

- CONTACT INFORMATION Department of Statistics Phone: (515) 294-7766
 Iowa State University Fax: (515) 294-4040
 3111 Snedecor Hall E-mail: ulrike@iastate.edu
 Ames, IA 50011-1210 USA WWW: <http://ugenschel.github.io/>
- RESEARCH INTERESTS STEM Education, Education Research Methodology, Robust Statistics
- EMPLOYMENT **Iowa State University, Department of Statistics, Ames, IA USA**
- | | |
|----------------------------|---------------------------|
| Associate Professor | August 2016 – present |
| Assistant Professor | August 2009 – August 2016 |
| Lecturer | August 2005 – August 2009 |
- Technical University of Dortmund, Department of Statistics, Germany**
- | | |
|---------------------------|--------------------------|
| Research Assistant | June 2001 – January 2005 |
|---------------------------|--------------------------|
- EDUCATION **Technical University of Dortmund, Germany**
- Ph.D., Department of Statistics, 06/2005
- Thesis Topic: *Robustness Concepts of Sliced Inverse Regression*
 - Adviser: Ursula Gather
- M.S.*, Department of Statistics, 12/2000
- Thesis Topic: *Weibull confidence interval procedures with few or zero failures under type I censoring*
 - Adviser: W.Q. Meeker
- *Biometrics Concentration, minor in Theoretical Medicine
- EXTERNAL FUNDING
1. Powell-Coffman, J.A., **Genschel, U.** *CIRTL Disciplinary Learning Communities* part of *Preparing Future Faculty to Improve STEM Education: Broadening the National Impact of the CIRTL Network*. National Science Foundation, (\$171,983). subcontract as part of a parent grant with the University of Wisconsin – Madison.
 2. **Genschel, U.** (PI) *REU Supplemental Funding*. National Science Foundation, (\$7,500). June 13, 2014 to August 29, 2014.
 3. Ogilvie, C. (PI), Harpole, S., **Genschel, U.**, Massimo, M., Essner, E., Coffman, C., Johnston, E., Gallus, W., Powell-Coffman, J., Holme, T., Greenbowe, T., Cervato, C. *IOWA STATE UNIVERSITY: “Engage to Excel (E2E)”*, Howard Hughes Medical Institute, Undergraduate Science Education, (\$1,200,000). September 1, 2014 to August 31, 2019.
 4. **Genschel, U.** (PI), Carriquiry, A., Dougherty, B., Kliemann, W., Johnston, E. *Exploring the STEM Gender Gap: Introductory College Mathematics and Statistics Instruction and its Association with Self-Efficacy*, National Science Foundation HRD 1036791, (\$521,423). January 1, 2011 to December 31, 2015.

PENDING
EXTERNAL
FUNDING

1. Gansemer-Topf, A.M., **Genschel, U.**, Okudan-Kremer, G.E., Downey, J.L. *Exploring Factors Related to Persistence and Graduation for Academically Undermatched and STEM Students*. Institute of Education Sciences, revised resubmission. (\$503,832).
2. **Genschel, U.**, Gansemer-Topf, A.M., Okudan-Kremer, G.E., Downey, J.L. *Collaborative Research: Exploring Factors Related to the Choice and Persistence of Academically Undermatched Students in STEM*. National Science Foundation, (\$661,694 Total – ISU: \$566,810; Gustavus Adolphus College: \$70,738).

INTERNAL
FUNDING

1. Wilson, A. (PI), **Genschel, U.** *Strengthening Quantitative Literacy Using Case-Based Learning*, Miller Faculty Fellowship, Iowa State University, (\$9,671.60). July 1, 2010 to June 30, 2011.
2. Froelich, A. (PI), **Genschel, U.** *Formative Assessments to Aid in Statistical Thinking, Literacy and Practice in Introductory Statistics*, Miller Faculty Fellowship, Iowa State University, (\$23,743). July 1, 2008 to June 30, 2009.

