MELINDA MILLER HOLT

CURRENT POSITION

Dean, College of Science & Engineering Technology,
Sam Houston State University

EDUCATION

Baylor University, Waco, Texas
Ph.D., Statistics, 1995
Dissertation: *Analysis of Quantal Responses in the Joint Action of Two Agents: Bayesian and Distribution-free Methods (*Advisor: John W. Seaman, Jr.)
M.A., Mathematics, 1991
B.A., Mathematics, 1990 (Cum Laude)

PROFESSIONAL ACCREDITATION

PSTAT®, Accredited Professional Statistician, American Statistical Association, 2022

ADMINISTRATIVE AND LEADERSHIP EXPERIENCE

Sam Houston State University, **Huntsville, TX**
College of Science & Engineering Technology
Dean, 2024 – present
Interim Dean, 2023 – 2024

Duties:

- Lead 150+ faculty and 30+ staff across eight departments, consisting of School of Agricultural Sciences and departments of Biological Sciences, Chemistry, Computer Science, Engineering Technology, Environmental and Geosciences, Mathematics and Statistics, and Physics and Astronomy
- Oversee quality instruction for approximately 3700 undergraduate students pursuing any of 29 undergraduate degrees and approximately 260 graduate students pursuing any of 12 master's degrees, 1 PhD program, and 5 graduate certificates
- Foster excellence in research and scholarly activity
- Foster excellence in community engagement
- Support additional college research and student support facilities, such as the STEM Center, Cyber Forensic Intelligence Center, Gibbs Ranch Equestrian Facility and Agriculture Labs, Natural History Collections, Pineywoods Environmental Research Laboratory, Harrell Agricultural Engineering Technology Center, SHSU Microscopy Center, and Dominey Observatory
- Manage an approximately $21.5 million annual operating budget, plus approximately $44 million in grants and donations

Accomplishments:

- Obtained university funding to upgrade 10 pool faculty positions to visiting assistant professor positions to provide instructional stability in lower-division mathematics and statistics courses
- Realigned internal budgets to fund student worker pay increases, expansion of study abroad scholarships, faculty development and research opportunities, continuation of the STEM Center, creation of a communications support staff position, and support of community college partnerships
- Increased undergraduate enrollment headcount (3.5%) and undergraduate student credit hour production (4%)
- Improved student pass rates in key chemistry and mathematics courses, yielding 15% and 5% increases respectively
- Expanded student success initiatives to gateway courses in agricultural science, biology and geology
- Initiated efforts to secure ABET accreditation for BS in Electrical and Computer Engineering Technology and BS in Software Engineering and ATMAE accreditation in BS in Engineering Technology Design and Development and BS in Engineering Technology
- Supported approximately $19 million in external grant submissions, yielding $6.7 million in award funding
- Supported initial development of a Security Operations Center (SOC)
- Developed draft college mission and vision statements and strategic priorities that nest within the university strategic plan
- Hired and onboarded 21 total full-time faculty and 2 staff members
- Selected and transitioned 3 new department chairs
- Led promotion and/or tenure decisions for 10 faculty and designation of 2 as emeritus faculty
- Completed Gibbs Ranch and Dominey Observatory Phase I expansion projects
- Improved internal communications through initiation of a COSET faculty/staff newsletter
- Improved external communications through expanded social media presence
- Expanded industry/donor relations efforts through increased communications and college-level interactions

Associate Dean, 2021 – 2022

Duties:

- Oversaw curriculum development, implementation, and course catalog revisions
- Oversaw assessment activities, including department-level program and administration assessment, college-wide meta-assessment, and university student learning assessment
- Supported departmental course scheduling, including semester course schedule development, classroom usage, and textbook adoptions
- Facilitated departmental student success efforts

- Reviewed suspension readmission requests
- Led a variety of committees, including COSET Curriculum Committee, Annual Faculty/Staff Giving Campaign, COSET Faculty and Staff Excellence Awards, National Institute of Student Success SHSU Implementation (NISS) committee, Multiple-measures Implementation Committee
- Served as building liaison, including monitor beautification efforts and repairs

Accomplishments:

- Improved student outcomes in CHEM 1411, MATH 1314, MATH 1410, and MATH 1420 through better placement, better course content alignment, updated content, and more equitable student support mechanisms
- Implemented multiple-measures mathematics placement and student support
- Developed and facilitated approval of the Exclusion of Initial Core Mathematics Course policy (APS 210302)
- Improved the readmission process for suspended students, allowing data analysis of intervention efforts
- Developed and mapped course content to allow for alternative paths to academic credit
- Updated the college curriculum approval process to expedite review
- Introduced 5 new interdisciplinary, industry-motivated degree plans
- Improved assessment and meta-assessment processes, achieving better alignment to the SHSU strategic plan and budget process
- Studied the college working environment through its first campus climate survey and initiated college-wide community building events
- Developed grant partnerships with other Texas universities

Department Chair, Mathematics and Statistics, 2017 – 2021

Duties:

- Led 25+ tenured or tenure-track faculty, 5+ lecturers, and 10+ adjuncts
- Fostered excellence in teaching, research, and service
- Oversaw quality instruction for 110+ majors in two undergraduate degrees and 40+ graduate students in three graduate degrees
- Oversaw quality instruction for students in degrees across SHSU, including approximately 19,000 student credit hours (SCH) each fall and 12,000 (SCH) each spring. Credit hour production in Mathematics and Statistics represented approximately 30% of COSET and 7.5% of SHSU
- Supervised the departmental budget, record-keeping, and the requisition and management of supplies, equipment, materials, and other instructional needs
- Maintained relationships with other departments, work units, and stakeholders

Accomplishments:

