

CHRISTOPHER R. BILDER

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EDUCATION

Ph.D. Statistics (GPA 4.0/4.0), Kansas State University, 2000

- ▶ Dissertation: Testing for Marginal Independence with Pick Any/c Variables

M.S. Statistics (GPA 4.0/4.0), Kansas State University, 1996

B.S. Mathematics (GPA 3.902/4.0), University of Nebraska-Omaha, 1994

RESEARCH INTERESTS

Categorical data analysis, group testing, statistical computing, statistics in sports, and statistics education

PROFESSIONAL EXPERIENCE

August 2006 – Present: **ASSOCIATE PROFESSOR** (nine-month appointment)

August 2003 – August 2006: **ASSISTANT PROFESSOR** (nine-month appointment)
Department of Statistics, University of Nebraska-Lincoln

- ▶ Teaching – two courses per semester
 - Applied Multivariate Statistical Analysis
 - Bootstrap Methods and Their Application (new course for UNL in 2006; taught to both UNL and Kansas State University students through live video link in 2008)
 - Categorical Data Analysis
 - Introduction to Mathematical Statistics
 - Multiple Regression Analysis
 - Statistics and Applications
 - Time Series Analysis (new course for UNL in 2007)
- ▶ Use a Tablet PC and data projector extensively for in-class teaching
- ▶ Develop and maintain comprehensive course, research, student advisement, student recruitment, and statistical resources websites accessible through the www.chrisbilder.com web portal
- ▶ College and university-wide committee assignments
 - Arts & Sciences Assessment Committee (8/07-5/10)
- ▶ Departmental committee assignments
 - Advisory (9/07-present)
 - Graduate Studies (8/03-present), chair (8/05-8/06)
 - MS Comprehensive and PhD Qualifying Exam (8/06-9/07)
 - Promotion and Tenure (8/06-present)
 - Technology (8/03-8/05, 8/06-present)

August 2000 – August 2003: **ASSISTANT PROFESSOR** (nine-month appointment)
Department of Statistics, Oklahoma State University

- ▶ Teaching – two courses per semester
 - Applied Regression Analysis
 - Categorical Data Analysis
 - Introductory Business Statistics
 - Multivariate Methods
 - S Programming (new course for OSU)
 - SAS Programming
 - Time Series Analysis
- ▶ Develop and maintain comprehensive course websites accessible at www.chrisbilder.com that include message boards, chat rooms, and database interaction with active server pages
- ▶ Use a computer and data projector extensively for in-class teaching

- ▶ Departmental committee assignments
 - Computing (8/00-8/03), Chair (1/01-8/03)
 - Graduate (1/01-5/01; 8/02-8/03)
 - Library (1/01-5/01; 8/02-8/03), Chair (1/01-5/01; 8/02-8/03)
 - Seminar (8/01-5/02), Chair (8/01-5/02)
 - Undergraduate (8/02-8/03)
- ▶ Constructed the Department of Statistics website at statistics.okstate.edu and served as webmaster

May 1998 - July 2000: **WEBSITE DESIGNER**

Department of Statistics, Kansas State University

- ▶ Created the Statistics Teaching and Resource (STAR) Library website (now available at CAUSEweb)
- ▶ Planned and developed the STAR Library

August 1994 - December 1999: **GRADUATE TEACHING ASSISTANT**

Department of Statistics, Kansas State University

- ▶ Taught first and second semester introductory business statistics courses
- ▶ Developed an extensive course website at www.chrisbilder.com/stat351
- ▶ Created interactive Excel templates to teach important concepts
- ▶ Used a computer and data projector extensively for in-class teaching

June 1997 - August 1997: **STATISTICS INTERN**

Statistics Group, Idaho National Engineering and Environmental Laboratory

- ▶ Analyzed pattern recognition data
- ▶ Utilized k-nearest neighbor, classification tree, and normal discriminant analysis methods

May 1996 - August 1996: **BIOMETRICS INTERN**

Biometrics and Data Management Department, Hoechst Marion Roussel

- ▶ Completed a stability study using ANCOVA models
- ▶ Analyzed a safety and tolerability trial using split-plot models and permutation test methods