REFEREED
JOURNAL
PUBLICATIONS

1. Sage, A., Cervato, C., **Genschel, U.**, Ogilvie, C.A. (2018). Combining Academics and Social Engagement: A Major-Specific Early Alert Method to Counter Student Attrition in Science, Technology, Engineering, and Mathematics. *Journal of College Student Retention: Research, Theory & Practice*. <https://doi.org/10.1177/1521025118780502>.
2. Strauss, R.A., **Genschel, U.**, Allbaugh, R.A., Sebbag, L., Ben-Shlomo, G. (2018). Evaluation of microbial contamination of canine plasma eyedropper bottles following clinical use in canine patients. *Journal of Veterinary Ophthalmology*. <https://doi.org/10.1111/vop.12580>.
3. Moss, E., Cervato, C., **Genschel, U.**, Ihrig, L., Ogilvie, C.A. (2018). Authentic research in an introductory geology laboratory and student reflections: Impact on nature of science understanding and science self-efficacy. *Journal of Geoscience Education*. <https://doi.org/10.1080/10899995.2018.1411730>.
4. Gansemer-Topf, A., Downey, J.*, **Genschel, U.** (2018). Understanding Undermatching: Examining Factors Related to Degree Attainment for Academically Undermatched Students. *Journal of College Student Retention: Research, Theory & Practice*. <https://doi.org/10.1177/1521025117753822>.
5. **Genschel, U.** (2018). On the Influence of Data Contamination on Dimension Reduction. *Sankhya Series A*. Vol. 80(1):28–58. <https://doi.org/10.1007/s13171-017-0102-x>.
6. Gansemer-Topf, A.M., Downey, J.*, Thompson, K.M., **Genschel, U.** (2018). Did the recession impact student success? Relationships of finances, staffing and institutional type on retention. *Research in Higher Education*. Vol. 59(2):174–197. <https://doi.org/10.1007/s11162-017-9462-2>.
7. Gansemer-Topf, A., Downey, J.*, **Genschel, U.** (2017). Definitions Matter: Investigating and Comparing Different Operationalizations of Academic Undermatching. *Practical Assessment, Research, and Evaluation*. Vol. 12:28–40.

8. Stanfill, B.* , **Genschel, U.**, Hofmann, H., Nordman, D. (2015). Inference for the Central Orientation of Random Rotations in $SO(3)$. *Journal of Multivariate Analysis*. Vol. 135(2015):106–116.
9. Alekel, D.L., **Genschel, U.**, Koehler, K.J., Hofmann, H., Van Loan, M.D., Beer, B., Hanson, L.N., Peterson, C.T., Kurzer, M.S. (2015). The Soy Isoflavones for Reducing Bone Loss (SIRBL) Study: Effect of a three-year trial on hormones, adverse events, and endometrial thickness in postmenopausal women. *Menopause*. Vol. 22(2):185–197.
10. Newell, J., **Genschel, U.**, Ni, Z. (2014). Modeling the Diffusion “S” Curve to Declines in Media Use. *Journal of Media Business Studies*. Vol. 11(4).
11. Casleton, E.* , Beyler, A.* , **Genschel, U.**, Wilson, A. (2014). A Pilot Study Teaching Metrology in an Introductory Statistics Course. *Journal of Statistics Education*. Vol. 22(3).
12. Stanfill, B.* , Hofmann H., **Genschel, U.** (2014). rotations: An R Package for $SO(3)$ Data. *The R Journal*. Vol. 6(1):68–78.
13. Follett, L.** , **Genschel, U.**, Hofmann, H. (2014). Effects of the BP Oil Spill: A graphical Exploration. *Computational Statistics*. Vol. 29(1-2):121–132.
14. Stanfill, B.* , **Genschel, U.**, Hofmann H. (2013). Point Estimation of the Central Orientation of Random Rotations. *Technometrics*. Vol. 55(4):524–535.
15. Hildreth, L.* , **Genschel, U.**, Lorenz, F., Lesser, V. (2013). A Permutation Test for Correlated Errors in Adjacent Questionnaire Items. *Structural Equation Modeling: A Multidisciplinary Journal*. Vol. 20(2):226–240.
16. **Genschel, U.**, Meeker, W. Q. (2010). A Comparison of Maximum Likelihood and Median Rank Regression for Weibull Analysis. *Quality Engineering*. Vol. 22(4):234–253. With Discussion and Rejoinder.
17. Matvienko, O., Alekel, D.L., **Genschel, U.**, Ritland, L.M., Van Loan, M., Koehler, K. (2010). Appetitive Hormones, but Not Isoflavone Tablets, Influence Overall and Central Adiposity in Healthy Postmenopausal Women. *Menopause*. Vol. 17(3):594–601.
18. Stewart, J.W., Alekel, D.L., Ritland, L.M., Van Loan, M., Gertz, E., **Genschel, U.** (2009). Serum 25-hydroxyvitamin D is related to indicators of overall physical fitness in healthy postmenopausal women. *Menopause*. Vol. 6(6):1093–1101.
19. Deardorff, B.L., Alekel, D.L., Ritland, L.M., Hanson, L.N., **Genschel, U.**, Reddy, M.B. (2008). Association of oxidative stress, iron, and centralized fat mass in healthy postmenopausal women. *Journal of Women’s Health*. Vol. 18(6):795–801.
20. Ritland, L.M., Alekel, D.L., Matvienko, O., Hanson, K.B., Stewart, J.W., Hanson, L.N., Reddy, M.B., Van Loan, M., **Genschel, U.** (2008). Centrally located body fat is related to appetitive hormones in healthy postmenopausal women. *European Journal of Endocrinology*. Vol. 158:889–897.
21. Perry, C.D., Alekel, D.L., Ritland, L.M., Bhupathiraju, S.N., Stewart, J.W., Hanson, L.N., Matvienko, O.A., Kohut, M.L., Reddy, M.B., Van Loan, M.D., **Genschel, U.** (2008). Relationship of centrally-located body fat to acute phase proteins and proinflammatory cytokines in healthy postmenopausal women. *Menopause*. Vol. 15(4):619–627.