- Implemented the SHSU Math Rule, which required all entering students to immediately and continuously enroll in mathematics until they became core-complete
- Implemented HB 2223, which required students that were not college-ready in mathematics enroll in college level mathematics with co-requisite course support
- Secured university funding for 4 additional lecture faculty to support a 19% increase in SCH as a result of new freshman mathematics course requirements
- Redesigned support courses for students that were not college-ready
- Developed campus-wide wraparound support of incoming freshman mathematics students, involving the Dean of Students Office, Counseling Center, Academic Success Center, Disability Services, representatives from peer institutions, and a national expert in mathematics anxiety
- Improved student core mathematics course placement for non-STEM majors, through a Reimagining the First Year committee
- Created departmental by-laws
- Redesigned the chair's evaluation of faculty teaching effectiveness
- Converted 200+ courses, involving 50+ instructors, to remote learning in 2 weeks in response to COVID restrictions
- Developed May and December second-chance course completion opportunities for students in gateway mathematics courses
- Hired six tenure-track, three visiting assistant professors, four lecturers, two staff, and many pool faculty
- Led promotion and tenure, emeritus faculty, and distinguished professor status decisions
- Developed the BS in Data Science in partnership with Computer Science and Economics
- Converted the MA Mathematics into an online degree and accompanying enrollment increases
- Established a departmental social media presence
- Restored teambuilding efforts, such as the "Tired and Retired" party and the department majors meeting
- Secured additional space for seven faculty offices, one meeting room, and one tutoring room

American Statistical Association, Alexandria, VA
Board of Directors, 2023 – present
Council of Chapters Governing Board, 2023 – present

Duties:

- Serve as liaison between the Council of Chapters and the Board of Directors
- Chair the chapter status committee and monitor the health of approximately 73 local ASA chapters
- Serve on a workgroup to develop guidelines for data science articulation agreements between two- and four-year institutions

- Participate as a mentor in the inaugural StatsForward leadership training program
- Participate in association budget development, investment planning, hiring and evaluation of association staff, oversight of association sponsored journals, government relation, conference planning, education outreach, and promotion of the discipline
- Facilitate relationships with similar associations such as the Mathematical Association of America, the American Mathematical Society, and the Royal Statistical Society

Council of Chapters Governing Board, 2017 –2019

Duties:

- Monitored the health of approximately 73 local ASA chapters
- Chaired the Joint Statistical Meetings Council of Chapters invited session committee
- Chaired the Traveling Course Committee
- Served as member of the Chapter Status Committee
- Oversaw distribution of chapter stimulus funds
- Revised Council of Chapters charter and duties document

FACULTY EXPERIENCE

Sam Houston State University, **Department of Mathematics and Statistics**
Professor, 2013 - present
Associate Department Chair, 2012 – 2017
Associate Professor**,** 2006 – 2013, tenured in 2009
Statistics Coordinator and Graduate Advisor, 2009 – 2012
Southeastern Louisiana University, Department of Mathematics and Computer Science
Graduate Coordinator, Integrated Science and Technology, 2005 – 2006
Associate Professor, 2003 – 2006, tenured in 2006
Texas Woman's University, **Department of Mathematics and Computer Science**
Associate Professor, 2000 – 2003, tenured in 2002
Assistant Professor, 1998 – 2000
Sam Houston State University, Assistant Professor, 1997 – 1998
Northern Kentucky University, Assistant Professor, 1995 – 1997

SCHOLARLY ACTIVITY

Peer-Reviewed Publications (* indicates student co-author)

1. Roberman, J., Stamey, J., & **Holt, M. M.** (2024) "Bayesian interval estimation for predictive values from continuous diagnostic tests in case-control Studies," under review by *Communications in Statistics – Simulation and Computation*. *
2. Kafle, R. C., Kim, D. Y., & **Holt, M. M.** (2023) "Gender-specific trends in cigarette smoking and lung cancer incidence: A two-stage age-stratified Bayesian joinpoint model," *Cancer Epidemiology* 84, 102364.

3. Kafle, R. C., Kim, D.Y., Malandro, M. E., & **Holt, M. M.** (2021) "Modeling COVID-19 positivity rates and hospitalizations in Texas," *Model Assisted Statistics and Applications*, 16(1), 53-58.
4. Scarbrough, A., **Holt, M. M.**, Hill, J., & Kafle, R. C. (2019) "Is there a relationship between income and disease: Evidence from Cameron County?" *International Journal of Community Well-Being* 2, 3–13. *
5. Scarbrough, A., Rathnasekara, H., **Holt, M. M**., Hill, J., & Kafle, R. C. (2018) "Zika Virus and the Risk for Renter Households," *Diseases* 6. www.mdpi.com/2079-9721/6/2/37 *
6. Yogi, T. A, Penrod, M. **Holt, M.,** & Buzzini, P. (2018) "The relationship between cross-sectional shapes and FTIR profiles in synthetic wig fibers and their discriminating abilities – An evidential value perspective," *Forensic Science International* 28, 94–102. *
7. Scarbrough, A. W., Hill, J., Hoffpauir, D., **Holt, M.,** & Rathnasekara, H. (2018) "Gateway of Zika Virus into US: How Housing is Fundamental to Prevention," *Texas Public Health Journal* 70, 11-16. *
8. Mondin, L., Weber, C., Clark, S., Winborn, J., **Holt, M. M.**, & Manage, A. B. W. (2013) "Statistical Analysis of Diagnostic Accuracy with Applications to Cricket," *Involve, a Journal of Mathematics* 5, 349-359. *
9. Bier, S. A., Hermstad, E., Trollman, C., & **Holt, M.** (2013) "Army Flight Medic Performance of Paramedic Level Procedures: Indicated vs. Performed," *Journal of Emergency Medicine* 44, 962-969.
10. Bier S., Hermstad E., Trollman C., & **Holt, M.** (2012), "Education and Experience of Army Flight Medics in Iraq and Afghanistan," *Aviation, Space, and Environmental Medicine* 83, 991-994.
11. Bier, S., Hermstad, E., Trollman, C., & **Holt, M.** (2011), "Army Flight Medic Performance of Advanced Emergency Medical Technician Procedures: Indicated versus Performed," *Annals of Emergency Medicine* 58, S299.
12. Bier, S., Hermstad, E., Trollman, C., & **Holt, M.** (2011), "Army Flight Medics in Iraq and Afghanistan: A Survey," *Annals of Emergency Medicine* 58, S300.
13. Clark, S., Mondin, L., Weber, C., & Winborn, J. (2011) "Interval Estimates for Predictive Values in Disease Testing," *Society for Industrial and Applied Mathematics Undergraduate Research Online. https://evoq-eval.siam.org/Portals/0/Publications/SIURO/Vol4/Interval_Estimates_for_Predictive_Values.pdf?ver=2018-04-06-103240-337* * (Only the students were named authors.)
14. Stamey, J. D. & **Holt, M. M.** (2009) "Bayesian Interval Estimation for Predictive Values for Case-Control Studies," *Communications in Statistics – Simulation and Computation* 39, 101-110.
15. Loft, B. & **Holt, M.** (2010) "Increasing STEM Graduation Rates at SHSU," *International Journal of Applied Geospatial Research* 1, 76-77.