January 1995 - August 1995: **STATISTICAL CONSULTANT**

Institute for Social and Behavioral Research, Kansas State University

- ▶ Evaluated the effectiveness of the Kansas Infant-Toddler Program for the State of Kansas
- ▶ Constructed loglinear and logit models

May 1993 - August 1993 and May 1994 - August 1994: **ACTUARIAL INTERN**

Pricing Department, National Indemnity Company (Berkshire Hathaway Insurance Group)

- ▶ Examined physical damage rate adequacy
- ▶ Completed loss extensions

PUBLICATIONS – REFEREED OR UNDER REVIEW STATISTICAL MANUSCRIPTS

- Bilder, C. R. (2009). Human or Cylon? Group Testing on Battlestar Galactica. *Chance*, to appear.
- Bilder, C. R. and Loughin, T. M. (2009). Modeling Multiple-Response Categorical Data from Complex Surveys. *The Canadian Journal of Statistics*, to appear.
- Chen, P., Tebbs, J. M., and Bilder, C. R. (2009). Global Goodness-of-fit for Group Testing Regression Models. *Statistics in Medicine*, to appear.
- Chen, P., Tebbs, J. M., and Bilder, C. R. (2009). Group Testing Regression Models with Fixed and Random Effects. *Biometrics*, to appear.
- Bilder, C. R. and Tebbs, J. M. (2009). Bias, Efficiency, and Agreement for Group Testing Regression Models. *Journal of Statistical Computation and Simulation* 79(1), 67-80.
- Bilder, C. R. and Loughin, T. M. (2007). Modeling Association between Two or More Categorical Variables that Allow for Multiple Category Choices. *Communications in Statistics: Theory and Methods* 36(2), 433-451.
- Tebbs, J. M. and Bilder, C. R. (2006). Hypothesis Tests for and Against a Simple Order Among Proportions Estimated By Pooled Testing. *Biometrical Journal* 48(5), 792-804.
- Bilder, C. R. and Tebbs, J. M. (2005). Empirical Bayesian Estimation of the Disease Transmission Probability in Multiple-Vector-Transfer Designs. *Biometrical Journal* 47(4), 502-516.

Tebbs, J. M. and Bilder, C. R. (2004). Confidence Interval Procedures for the Probability of Disease Transmission in Multiple-Vector-Transfer Designs. *Journal of Agricultural, Biological, and Environmental Statistics* 9(1), 75-90.

Bilder, C. R. and Loughin, T. M. (2004). Testing for Marginal Independence Between Two Categorical Variables with Multiple Responses. *Biometrics* 60(1), 241-248.

Tebbs, J. M., Bilder, C. R., and Moser, B. K. (2003). An Empirical Bayes Group-Testing Approach to Estimating Small Proportions. *Communications in Statistics: Theory and Methods* 32(5), 983-995.

Bilder, C. R. and Loughin, T. M. (2002). Testing for Conditional Multiple Marginal Independence. *Biometrics* 58(1), 200-208.

Bilder, C. R. and Loughin, T. M. (2001). On the First-Order Rao-Scott Correction of the Umesh-Loughin-Scherer Statistic. *Biometrics* 57(4), 1253-1255.

Malone, C. J. and Bilder, C. R. (2001). Statistics Course Websites: Beyond syllabus.html. *Journal of Statistics Education* [on-line] 9(2). (www.amstat.org/publications/jse/v9n2/malone.html).

Bilder, C. R., Loughin, T. M., and Nettleton, D. (2000). Multiple Marginal Independence Testing for Pick Any/c Variables. *Communications in Statistics: Simulation and Computation* 29(4), 1285-1316.

Bilder, C. R. and Loughin, T. M. (1998). "It's Good!" An Analysis of the Probability of Success for Placekicks. *Chance* 11(2), 20-24 & 30.

PUBLICATIONS – CONSULTING, PROCEEDINGS, AND OTHER MANUSCRIPTS

Bilder, C. R. and Malone, C. R. (2008). Tablet PC Applications in Statistics Education, Part I. *2008 Proceedings of the American Statistical Association*, Section on Statistics Education [CD-ROM], Alexandria, VA: American Statistical Association, 2813-2820.

