

HERLE M. MCGOWAN

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**Education**

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- Aug 2009      University of Michigan. Ann Arbor, MI  
Ph.D., Department of Statistics  
Dissertation: Experimentation Methodologies for Educational Research with an Emphasis on the Teaching of Statistics  
Co-Chairs: Vijayan Nair and Brenda Gunderson, Department of Statistics  
Committee: Richard Gonzalez, Departments of Psychology and Statistics  
Edward Silver, School of Education
- May 2005      University of Michigan. Ann Arbor, MI  
Master of Arts in Statistics
- May 2002      Rutgers, The State University of New Jersey. New Brunswick, NJ  
Bachelor of Arts in Statistics  
Bachelor of Arts in Economics  
Highest Honors, Dean's list, Phi Beta Kappa

**Employment**

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- 2015–present      Teaching Associate Professor, Department of Statistics, North Carolina State University
- 2011–2015      Teaching Assistant Professor, Department of Statistics, North Carolina State University
- 2009–2011      Assistant Professor, Department of Statistics, North Carolina State University
- 2005–2009      Graduate Student Instructor, Department of Statistics, University of Michigan
- 2006–2007      Graduate Teaching Consultant, Center for Research on Learning and Teaching (CRLT), University of Michigan
- 2003–2005      Graduate Student Research Assistant, Institute for Social Research, University of Michigan
- 2002–2003      Graduate Student Instructor, Department of Statistics, University of Michigan
- 2001–2002      Undergraduate Research Assistant, Center for State Health Policy, Rutgers University

**Research Interests**

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Statistics education, educational technology, quantitative research methodology in educational settings.

**Publications**

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Wroughton, J.R., McGowan, H.M. Weiss, L.V. and Cope, T.M. (2013). "Exploring the Role of Context in Students' Understanding of Sampling." *Statistics Education Research Journal* 12(2). Available online: [http://iase-web.org/documents/SERJ/SERJ12\(2\)\\_Wroughton.pdf](http://iase-web.org/documents/SERJ/SERJ12(2)_Wroughton.pdf)

Pearl, D.K., Garfield, J.B., delMas, R., Groth, R.E., Kaplan, J.J., **McGowan, H. M.**, and Lee, H.S. (2012), "Connecting Research to Practice in a Culture of Assessment for Introductory College-level Statistics." Available online: [http:// www.causeweb.org/research/guidelines/ResearchReport\\_Dec\\_2012.pdf](http://www.causeweb.org/research/guidelines/ResearchReport_Dec_2012.pdf).

Woodard, R. D. and **McGowan, H. M.** (2012). "Redesigning a Large Introductory Course to Incorporate the GAISE Guidelines," *Journal of Statistics Education*, 20(3). Available online: <http://www.amstat.org/publications/jse/v20n3/woodard.pdf>.

**McGowan, H. M.** (2011). "Planning a Comparative Experiment in Educational Settings," *Journal of Statistics Education*, 19(2). Available online: [www.amstat.org/publications/jse/v19n2/mcgowan.pdf](http://www.amstat.org/publications/jse/v19n2/mcgowan.pdf).

**McGowan, H. M.** and Gunderson, B. K. (2011). "Using Clickers in a Statistics Classroom," in *Teaching Mathematics with Classroom Voting: With and Without Clickers (MAA Notes Series, Volume 79)*, K. Cline and H. Zullo, (Eds.), Mathematics Association of America.

**McGowan, H. M.** and Vaughan, J. (2011), "Testing a Student Generated Hypothesis Using Student Data," *Teaching Statistics*," doi: 10.1111/j.1467-9639.2010.00452.x

**McGowan, H. M.** & Gunderson, B. K. (2010), "A Randomized Experiment Exploring How Certain Features of Clicker Use Effect Undergraduate Students' Engagement and Learning in Statistics," *Technology Innovations in Statistics Education*, 4(1). Available online: <http://escholarship.org/uc/item/2503w2np>.

**McGowan, H. M.**, Nix, R. L., Murphy, S. A., Bierman, K. L. and CPPRG. (2010), "Investigating the Effects of Selection Bias in Dose-Response Analyses of Preventive Interventions," *Prevention Science*, 11(3), 239-251.

## **Presentations**

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Bray, A., **McGowan, H.M.**, Hardin, J., Gould, R. (Aug 2014), "DataFest: A (Competitive) Celebration of Data," contributed panel discussion presented at the American Statistical Association Joint Statistical Meetings, Boston, Massachusetts.

**McGowan, H.M.** (Aug 2013), "Evaluating a Hybrid Learning Environment in an Introductory Statistics Course," talk presented at the American Statistical Association Joint Statistical Meetings, Montreal, Canada.

**McGowan, H.M.** (Aug 2013), "Discussing 'Connecting Research to Practice in a Culture of Assessment for Introductory College-Level Statistics'" roundtable discussion presented at the American Statistical Association Joint Statistical Meetings, Montreal, Canada.

