

Laura A. Hildreth

Gustavus Adolphus College, St. Peter, MN, 56082 • (507) 933-7481 • lhildreth@gustavus.edu

EDUCATION

Iowa State University Ames, IA
Ph.D., Statistics 2013

Minor: Economics

Certificate: Graduate Student Teaching

Honors and Awards: Teaching Excellence Award (2013), Miller Fellowship (2007-2011)

University of Minnesota, Twin Cities St. Paul, MN
M.S., Applied Economics 2007

Minor: Statistics

University of Minnesota, Morris Morris, MN
B.A., Economics and Statistics 2006

Minor: Mathematics

Honors and Awards: graduated with high distinction and with honors, Scholar of the College (2005, 2006), Chris Berg Memorial Award (2006), Chancellor's Award (2006), Morris

Academic Partnership (2003-2004, 2004-2005), Undergraduate Research Opportunities Program (2005-2006), National Science Foundation Graduate Research Fellowship Honorable Mention (2006, 2007), National Science Foundation Research Experiences for Undergraduates (2006)

EXPERIENCE

Gustavus Adolphus College St. Peter, MN
Associate Professor of Statistics, Department of Mathematics, Computer Science, and Statistics
Sep 2024 – Present

Assistant Professor of Statistics, Department of Mathematics, Computer Science, and Statistics
Sep 2020 – Aug 2024

Institute for Defense Analyses Alexandria, VA
Adjunct Research Staff Member, Cost Analysis and Research Division Aug 2020 – Dec 2023
Research Staff Member, Cost Analysis and Research Division Jan 2019 – Jul 2020

Montana State University Bozeman, MT
Assistant Professor of Statistics, Department of Mathematical Sciences Aug 2013 – Jan 2019
Interim Director of Statistical Consulting and Research Services Jan 2014 – May 2014

Iowa State University Ames, IA
Teaching Assistant Aug 2007 – May 2009
Aug 2011 – Jul 2013
Research Assistant Jan 2009 – Jul 2011

University of Minnesota, Twin Cities St. Paul, MN
Research Assistant Sep 2006 – Jul 2007

HONORS AND AWARDS

Montana State University

Bozeman, MT

- William A. Stannard Award for Excellence in Graduate Mathematical Sciences Instruction (2017)
- Certificate of Teaching Enhancement, Center for Faculty Excellence (2015)

TEACHING

Courses Taught

Gustavus Adolphus College

MCS 142: Introduction to Statistical Methods (F20, S22, S23, F25, S26, F26)

MCS 242: Applied Statistical Methods—Traditional (now called Applied Regression Analysis) (F21)

MCS 243: Design and Analysis of Experiments (S24, S25, S26)

MCS 341: Probability Theory and Mathematical Statistics I (F22, F23)

MCS 342: Probability Theory and Mathematical Statistics II (S23, S24)

MCS 349: Statistical Consulting (S25, S26)

MCS 354: Advanced Topics in Statistics: Statistical Consulting (S21)

MCS 354: Advanced Topics in Statistics: Advanced Statistical Modeling (F25, F26)

E/M 150: Applied Business Analytics (S21, S22, F22, S23, F23)

E/M 353: Operations Management (F20, F21)

Montana State University

Stat 217: Intermediate Statistical Concepts (F13)

Stat 332: Statistics for Scientists and Engineers (F17, S18, F18)

Stat 401: Applied Methods in Statistics (F13)

Stat 411/511: Methods for Data Analysis I (S14, F14, F15, S16, F16)

Stat 505: Linear Models (F15, F16, F17, F18)

Stat 506: Advanced Regression Models (S16, S17, S18)

Iowa State University

Stat 401: Statistical Methods for Research Workers (F11, S12, Su12, F12, S13)

Student Research Supervision

Faculty Mentor

- Matthew Felty. Second Year Experience at Research (SEAR). Summer 2026.
- Derek Johnson and Tyler Teichmiller. Exploratory Analysis of Health Services Satisfaction Survey at Gustavus Adolphus College. Report and presentation prepared for Nissa Fell of Health Services. Spring 2023.
- Abby, Estep, Alexis Fleming, and Rachel Studer. A Case Study Assessing the Impacts of COVID Restrictions on Mobility: A Graphical Analysis. Poster presentation at the Twin Cities Chapter of the American Statistical Association's Spring Meeting. Spring 2021.
- Michelle (Aisha) Hicks (Undergraduate Research Scholars Program, Montana State University). The Relationship between Refugee Resettlement Patterns and Crime Rates. Poster presentation at MSU Student Research Celebration. 2016-2017.
- Rachel Ulrich. Aging, Health, and Neurocognitive Decline: A Cluster Analysis. Oral presentation at the National Conference for Undergraduate Research. 2016-2017.

