

**JACKIE BRYCE MILLER**  
Curriculum Vitae January 2020

Department of Statistics, University of Michigan  
427 West Hall, 1085 S University Ave  
Ann Arbor, MI 48109-1107  
jabmille@umich.edu

**EDUCATION**

- Ph.D., Statistics Education, The Ohio State University, 2000
- M.S., Statistics, The Ohio State University, 1996
- B.S., Mathematics and Statistics, Miami University, 1990
- B.A., Mathematics and Statistics, Miami University, 1990

**POSITIONS HELD**

- Lecturer IV, Department of Statistics, University of Michigan, 2017-present
- Lecturer III, Department of Statistics, University of Michigan, 2013-2017
- Education Specialist (60% FTE), Department of Statistics, The Ohio State University, 2003-2013
- Auxiliary Associate Professor (40% FTE), Department of Statistics, The Ohio State University, 2007-2013
- Auxiliary Assistant Professor (40% FTE), Department of Statistics, The Ohio State University, 2003-2007
- Assistant Professor, Department of Mathematics and Computer Science, Drury University, 2000-2003
- Lecturer, Department of Statistics, The Ohio State University, 1998-2000
- Adjunct Faculty, Department of Mathematics, Franklin University, 1997-1999
- Graduate Teaching Associate, Department of Statistics, The Ohio State University, 1994-1998
- Graduate Research Associate, Department of Statistics, The Ohio State University, 1997
- Actuarial Associate, The Wyatt Company, 1989-1994

**COURSES TAUGHT**

- **University of Michigan**
  - Statistics 150: Making Sense of Data
  - Statistics 250: Introduction to Statistics and Data Analysis
  - Statistics 412: Introduction to Probability and Statistics
- **The Ohio State University**
  - Statistics 135: Elementary Statistics
  - Statistics 145/1450: Introduction to the Practice of Statistics
  - Statistics 245/2450: Introduction to Statistical Analysis
  - Statistics 425: Introduction to Probability and Statistics for the Sciences I
  - Statistics 426: Introduction to Probability and Statistics for the Sciences II

- Statistics 427: Introduction to Probability and Statistics for Engineering and the Sciences I
- Statistics 428: Introduction to Probability and Statistics for Engineering and the Sciences II
- Statistics 603: Teaching of Statistics
- Statistics 604/6040: Mentored-Teaching Experience in Statistics
- **Drury University**
  - Education 448: Methods of Teaching Secondary Mathematics
  - Global Studies 101/102: Alpha Seminar
  - Mathematics 203: Mathematics and Inquiry (part of Drury's Global Perspectives 21 curriculum)
  - Mathematics 227: Introduction to Statistics
  - Mathematics 231: Calculus I
  - Mathematics 235: Linear Algebra
  - Mathematics 241: Discrete Mathematics
  - Mathematics 283/383: Seminar: Reflections on Mathematics
  - Mathematics 405: Probability and Statistics I
  - Mathematics 406: Probability and Statistics II
- **Franklin University**
  - Mathematics 230: Statistics I
  - Mathematics 330: Statistics II

## **CURRICULUM DEVELOPMENT**

- **University of Michigan**
  - Statistics 150: Making Sense of Data, transformation of course from a freshman seminar limited to 25 students per term to a statistical literacy course for all students desiring to fulfill the QR1 requirement and whose major does not require Stats 250
- **The Ohio State University**
  - Statistics 1450: Introduction to the Practice of Statistics, Semester Conversion
  - Statistics 2450: Introduction to Statistical Analysis, Semester Conversion
  - Statistics 604/6040: Mentored Teaching Experience in Statistics
  - Statistics H246/2460: Intermediate Statistics
- **Drury University**
  - Mathematics 204: Preparation for the Praxis Examination
  - Mathematics 283/383: Seminar: Reflections on Mathematics
  - Mathematics 326: Probability Theory
  - Mathematics 327: Applied Statistics
  - Mathematics 406: Probability and Statistics II
  - Actuarial Science Minor

