmacology*, 33, 509-513.