22. Bhupathiraju, S.N., Alekel, D.L., Stewart, J.W., Hanson, L.N., Shedd, K.M, Reddy, M.B., Hanson, K.B., Van Loan, M.D, **Genschel, U.**, Koehler, K. (2007). Relationship of Circulating Total Homocysteine and C-Reactive Protein to Trabecular Bone in Postmenopausal Women. *Journal of Clinical Densitometry*. Vol. 10(4):395–403.

** Undergraduate student, * Graduate student

MANUSCRIPTS
SUBMITTED

1. Sage, A. *, **Genschel, U.**, Nettleton, D. A Robust Residual-Based Approach for Random Forest Regression. Submitted to *Machine Learning*.
2. Sage, A. *, **Genschel, U.**, Nettleton, D. Tree Aggregation for Random Forest Class Probability Estimation. Revision submitted to *Statistical Analysis and Data Mining*. Revision currently under review.
3. Rice, K. *, **Genschel, U.**, Hofmann, H. A Robust Approach to Automatically Locating Grooves in 3D Bullet Land Scans. Submitted to *Journal of Forensic Sciences*.

MANUSCRIPTS
UNDER
PREPARATION

1. Sage, A. *, **Genschel, U.**, Nettleton, D. Random Forest Variable Importance in the Presence of Missing Data.
2. Downey, J. *, **Genschel, U.**, Kaiser, M., Nordman, D., Modeling Student-level Responses in Educational Data.
3. Rice, K. *, Garton, N. *, **Genschel, U.**, Hofmann, H. Statistical Approaches to Automated Groove Engraved Area Identification in 3D Bullet Landscans.
4. Halligan, T.A., Cervato, C., **Genschel, U.** To flip or not to flip: a multiyear analysis of student-centered pedagogy in an introductory physical geology course.
5. Wehrman, R.F., **Genschel, U.**, Charli, A., Kanthasamy, A.G., Ben-Shlomo, G. A Novel Ex Vivo Model of Equine Corneal Epithelial Wound Healing.
6. Wehrman, R.F., **Genschel, U.**, Bagley, R., Allbaugh, R.A., Sebbag, L., and Ben-Shlomo, G. Identification of applicant factors for successful acquisition of an ABVO or ECVO approved residency.
7. Szczepanski, J., Litchfield, R., **Genschel, U.** Impact of a Culinary Boot Camp on Food/Nutrition Aptitudes and Dietary Intake among University Students and Employees.
8. Szczepanski, J., Litchfield, R., **Genschel, U.** Effects of a Culinary Boot Camp intervention on food/nutrition aptitudes of college students.
9. Szczepanski, J., Litchfield, R., **Genschel, U.** Eating Competence among College Students.
10. Meehan, K.J. *, **Genschel, U.**, Alekel, D.L., Van Loan, M.D., Kurzer, M.S. Urinary Isoflavone Variability in Postmenopausal Women during a Three-Year Isoflavone Intervention Study.
11. Stanfill, B. *, **Genschel, U.** A Discordancy Test for Isotropic Random Rotations.