- Rachel Ulrich (Montana INBRE, Undergraduate Public Health Interns). Statistical Analysis of Alzheimer's and Dementia: Looking Back to Look Forward. 2016-2017.

MS Writing Project Advisor

- Jacob Rich. Comparison of Generalized Linear Mixed Model Estimation Methods. 2017-2018.
- Priscilla Omari-Baah. Investigating Models for Overdispersed Count Data and Its Applications. 2017-2018.
- Allison Theobald. Propensity Score Matching Methods for Observational Studies: An Application to Stat 216 Data. 2015-2016.

PhD Committee Member: Christopher Barbour, David Driscoll, Tan Tran, Paul Wilson-Harmon

MS Committee Member: Tristan Anacker, Steven Durtka, Jacob Dym, Nnamdi Ezike, Brandon Fenton, Justin Gomez, Hailey Kisch, David Lartey, Laura Lartey, Andrea Mack, Wyatt Madden, Elijah Meyer, Savannah Mooney, Moses Obiri, Bright Owusu, Michaela Powell, Daniel Quartey, Claire Rasmussen, Paul Wilson-Harmon

Student Internship and Independent Study Supervision

- Alexis Wendlandt. Internship with State of Minnesota. Spring 2025.
- Ethan Kalmes. Internship with the Minnesota Vikings. Fall 2023.
- Derek Johnson. Independent Study: Statistical Consulting. Spring 2023.
- Abigail Westendorp. Internship with Securion Financial. Spring 2023.
- Owen Casteel. Internship with Marco Technologies. Fall 2022.

PUBLICATIONS

*denotes undergraduate student, †denotes graduate student

Book Chapters

Smith, R. B., **Hildreth, L.A.**, & Savadago, K. (2010). Evaluating the economic impacts of water harvesting in Burkina Faso. *Valuation of Regulating Services of Ecosystems: Methodology and Applications*, 27, 67.

Peer-Reviewed Publications

Jacques, J., Morris, G., Johnson, A., Auseth, P*, **Hildreth, L.**, Ali, S., ..., Lin, A.W., . Differences in perceived helpfulness of nutrition-related multidomain mobile health features across three distinct user classes. *Journal of Human Nutrition and Dietetics*. Under review.

Hildreth, L.A. & Burnham, E.M. (2025). Integrating statistical writing in an applied regression course using small-scale writing projects. *Journal of Statistics and Data Science Education*. 33(4), 407–417.

Hildreth, L.A., Miley, M., Strickland, E., and Swisher, J.† (2023). Writing workshops to foster written communication skills in statistics graduate students. *Journal of Statistics and Data Science Education*, 31(2), 201-210.

Running, A., **Hildreth, L.**, & John-Henderson, N. (2022). Bioenergy for stress relief in university students: A randomized controlled trial. *Journal of Community Health Nursing*, 39(1), 1-11.

Hellem, T., Sung, Y. H., Ferguson, H., & **Hildreth, L.** (2020). The emotional dance with depression: A longitudinal investigation of OULA® for depression in women. *Journal of Bodywork and Movement Therapies*, 24(4), 413-422.

Harmon, P.[†], McKnight, S.^{*}, **Hildreth, L.**, Godwin, I., & Greenwood, M. (2019). An alternative to the Carnegie classifications: Identifying similar doctoral institutions with structural equation models and clustering. *Statistics and Public Policy*, 6(1), 87-97.

Hildreth, L.A., Robison-Cox, J., & Schmidt, J. (2018). Comparing student success and understanding in introductory statistics under consensus and simulation-based curricula. *Statistics Education Research Journal*, 17(1).

Hellem, T., Scholl, L., Sung, Y. H., Ferguson, H., McGlade, E., Yurgelun-Todd, D., Renshaw, P., & **Hildreth, L.** (2017). Preliminary psychometric evaluation of the hamilton depression rating scale in methamphetamine dependence. *Journal of Dual Diagnosis*, 13(4), 305-311.

Running, A., & **Hildreth, L.** (2017). A pilot study: The effect of bio-energy on stress for university faculty, staff, and students during finals week. *Journal of Holistic Nursing*, 35(1), 25-32.

Hildreth, L.A., & Green, J. L. (2016). Using pig die and simulation to explore probability and expected values. *Teaching Statistics: An International Journal for Teachers*, 38(2), 67-71.