## **NATIONAL LEADERSHIP AND SERVICE**

- Member, Advisory Committee on Continuing Education, American Statistical Association, 11/1/2019-10/31/2022
- Chair and Member, LGBTQ+ Advocacy Committee, American Statistical Association, 9/12/2019-12/31/2022
- Member, JSM Program Committee representative for the Leadership Support Council, American Statistical Association, 1/1/2019-12/31/2021
- Member, Board of Directors, Consortium for the Advancement of Undergraduate Education, 1/1/2019-present
- Chair, Poster review committee, electronic Conference on Teaching Statistics, 2016, 2018, 2020
- Chair, Posters & Beyond review committee, United States Conference on Teaching Statistics, 2005, 2007, 2009, 2011, 2013, 2015, 2017, 2019
- Member, Program committee, United States Conference on Teaching Statistics, 2005, 2007, 2009, 2011, 2013, 2015, 2017, 2019
- Member, The Robert V. Hogg Award selection committee, on behalf of the Special Interest Group on Statistics Education for the Mathematical Association of America, 2014, 2015, 2016, 2019
- Representative, Council of Sections, on behalf of the Section on Statistical Education of the American Statistical Association, 1/1/2015-12/31/2017
- Member, ASA Presidential Initiative on identifying statistics education research objectives, 1/1/2015-12/31/2017
- Member-at-Large, Executive Committee of the Section on Statistical Education of the American Statistical Association, 1/1/2002-12/31/2004, 1/1/2010-12/31/2012
- Member, Committee on Gay and Lesbian Concerns in Statistics, American Statistical Association, 1/1/2006-12/31/2011
- Member, Committee on Minorities in Statistics, American Statistical Association, 1/1/2008-12/31/2010
- Webinar host, Teaching & Learning monthly webinar series, Consortium for the Advancement of Undergraduate Statistics Education, 2006-2012
- Participant, Graduate Programs in Statistics Education Workshop, American Statistical Association, July 2009
- Program chair, American Statistical Association Section on Statistical Education, Joint Statistical Meetings, 2008
- Member, Research Advisory Board, Consortium for the Advancement of Undergraduate Statistics Education, 2002-2007

## **CAMPUS LEADERSHIP AND SERVICE**

### **University of Michigan**

- Member, LSA Academic Judiciary Committee, 2016-2018, 2018-2020
- Sponsor, Tau Beta Sigma (National Honorary Band Service Sorority), Lambda chapter, 2014-2019
- Member, Provost Task Team on Engaged Learning and Digital Education, 2014

## **The Ohio State University**

- Member, SEI Advisory and Oversight Committee, 2006-2013
- Member, University Center for the Advancement of Teaching Advisory Board, 2006-2013
- Member, Graduate Interdisciplinary Specialization on University Teaching Steering Committee, 2006-2013
- Member, Arts and Sciences Freshman Common Book Committee, 2006-2007
- Member, INstitute for QUantitative Education Research Infrastructure (INQUERI), 2005-2010
- Member, The OSU Association for Scholarship of Teaching (TOAST), 2005-2007
- Member, Dean's Curriculum Enhancement Committee, 2005-2006
- Member, Transfer Assurance Guide, College of Math and Physical Sciences, 2005
- Member, Commitment to Success Program Advisory Committee, Office of Faculty and TA Development, 1998-2000
- Member, Orientation Advisory Committee for the 17<sup>th</sup> Annual University Teaching Associate Workshop, 1998
- Member, Search Committee, national search for a new director for the Office of Faculty and TA Development, 1999

## **Drury University**

- Chair, Academic Affairs Committee, 2002-2003
- Co-Chair, Academic Affairs Committee, 2001-2002
- Member, Continuing Studies Council, 2001-2003
- Member, Teacher Education Council, 2001-2003
- Member, Summit Park Leadership Community Selection Committee, 2003
- Member, Rhodes IV Committee, 2000-2001

## **DEPARTMENT LEADERSHIP AND SERVICE**

### **University of Michigan Department of Statistics**

- Member, Undergraduate Curriculum Committee, 2013-present
- Member, Applied Master's Admissions Committee, 2017-present
- Member, Stats 206 Development Task Force
- Advisor, Applied Master's, 2016-present
- Advisor, undergraduate students, 2013-present
- Assistant coordinator of Stats 250, 2015-2017

### **The Ohio State University Department of Statistics**

- Chair, Faculty Teaching Award Committee, 1998-2000, 2003-2013
- Co-Chair, Graduate Associate Teaching Evaluation Committee, 1995-2000, 2003-2013
- Member, Department Chair Search Committee, 2011
- Transfer Credit Coordinator, 2003-2013
- TA Scheduling Assistant to the Vice Chair, 2003-2013
- Statistics Tutor Coordinator, in conjunction with Mathematics and Statistics Learning Center, 2003-2013
- Academic Misconduct Coordinator, 2003-2013
- Member, Undergraduate Curriculum Committee, 2003-2013

- Mentor, Bringing-It-Home Program, Department of Statistics, sponsored by the University Center for the Advancement of Teaching, 1999, 2003-2011

### **Drury University Department of Mathematics and Computer Science**

- Organizer, Sixth Annual Explorations in Mathematics and the Physical Sciences Workshop, 2002
- Organizer, Fifth Annual Explorations in Mathematics and the Physical Sciences Workshop, 2001
- Member, Mathematics Assistant Professor Search Committee, Drury University, 2000, 2001