REFEREED
CONFERENCE
PROCEEDINGS

1. **Genschel, U.**, Nguyen, X.H., Gender and Discipline Specific Differences in Mathematical Self-Efficacy of Incoming Students at a Large Public University. In *Proceedings of the RUME (Research on Undergraduate Mathematics Education) Annual Conference*. San Diego, February 2017.
2. Mouzon, I., **Genschel, U.**, Nguyen, X.H., Kaplan, A., Mann, C., Carriquiry, A. A Cluster Analysis of STEM Gender Differences. In *Proceedings of the RUME (Research on Undergraduate Mathematics Education) Annual Conference*. Pittsburgh, February 2015.
3. Newell, J., **Genschel, U.**, Ni, Z. Modeling the Diffusion “S” Curve to Declines in Media Use. In *Proceedings of the AEJMC (Association for Education in Journalism and Mass Communication) Annual Conference*. Denver, December 2010.

REFEREED
PRESENTATIONS

1. Sage, A., **Genschel, U.** Impact of Working with Real Data on Perceptions of the Importance of Statistical Inference. *United States Conference on Teaching Statistics (USCOTS)*. State College, PA, May 2017. (*poster presentation by A. Sage*)
2. Gansemer-Topf, A.M., Downey, J., and **Genschel, U.** Consistently Undermatched? Investigating and Comparing Different Operationalizations of Academic Undermatching, American Education Research Association Conference, Washington, D.C., April 2016. (*presentation by A.M. Gansemer-Topf*)
3. Downey, J., **Genschel, U.**, Kaiser, M. A Comparison of Statistical Methodology in the Analysis of Assessment Data. *United States Conference on Teaching Statistics (USCOTS)*. State College, PA, May 2015. (*poster presentation by J. Downey*)
4. **Genschel, U.** Illustrating the Effect of Leading Questions in an Introductory Statistics Course. *USCOTS*. State College, PA, May 2015. (*poster presentation*)
5. **Genschel, U.**, Nguyen, H., Mouzon, I. The role of self-efficacy in the retention of STEM students. *Conference of the American Mathematical Association of Two Year Colleges (AMATYC)*. Nashville, TN, November 2014. (*joint presentation*)
6. **Genschel, U.**, Kaplan, A.J., Carriquiry, A., Johnston, E., Kliemann, W., Koehler, K., Mouzon, I., Nguyen, H. Statistical and Mathematical Self-efficacy of Incoming Students at a Large Public University. *International States Conference on Teaching Statistics (ICOTS)*. Flagstaff, AZ, July 2014.
7. **Genschel, U.** Introducing the Scholarship of Teaching and Learning to Graduate Student Instructors. *Electronic Conference On Teaching Statistics (e-COTS)*. May 2012.
8. Bernhard, J., **Genschel, U.**, Froelich, A. Clickers in Statistics Classes: Connecting Research and Practice – Topic Contributed Panel. *Conference of the American Statistical Association (JSM)*, July 30 – August 4, 2011, Miami, FL. (*joint panel presentation*)
9. Bernhard, J., **Genschel, U.**, Froelich, A. The Clicker Effect: Assessing Introductory Business Statistics Students’ Understanding and Attitudes Towards Statistics. *USCOTS*. Raleigh-Durham, NC, May 2011. (*joined poster presentation*)

10. Casleton, E., Borgen, A., **Genschel, U.**, Wilson, A. An Argument for Teaching Metrology in Introductory Statistics Classes. *USCOTS*. Raleigh-Durham, NC, May 2011. (*joined poster presentation*)
11. Hofmann, H., **Genschel, U.**, Wrolstadt, D. Introducing large data sets into the classroom - a graphical user interface for teaching with data bases. *ICOTS*. Ljubljana, Slovenia, July 2010.
12. **Genschel, U.**, Froelich, A., Mueller, K. The Use of TurningPoint (Clicker) Technology for Formative Assessment in Introductory Statistics. *USCOTS*. Columbus, OH, May 2009. (*joined poster presentation*)

INVITED
PRESENTATIONS

1. Resampling Method for Testing Distributional Symmetry in 3-D Rotations 3-D orientations. International Society of Nonparametric Statistics (ISNPS 4), June 11–15, 2018, Rom, Italy.
2. A Discordancy Test for Isotropic Random Rotations. (ADISTA). Rom, Italy, June 2017. (*poster presentation*)
3. Median-based Nonparametric Confidence Regions for the Central Orientation of Random Rotations. International Society of NonParametric Statistics (ISNPS 3), June 11–16, 2016, Avignon, France.
4. Gender Differences in Academic Background and Self-Efficacy of Incoming College Students. 2016 NSF ADVANCE/GSE Program Workshop, May 22–24, 2016, Baltimore, MD.
5. Point Estimation of the Central Orientation of Random Rotations. Department of Biostatistics, Bioinformatics and Biomathematics, Georgetown University, October 24, 2014.
6. Nonparametric Confidence Regions for the Central Orientation of Random Rotations. International Society of NonParametric Statistics (ISNPS 2), June 12–16, 2014, Cadiz, Spain.
7. Gender-Differences in Introductory Mathematics and Statistics Courses at a Large State University. Panel Discussant. Joint Annual PI Meeting of the National Science Foundation, June 12–15, 2012, Washington, DC.