Bilder, C. R. and Tebbs, J. M. (2008). Review of "An Introduction to Categorical Data Analysis". *Journal of the American Statistical Association* 103(3), 1323.

Bilder, C. R. and Loughin, T. M. (2007). Estimation and Testing for Association with Multiple-Response Categorical Variables from Complex Surveys. *2007 Proceedings of the American Statistical Association*, Section on Survey Research Methods [CD-ROM], Alexandria, VA: American Statistical Association, 2838-2849.

Bilder, C. R. (2005). Group Testing Model Estimation and Inference. *2005 Proceedings of the American Statistical Association*, Biometrics Section [CD-ROM], Alexandria, VA: American Statistical Association, 177-182.

Stewart, S. A. and Bilder, C. R. (2004). Probability Models for 64-Team NCAA Tournaments. *2004 Proceedings of the American Statistical Association*, Statistics in Sports Section [CD-ROM], Alexandria, VA: American Statistical Association, 3218-3224.

Bilder, C. R. and Tebbs, J. M. (2004). Empirical Bayesian Estimation of the Disease Transmission Probability in Multiple-Vector-Transfer Designs. *2004 Proceedings of the American Statistical Association*, Biometrics Section [CD-ROM], Alexandria, VA: American Statistical Association, 277-284.

Bilder, C. R. and Loughin, T. M. (2003). Strategies for Modeling Two Categorical Variables with Multiple Category Choices. *2003 Proceedings of the American Statistical Association*, Section on Survey Research Methods [CD-ROM], Alexandria, VA: American Statistical Association, 560-567.

Bilder, C. R. and Loughin, T. M. (2002). Testing for Simultaneous Pairwise Marginal Independence. *2002 Proceedings of the American Statistical Association*, Biometrics Section [CD-ROM], Alexandria, VA: American Statistical Association, 254-259.

Rumsey, D. J. and Bilder, C. R. (2001). The STAR Library is Ready for Launch! Newsletter for the Section on Statistical Education of the American Statistical Association [on-line] 7(2). (www.amstat.org/sections/educ/newsletter/v7n2/Star.html).

Bilder, C. R. (2001). What is the Shelf Life? *Statistics Teaching and Resource Library* [online] February 7. (www.causeweb.org/repository/StarLibrary/activities/stability_testing).

Malone, C. J. and Bilder, C. R. (2000). Increasing Student-Instructor and Student-Student Interaction through a Statistics Course Website. *American Statistical Association Proceedings of the Section on Statistical Education*, 88-93.

Loughin, T. M. and Bilder, C. R. (1999). Review of "Bootstrap Methods and Their Application". *Journal of the American Statistical Association* 94(1), 334-335.

GRANTS AWARDED FOR STATISTICAL RESEARCH

National Institutes of Health award #R01AI067373 (2007-2010), *Disease Detection and Prevalence Estimation through Informative Group Testing*, National Institute of Allergy and Infectious Diseases.

National Science Foundation award #0418632 (2004-2006), *Estimation and Testing for Associations with Multiple-Response Categorical Variables from Complex Surveys*, Division of Social and Economic Sciences.

Big 12 Faculty Fellowship Program Award (2004), *Group Testing Models to Predict Individual Outcomes for One or More Traits*, University of Nebraska-Lincoln.

National Science Foundation award #0207212 (2002-2003), *Testing for Marginal Independence between Two or More Multiple-Response Categorical Variables*, Division of Social and Economic Sciences.

College of Arts and Sciences Dean's Incentive Grant (2002), *Generalizations of the Cochran Statistic to Test for Conditional Independence*, Oklahoma State University.

Duxbury Press (2001), *Statistics Teaching and Resource Library*, funds to support its continued development.

College of Arts and Sciences Summer Research Program (2001), *Statistics Teaching and Resource Library*, Oklahoma State University.

College of Arts and Sciences Dean's Incentive Grant (2001), *Computer-Enhanced Teaching in the Classroom for Statistics Courses*, Oklahoma State University.