## **PRESENTATIONS**

### **Professional Conferences**

- “Show Me the Data: Making Statistics and Data Science More Diverse and Inclusive in 2020,” discussant for topic-contributed panel presentation at the Joint Statistical Meetings, Philadelphia, August 2020.
- “Conference within a Conference: A Forum for Sharing a Research and Education Agenda,” panelist at the Women in Statistics and Data Science conference, Bellevue, WA, October 2019.
- “Implementing the HyFlex (Hybrid-Flexible) Model of Course Delivery in a Probability and Statistics Course for Engineers and Scientists,” contributed presentation at the Joint Statistical Meetings, Vancouver, British Columbia, August 2018.
- “Comparing the HyFlex (Hybrid-Flexible) Model of Course Delivery in an Introductory Statistics Course and a Probability and Statistics Course for Engineers and Scientists,” invited presentation at the International Conference on Teaching Statistics, Kyoto, Japan, July 2018.
- “Investigating the HyFlex (Hybrid-Flexible) Model of Course Delivery in an Introductory Statistics Course,” contributed presentation at the Joint Statistical Meetings, Chicago, July 2016.
- “Hybrid Flexible Course and Program Design: Models for Student-directed Hybrids,” with Brian Beatty (organizer), Cathy Littlefield, David Rhoads, Mike Shurance, Maggie Beers, and Dean R. Shaffer, peer-reviewed panel at the Online Learning Consortium (OLC) Innovate, New Orleans, April 2016.
- “HyFlex, Polling, and Backchannel: A Positive Learning Experience in Large Courses,” with Robert Griffiths, peer-reviewed presentation at the EDUCAUSE Learning Initiative (ELI) Annual Meeting, Denver, February 2013.
- “Polling, Streaming, and HyFlex: Blended Learning for Large Courses,” with Mark Risser, peer-reviewed presentation at the 32<sup>nd</sup> Annual Lilly International Conference on College Teaching, Miami University, Oxford, Ohio, November 2012.
- “The Novice Online Instructor’s Survival Guide: Lessons and Resources from the CAUSE Online Cluster,” topic contributed panel presentation at the Joint Statistical Meetings, San Diego, August 2012.
- “Catch ‘Em While They’re Young: Statistics as a First-Year Seminar,” organizer and chair for topic contributed panel presentation at the Joint Statistical Meetings, San Diego, July 2012.
- “The HyFlex Model: Blended Learning for On-Campus Courses,” (with Mark Risser), Innovate, The Ohio State University, April 2012
- “Speedy Feedback: Models that Set Students Up for Success,” (with Mark Risser), eMerge Conference, Cuyahoga Community College, Cleveland, March 2012

- “Using Social Media and Technology to Engage the Next Generation of Statistics Students,” (with Michelle Everson), invited breakout session at United States Conference on Teaching Statistics, Research Triangle, May 2011.
- “The Joys of Being an Academia Nut: Becoming a Statistics Educator and Loving It,” invited presentations at Bicentennial Beginnings – Inaugural Statistics Conference, Miami University, Oxford, OH, November 2009.
- “Training TAs to Teach in Graduate School and Beyond,” organizer and chair for topic contributed panel presentation at the Joint Statistical Meetings, Denver, August 2008.
- “Stirring the Pot: Radical Ideas in Statistics Education,” organizer for invited paper presentation at the Joint Statistical Meetings, Denver, August 2008.
- “Integrating Innovative Technology Resources into Introductory Courses,” invited panelist at the Joint Statistical Meetings, Salt Lake City, July 2007.
- “Researching the “Magic” of Teaching: A Study in Its Infancy... In *I Wonder...From Question to Research*,” invited breakout presentation at the United States Conference on Teaching Statistics, Columbus, OH, May 2007.
- “Being a Statistics Educator,” invited presenter at StatFest, Indianapolis, April 2007.
- “Learning From and Applying Statistics Education Research to Our Own Teaching,” organizer and chair for topic contributed panel presentation at the Joint Statistical Meetings, Seattle, August 2006.
- “An Open Discussion About Quantitative and Qualitative Research in Statistics Education,” roundtable leader at the Joint Statistical Meetings, Seattle, August 2006.
- “Being a Statistics Educator at The Ohio State University,” invited presenter at StatFest, Tallahassee, November 2005.
- “Getting Students Involved in Learning Introductory Statistics in a Large Lecture Setting,” contributed presentation at the Joint Statistical Meetings, Minneapolis, August 2005.
- “Innovative Ideas for the Statistics Classroom,” chair for topic contributed panel presentation at the Joint Statistical Meetings, Toronto, August 2004.
- “Improving Statistical Understanding: Using Writing in the Statistics Classroom,” panelist for topic contributed panel presentation at the Joint Statistical Meetings, San Francisco, August 2003.
- “Developing Graduate Programs in Statistics Education,” discussant for invited panel presentation at the Joint Statistical Meetings, New York City, August 2002.
- “Mathematics, Statistics, and Quantitative Literacy,” organizer and chair for topic contributed panel presentation at the Joint Statistical Meetings, New York City, August 2002.
- “Clash of the Paradigms: Being a Qualitative Researcher in a Quantitative World,” contributed presentation at the Joint Statistical Meetings, Atlanta, August 2001.
- “Using Humor in Introductory Statistics,” roundtable leader at the Joint Statistical Meetings, Atlanta, August 2001.
- “Using Technology to Promote Students' Construction of Knowledge,” invited panel presentation at the Joint Statistical Meetings, Indianapolis, August 2000.
- “ActivStats and the Construction of Knowledge,” invited presentation at the 25<sup>th</sup> Anniversary Conference for the Department of Statistics at The Ohio State University in Columbus, November 1999.