16. **Holt, M. M.** & Scariano, S. M. (2009) "Mean, Median and Mode from a Decision Perspective," *Journal of Statistics Education* 17. www.amstat.org/publications/jse/v17n3/holt.html

17. **Holt, M. M.**, Stamey, J. D., Seaman, J. W., & Young, D. M. (2009) "Performance and Sample Size Determination Requirements of Bayesian Methods for Binary Outcomes in Fixed-Dose Combination Drug Studies," *Journal of Biopharmaceutical Statistics* 19, 120-132.

18. Stamey, J., Young, D. M., Seaman, J. W., & **Holt, M.** (2005) "Bayesian Closed-Form Predictive Probability Functions for Counts using Data Subject to Misclassification," *Far East Journal of Theoretical Statistics* 18, 43-59.

19. **Holt, M. A.**, Stamey, J. D., Seaman, J. W., & Young, D. M. (2004) "A Note on Distribution-free Tests for Interaction in Quantal Response Data," *Journal of Statistical Computation and Simulation* 74, 683-690.

20. Stiller, J. J. & **Holt, M. M.** (2004) "Factors Associated with Female Patients' Referral for Cardiac Rehabilitation," *Rehabilitation Nursing* 29, 18-23.

21. Demuynck, M-A, Zimmerman, W., Edwards, D. E., & **Holt, M. M.** (2004) "Expanding Horizons for Women and Minorities: Stimulating Interest in Engineering through Web-based Modules," *Proceedings of the 2004 American Society for Engineering Education Gulf-Southwest Annual Conference*.

22. Edwards, D. E., Demuynck, M-A, **Holt, M. M.**, & Cox, R. (2004) "Texas Engineering Partnerships: Expanding Opportunities for Women," *Proceedings of the 2004 American Society for Engineering Education Gulf-Southwest Annual Conference*.

23. Hamner, M. S., **Holt, M.**, McGee, E., & Dickey-Davis, D. (2004) "Exploring the Difference Between Science and Non-Science Majors in an Environment that Controls for the Presence of Males," *Proceedings of the 2004 American Society for Engineering Education Gulf-Southwest Annual Conference*. *

24. **Miller, M. A.** & Seaman, J. W. (1998) "A Bayesian Approach to Assessing the Superiority of a Dose Combination," *Biometrical Journal* 40, 43-55.

Other Publications

1. **Holt, M. M.** & Hallum, C. R. (2016) "Effects of Measurement Errors in Estimation of Constrained Parameters," *2016 Proceedings of the American Statistical Association, Statistical Programmers and Analyst Section. Alexandria*, VA: American Statistical Association.

2. Li, X. & **Holt, M. M.** (2008) "Applying Bayesian Belief Networks to the Examination of Student Retention and Graduation," *2008 Proceedings of the American Statistical Association, Biopharmaceutical Section* [CD-ROM], Alexandria, VA: American Statistical Association. *

3. **Holt, M.** & Mo, M. (2008) "Bayesian Tests for Synergy in Three-Agent Combination" In Vitro Chemotherapy Treatments," *2008 Proceedings of the American Statistical*

Association, Biopharmaceutical Section [CD-ROM], Alexandria, VA: American Statistical Association.

4. Tang, Y. & **Holt, M.** (2007) "A Performance Study of the Likelihood Ratio Test and the Bootstrap test for Drug Interaction" *2007 Proceedings of the American Statistical Association, Biopharmaceutical Section* [CD-ROM], Alexandria, VA: American Statistical Association. *
5. **Holt, M.**, Butar Butar F., & Linder, J. (2007) "Small-Sample Tests for Efficacy in Fixed-Dose Drug Combination Studies" *2007 Proceedings of the American Statistical Association, Biopharmaceutical Section* [CD-ROM], Alexandria, VA: American Statistical Association. *
6. Butar Butar, F., Bandulasiri, A., **Holt, M.**, & Hallum, C. (2007) "Matrix Plots in Support of Visualization of Matrix Characteristics" *2007 Proceedings of the American Statistical Association* [CD-ROM], Alexandria, VA: American Statistical Association.
7. **Holt, M. A.**, Stamey, J., Seaman, J. W., & Young, D. M. (2005) "A Bayesian Test for Binary Outcomes in Fixed-Dose Combination Drug Studies," *2005 Proceedings of the Biopharmaceutical Section of the American Statistical Association*.
8. **Holt, M. M.**, Edwards, D., & Cox, R. (2002) "Texas Engineering Partnerships: A Model Program," *2002 WEPAN National Conference Proceedings*.
9. **Holt, M. M.** (February 10, 2002) "Wanted: Female Engineers," *Dallas Morning News*, 7J.
10. **Holt, M. M.** & Demuynck, M. A. (2000) "Teaching Statistical Reasoning: An Integrated Statistics and Computer Applications Course," *2000 Proceedings of the Statistical Education Section of the American Statistical Association*, 177-180.
11. **Miller, M. A.** & Seaman, J. W. (1998) "A Bayesian Test for Synergy in Fixed-Dose Clinical Trials," *1998 Proceedings of the Biopharmaceutical Section of the American Statistical Association*, 214-216.
12. Hebert, J. L. & **Miller, M. A.** (1998) "Properties of the Reliability Function for Systems of Exponential Mixtures," *1998 Proceedings of the Section on Physical and Engineering Sciences of the American Statistical Association*, 116-119.
13. Hallum, C. & **Miller, M.** (1998) "A GUI for Enhanced Insight into Data in a University Setting: SAS/EIS® and SAS/AF® Frame to the Rescue," *Proceedings of the Twenty-third Annual SAS Users Group International Conference*, 968-973.
14. **Miller, M. A.**, Seaman, J. W., & Young, D. M. (1996) "A Distribution-free Test for Interaction in Drug Combinations," *1996 Proceedings of the Biopharmaceutical Section of the American Statistical Association*, 192-196.
15. **Miller, M. A.** & Odell, P. L. (1991) "Centrosymmetric Matrices," Technical Report 9101, Baylor University.