OTHER
PRESENTATIONS

1. **Genschel, U.** *Resampling Method for Testing Distributional Symmetry in 3-D Rotations 3-D orientations, Conference of the American Statistical Association (JSM), July 28 – August 2, 2018, Vancouver, Canada.*
2. **Genschel, U.** *Finite Sample Breakdown Point for Sliced Inverse Regression, Conference of the American Statistical Association (JSM), July 29 – August 3, 2017, Baltimore, MD.*
3. Downey, J., **Genschel, U.**, and Gansemer-Topf, A.M. *The Importance of Problem Definition in Statistical Consulting: An Illustration using Academic Undermatching*, Conference of the American Statistical Association (JSM), July 30 – August 4, 2016, Chicago, IL. (*presentation by J.D. Lyon*)
4. *Determining the Nesting Structure for Hierarchical Models Fitted to Education Data*, Conference of the American Statistical Association (JSM), July 30 – August 4, 2016, Chicago, IL.

5. Casleton, E., **Genschel, U.** *A Pilot Study Teaching Metrology in an Introductory Statistics Course*. Journal of Statistics Education Webinar Series, April 21, 2015. <https://www.causeweb.org/webinar/jse/2015-04/> (joint presentation with E. Casleton)
6. *How I got started/What I wish I had known*. Panel discussion as part of Gr St 586, October 7, 2014, Ames, IA.
7. *Statistical and Mathematical Self-efficacy of Incoming Students at a Large Public University*. Conference of the American Statistical Association (JSM), August 2 – August 7, 2014, Boston, MA.
8. *Why I Love Being a Professor*. Panel discussion as part of Gr St 586, January 14, 2014, Ames, IA.
9. *Identifying Gender-Specific Factors Related to Stem Retention at a Large State University*. Conference of the American Statistical Association (JSM), July 28 – August 2, 2012, San Diego, CA.
10. *Why I Love Being a Professor*. Panel discussion as part of Gr St 586, January 11, 2012, Ames, IA.
11. Follett, L., **Genschel, U.**, Hofmann, H. (2011). The Deepwater Horizon Oil Spill. Topic-Contributed Oral Poster Presentations: Section on Statistical Graphics. Conference of the American Statistical Association (JSM), July 30 – August 4, 2011, Miami, FL. (poster presentation by L. Follett)
12. **Genschel, U.**, Mouzon, I., Carriquiry, A., Guo, J., Johnston, E., Kliemann, W., Koehler, K. *The Role of Pre-Calculus and College Algebra in the Retention of Female Students in STEM*. Joint Annual PI Meeting of the National Science Foundation, June 6 – 8, 2011, Washington D.C. (poster presentation)
13. *Accessing Large Databases in the Classroom*. Conference of the American Statistical Association (JSM), July 31 – August 5, 2010, Vancouver, Canada.
14. Bernhard, J., **Genschel, U.**, Froelich, A. *The Use of TurningPoint (Clicker) Technology for Formative Assessment in Introductory Statistics*. Conference of the American Statistical Association (JSM), July 31 – August 5, 2010, Vancouver, Canada. (poster presentation by A. Froelich)
15. *Engaging Learners with Formative Assessment Activities*. Part of the Spring 2010 CELT Event Series, February 25, 2010, Iowa State University.
16. *Sliced Inverse Regression under Data Contamination*. Departmental Seminar, Iowa State University, December 3, 2008.
17. *A comparison of Maximum Likelihood Estimation and Median Rank Regression for Weibull Estimation*. Conference of the American Statistical Association (JSM), July 29 – August 2, 2007, Salt Lake City, USA.
18. *Sliced Inverse Regression under Data contamination*. Conference of the American Statistical Association (JSM), August 6 – 10, 2006, Seattle, USA.
19. *A Sensitivity Analysis for Sliced Inverse Regression*. Ninth Meeting of New Researchers in Statistics and Probability, August 1 – 5, 2006, University of Washington, Seattle, USA.
20. *Weibull Confidence Bounds with Few or Zero Failures*. Conference of the American Statistical Association (JSM), August 7 – 11, 2005, Minneapolis, USA.