- “Developing and Promoting Statistical Literacy at the Undergraduate Level,” discussant (on behalf of Joan Garfield) for invited panel presentation at the Joint Statistical Meetings, Baltimore, August 1999.
- “Using Multimedia Resources in the Introductory Statistics Class,” roundtable leader (on behalf of Joan Garfield) at the Joint Statistical Meetings, Baltimore, August 1999.
- “Finding Examples-The EESEE Way Out,” (with Greg Elfring), invited presentation at the Ohio Mathematics, Science, and Engineering Conference convened by The Quality Education for Minorities Network in Cleveland, November 1996.

### **Local Colloquia**

- Early Statistics History 1968-2009, invited panelist, Miami University Department of Statistics 10<sup>th</sup> Anniversary, Oxford, OH, November 2019.
- LGBTQ Professor Panel, invited panelist, out in STEM, University of Michigan, March 2018, March 2019.
- Trans\* in STEM; Gender Identity and Expression in the Field, invited panelist, University of Michigan, November 2017.
- “ENgaging and Adapting Blended LEarning (ENABLE): HyFlex in Statistics 250,” with Julie Ghekas (graduate student), poster presentation, Enriching Scholarship 2016 Poster Fair, Center for Research on Teaching and Learning, University of Michigan, May 2016.
- LGBTQ Professor Panel, invited panelist, out in STEM, University of Michigan, March 2016.
- Trans Day of Remembrance, invited speaker, Spectrum Center and TransForm, University of Michigan, November 2015.
- “Capitalize on Your Time Together: HyFlex and Flipped Models,” invited panelist, Digital Union, The Ohio State University, February 2013.
- “Perspectives on Motivating Large Introductory Statistics Courses and Making the Most Out of the Lecture/Recitation Structure,” invited presentation, Department of Statistics Colloquium, Miami University, Oxford, OH, November 2010.
- Faculty presenter, First-Year Student Orientation, multiple presentations each summer, The Ohio State University, 2007-2012
- Faculty Discussion Leader, Arts and Sciences Book Community for incoming freshmen, The Ohio State University, Autumn 2005, 2006
- “Being a Statistics Educator at The Ohio State University,” presented to the Department of Statistics at Brigham Young University, November 2005.
- “Investigating Student Involvement in the Lecture Portion of an Introductory Statistics Course,” presented to the Department of Statistics at UCLA, April 2005.
- Faculty presenter, University-Wide TA Training Conference, The Ohio State University, 2004-2012
- Presenter, The Ohio State University’s Sexual Harassment Training, 2004-2013
- “never forget: Reflections of a Cultural Jew,” presented for the Drury University Chaplain's luncheon series, October 2001.
- “Debunking the Myths: Answering Questions About Sexuality,” invited presentation for PSYC 352: Psychology of Gender at Drury University, March 2001.
- “On Becoming a Statistics Educator,” presented for the faculty and graduate students of the statistics department at California Polytechnic State Institute, San Luis Obispo, November 1999.

- “TAs’ Experiences with Multicultural Teaching at Ohio State,” invited panelist at Teaching for the Diverse Classroom: A Conference for Faculty, Staff and TAs convened by Faculty and TA Development at The Ohio State University, Columbus, November 1998.

### Webinars

- “Using the Jigsaw Method for Exam Reviews in the Introductory Statistics Classroom,” invited CAUSE webinar, August 2010.
- “Making AP Statistics Work,” (with David Spohn), invited CAUSE webinar, July 2006.
- “Putting Your Spotlight on CAUSEweb,” inaugural CAUSE webinar, January 2006.

### Workshops

- Advanced Placement Statistics Summer Institute (with Brad Hartlaub), Columbus, Summer 2004.

## PUBLICATIONS

### Book chapter

- Miller, J. B., and Baham, M. E. (2019) Using HyFlex in Statistics for Engineers and (Data) Scientists, Hybrid-Flexible Course Design: Implementing student-directed hybrid classes, Brian J. Beatty (ed.), <https://edtechbooks.org/hyflex/umich>.