**McGowan, H. M.** (Aug 2012), "Hybrid Courses: The Best of Face-to-Face and Online Learning," roundtable discussion presented at the American Statistical Association Joint Statistical Meetings, San Diego, California.

Endriss, K., Fairbourn, C., **McGowan, H. M.**, Mills, J., Perrett, J. (Aug 2012), "Making the Transition to Online Teaching," talk presented at the American Statistical Association Joint Statistical Meetings, San Diego, California.

**McGowan, H. M.** and Woodard, R. W. (April 2012). "Capitalizing on Technology for Teaching Large Lecture Courses," poster presented at the Teaching and Learning Symposium, North Carolina State University.

Kaplan, J. J., Bernhard, J. J., Collings, P. B., Genschel, U., and **McGowan, H. M.** (Aug 2011), "Clickers in Statistics Classes: Connecting Research and Practice," talk presented at the American Statistical Association Joint Statistical Meetings, Miami, Florida.

**McGowan, H. M.**, Cope, T., Slauson, L. and Wroughton, J. (July 2011), "The Role of Confirmation and Belief Bias in Introductory Statistics Students' Abilities to Judge the Quality of a Sample," talk presented at the Seventh International Research Forum on Statistics Reasoning, Thinking and Literacy, Utrecht University, The Netherlands.

Wroughton, J., Slauson, L., **McGowan, H. M.**, and Cope, T. (May 2011), "Exploring the Role of Problem Context in Students' Understanding of Sampling," poster presented at the United States Conference on Teaching Statistics, Raleigh, North Carolina.

**McGowan, H. M.** (April 2011), “Redesigning Large Lecture Courses,” talk presented at the 2011 International Indian Statistical Association’s Conference on Probability, Statistics, and Data Analysis, Raleigh, North Carolina.

DelMas, R., Lee, H., **McGowan, H. M.** and Pearl, D. (Aug 2010), “Establishing a Career in Statistics Education,” invited panel discussion at the American Statistical Association Joint Statistical Meetings, Vancouver, British Columbia.

Cope, T., **McGowan, H. M.**, Slauson, L. and Wroughton, J. (Aug 2010), “College Students' Opinions about Context and Conceptions about Samples,” talk presented at the American Statistical Association Joint Statistical Meetings, Vancouver, British Columbia.

**McGowan, H. M.** (July 2010), “Supporting Statistical Thinking through a Capstone Project,” webinar presented by Consortium for the Advancement of Undergraduate Statistics Education (CAUSEweb.org).

Woodard, R., Arroway, P. and **McGowan, H. M.** (April 2010), “Redesigning an Intro Course According to Best Practice Guidelines,” poster presented at the North Carolina State University College of Physical and Mathematical Sciences Scope Academy, Raleigh, North Carolina.

Woodard, R., Arroway, P. and **McGowan, H. M.** (Feb 2010), “Redesigning an Intro Course According to Best Practice Guidelines,” poster presented at the Emerging Issues Institutes Twenty-fifth Annual Emerging Issues Forum, Raleigh, North Carolina, Raleigh, North Carolina.

**McGowan, H. M.** (Jan 2010), “Exploring the Impact of Clicker Use Undergraduate Students' Engagement and Learning in Statistics,” talk presented at the North Carolina State University College of Education Friday Institute for Educational Innovation.

**McGowan, H. M.**, Gunderson, B. K., and Nair, N. (Jan 2010), “A Randomized Experiment Exploring Features of Clicker Use and Their Impact on Undergraduate Students' Engagement and Learning in Statistics,” contributed talk presented at the Joint Mathematics Meeting, San Francisco, California.

Berenson, M., Dawson, D. V., **McGowan, H. M.** and Terry, R. (Aug 2008), “Clickers in the Statistics Classroom,” topic contributed panel discussion at the American Statistical Association Joint Statistical Meetings, Denver, Colorado.

**McGowan, H. M.**, Gunderson, B. K., & Wagaman, A. S. (May 2007), “Taking the Group Project to the Next Level,” poster presented at the United States Conference for Teaching Statistics, Columbus, Ohio.

**McGowan, H. M.**, Nix, R. L., Murphy, S. A., Bierman, K. L., and Conduct Problems Prevention Research Group. (May 2004), “Investigating Dose-Response Relations in a Preventive Intervention Program for Children with Conduct Problems,” poster presented at the Society for Prevention Research meetings, Quebec City, Canada.

## **Grants, Awards and Honors**

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2018	BRIDGES Academic Leadership for Women Program.
2017	Dennis Boos Citizenship Award, Department of Statistics, North Carolina State University
2016	Outstanding Teaching Award, North Carolina State University.
2016–2019	National Institutes of Health R25 HL147228, Preparing the Next Generation of Biostatisticians in the Era of Data and Translational Sciences (Co-Investigator, 0.3 calendar months effort, \$249,789)
2016–2019	National Institutes of Health R25 HL131490, Engaging, Inspiring, and Preparing the Next Generation of Biostatisticians (Co-Investigator, 0.3 calendar months effort, \$737,937)
2013–2016	Engaging, Inspiring, and Preparing the Next Generation of Biostatisticians, National Institutes of Health T15 HL097621. (Co-Investigator, 0.3 calendar months effort, \$749,349).
2011–2012	Large Course Redesign Pilot Grant, Distance Education and Learning Technology Applications, North Carolina State University. (Co-Investigator, \$29,783).