21. *A Sensitivity Analysis for Sliced Inverse Regression*. Workshop on Diagnostics Robustness Exploration and Modeling (DREaM) sponsored by the ESF (European Science Foundation) Network, March 30 – April 2, 2005, Open University, Milton Keynes, UK.
22. *A Breakdown Point Concept for Sliced Inverse Regression*. Workshop on Robustness for High-dimensional Data (RobHD) sponsored by the ESF (European Science Foundation) Network, May 5 – 8, 2004, Vorau, Austria.
23. *Features of an internet-based learning package for advanced statistics*. Conference of the International Statistical Institute (ISI), August 13 – 20, 2003, Berlin, Germany.
24. *How to introduce hypothesis testing in EMILeA-stat*. EMILeA-stat workshop, October 30 – 31, 2002, Oldenburg, Germany.
25. *EMILeA-stat: Structural and didactic aspects of teaching statistics through an internet-based, multi-medial environment*. Conference on Computational Statistics (COMPSTAT), August 24 – 28, 2002, Berlin, Germany.
26. *Multiple choice tests as a self-evaluation tool within EMILeA-stat*. EMILeA-stat Workshop, June 19 – 21, 2002, Oldenburg, Germany.

BOOKS

1. **Genschel, U.**, Becker, C. (2004). *Schließende Statistik*. Springer-Verlag, Berlin.
A textbook on inferential statistics associated with the internet educational project EMILeA-stat, sponsored by the German Federal Ministry of Education and Research: <http://www.emilea.de> (project web page)

BOOK REVIEWS

1. **Genschel, U.** (2009). The Role of Statistics in Business and Industry by Hahn, G.J. and Doganaksoy, N. *The American Statistician*. Vol. 63(3):287.

UNREFEREED CONFERENCE PROCEEDINGS

1. **Genschel, U.**, Kaplan, A.J., Carriquiry, A., Johnston, E., Kliemann, W., Koehler, K., Mouzon, I., Nguyen, H. (2014). Statistical and Mathematical Self-efficacy of Incoming Students at a Large Public University. In *Proceedings of the ICOTS Conference*. Flagstaff, 2014.
2. Hildreth, L., **Genschel, U.**, Lorenz, F., Lesser, V. (2011). Correlated Errors in General-Specific Questionnaires: A Structural. In *JSM Proceedings*, Section on Survey Research Methods. Alexandria, VA: American Statistical Association.
3. Stanfill, B., **Genschel, U.**, Hofmann, H. (2011). Point Estimation of the Central Direction of Random Rotations in SO(3). In *JSM Proceedings*, Section on Physical and Engineering Sciences. Alexandria, VA: American Statistical Association.
4. Hofmann, H., **Genschel, U.**, Wrolstadt, D. (2010). Introducing large data sets into the classroom - a graphical user interface for teaching with data bases. In *Proceedings of the ICOTS Conference*. Ljubljana, 2010.
5. **Genschel, U.**, Paris Scholz, S., Gather, U. (2003). Features of an Internet-Based Learning Package for Advanced Statistics. In *Proceedings of the Conference of the International Statistical Institute*. Berlin, 2003.

6. **Genschel, U.**, Gather, U., Busch, A. (2002). EMILeA-stat: Structural and Didactic Aspects of Teaching Statistics through an Internet-based, Multi-medial Environment. In *Proceedings in Computational Statistics COMPSTAT 2002*. Physica-Verlag, Heidelberg, 339-342.

AWARDS

1. University Award for Early Achievements in Academic Advising, 2014
2. College of Liberal Arts and Sciences Award for Outstanding Achievement in Teaching, 2012
3. College of Liberal Arts and Sciences Award for Early Achievement in Teaching, 2011
4. Wakonse Fellow, named by Center of Excellence in Learning and Teaching, Iowa State University, in 2009
5. Faculty Learning Community for Large Class Enhancement Award 2007-2008 by the Center for Excellence in Learning and Teaching and College of Liberal Arts and Sciences, Iowa State University
6. Honorable Mention Outstanding Presentation Award – Section on Physical and Engineering Sciences by the American Statistical Association for presentation in Minneapolis at the JSM 2005