Externally Funded Grants

1. Jun, M. (2021 – 2024) "HDR DSC: Data Science for Energy Transition," $1.49 million, National Science Foundation. Subaward to **M. M. Holt** and D. Y. Kim, senior personnel, for $6100 and funding of student participants.
2. **Holt, M. M.**, Loft, B., & Bucheli, S. (2012 – 2017) "Peers Exploring Biology, Mathematics and Statistics (PEERS II)," $599,249, National Science Foundation.
3. Loft, B., **Holt, M. M.**, & Gaillard, A. (2006 – 2012) "Peers Enhancing their Education through Research and Scholarships," $599,980, National Science Foundation.
4. **Holt, M. M.** & Belter, R. (2005 – 2006) "Recruiting Superior Integrated Science and Technology Students," $36,000, Louisiana Board of Regents. Matching funds for $18,000 from Southeastern Louisiana University.
5. Jefferson Parish Independent School District (2004 – 2006) "Middle School Mathematics & Science Project," $450,000, Louisiana State Department of Education. **M. M. Holt** was senior personnel for 3 years of summer salary support.
6. **Holt, M. M.** & Edwards, D. (2003 – 2008) "Tomorrow's Workforce Today," $400,000, National Science Foundation. Matching funds of $150,000 from Texas Instruments, Inc. M-A. Demuynck named PI in 2003.
7. **Holt, M. M.** & Edwards, D. (2001 – 2004) "CSEMS Scholars Program," $270,000, National Science Foundation. Matching funds of $200,000 from Texas Instruments, Inc.
8. **Miller, M. A.** & Demuynck, M-A (1999 – 2002) "Integrated Statistics and Computer Science Courses," $87,577, National Science Foundation.

Internal Grants and Fellowships

1. "Assessment of State Mandated Co-Requisite Mathematics Courses," funded by SHSU Office of Assessment for $1000, 2018.
2. "Enhancing Elementary Statistics through Service-Learning," funded by the Southeastern Louisiana University Center for Faculty Excellence for $700, 2006. Matching funds of $300 from the Department of Mathematics.
3. "Service Learning in Elementary Statistics," funded by the Southeastern Louisiana University Center for Faculty Excellence for $1400, 2005. Matching funds of $300 from the Department of Mathematics.
4. "Service Learning in Graduate Statistics," funded by the Southeastern Louisiana University Center for Faculty Excellence for $200 stipend and travel funding, 2004.
5. "ISAT Course Development," funded by the Southeastern Louisiana University Center for Faculty Excellence for $400, 2004.
6. Texas Woman's University Chancellor's Research Fellowship, funded for $5000, 2002.
7. Texas Woman's University Chancellor's Research Fellowship, funded for $5000, 2001.

8. "A Bayesian Statistical Approach to Estimating the Intensity of a Drug Interaction," funded for one course reassigned-time by Texas Woman's University, 1999.
9. "A Bayesian Approach to Testing for Interaction in Drug Combination Studies," funded by the Sam Houston State University Research Council for $5000, 1998.
10. "A Bayesian Statistical Analysis of Combination Drug Effectiveness," funded by the Northern Kentucky University Faculty Senate for one course reassigned-time, 1997.

Published Book Reviews

1. *Learning SAS by Example: A Programmer's Guide* by Ron Cody, *Technometrics* **50**, pp. 91-92.
2. *Statistics and Data Analysis from Elementary to Intermediate* by Ajit C. Tamhane and Dorothy D. Dunlop, *Technometrics* **43**, pp. 237-238.
3. *Statistical Methods for Engineers* by G. Geoffrey Vining, *Technometrics* **41**, pp. 264-265.

Invited Presentations

1. **Holt, M. M.** (2009) "Bayesian Methods for Reducing Sample Size in Combination Drug Studies," Texas Southern University Research Week, Houston, Texas.
2. **Holt, M. M.** (2009) "Bayesian Methods for Reducing Sample Size in Combination Drug Studies," Conference on Probability, Statistics and Related Areas, Beaumont, Texas.
3. **Holt, M. M.** (2006) "Bayesian Identification of Superiority in Fixed-dose Combination Drug Studies," Summer Research Conference on Statistics, Kerrville, Texas.
4. **Holt, M. M.** (2004) "A Bayesian Test for Binary Outcomes in Fixed-Dose Combination Drug Studies," Louisiana State University Biostatistics Statistics Seminar, New Orleans, Louisiana.
5. **Holt, M. M.** (2004) "A Bayesian Test for Binary Outcomes in Fixed-Dose Combination Drug Studies," Louisiana State University Experimental Statistics Seminar, New Orleans, Louisiana.
6. **Holt, M. M.** (2003) "Recruiting Women and Minorities into the Mathematical Sciences," The Texas Academy of Academic Administrators in Mathematical Science, Waco, Texas.
7. Demuynck, M. A. & **Holt, M. M.** (2001) "Web-based Learning Modules for Introductory Statistics," The American Mathematical Association of Two-Year Colleges (AMATYC) Annual Conference, Toronto, Ontario, Canada. (presented by Demuynck)
8. Demuynck, M. A. & **Holt, M. M.** (2001) "Web-based Learning Modules for Introductory Statistics," Syllabus2001, Santa Clara, California. (presented by Demuynck)
9. Hamner, M. & **Holt, M. M.** (2001) "Statistical Analysis with SPSS or SAS: Strengths and Weaknesses," Fourth Annual Texas Woman's University Student Research and Creative Arts Symposium, Denton, Texas.