2010–2011	Faculty Research and Professional Development Grant, North Carolina State University, “Exploring and Improving Students’ Reasoning about Statistical Significance.” (Principal Investigator, \$4,000).
2008–2009	Outstanding Graduate Student Instructor Award, Rackham Graduate School, University of Michigan.
2007–2008	Collaboratory for Advanced Research and Academic Technologies Graduate Student Instructor Fellowship, University of Michigan.
2006–2007 2005–2006	Graduate Student Instructor Excellence in Teaching Award, Department of Statistics, University of Michigan.

### **Teaching Experience and Professional Development at North Carolina State University**

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- Statistics 517: Statistical Methods I, Department of Statistics (currently taught as ST590-Special Topics).
- Statistics 511: Experimental Statistics for Biological Sciences I, Department of Statistics.
- Statistics 435: Statistical Methods for Quality and Productivity Improvement, Department of Statistics.
- Statistics 430: Introduction to Regression Analysis, Department of Statistics.
- Statistics 401: Experiences in Data Analysis, Department of Statistics.
- Statistics 372: Introduction to Statistical Inference and Regression, Department of Statistics.
- Statistics 371: Introduction to Probability and Distribution Theory, Department of Statistics.
- Statistics 370: Probability and Statistics for Engineers
- Statistics 350: Economics and Business Statistics
- Statistics 311: Introduction to Statistics, Department of Statistics.
- Statistics 101: Statistics by Example, Department of Statistics.
- COS 100: The Science of Change. Orientation course for new freshman in the College of Sciences.
- Statistics Instructor, NC State Executive Education
- Nonparametric Statistics Workshop Instructor, Lean Six Sigma Master Black Belt Program, College of Textiles.
- Faculty Mentor: Preparing the Professoriate, Certificate of Accomplishment in Teaching, Park Scholarship, Pack Promise.
- Workshop Leader, “Basic Statistics for Research on Your Teaching” Workshop Leader, Office of Faculty Development, October 2010.

### **Teaching and Professional Development Experience at the University of Michigan**

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2007–2009	Statistics 350: Introduction to Statistics and Data Analysis Department of Statistics.
2006–2007	Facilitator, GSI Teaching Orientation, CRLT.
2005–2007	Graduate Student Mentor, Department of Statistics.

### **Service to Professional Societies and the Community**

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2013–present	Associate Editor, Journal of Statistics Education.
2013–present	NCSU Liaison, ASA DataFest™ at Duke.
2010–present	Reviewer: Journal of Statistics Education, Statistics Education Research Journal, Technology Innovations in Statistics Education, Nation Science Foundation Division of Undergraduate Education.
2013–2015	Executive Committee At Large, Section on Statistical Education, American Statistical Association.

### **Service to North Carolina State University and the College of Sciences**

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2017–present	Member, Faculty Advisory Council, College of Sciences (Co-chair 2017-2018).
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2017–present	Member, STEM Recourses Advisory Board.
Spring 2019 Spring 2018	Senior Awards Selection Committee, College of Sciences
2014–2019	Advisory Board for the Th!nk Quality Enhancement Program.
2015–2016 2011–2012	Teaching Advisory Committee, College of Sciences.
2013–2016	Redesign of COS100, an orientation course for new freshman in the College of Sciences.
2016–2017	Chair, General Education Diversity Task Force.
2012–2016	Council on Undergraduate Education (Chair, 2014–2015). Chair, Rubric Subcommittee (2013–2014). Chair, Review Subcommittee (2014–2016).
Spring 2014	Subcommittee (of the COS Honors Committee) to Develop a College Interdisciplinary Honors Program, College of Sciences.
2013–2014	Teaching Awards Selection Committee, College of Sciences.
2010–2011	Seminar Coordinator, STEM Initiative.

#### **Service to the Department of Statistics, North Carolina State University**

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2018–present	Co-Advisor, Professional Strategies Working Group.
2013–present	Advisor, Undergraduate Statistics Club.
2011–present	Academic Advisor (Advise more than 60 students annually).
Fall 2019	Graduate (Ph.D.) Admissions Committee
Summer 2016	Qualifier Exam Committee.
Fall 2015 Fall 2012	Beach Trip Committee (Chair, 2012).
Summer 2014	Basic Exam Committee.
Spring 2014	Course Coordinator, Statistics 311 & 312: Introduction to Statistics I & II.
2012–2013	Co-facilitator, Women in Statistics Networking Lunches.
2011–2012	Seminar Committee.

#### **Professional Associations**

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2010–present	Consortium for the Advancement of Undergraduate Statistics Education (CAUSE) Activist
2004–present	American Statistical Association
2004–2006	Society for Prevention Research