TEACHING

1. Las 103D – The Sky is the Limit Learning Community: Section on Bringing Numbers to Life. **(3)**
2. Stat 301 – Intermediate Statistical Concepts **(4)**
3. Stat 342 – Introduction to Probability and Theory of Statistics II **(5)**
4. Stat 226 – Introduction to Business Statistics I & coordination **(10+)**
5. Stat 326 – Introduction to Business Statistics II & coordination **(7)**
6. Stat 528 – Applied Business Statistics **(3)**
7. Stat 330 – Probability and Statistics for Computer Science **(2)**
8. Stat 401 – Statistical Methods for Research Workers **(1)**
9. Stat 415 – Robust Regression **(1)**
10. Stat 479 – Computer Processing of Statistical Data **(2)**
11. Stat 490 – Independent Study **(1)**
12. GrSt 565 – Responsible Conduct of Research in Science and Engineering **(2)**
13. Stat 546 – Nonparametric Statistics **(1)**
14. Stat 590B – Special Topics (Teaching Practicum) **(1)**
15. Stat 590E – Special Topics (Statistics Education) **(1)**
16. Weekly Discussion Group on Teaching and Learning in the context of Statistics Education **(2)**

GRADUATE STUDENT ADVISING

Ph.D.

- Yuchen Wang
- Kiegan Rice (co-advising with Heike Hofmann), expected graduation Spring/Summer 2020
- Andrew Sage (co-advised with Dan Nettleton), Spring 2018, *Random forest robustness, variable importance, and tree aggregation*.
- Jillian Downey (née Lyon) (co-advised with Mark Kaiser), Fall 2017, *Statistical analyses for education data*.

- Bryan Stanfill, Spring 2014, *Statistical methods for random rotations*.
- Laura Hildreth (co-advised with Fred Lorenz), Summer 2013, *Residual analysis for structural equation modeling*.

M.S.

- Yuchen Wang expected AY18/19
- Kellie McClernon, Spring 2018, *Residual Bootstrap for Multiple Linear Regression in High Dimensions*.
- Monica Degnan, Summer 2014, *The importance of STEM in today's workforce, and retention of STEM students in their college years*.
- Takisha Watson (co-advisor with Heike Hofmann), Summer 2013, *Examining the effects of soft drink consumption on body composition using the Rubin Causal Model*.
- Zhen Miao, Fall 2012, *A comparison of JMP 9, Excel 2010, R 2.14, and Mathematica 8 in teaching introductory statistical courses*.
- Josh Bernhard (co-advisor with Amy Froelich), Summer 2011, *Assessing the effect of clickers on introductory business statistics students? Understanding and attitudes towards statistics*.
- Amy Borgen, Summer 2011, *Using metrology to illustrate variability and measurement error in undergraduate statistics courses*.
- Bryan Stanfill, Spring 2011, *Point estimation of the central direction of random rotations in $SO(3)$* .

Program of Study Committees

- M.S. Statistics: 14
- M.S. Non-Statistics: 3
- Ph.D. Statistics: 7
- Ph.D. Non-Statistics: 3

OTHER STUDENT MENTORING

1. Alex Schulte, Fall 2017 and Spring 2018, Preparing Future Faculty
2. Robert Lazar, Spring 2017, Preparing Future Faculty
3. Robert Lazar, Martin Silero-Vasquez Fall 2016, Preparing Future Faculty
4. Charlotte Mann, Research Undergraduate Experience, Summer 2014
5. Eric Smith, creative component, Fall 2012 and Spring 2013
6. Adam Loy, Spring 2012, Preparing Future Faculty
7. Wilmina Siegfried, Juliane Janek, Fall 2012, Preparing Future Faculty
8. Robert Lazar (Fall 2016, Spring 2017), Preparing Future Faculty
9. Alex Schulte, (Fall 2017, Spring 2018), Preparing Future Faculty
10. Takisha Watson, Fall 2011
11. Lendie Follett (jointly with Heike Hofmann) during ASA Data Exposition Challenge, Summer 2011. Lendie was awarded 1st place.