10. Demuynck, M. A. & **Holt, M. M.** (2000) "An Interactive Integrated Cross-Disciplinary Learning Environment for Introductory Statistics and Computer Science Courses," IEEE MetroCon 2000, Arlington, Texas. (presented by Demuynck)
11. **Holt, M. M.** (2000) " EXCEL-ling with SPSS," Third Annual Texas Woman's University Student Research and Creative Arts Symposium, Denton, Texas.
12. **Miller, M. A.** & Seaman, J. W. (1999) "A Bayesian Approach to Fixed-Dose Clinical Trials," Conference of Texas Statisticians, Dallas, Texas.
13. **Miller, M. A.** & Seaman, J. W. (1999) "A Bayesian Approach to Fixed-Dose Clinical Trials," Stochastic Lunch Seminar, University of North Texas, Denton.
14. **Miller, M. A.** (1999) "Why Isn't Everyone a Bayesian," Stochastic Lunch Seminar, University of North Texas, Denton, Texas.
15. **Miller, M. A.** (1999) "SPSS Update," Second Annual Student Research and Creative Arts Symposium, Texas Woman's University, Denton, Texas.
16. **Miller, M. A.** (1997) "To Be or Not to Be a Bayesian: Approaches to Drug Combination Studies," Sigma Xi Research Society, Northern Kentucky University, Highland Heights, Kentucky.

Contributed Presentations

1. Loft, B & **Holt, M. M.** (2020) "Forming a cross-divisional team to identify - and hopefully alleviate - barriers to success in first-year math courses," American Association of State Colleges and Universities Winter Meeting, New Orleans, Louisiana.
2. Kafle, R. C. & **Holt, M. M.** (2018) "Bayesian Joinpoint Regression Model to Study the Effect of Smoking on Lung Cancer Incidence," Joint Statistical Meetings, Vancouver, Canada.
3. **Holt, M. M.** & Hallum, C. (2016) "Effects of Measurement Error and Heteroscadasticity in Estimation of Constrained Parameters," Joint Statistical Meetings, Chicago, Illinois.
4. **Holt, M. M.** & Scariano, S. M. (2011) "Teaching Statistical Reasoning through Contingency Tables," Joint Mathematics Meetings, New Orleans, Louisiana.
5. Bier, S., Hermstad, E., Trollman, C., & **Holt, M. M.** (2011) "Army Flight Medic Performance of Advanced EMT Procedures: Indicated vs Performed," presented by Bier to the American Services American College of Emergency Physicians Symposium, San Francisco, California. Abstract appeared in *Annals of Emergency Medicine*. (presented by Bier)
6. Bier, S., Hermstad, E., Trollman, C., & **Holt, M. M.** (2011) "Flight Medics In Iraq and Afghanistan: A Survey," presented by Bier to the American Services American College of Emergency Physicians Symposium, San Francisco, California. Abstract appeared in *Annals of Emergency Medicine*. (presented by Bier)
7. **Holt, M. M.** (2011) "Uses of the Delta Method," Sam Houston State University, Huntsville, Texas.

8. **Holt, M. M.** (2009) "Bayesian Methods for Reducing Sample Size in Combination Drug Studies," Sam Houston State University, Huntsville, Texas.
9. **Holt, M. M.** & Mo, M. (2008) "Bayesian Tests for Synergy in Three-Agent Combination In Vitro Chemotherapy Treatments," Joint Statistical Meetings, Denver, Colorado.
10. **Holt, M. A.** (2008) "Why Isn't Everyone a Bayesian?" Sam Houston State University, Huntsville, Texas.
11. **Holt, M. M.**, Butar Butar F., & Linder, J. (2007) "Small-Sample Tests for Efficacy in Fixed-Dose Drug Combination Studies" Joint Statistical Meetings, Salt Lake City, Utah.
12. Butar Butar, F., Bandulasiri, A., **Holt, M. M.**, & Hallum, C. (2007) "Matrix Plots in Support of Visualization of Matrix Characteristics" Joint Statistical Meetings, Salt Lake City, Utah.
13. **Holt, M. A.**, Stamey, J., Seaman, J. W., & Young, D. M. (2005) "A Bayesian Test for Binary Outcomes in Fixed-Dose Combination Drug Studies," Joint Statistical Meetings, Minneapolis, Minnesota.
14. **Holt, M. A.** & Kuhn, R. (2005) "The Effects of Service-Learning on Elementary Statistics Students," Southeastern Louisiana University Faculty Conference on Teaching, Research, and Creativity, Hammond, Louisiana.
15. **Holt, M. A.**, Stamey, J., Seaman, J. W., & Young, D. M. (2005) "A Note on Distribution-free Tests for Interaction in Quantal Response Data," International Biometric Society-Eastern North American Region, Austin, Texas.
16. **Holt, M. M.** (2004) "Service-Learning in Statistics," Southeastern Louisiana University Center for Faculty Excellence Brown-Bag Luncheon, October 2004.
17. **Holt, M. M.** (2004) "Service-Learning in Graduate Statistics," Panel Presentation, Southeastern Louisiana University Center for Faculty Excellence 2004 Faculty Conference on Teaching, Research & Creativity, Hammond, Louisiana.
18. **Holt, M. M.** (2004) "Bayesian Approaches to Assessing Joint Action in Fixed-Dose Combination Studies," Louisiana Section of the American Statistical Association, New Orleans, Louisiana.
19. **Holt, M. M.** (2004) "Bayesian Statistics: What Is It and Why Should I Care?" Louisiana-Mississippi Section of the Mathematical Association of America, Hammond, Louisiana.
20. Demuynck, M-A, Zimmerman, W., Edwards, D. E., & **Holt, M. M.** (2004) "Expanding Horizons for Women and Minorities: Stimulating Interest in Engineering through Web-based Modules," American Society for Engineering Education, Lubbock, Texas. (presented by Demuynck)
21. Hamner, M. S., **Holt, M. M.**, McGee, E., & Dickey-Davis, D. (2004) "Exploring the Difference Between Science and Non-Science Majors in an Environment that Controls for the Presence of Males," American Society for Engineering Education, Lubbock, Texas. (presented by Hamner)