Hildreth, L.A., Green, J. L., & Stoll, N. (2016). Expanding your horizons. *Teaching Statistics: An International Journal for Teachers*, 38(2), 72.

Running, A., Greenwood, M., **Hildreth, L.**, & Schmidt, J. (2016). Bioenergy and breast cancer: a report on tumor growth and metastasis. *Evidence-Based Complementary and Alternative Medicine*, 2016.

Running, A., & **Hildreth, L.** (2016). Bio-energy during finals: Stress reduction for a university community. *Journal of Community Health Nursing*, 33(4), 209-217.

Hildreth, L.A., Genschel, U., Lorenz, F. O., & Lesser, V. M. (2013). A permutation test for correlated errors in adjacent questionnaire items. *Structural Equation Modeling: A Multidisciplinary Journal*, 20(2), 226-240.

Hildreth, L., & Kildegaard, A. (2009). Avoided demand charges and behind-the-meter wind: insights from an application at the University of Minnesota. *Wind Energy: An International Journal for Progress and Applications in Wind Power Conversion Technology*, 12(4), 363-374.

Hildreth, L.A. (2008). The economic impacts of agroforestry in the Northern Plains of China. *Agroforestry Systems*, 72(2), 119-126.

Peer-Reviewed Technical Reports

Rose, S. L., Gao, V., **Hildreth, L. A.**, John, S. K., Kaye, M. F., Wake, B. D. & Wu, K. Y. (2021). A framework for analyzing tour length policy. (Document No. D-16396). Institute for Defense Analyses.

Davis, G. A., DePriest, T. L., Gladstone, B. G., **Hildreth, L. A.**, & Seitz-McLeese, M. G. (2020). Evaluating and predicting contract performance using machine learning: A feasibility study (Document No. D-14275). Institute for Defense Analyses.

John, S. K., Bishop, J. M., Hildreth, **L. A.**, Lindly, J. M., Luan, W. P., Minneci, M. & Prugh, G. M. (2019). Analysis of DoD accession alternatives for military physicians: Readiness value and cost (Document No. P-10815). Institute for Defense Analyses.

John, S. K., Carrington-Fair, D. J., Goldberg, M. S., **Hildreth, L. A.**, Lindly, J. M., Luan, W. P., & Minneci, M. (2019). Feasibility study for the consolidation of military medical education and training organizations, functions, and activities (Document No. P-10615). Institute for Defense Analyses.

Conference Proceedings

Hildreth, L. A. Detecting nonlinearities in structural equation modeling using residual plots, 2015 Joint Statistical Meetings Proceedings, Seattle, WA, August 2015.

Hildreth, L.A. & Lorenz, F.O. Residual plots to identify outliers in structural equation modeling, 2014 Joint Statistical Meetings Proceedings, Boston, MA, August 2014.

Hildreth, L.A., Genschel, U., Lorenz, F.O., & Lesser, V. Correlated errors in general-specific questionnaires: A structural equation modeling approach, 2011 Joint Statistical Meetings Proceedings, Miami Beach, FL, August 2011.

Hildreth, L.A. Assessing mathematical achievement using the ECLS-K Data: does rural status matter?, 2010 Joint Statistical Meetings Proceedings, Vancouver, BC, August 2010.

Book Reviews

Hildreth, L.A. (2012). Principles and practice of structural equation modeling by Kline, R.B. The American Statistician.

PRESENTATIONS

Oral Presentations

Hildreth, L.A. Statistical writing skills, Liberal Arts Statistics Symposium at the US Conference for Teaching Statistics, Ames, IA, July 2025.

Bishop, J. M., **Hildreth, L. A.**, Hunter, D. E., John, S. K., Luan, W. P., Minneci, M., & Whitley, J. E. Analysis of DoD accession alternatives for military physicians, Western Economics Association Annual Meeting, San Francisco, CA, July 2019.

Running, A., John-Henderson, N., & **Hildreth, L.** Bioenergy for stress relief in a university community, Third International Integrative Nursing Symposium, Galway, Ireland, May 2019.

Hildreth, L. A permutation test to identify survey response patterns in multi-item questionnaires, invited talk, Institute for Defense Analyses, Alexandria, VA, August 2018.

Harmon, P., McKnight, S., **Hildreth, L.**, Godwin, I., & Greenwood, M. An alternative to the Carnegie classifications: Using structural equation models to identify similar doctoral institutions, Joint Statistical Meetings, Vancouver, BC, August 2018.

Harmon, P., McKnight, S., **Hildreth, L.**, Godwin, I., & Greenwood, M. An alternative to the Carnegie classifications: Developing tools to identify similar doctoral institutions, Montana ActiveStats Conference, Helena, MT, June 2018.