College of Arts and Sciences Travel Grant Program (2001), *Testing for Conditional Multiple Marginal Independence in the Presence of Pick Any/c Variables*, Oklahoma State University.

PRESENTATIONS

Bilder, C. R., Tebbs, J. M., and Chen, P. "Informative retesting," Contributed poster, 2009 Joint Statistical Meetings, August 4, 2009; Washington, DC.

Tebbs, J. M., Chen, P., and Bilder, C. R. "Inference for Variance Components in Generalized Linear Mixed Models for Pooled Binary Response," Contributed paper, 2009 International Biometric Society (IBS) Eastern North American Region (ENAR) meetings, March 18, 2009; San Antonio, TX.

Bilder, C. R. "Human or Cylon? Group testing on the Battlestar Galactica to save humanity," Invited seminar, Department of Statistics, Kansas State University, November 14, 2008; Manhattan, KS.

Bilder, C. R. and Malone, C. J. "Tablet PC Applications in Statistics Education, Part I," Contributed paper, 2008 Joint Statistical Meetings, August 5, 2008; Denver, CO.

Malone, C. J. and Bilder, C. R. "Tablet PC Applications in Statistics Education, Part II," Contributed paper, 2008 Joint Statistical Meetings, August 5, 2008; Denver, CO.

Tebbs, J. M. and Bilder, C. R. "Informative screening," Contributed paper, 2008 International Biometric Society (IBS) Eastern North American Region (ENAR) meetings, March 19, 2008; Washington, DC.

Bilder, C. R. "Human or Cylon? Group testing on the Battlestar Galactica," Invited seminar, Department of Statistics, University of Missouri, October 5, 2007; Columbia, MO.

Bilder, C. R. and Loughin, T. M. "Modeling Multiple-Response Categorical Data from Complex Surveys," Invited seminar, Washington Statistical Society, September 7, 2007; Washington, DC.

Bilder, C. R. "Modeling Multiple-Response Categorical Data from Complex Surveys," Departmental seminar, Department of Statistics, University of Nebraska-Lincoln, September 5, 2007; Lincoln, NE.

Bilder, C. R. "Teaching with a Tablet PC," Invited panelist, Instructional Technology Group, University of Nebraska-Lincoln, August 21, 2007; Lincoln, NE.

Bilder, C. R. and Loughin, T. M. "Estimation and Testing for Association with Multiple-Response Categorical Variables from Complex Surveys," Invited paper, 2007 Joint Statistical Meetings, July 30, 2007; Salt Lake City, UT.

Bilder, C. R. and Malone, C. J. "Using Tablet PCs to Improve Teaching and Learning," Invited presentation, United States Conference on Teaching Statistics, May 18, 2007; Columbus, OH.

Bilder, C. R. "Cylon Detection Through Group Testing," Invited seminar, Department of Statistics and Actuarial Science, Simon Fraser University, April 13, 2007; Burnaby, BC.

Bilder, C. R. "Rotate Your World 180° Using a Tablet PC," Invited seminar, Instructional Technology Group, University of Nebraska-Lincoln, February 15, 2007; Lincoln, NE.

Bilder, C. R. "What Kind of Computer Is That???" Departmental seminar, Department of Statistics, University of Nebraska-Lincoln, November 1, 2006; Lincoln, NE.

Bilder, C. R. "Just Group It!" Invited seminar, Department of Preventive and Societal Medicine and Department of Internal Medicine Section of Infectious Diseases, University of Nebraska Medical Center, November 17, 2005; Omaha, NE.

Bilder, C. R. "Modeling Association Between Two or More Multiple-Response Categorical Variables," Invited seminar, Department of Statistics, University of South Carolina, November 4, 2005; Columbia, SC.

Bilder, C. R. "Just Group It!" Departmental seminar, Department of Statistics, University of Nebraska-Lincoln, September 7, 2005; Lincoln, NE.

Bilder, C. R. "Group Testing Model Estimation and Inference," Contributed poster, 2005 Joint Statistical Meetings, August 8, 2005; Minneapolis, MN.

Bilder, C. R. and Tebbs, J. M. "Improved Group Testing Estimation of Trait Prevalence," Contributed poster, 2005 International Biometric Society Eastern North American Region meetings, March 20, 2005; Austin, TX.