22. Edwards, D. E., Demuynck, M-A, **Holt, M. M.**, & Cox, R. (2004) "Texas Engineering Partnerships: Expanding Opportunities for Women," American Society for Engineering Education, Lubbock, Texas. (presented by Edwards)
23. Cox, R., **Holt, M. M.**, Edwards, D., & Wetterskog, R. (2003) "Texas Engineering Partnerships – An Opportunity for Women," Texas Tech University All-University Conference on the Advancement of Women in Higher Education, Lubbock, Texas.
24. Demuynck, M. A. & **Holt, M. M.** (2002) "Integrated Interactive On-Line Learning Modules for Introductory Statistics Courses," CAMT, Dallas, Texas.
25. **Holt, M. M.**, Edwards, D., & Cox, R. (2002) "Texas Engineering Partnerships: A Model Program," WEPAN, San Juan, Puerto Rico.
26. **Holt, M. M.** & Demuynck, M. A. (2002) "Teaching Statistical Reasoning: An Integrated Statistics and Computer Applications Course," Joint Math Meetings, San Diego, California.
27. **Holt, M. M.** & Demuynck, M. A. (2001) "Teaching Statistical Reasoning: An Integrated Statistics and Computer Applications Course," Joint Math Meetings, New Orleans, Louisiana.
28. **Holt, M. M.** & Demuynck, M. A. (2000) "Teaching Statistical Reasoning: An Integrated Statistics and Computer Applications Course," Joint Statistical Meetings, Indianapolis, Indiana.
29. **Miller-Holt, M. A.** & Seaman, J. W. (2000) "A Bayesian Approach to Fixed-Dose Clinical Trials," International Biometric Society, Eastern North American Region Spring Meeting, Chicago, Illinois.
30. **Miller, M. A.** & Seaman, J. W. (1998) "A Bayesian Test for Synergy in Fixed-Dose Clinical Trials," Joint Statistical Meetings, Dallas, Texas.
31. Hebert, J. L. & **Miller, M. A.** (1998) "Properties of the Reliability Function for Systems of Exponential Mixtures," Joint Statistical Meetings, Dallas, Texas. (presented by Hebert)
32. **Miller, M. A.** & Seaman, J. W. (1998) "A Bayesian Test for Interaction in Combination Drugs," International Biometric Society, Eastern North American Region Spring Meeting, Pittsburgh, Pennsylvania.
33. Hallum, C. & **Miller, M. A.** (1998) "A GUI for Enhanced Insight into Data in a University Setting: SAS/EIS® and SAS/AF® Frame to the Rescue," Twenty-third Annual SAS Users Group International Conference, Nashville, Tennessee. (presented by Hallum)
34. **Miller, M. A.** (1998) "Using M&M Candies to Teach Statistics," Conference on the Teaching of Secondary Mathematics, Sam Houston State University.
35. **Miller, M. A.** & Seaman, J. W. (1997) "A Bayesian Approach to Fixed-Dose Trials Involving Quantal Responses," International Biometric Society, Eastern North American Region Spring Meeting, Memphis, Tennessee.
36. **Miller, M. A.**, Seaman, J. W., & Young, D. M. (1996) "A Distribution-free Test for Interaction in Drug Combinations," Joint Statistical Meetings, Chicago, Illinois.

37. **Miller, M. A.** & Seaman, J. W. (1996) "A Bayesian Approach to Identification of an Effective Dose Combination," International Biometric Society, Eastern North American Region Spring Meeting, Richmond, Virginia. (Co-presented)
38. **Miller, M. A.** & Seaman, J. W. (1995) "Bayesian Techniques for Identifying an Effective Dose Combination," Texas Academy of Sciences, Baylor University, Waco, Texas.