### Papers (Contributed)

- LaLonde, D., Martinez, W., Miller, J.B., Ott, M., and Thornton, S. LGBT+ resources for statisticians and data scientists. *Significance*. Retrieved 06/13/19 from: <https://www.significancemagazine.com/culture/624-lgbt-resources-for-statisticians-and-data-scientists>.
- Hardin, J. and Miller, J.B. (March 2019). The Evolution of Variables and the Existence of Trans People. *Amstat News*, Issue 501, 37-38.
- Everson, M., Gundlach, E., and Miller, J.B. (September 2013). Social Media and the Introductory Statistics Course. *Computers in Human Behavior*, 29 (5), A69-A81, <http://dx.doi.org/10.1016/j.chb.2012.12.033>
- Miller, J.B., Risser, M.D., and Griffiths, R.P. (May 2013). Student Choice, Instructor Flexibility: Moving Beyond the Blended Instructional Model. *Issues and Trends in Educational Technology*, 1 (1), <https://journals.uair.arizona.edu/index.php/itet/article/view/16464/16485>.
- Miller, J.B. (2007). Ask Stats: What Is This Statistics Education Stuff?, *Stats*, 48, 12-13.
- Miller, J.B. (2006). Ask Stats: Why is  $n = 30$  ‘magic’?...and Other Frequently Asked Questions *Stats*, 46, 8-11.
- Computers Miller, J.B. (2006). Ask Stats: Hey Professor Cuff... *Stats*, 45, 25-26.
- Miller, J.B. (2005). Ask Stats. *Stats*, 43, 25-26.
- Miller, J. B. (2000). On becoming a statistics educator. *Stats*, 28, 28-29.



## Papers (Proceedings)

- Miller, J. B., and Baham, M. E. (2018) Comparing the HyFlex (Hybrid-Flexible) Model of Course Delivery in an Introductory Statistics Course and a Probability and Statistics Course for Engineers and Scientists. Invited paper in M. A. Sorto (Ed.), *Proceedings of the Tenth International Conference on Teaching Statistics*.
- Frazier, M., and Miller, J. B. (2006). Investigating Communication Within a Multi-Tiered Instructional Team. *2006 Proceedings of the American Statistical Association, Section on Statistical Education*.
- Rossman, A. J., Franklin, C., Garfield, J. B., Peck, R, and Miller, J. B. (2002). Developing Graduate Programs in Statistics Education. *2002 Proceedings of the American Statistical Association, Section on Statistical Education*.
- Miller, J. B. (2002). Examining the Interplay Between Constructivism and Different Learning Styles. In B. Phillips (Ed.), *Proceedings of the Sixth International Conference on Teaching Statistics*.
- Miller, J. B. (2001). Clash of the Paradigms: Being a Qualitative Researcher in a Quantitative World. *2001 Proceedings of the American Statistical Association, Section on Statistical Education*.
- Miller, J. B. (2000). Using Technology to Promote Students' Construction of Knowledge. *2000 Proceedings of the American Statistical Association, Section on Statistical Education, 29-34*.

## Books

- Miller, J.B. (2019). Contributor to *Moore and Notz's Statistics Concepts and Controversies 10e*. New York: W.H. Freeman. (Revised/rewrote 8 of 24 chapters)
- Miller, J.B. (2017). Contributor to *Moore and Notz's Statistics Concepts and Controversies 9e*. New York: W.H. Freeman. (Revised/rewrote 6 of 24 chapters)
- Miller, J.B. (2017). *Instructor's Solutions Manual and Test Bank for Moore and Notz's Statistics Concepts and Controversies 9e*. New York: W.H. Freeman.
- Miller, J.B. (2015). Instructor's materials for *Moore, Notz, and Fligner's The Basic Practice of Statistics 7e*. New York: W.H. Freeman.
- Miller, J.B. (2015). Instructor's materials for *Moore, Notz, and Fligner's Statistics in Practice 1e*. New York: W.H. Freeman.
- Miller, J.B. (2013). *Instructor's Solutions Manual and Test Bank for Moore and Notz's Statistics Concepts and Controversies 8e*. New York: W.H. Freeman.
- Miller, J.B. (2010). *Student Solutions Manual for An Introduction to Statistical Methods and Data Analysis 6e* by Ott/Longnecker. Brooks/Cole Cengage Learning.
- Miller, J.B., and Notz, W.I. (2010). *Instructor's Solutions Manual and Test Bank for Moore and Notz's Statistics Concepts and Controversies 7e*. New York: W.H. Freeman.
- Miller, J. B. (2006). *Printed Test Bank and Resource Guide for Intro Stats (2<sup>nd</sup> ed.)*, Boston: Pearson.

## Other

- Miller, J.B., Corkins, B., and Frazier, M. (reviewed and posted 2010). *Inference for Means Activity*, MERLOT. This activity can be accessed at <http://www.merlot.org/merlot/viewCompositeReview.htm?id=427944>.