Hildreth, L. A permutation test to identify survey response patterns in multi-item questionnaires, invited talk, Grand Valley State University, Allendale, MI, February 2018.

Hildreth, L. A permutation test to identify survey response patterns in adjacent questionnaire items, invited talk, Carleton College, Northfield, MN, January 2017.

Hildreth, L. Making sense of the transition to faculty life: Advice for first-year or early career faculty members, Women in Statistics and Data Science Conference, Charlotte, NC, October 2016.

Hildreth, L.A. Detecting nonlinearities in structural equation modeling using residual plots, Joint Statistical Meetings, Seattle, WA, August 2015.

Hildreth, L.A. A brief introduction to structural equation modeling, Montana State University ASA Student Chapter, Bozeman, MT, March 2015.

Hildreth, L.A., Genschel, U., & Lorenz, F.O. Residual plots to identify outliers and influential observations in structural equation modeling, Joint Statistical Meetings, Boston, MA, August 2014.

Hildreth, L.A., Genschel, U., & Lorenz, F.O. A simulation study to compare the properties of residuals under alternative estimation methods in structural equation modeling, Joint Statistical Meetings, San Diego, CA, July 2012.

Hildreth, L.A., Genschel, U., Lorenz, F.O., & Lesser, V. Correlated errors in general-specific questionnaires: A structural equation modeling approach, Joint Statistical Meetings, Miami, FL, August 2011.

Hildreth, L.A. Assessing mathematical achievement using the ECLS-K data: Does rural status matter?, Joint Statistical Meetings, Vancouver, BC, August 2010.

Hildreth, L.A. Evaluating the economic impacts of water harvesting using the directional output distance function: The case of Burkina Faso, Applied Economics Workshop, University of Minnesota, Twin Cities, August 2007.

Hildreth, L.A. Assessing the effect of wind power on the demand charge using Monte Carlo analysis, Undergraduate Research Symposium, University of Minnesota, Morris, April 2006.

Hildreth, L.A. Economics of terrorism: Economic determinants of terrorism, Undergraduate Research Symposium, University of Minnesota, Morris, April 2005.

Poster Presentations

Burnham, E.M., and **Hildreth, L.A.** Integrating statistical writing in an applied regression course using small-scale writing projects, US Conference on Teaching Statistics, Ames, IA, July 2025.

Running, A., **Hildreth, L.**, & John-Henderson, N. An integrative intervention for stress in university students, National Nurse Practitioner Symposium, Keystone, CO, July 2019.

Hildreth, L., Strickland, E., Swisher, J., & Miley, M. Writing with Statistics: The development and implementation of writing workshops to improve written communication skills in statistics graduate students, Electronic Conference on Teaching Statistics, May 2018.

Hellem, T., Ferguson, H., Lindner, K., & **Hildreth, L.A.** A feasibility study of OULA dance-fitness as an intervention for depression in women, 21st American Association of Behavioral and Social Sciences, Las Vegas, NV, February 2018.

Hildreth, L.A. & Green, J.L. Using pig dice to explore probability, simulation, distributions, and informal inference, US Conference on Teaching Statistics, State College, PA, May 2017.

Running, A., Madill, C., & **Hildreth, L.** Replication of bio-energy results in a murine model: A comparison of effects over time, Western Institute of Nursing Conference, Denver, CO, April 2017.

Hellem, T. L., Ferguson, H., Scholl, L., Renshaw, P. F. & **Hildreth, L.** Preliminary psychometric evaluation of the Hamilton depression rating scale in methamphetamine users, 5th annual meeting of Addiction Research and Therapy, Atlanta, GA, October 2016.

Hildreth, L., Robison-Cox, J., & Schmidt, J. Getting past the gatekeeper: Does randomization-based curriculum in introductory statistics improve student success?, Joint Statistical Meetings, Chicago, IL, July 2016.

Hildreth, L., Robison-Cox, J., & Schmidt, J. Getting past the gatekeeper: Does randomization-based curriculum in introductory statistics improve student success?, Electronic Conference on Teaching Statistics, May 2016.

Running, A., **Hildreth, L.**, & King, B. Stress relief during finals: A bio-energy pilot study. Western Institute of Nursing's 49th Annual Communicating Nursing Research Conference, Anaheim, CA, April 2016.

Hildreth, L.A., Genschel, U., & Lorenz, F.O. Residual plots to identify outliers and influential observations in structural equation modeling, Women in Statistics Conference, Raleigh, NC, May 2014.