Presentations by Student Advisees

1. Iromi Jayawardena (2019) "Using Shannon's Diversity Index to Discriminate Fiber Sources from Crime Scenes," Conference of Texas Statisticians, Beaumont, Texas.
2. Wafa Salem Aljuhani (2019) "The Importance of Reporting Practical Significance Measures with Large Data Sets," Conference of Texas Statisticians, Beaumont, Texas.
3. Heranga Rathnasekara (2017) "Hot Spots and Cluster Analysis of a Mosquito-Borne Disease," Conference of Texas Statisticians, Dallas, Texas (1st Place in MS Mathematical Statistics/Biostatistics category)
4. Dholamulla Preethika (2017) "Sensitivity Analysis of Error in Variables Multiple Regression," Conference of Texas Statisticians, Dallas, Texas
5. Kristina Yount (2017) "Predicting Parasite Counts of Apis Mellifera Using Poisson Regression," Conference of Texas Statisticians, Dallas, Texas (2nd Place in MS Mathematical Statistics/Biostatistics category)
6. Hoang, D. (2016) "Performance Study of Bootstrap Methods for OLS-Bisector Regression," Conference of Texas Statisticians, San Antonio, Texas. (Best Biostatistics Poster)
7. Zalsha, S. (2016) "Confidence Interval Guidelines for Ranged Major Axis Regression," Conference of Texas Statisticians, San Antonio, Texas.
8. Yount, K. (2016) "Using Weighted Least Products Regression with Heteroscedasticity," Conference of Texas Statisticians, San Antonio, Texas.
9. Liu, Z. (2015) "Assessing the Performance of the OLS-Bisector Regression Method," Conference of Texas Statisticians, Austin, Texas.
10. Rector, A. (2015) "Determining Guidelines for the Use of Ranged Major Axis Regression," Conference of Texas Statisticians, Austin, Texas.
11. Tate, T. and Yount, K. (2015) "Putting It All Together: Model II Regression," Conference of Texas Statisticians, Austin, Texas.
12. Nieuwoudt, C. (2014) "Assessing the Sensitivity of Interval Estimates in Errors-in-Variables Regression," Conference of Texas Statisticians, Dallas, Texas.
13. Huang, S. (2013) "Ordinary Least Squares vs. Reduced Major Axis Regression: A Performance Analysis," Conference of Texas Statisticians, Houston, Texas.
14. Jayasena, N. (2012) "Comparing the Performance of Ordinary Least Squares and Model II Regression," Conference of Texas Statisticians, Beaumont, Texas.

15. Mondin, L. and Weber, C. (2012) “A Performance Analysis of Wald-Type and Bayesian Interval Estimates of Diagnostic Accuracy,” Conference of Texas Statisticians, Beaumont, Texas.
16. Clark, S., Mondin, L., Weber, C., and Winborn, J. (2011) “Statistical Analysis of Diagnostic Accuracy with Applications to Cricket,” Conference of Texas Statisticians, College Station, Texas.
17. Clark, S., Mondin, L., Weber, C., and Winborn, J. (2011) “Statistical Analysis of Diagnostic Accuracy with Applications to Cricket,” Joint Mathematics Meetings, New Orleans, Louisiana.
18. Clark, S., Mondin, L., Weber, C., and Winborn, J. (2010) “Statistical Analysis of Diagnostic Accuracy with Applications to Cricket,” LURE Conference, Huntsville, Texas.
19. Clark, S., Mondin, L., Weber, C., and Winborn, J. (2010) “Interval Estimates for Predictive Values in Disease Testing,” Conference of Texas Statisticians, Waco, Texas.
20. Stephens, C., Lutterschmidt, W. and Holt, M. (2009) “The Misuse of Model I Regression in Biology,” Southwestern Association of Naturalists, Oklahoma City, Oklahoma.
21. Adams, P. (2009) “Calculation and Analysis of Margins of Error Associated with PPV and NPV in Peritoneal Carcinomatosis Data,” Conference of Texas Statisticians, Huntsville, Texas.
22. Adams, P. (2009) “Calculation and Analysis of Margins of Error Associated with PPV and NPV in Peritoneal Carcinomatosis Data,” McNair Scholar Conference, Puerto Rico.
23. Clark, S., Mondin, L., Weber, C., and Winborn, J. (2009) “Interval Estimates for Predictive Values in Disease Testing,” LURE Conference, Baltimore, Maryland.
24. Clark, S., Mondin, L., Weber, C., and Winborn, J. (2009) “Interval Estimates for Predictive Values in Disease Testing,” Texas Undergraduate Research Conference, Huntsville, Texas.
25. Turner, J. (2009) “Alternative Tests for Interaction within Drug Combinations, Conference of Texas Statisticians, Huntsville, Texas.
26. Zhai, P. (2009) “Bayesian Methods in Combination Drug Studies: A Performance Analysis,” Conference of Texas Statisticians, Huntsville, Texas.
27. Li, X. (2008) “Applying Bayesian Belief Networks to the Examination of Student Retention and Graduation,” Joint Statistical Meetings, Denver, Colorado.
28. Brown, L. (2008) “Testing for Synergy in Combinations of Cancer Fighting Agents,” Texas Mathematical Association of America, Stephenville, Texas.
29. Tang, Y., and Holt, M. (2007) “A Performance Study of the Likelihood Ratio Test and the Bootstrap test for Drug Interaction” Joint Statistical Meetings, Salt Lake City, Utah.
30. Linder, J. (2005) “A Simulation of Biostatistical Data using the Bootstrap Method,” Southeastern Louisiana University Creative Arts and Research Day, Hammond, Louisiana.

31. Dickey, D., McGee, E. (2003) "Exploring Gender and Ethnic Differences between Science and Non-Science Majors at Texas Woman's University," Sixth Annual Texas Woman's University Student Research and Creative Arts Symposium, Denton, Texas.
32. Maxwell, D. (2001) "Psychometric Properties of the Survey of Attitudes Toward Statistics," Fourth Annual Texas Woman's University Student Research and Creative Arts Symposium, Denton, Texas.
33. Maxwell, D. (2000) "Assessment of Attitude toward Statistics," Third Annual Texas Woman's University Student Research and Creative Arts Symposium, Denton, Texas.
34. Martin K. H. (2000) "Assessment of Attitudes toward Computer Technology," Third Annual Texas Woman's University Student Research and Creative Arts Symposium, Denton, Texas.
35. Aldhafeeri, S. (2000) "Gender Equity in the Teaching of Mathematics, Computer Science and Information Technology: Where Do WE Stand?" Third Annual Texas Woman's University Student Research and Creative Arts Symposium, Denton, Texas.

Professional Workshops Presented

"Faculty Development Workshops: Develop, Adopt, Adapt (Grant Writing Workshop)," presented to the Allegheny Mountain Section and to the Louisiana/Mississippi Section of the Mathematical Association of America, March 2001, funded by the National Science Foundation and the Mathematical Association of America.