- Miller, J. B. (2001). Regression – Residuals – Why? *STAR Library* [On-line resource]. Available: <http://www.causeweb.org/repository/StarLibrary/activities/miller2001/>
- Miller, J. B. (2001). The Electronic Companion Series [Review of the books *An Electronic Companion to Statistics*, *An Electronic Companion to Biostatistics*, and *An Electronic Companion to Business Statistics*]. *The American Statistician*, 55 (2), 168-169.
- Miller, J. B., and Sutcliffe, A. (1999). Instructor's Guide to Teaching Statistics 135. Columbus: The Ohio State University.
- Contributor to: Notz, W. I., Pearl, D. K., and Stasny, E. A. (1999). The Electronic Encyclopedia of Statistical Examples and Exercises. New York: W. H. Freeman and Company. Stories: *Historical Farm Data; Influenza Outbreak of 1918; Is Old Faithful Faithful?; The State of SAT*

## RESEARCH EXPERIENCE

- Math: EAGER: Researching the HyFlex+ Instructional Model of Blended Learning, with Tailen Hsing. As postsecondary enrollments in the United States continue to increase there is pressure for traditional brick-and-mortar universities to provide more diverse delivery options for courses. One promising hybrid instructional model is the HyFlex (hybrid, flexible) model, originally designed by Dr. Brian Beatty at San Francisco State University. The primary feature of the HyFlex model is to combine synchronous online and face-to-face components ("hybrid") in a single course and allow students to choose when and how they attend ("flexible"). A true HyFlex course maximizes accessibility by ensuring that students are not disadvantaged in one attendance mode. The HyFlex+ introductory statistics course provides equivalency for face-to-face and online attending students by incorporating a backchannel communication system. The backchannel—a web-based or mobile chat room—facilitates real-time conversation among students and the instructor during a class session. The backchannel includes the ability to poll students in the classroom and participating remotely. Though it has existed for nearly a decade (Beatty, 2006), relatively little research exists about the effectiveness of the HyFlex model for student learning within higher education. The core of this proposed project is a mixed methods research study designed to answer the questions about the benefits and challenges of the HyFlex+ model in introductory statistics courses with the goal of moving the HyFlex+ model to the list of research-based instructional practices that meet the needs of 21st Century students and citizens. The outcomes of this knowledge-generating MATH: EAGER project, research results to support the use of a HyFlex instructional model in introductory statistics and documentation of the model, will form the basis of a future design and development project, in which the materials and research will be disseminated to other institutions and disciplines. **Note:** granted one year no cost extension through October 31, 2018.
- ENgaging and Adaptive Blended LEarning (ENABLE), with Julie Ghekas and Kit Clement. This study seeks to provide students with options to attend Statistics 250 lectures that still allow them to fully participate in the lecture. Students will be allowed to choose on a daily basis whether they would like to attend class face-to-face or synchronously online. The ENABLE project is a HyFlex (hybrid-flexible) project that will combine live streaming, recording, polling, and a backchannel for student questions and comments. Prior work done with the HyFlex model at Ohio State shows promise for the model here at University of Michigan, both in terms of its reception and its potential to serve more students with the same resources. University of Michigan, 2014-2016.

- Semester Conversion: Too Many Students, Too Little Time, with Mark Risser and Robert Griffiths. This study intends to give students the choice between face-to-face lecture and online lecture, with all students having the opportunity to participate in lecture through the use of social media and the backchannel, The Ohio State University, 2011-2012.
- Group Homework Assignments and Presentations to Promote Constructive Learning in an Undergraduate Statistics Recitation Setting, with Joe Kupresanin and Marian Frazier. This one-year study investigates restructuring the format of recitations for Stat 145 to evaluate the impact of constructive learning, The Ohio State University, Autumn 2006-Spring 2007.
- Keys to Math Through Music, with two New Albany, Ohio, fourth-grade teachers, Craig Lautenschleger and Susie Kauffman. This study will give real-life application to mathematical skills and objectives while tapping into divergent thinking abilities of our gifted and talented students, The Ohio State University and New Albany Schools, Spring 2005.
- Investigating Communication Within a Multi-Tiered Instructional Team, with Marian Frazier. This one-quarter study investigates communication within a multi-tiered instructional team of a large introductory statistics course, The Ohio State University, Spring 2005.
- Investigating Student Involvement in the Lecture Portion of an Introductory Statistics Course. This two-quarter study investigates ways to get students more involved in the lecture portion of a large introductory statistics course, The Ohio State University, Winter-Spring 2005.
- Investigating the Impact of Classroom Examples from Student Data on Student Learning. This study tests whether examples using student data is perceived by students to help their learning of statistics, Drury University, Fall 2002.
- The Quest for the Constructivist Statistics Classroom: Viewing Practice Through Constructivist Theory. An exploratory and descriptive study investigating the presence of constructivism in and around the introductory statistics classrooms of four well-respected statistics educators/researchers, The Ohio State University, 1998-2000.
- Testing an Application of the 'Jigsaw' in the Introductory Statistics Classroom. During Autumn 1999 a randomized, comparative experiment was conducted to examine the impact of teaching on students' understanding of concepts, The Ohio State University, Autumn 1999.
- Enhancing the Lecture Portion of Statistics 135. The collection of qualitative data from students about the lecture portion of Statistics 135, Autumn 1998. This data was used to examine how students can best be served by lecture in a lecture/recitation format.
- Measuring Conceptual Understanding in the Statistics Classroom. Through observation of Statistics 135 lectures and an interview of a Statistics 135 student, I began to look at the issue of conceptual understanding, Spring 1997. Observations of lectures let me examine the issue of "teaching to the test" versus teaching for understanding, as well as encouragement of student thinking in the lecture. The student interview helped in the development of questions for future research.