Bilder, C. R. "Modeling Association Between Two or More Multiple-Response Categorical Variables," Departmental seminar, Department of Statistics, University of Nebraska-Lincoln, September 8, 2004; Lincoln, NE.

Stewart, S. and Bilder, C. R. "Probability Models for 64-Team NCAA Tournaments," Contributed paper, 2004 Joint Statistical Meetings, August 12, 2004; Toronto, ON.

Bilder, C. R. and Tebbs, J. M. "Empirical Bayesian Estimation of the Disease Transmission Probability in Multiple-Vector-Transfer Designs," Contributed poster, 2004 Joint Statistical Meetings, August 10, 2004; Toronto, ON.

Bilder, C. R. and Loughin, T. M. "Testing for Marginal Dependence Between Two or More Multiple-Response Categorical Variables," Invited seminar, Third Annual Funding Opportunity in Survey and Statistical Research Seminar sponsored by the Federal Committee on Statistical Methodology, June 21, 2004; Washington, DC.

Bilder, C. R. and Loughin, T. M. "Modeling Two or More Categorical Variables that Allow for Multiple Category Choices," Contributed poster, 2004 IBS ENAR meetings, March 28, 2004; Pittsburgh, PA.

Bilder, C. R. and Loughin, T. M. "Strategies for Modeling Two Categorical Variables with Multiple Category Choices," Contributed poster, 2003 Joint Statistical Meetings, August 6, 2003; San Francisco, CA.

Tebbs, J. M. and Bilder, C. R. "Confidence interval procedures for the probability of disease transmission in multiple-vector-transfer designs," Contributed paper, 2003 Joint Statistical Meetings, August 5, 2003; San Francisco, CA.

Tebbs, J. M. and Bilder, C. R. "New Interval Estimation Procedures for the Disease Transmission Probability in Multiple-vector Transfer Designs," Conference on Applied Statistics in Agriculture, April 28, 2003; Manhattan, KS.

Bilder, C. R. and Tebbs, J. M. "Estimating the Disease-Transmission Probability in Multiple-Vector-Transfer Designs," Invited seminar, Oklahoma Chapter of the American Statistical Association, April 10, 2003; Stillwater, OK.

Bilder, C.R. "Testing for Marginal Independence between Two or More Multiple-Response Categorical Variables," Invited seminar, Department of Statistics, Kansas State University, March 13, 2003; Manhattan, KS.

Bilder, C. R. and Loughin, T. M. "Testing for Simultaneous Pairwise Marginal Independence," Contributed paper, 2002 Joint Statistical Meetings, August 12, 2002; New York, NY.

Bilder, C. R. and Loughin, T. M. "Testing for Marginal Independence Between Two Categorical Variables with Multiple Responses," Contributed paper, 2002 IBS ENAR meetings, March 19, 2002; Washington, DC.

Bilder, C. R. "Who Wants to Become an S-Plus User?" Departmental seminar, Department of Statistics, Oklahoma State University, October 4, 2001; Stillwater, OK.

Bilder, C. R. and Loughin, T. M. "Testing for Conditional Multiple Marginal Independence in the Presence of Pick Any/c Variables," Contributed paper, 2001 Joint Statistical Meetings, August 7, 2001; Atlanta, GA.

Bilder, C. R. "Using a Statistics Course Website for Web-Enhanced Teaching," Departmental seminar, Department of Statistics, Oklahoma State University, April 10, 2001; Stillwater, OK.

Bilder, C. R. and Loughin, T. M. "Testing for Conditional Multiple Marginal Independence," Contributed paper, 2001 IBS ENAR meetings, March 26, 2001; Charlotte, NC.

Bilder, C. R., Loughin, T. M., and Nettleton, D. "A Comparison of Multiple Marginal Independence Testing Methods," Contributed poster, 2000 Joint Statistical Meetings, August 14, 2000; Indianapolis, IN.

Malone, C. J. and Bilder, C. R. "Increasing Student-Instructor and Student-Student Interaction through a Statistics Course Website," Contributed paper at the 2000 Joint Statistical Meetings, August 13, 2000; Indianapolis, IN.