TEACHING

Sam Houston State University

- Graduate Courses: Applied Bayesian Analysis, Statistical Methods in Agriculture, Regression Modeling and Analysis, Computational Statistics, Nonparametric Statistics, Mathematical Statistics II & II, Applied Statistics for Decision-Making
- Undergraduate Courses: Bayesian Statistics, Regression Modeling and Analysis, Nonparametric Statistics, Theory and Applications of Probability and Statistics I & II, Introduction to Biomedical Statistics, Introduction to Probability and Statistics, Statistical Methods in Practice, Fundamentals of Probability and Statistics, College Mathematics
- Online Certification Block: Data Science Pathways on the Zeus Platform

Southeastern Louisiana University

- Graduate Courses: Applied Statistics, Applied Science Seminar I & II
- Undergraduate Courses: Elementary Statistics, Elementary Statistics with Service-Learning, Applied Statistics with Probability

Texas Woman's University

- Graduate Courses: Statistical Methods I & II, Advanced Statistical Methods using SAS, Probability and Statistics I & II
- Undergraduate Courses: Introduction to Mathematics, Elementary Statistics I & II, Probability and Statistics, Bayesian Biostatistics

Northern Kentucky University

- Graduate Courses: Applied Bayesian Analysis, Statistical Methods in Agriculture, Regression Modeling and Analysis, Computational Statistics, Nonparametric Statistics, Mathematical Statistics I & II, Applied Statistics for Decision-Making
- Undergraduate Courses: Introduction to Probability, Elementary Statistics I & II, Business Statistics I & II, Probability and Statistics I & II

SELECTED PROFESSIONAL DEVELOPMENT

Council of Colleges of Arts and Sciences New Deans Workshop, St. Louis, MO, 2023
Sam Houston State University Champions Track certificate, 2023
Sam Houston State University Ally Track certificate, 2022
Sam Houston State University Online Teaching certificate, 2020
Sam Houston State University President's Leadership Academy, 2018 - 2019
Council of Colleges of Arts and Sciences New Chairs Workshop, Savannah, GA, 2017

RELATED PROFESSIONAL SERVICE

Member: Board of Directors, American Statistical Association, 2023 – 2025
Council of Chapters Board Representative: Council of Chapters Governing Board, American Statistical Association, 2023 – 2025
American Statistical Association StatsForward Mentor: 2023 Cohort
Texas Academic Leadership Academy Mentor: Dr. Emma Bullock (2023), Dr. Bing Zhou (2022)
Chair: Student Success, Retention, and Engagement Multiple Measures/Math Initiative Workgroup, 2021 – 2022
Member: SHSU Impact Committee, 2020 – 2022
Member: SHSU American Association of State Colleges and Universities Frontier Set Team, 2019 – 2020
Member: SHSU Reimagining the First Year Committee, 2017 – 2020
Member: TSUS STEM Collaborative, 2020 - 2021
Vice-Chair: Council of Chapters Governing Board, American Statistical Association, 2017 - 2019
Member: Charles E. Dana Center Southeast Texas Mathematics Pathways Leadership Team, 2017 - 2021
Member: Southern Regional Council on Statistics, 2014 – 2018
Secretary: Council of Texas Statistician, 2013 – 2020
Member: Council of Texas Statisticians, 2008 – present
President: Council of Texas Statisticians, 2009
Reviewer: *Journal of Biopharmaceutical Statistics*, *Journal of Applied Statistics*, *Pi Mu Epsilon Journal*, *Model Assisted Statistics and Applications*, *Journal of Statistics Education*, *The College Mathematics Journal*, National Science Foundation Division of Undergraduate Education, National Institutes of Health

Graduate Research Committee Memberships:

Ph.D. Statistics: Courtney Weber
M.S. Biology: Chas Stephens
Ed.D. Counseling: Cynthia Powell, Bipin Sharma, Laura Hodges
Ed.D. Reading: Jana Bethel, Traci Seils, Robin Traylor, Donna Willingham
M.S. Statistics: Huixing He, Jason Minter, Greg Newgard, Greg Stanek
M.S. Integrated Science and Technology: Chris Asprion, Robert Deeb, Ruby Everitt,
M. S. Nursing: Wendy Collins
Ph.D. Nursing: Beverly Bower, Patricia Catts, Elena Cauderes, Sherry Halfmann, Melinda Hiemenz, Robin Lockhart, Cheryl Rowder, Janeth Stiller, Louise Talley, Lisa Taylor

External Reviewer: Tenure and Promotion candidates – Loyola University, Corpus Christi, and Kansas State University Program Review; Graduate Program – Austin Peay State University

Judge: Conroe Independent School District Science Fair, Northern Kentucky University Math Bowl, Texas Woman's University Area Science Fair, Dallas Independent School District Science Fair, Louisiana Region 8 Science Fair, Student Poster Competitions at Conference of Texas Statisticians

AWARDS AND HONORS

Mary Mason Lyon Outstanding Junior Faculty Award, Texas Woman's University, 2002
Chancellor's Research Fellow, Texas Woman's University, 2002
Phi Kappa Phi Honor Society Initiate, 2002
Chancellor's Research Fellow, Texas Woman's University, 2001
Sigma Xi Initiate, 1996
Phi Beta Kappa Honor Society Initiate, 1990

PROFESSIONAL MEMBERSHIPS

American Statistical Association
Phi Beta Kappa
Phi Kappa Phi

RECENT COMMUNITY ENGAGEMENT

Member: Grogan's Point Residents Association Security Committee, 2016 – present
Member: Knox Junior High School PTO 2023 – present, 2015 – 2017; College Park High School PTO, 2017 – 2021; Wilkerson Intermediate School PTO, 2021 - 2023
Secretary: Edgewater Terrace Residents Association, 2017 – 2020
Member: The Woodlands Methodist Church, 2007 – present
Member: Zeta Tau Alpha, 1987 – present
Member: Kappa Alpha Order Omicron Chapter Parent Group, 2021 – present