SERVICE

Departmental Service

- Summer, Fall 2012–Fall 2013: Search Committee for Statistics Department Chair
- Undergraduate advisor of Statistics (typically 15 advisees)
- Faculty advisor to Undergraduate Statistics Club (2009/10–2011)
- Question Writer for M.S. qualifying Exam (1)
- Social Committee (06–07), Undergraduate Committee (F05–S11, F15–S19), Committee on Curriculum & Instruction (F09–S11), (F14–S19), Search Committee (F09–S10, F18–S19), Honors and Awards Committee (F15–S18)

- Liaison to College of Business (F08–S09)

Institutional Service

- CELT Teaching Partners Program, Fall 2018
- Organized *First-Year Large-Section STEM Instructor Support Program* with C. Cervato and R. Raman, Fall 2018
- ISU Predictive Modeling Team (Student Success Council)
- Teaching Gr St 565 *Responsible Research Conduct* (Spring 2017, Spring 2018)
- Learning Community *The Sky is the Limit: Bringing Numbers to Life* section for students interested in quantitative sciences (Fall 2016, Fall 2017, Fall 2018)
- CELT Active Learning Space Faculty Task Force (White paper on the principles of active learning space design at Iowa State from the faculty’s perspective) (Fall 2015–Summer 2016)
- Search Committee for LAS, Associate Dean for Academic Programs, 2013
- Advisory Board, Center for the Integration of Research, Teaching and Learning (CIRTL), AY 2013/14–AY2015/16
- ISU representative to the CIRTL curriculum committee, 2012
- Evaluation committee for the Diane Brandt Fellowship for Women, AY 2011/12–AY 2016/17
- Workshop for Summer Research Experience for Teachers (NSF funded project, PI: Adah Leshem-Ackerman, provided an introduction to the basic principles of Design of Experiments to a group of 45 participants)

Service to the Profession

- ASA Workshop “Preparing to Teach” jointly held with A. Rossman, N. Horton, M. Cetinkaya-Rundel, July 2018, July 2019
- NSF Panel Reviewer 2016, 2017, 2018, 2019 (2)
- NSF Ad-hoc Reviewer 2019
- Mentor in the JSM 2015 Mentoring Program
- Executive committee member-at-large, American Statistical Association (ASA), Section on Statistics Education, 2016–18
- NSF Panel Reviewer 03/2014
- Chapter Representative, ASA Iowa Chapter, 2013–present
- President, ASA Iowa Chapter, 2011–2012, 2012–2013
- Vice President, ASA Iowa Chapter, 2010–2011
- ASA Advisory Committee on Continuing Education Evaluation Subcommittee, 2010–2012
- Session chair at 2011, 2016 JSM
- Session chair at 2016, ISNPS 3

Journal Refereeing

- Journal of Statistical Distributions and Applications (1)
- Journal of Computational and Graphical Statistics (1)
- Journal of Statistical Computation and Simulation (1)
- Journal of Communications in Statistics – Theory and Methods (2)
- Journal of Communications in Statistics – Simulation and Computation (1)
- IIE Transactions (Focus: Quality and Reliability Engineering) (1)
- Journal of Technology Innovations in Statistics Education (TISE) (2)
- Journal of Statistics Education (4)
- Statistics Education Research Journal (1)
- American Statistician (1 Book review)

CONSULTING

1. Ruth Litchfield, Department of Food Science and Human Nutrition, ISU.
2. Gil Ben-Shlomo, Department of, College of Veterinary Medicine, ISU
3. Frank Peters, Department of Industrial and Systems Engineering, College of Engineering, ISU
4. Ann Gansemer-Topf, School of Education, ISU
5. Mari Kemis, Research Institute for Studies in Education (RISE), ISU
6. Jay Newell, Greenley School of Journalism and Communication, ISU
7. Mindy Kurzer, Department of Food Science and Nutrition and Department of Medicine, University of Minnesota
8. Lee Alekel, Department of Food Science and Human Nutrition, ISU. NIH study: SIRBL (Soy Isoflavones in Reducing Bone Loss)

PROFESSIONAL DEVELOPMENT

1. Project LEA/RN (Learning Enhancement Action/Resource Network), May 9th & 10th, 2012
2. Project LEA/RN faculty learning group AY 2012/13, Spring/Fall 2014, Spring/Fall 2016, Spring/Fall 2017, Spring 2018
3. Center for Excellence in Learning and Teaching (CELT) Teaching Partners Program, AY 2011/12
4. CELT Teaching and Learning Circle: From Simple to Sophisticated: Assessment Techniques for the College Classroom, Jan/Feb 2012
5. CELT Teaching and Learning Circle: Habits of Learning for Undergraduates, Oct/Nov 2011
6. *Become a CATALYST for Change* workshop, June 28 – 29, 2010, University of Minnesota