Bilder, C. R. and Malone, C. J. "Statistics Course Web Sites: BEYOND syllabus.html," Departmental seminar, Department of Statistics, Kansas State University, October 14, 1999; Manhattan, KS.

Rumsey, D. J. and Bilder, C. R. "A Statistics Teaching and Resource (STAR) Library on the WWW," Invited Technical Exhibit, 1999 Joint Statistical Meetings, August 8, 1999; Baltimore, MD.

Malone, C. J. and Bilder, C. R. "Introductory Statistics Course Websites: BEYOND syllabus.html," Contributed paper, 1999 Midwest Conference on Teaching Statistics, June 26, 1999; Oshkosh, WI.

Bilder, C. R. "What's Inside Sunny D Juice Containers?" Departmental seminar, Department of Statistics, Kansas State University, September 14, 1997; Manhattan, KS.

Bilder, C. R. "An Introduction to S-Plus," Departmental Seminar, Statistics Group, Idaho National Engineering and Environmental Laboratory (INEEL), July 15, 1997; Idaho Falls, ID.

Bilder, C. R. "So Chris, what did you do this summer?" Departmental seminar, Department of Statistics, Kansas State University, September 12, 1996; Manhattan, KS.

Bilder, C. R. "On August 26, Dr. Dallas Johnson Will Ask: 'So Chris, what did you do on your summer vacation?'" Departmental seminar, Biometrics and Data Management Department, Hoechst Marion Roussel, August 15, 1996; Kansas City, MO.

HONORS

- ▶ 2007 CAUSEweb Resource of the Year Award
- ▶ IBS ENAR meetings student travel award winning paper
- ▶ Kansas State University Outstanding Graduate Teaching Assistant of the Year Award
- ▶ Kansas State University Department of Statistics Holly and Beth Fryer Scholarship
- ▶ American Society for Quality Statistics Division's Ellis R. Ott Scholarship
- ▶ University of Nebraska-Omaha Regents Scholarship (full tuition scholarship)
- ▶ University of Nebraska-Omaha Mathematics Department J. M. Earl Scholarship (twice)
- ▶ Association of Old Crows Scholarship

PROFESSIONAL SERVICE

- ▶ Appointed to the IBS ENAR Distinguished Student Paper Awards Committee (2007-2009)
- ▶ Elected Secretary/Treasurer of the American Statistical Association's Section on Statistics in Sports (2004-6)
- ▶ Appointed to the IBS ENAR Regional Advisory Board (2003-2005)
- ▶ Appointed to the IBS ENAR Information Technology Oversight Committee (2001-2003)
- ▶ Refereed papers for *American Statistician*, *Biometrics*, *Journal of the American Statistical Association*, *Journal of Statistics Education*, and *Institute of Industrial Engineers Transactions*
- ▶ Served as an Advanced Placement Statistics Exam faculty consultant in 2002
- ▶ Chair of the "New Methods for the Analysis of Categorical Data" session at the 2001 IBS ENAR meetings
- ▶ Co-Editor (2002-2003), Chief Associate Editor (2000-2002), and Webmaster (2000-2003) for the STAR Library (www.starlibrary.net); the STAR Library is now available through CAUSEweb

COMPUTER EXPERIENCE

- ▶ Statistical: R, S-Plus, and SAS
- ▶ Database: Access
- ▶ Equation editor: MathType
- ▶ Mathematical: Maple
- ▶ Note taking: OneNote
- ▶ Operating system: Windows and Unix
- ▶ Personal information management: Outlook
- ▶ Presentation: PowerPoint
- ▶ Publishing: Publisher
- ▶ Spreadsheet: Excel
- ▶ Tablet PC
- ▶ Video creating and editing: Camtasia Studio
- ▶ Web conferencing: Adobe Connect Professional
- ▶ Word processing: Word
- ▶ Website creation and management: FrontPage - HTML and ASP

PROFESSIONAL MEMBERSHIPS

- ▶ American Statistical Association
- ▶ International Biometrics Society (ENAR)
- ▶ Institute of Mathematical Statistics