Lorenz, F.O., Lesser, V.M., **Hildreth, L.A.**, & Genschel U. Correlated residuals in general-specific survey questions, International Total Survey Error Workshop, Ames, IA, June 2013.

Hildreth, L.A. The Impacts of Henry Wallace on Statistics at Iowa State University, Joint Statistical Meetings, Washington DC, August 2009.

GRANTS & FELLOWSHIPS

Funded

Hildreth, L. & Burnham, E., 2023-2024. Gustavus Adolphus College, Kendall Center for Engaged Learning Curriculum Development Grant. \$1400

Hellem, T. (PI) & **Hildreth, L.** (co-investigator), 2017-2018. Montana State University, College of Nursing. \$2,000

Faculty Excellence Grant, 2014. Montana State University, Center for Faculty Excellence. \$5,000

Under Review

Loy, A. (PI), and **Hildreth, L.** (Co-PI), Collaborative Research: , National Science Foundation, Improving Undergraduate Education in STEM: Directorate for STEM Education (IUSE: EDU), 2026. \$164,350. 2613516

Unfunded

Loy, A. (PI), and **Hildreth, L.** (Co-PI), Collaborative Research: Developing a Model-Based Introductory Statistics Curriculum, National Science Foundation, Improving Undergraduate Education in STEM: Directorate for STEM Education (IUSE: EDU), 2025. \$159,000. 2518761

Digital Suicide Prevention Mechanism Proposal, National Institutes of Health (subaward through Sarah Keller at Montana State University-Billings), 2018. \$51,502. R21 MH120527-01

Instructional Innovation Grant, 2017-2018. Montana State University, Center for Faculty Excellence. \$4,000

SERVICE

Departmental and College Service at Gustavus Adolphus College

- | | |
|---|----------------|
| • Member, Faculty Personnel Committee | 2026-present |
| • Senator, Faculty Senate | 2025-2026 |
| • Adjudication Board Member | 2023 – 2025 |
| • Curriculum Development Grant Reviewer | Spring 2024 |
| • Grade Appeals Board Member | 2022 – 2023 |
| • Co-adviser, Gustavus Statistics Club | 2021 – Present |
| • Actuarial Science Adviser | 2021 – Present |
| • MCS Seminar Coordinator | 2021 – 2022 |

- Search Committee Chair
 - Statistics (tenure track) 2026
 - Statistics (visitor) 2026
- Search Committee Member
 - Statistics (visitor) 2025
 - Computer Science (tenure track) 2023
 - Management (tenure track) 2021
 - Statistics (tenure track) 2020

Departmental and University Service at Montana State University

- Adviser, Montana State University ASA Student Chapter 2014 – 2018
- Awards and Honors Committee Member 2017 – 2018
- Actuarial Science Adviser 2013 – 2018
- Colloquium Committee Member 2016 – 2017
- Proposal Reviewer, Undergraduate Research Scholars Program 2015 – 2017
- Tenure-Track Search Committee Member (Statistics) 2015 - 2016

Professional Service

- Mentor, Speed Mentoring, US Conference on Teaching Statistics 2025
- Program Chair, Section on Statistics and Data Science Education, American Statistical Association 2023 – 2024
- Program Chair-Elect, Section on Statistics and Data Science Education, American Statistical Association 2023
- Judge, Undergraduate Statistics Project Competition 2021, 2022
- Speed Poster Judge, Section on Statistics and Data Science Education, Joint Statistical Meetings 2019, 2023, 2024
- Session Chair, Women in Statistics in Data Science Conference 2014, 2016
- Docent, Joint Statistical Meetings 2015, 2016, 2017
- Council of Chapters Representative, Montana Chapter of the American Statistical Association 2014, 2015
- President, Montana Chapter of the American Statistical Association 2014 – 2015
- Fall Meeting Organizer, Montana Chapter of the American Statistical Association 2014
- Vice-President, Montana Chapter of the American Statistical Association 2013 - 2014
- Manuscript Reviewer: Structural Equation Modeling: A Multidisciplinary Journal TEST: An Official Journal of the Spanish Society of Statistics and Operations Research CBE-Life Sciences Education, Journal of Statistics and Data Science Education, International Review of Economics Education
- Textbook Reviewer: Stat2 (2nd Edition)

Community Service

- AP Reader (Statistics) 2021 – present
- Organizer and Presenter, Expanding Your Horizons, Montana State, University 2014 – 2018
- Faculty Mentor, Standards-based Teaching Renewing Educators Across Montana in Mathematics (STREAM) 2015 - 2016

PROFESSIONAL AFFILIATIONS

American Statistical Association 2009 - Present