### **ADVANCED PLACEMENT STATISTICS INVOLVEMENT**

- Organizer and co-instructor, Advanced Placement Statistics Summer Institute at The Ohio State University, Summer 2004
- Table Leader, Advanced Placement Statistics Exam, 2004-2006
- Reader, Advanced Placement Statistics Exam, 2000-2003, 2010

## GRANTS AWARDED

- Lecturers' Professional Development Fund. 2019. University of Michigan, Center for Research on Learning and Teaching, \$2000.
- Co-Principal Investigator for "Math:EAGER: Researching the HyFlex+ Instructional Model of Blended Learning," (with Tailen Hsing), NSF/DUE/IUSE-Engaged Student Learning: Exploration Program, Award #1544337, 2015-2017, \$247,969. **Note:** No cost extension granted through October 31, 2018.
- Investigating Student Learning Grant for "ENgaging and Adapting Blended LEarning (ENABLE)," 2014. University of Michigan, Center for Research on Learning and Teaching, \$4000.
- Quality Matters Peer Reviewer Certification Grant, 2012. To cover the registration fee for the Quality Matters Peer Reviewer Course once the course has been successfully completed. The Ohio State University Office of the CIO, \$150.
- eLearning Professional Development Grant, 2011. To assist in travel costs to the SLOAN-C Emerging Technologies for Online Teaching – Empowering Next Generation Teaching Symposium in July 2011. The Ohio State University Office of the CIO, \$1,000.
- Project Lead for "Semester Conversion: Too Many Students, Too Little Time," Learning Technology Departmental Impact Grant, 2011. The Ohio State University Office of the CIO, \$15,000.
- Seed grant for TA support and development, 2006. Co-PI with Dr. Deb Rumsey. The Ohio State University Office of Faculty and TA Development, \$10,000.
- "Innovating and Integrating Technology for Undergraduate Statistics Courses," (with Deb Rumsey), 2005. The Ohio State University Office of Academic Affairs, \$41,000 cash to purchase equipment, \$72,500 annual rate.
- "Keys to Math Through Music," 2005. Co-PI with Craig Lautenschleger and Susie Kauffman. Martha Holden Jennings Foundation, \$2,989.89.
- Co-Principal Investigator for "CAUSEway: Workshops for navigating the terrain of undergraduate statistics," (with Dennis Pearl, Deb Rumsey, Mark Jenness, Brian Jersky), NSF/DUE/CCLI Program, Award #0442630, 2005-2011, \$900,000.
- "Hi-Tech, Hi-Touch Statistics: Enhancing the Teaching and Learning Experience Through Technology"; "Building a Technology Integrated Curriculum for Introductory Statistics"; "Modernizing Calculus-Based Undergraduate Statistics Courses"; "Learning Technology Developer for Undergraduate Statistics." (Four proposals submitted together with Deb Rumsey), The Ohio State University Office of Academic Affairs, 2004, \$91,000 cash to purchase equipment and \$100,000 annual rate.

## EDITORIAL AND REVIEW WORK (NATIONAL LEVEL)

- Reviewer, graduate scholarship applications, National Organization of Gay and Lesbian Scientists and Technical Professionals, 2019
- External reviewer for promotions at other universities, 2016 (1), 2017 (2)
- Reviewer, *The American Statistician*, 2013-present
- Associate editor, *Journal of Statistics Education*, 2005-2019
- Editorial board, CAUSE online research collection, 2002-present
- Grant reviewer, National Science Foundation, 2009-2012

- Editorial board, *Chance* Magazine, 2010-2012
- Advisory panel member, “Discovery Learning Projects in Introductory Statistics” (NSF/DUE/TUES Program, Award #1021584), North Georgia College and State University, 2011-2012
- Editorial board, *STATS* Magazine, 2005-2007

## **SELECTED SERVICE TO STUDENTS**

### **University of Michigan Graduate Students**

- Graduate student research associate appointment coordinator
  - J. Leland Bybee, Summer 2016, Fall 2016, Winter 2017
  - Julie Ghekas, Winter 2016

### **The Ohio State University Graduate Students**

- Mentor, Ohio State Teaching Enhancement Program Graduate Teaching Fellows program
  - Staci White, 2011-2012
  - Tyson Crowther, 2009-2010
  - William Darnieder, 2008-2009
  - Soma Roy, 2007-2008
  - Marian Frazier, 2004-2007
- Mentor, mentored-teaching experience for the graduate interdisciplinary specialization in college and university teaching
  - Mark Risser, Spring 2013
  - Staci White, Spring 2013
  - Anthony Sgambellone, Winter 2011
  - Sara Conroy, Spring 2010
  - Elizabeth Fry, Spring 2010
  - Christina Springer, Spring 2010
  - Marian Frazier, Winter 2007
  - Stephanie Jones, Winter 2007
  - Joseph Kupresanin, Autumn 2006
- Graduate research associate appointment coordinator
  - Mark Risser, Autumn 2011-Summer 2012
  - Staci White, Winter 2011, Summer 2012
  - Katie Thompson, Winter 2010, Summer 2012
  - Tayler Blake, Summer 2011
  - John Lewis, Autumn 2010
  - Rob Ashmead, Summer 2010
  - Nicole Dobmeier, Summer 2010
  - Michelle Nelson, Autumn 2008-Spring 2009
  - Tyson Crowther, Winter 2009
  - Mallik Rettiganti, Summer 2008
  - Bill Darnieder, Autumn 2007-Spring 2008
  - Marian Frazier, Spring 2006-Spring 2007
  - Joe Kupresanin, Autumn 2006-Spring 2007
  - Beau Corkins, Winter-Spring 2006

- Adam Weimer, Autumn 2005

### **The Ohio State University Undergraduate Students**

- Porter, Mount Leadership Society, Winter-Spring 2010
- External Faculty Honors Committee Member, Kate Bowman, speech and hearing, Spring 2008
- External Faculty Honors Committee Member, Ariel Cohen, geography, Spring 2006
- External Faculty Honors Committee Member, Samantha Koch, psychology, Spring 2006
- Sponsor, Allies, a student organization whose goal is to bring awareness to the Drury University community regarding diversity of sexual orientation on campus, 2000-2003

### **HONORS AND DISTINCTIONS**

#### **Received**

- Honorary member of Kappa Kappa Psi (National Honorary Band Service Fraternity), Nu Chapter, initiated February 17, 2017
- Robert V. Hogg Award for Excellence in Teaching, Mathematical Association of America, SIGMAA-Stat Ed, 2013 (inaugural year of the award)
- Outstanding Staff Member, The Ohio State University, 2013
- Thank a Prof, honored for teaching in the classroom, (sponsored by the University Center for the Advancement of Teaching at The Ohio State University), various terms, 2003-2013
- MERLOT Volunteer of the Year Award, 2006
- President's Salute to Undergraduate Academic Achievement, recognized for significant impact by Rachel Swillinger, The Ohio State University, May 2006
- MERLOT, recognized as valuable contributor, 2006, 2010
- Faculty Award for Excellence, recognized faculty member of Judge Warren L. White Scholars Elizabeth Bunch, Martha Christiansen, and Erin Hoemann, Drury University, 2002
- Faculty Recognition Award, Drury University, 2001, 2002
- Faculty Award for Excellence, recognized faculty member of Judge Warren L. White Scholar Lynn Behling, Drury University, 2001
- ExxonMobil Project NExT Fellow, The Mathematical Association of America's Project NExT (New Experiences in Teaching) program, 2001-2002
- Outstanding Teaching and Service Award, Department of Statistics, The Ohio State University, 2000
- The Lubrizol Foundation Fellowship, Department of Statistics, The Ohio State University, 1994
- Harry M. and Lucy A. Williams Memorial Scholarship, Miami University, 1988-1989
- Edward and Mary Rue Shepherd Scholarship, Miami University, 1989-1990

#### **Nominations**

- Mu Sigma Rho Statistical Education Award, 2006-2008, 2018-2020
- Golden Apple Award, University of Michigan, 2014, 2017, 2018, 2019
- Provost's Award for Distinguished Teaching by a Lecturer, semi-finalist, The Ohio State University, 2013 (inaugural year of the award)
- Alumni Award for Distinguished Teaching, The Ohio State University, 2012 (not eligible for award based on current position)
- Waller Education Award, American Statistical Association, 2009

- CASE Professor of the Year, Drury University, 2002
- Faculty Award in Leadership, Drury University, 2000
- Faculty Award in Teaching, Drury University, 2001

### **ACTUARIAL EXAMS**

Passed the following exams given by the Society of Actuaries:

- Exam 100: Calculus and Linear Algebra
- Exam 110: Probability and Statistics
- Exam 120: Applied Statistical Methods
- Exam 130: Operations Research
- Exam 135: Numerical Methods
- Exam 140: The Theory of Interest
- Exam 162: Mortality Table Construction
- Exam 165: Graduation: The Revision of Estimates

### **MEMBERSHIPS:**

- American Statistical Association (ASA)
  - ASA Section on Statistics and Data Science Education
- International Association for Statistical Education (IASE)
- Mathematical Association of America (MAA)
  - SIGMAA – Statistics Education
- National Organization of Gay and Lesbian Scientists and Technical Professionals (NOGLSTP)
- oSTEM (Out in STEM)