

Amanda S Hering

Colorado School of Mines; Assistant Professor
Applied Mathematics and Statistics; Golden, CO 80401-1887
Phone: 303.384.2462 Fax: 303.273.3875
E-mail: ahering@mines.edu
Web: <http://inside.mines.edu/~ahering>

Research Interests

Spatial and space-time modeling, forecasting, model-validation, multivariate time series, nonparametric smoothing of correlated data, wind energy, criminology, and environmental applications

Education

- Texas A&M University; College Station, TX; Ph.D., Statistics (2009)
Advisor: Marc G. Genton
Space-Time Forecasting and Evaluation of Wind Speed with Statistical Tests for Comparing Accuracy of Spatial Predictions
- Montana State University; Bozeman, MT; M.S., Statistics (2002)
Advisor: Steve Cherry
- Baylor University; Waco, TX; B.S., Mathematics (1999)
Summa Cum Laude

Professional Experience

- Assistant Professor, Mathematical and Computer Sciences, Colorado School of Mines
Aug 2009-present
- Visiting Researcher, National Center for Atmospheric Research, Boulder, CO
Aug 2009-present
- College Board Advanced Placement Statistics Reader, Louisville, KY
Jun 2008 and Jun 2009
- Graduate Research Assistant, Department of Statistics, Texas A&M University
Jan 2007–Jun 2009
- Graduate Teaching Assistant, Department of Statistics, Texas A&M University
Aug 2005-Dec 2006
- Graduate Assistant Grader, Department of Statistics, Texas A&M University
Aug 2004-May 2005
- High School Mathematics Teacher, Somerville High School, Somerville, Texas
Aug 2002-Aug 2004
- Graduate Teaching Assistant, Department of Mathematical Sciences, Montana State University
Aug 2000-Aug 2002

Refereed Publications

- Hering, A. S., and Genton, M. G. (2011) "Comparing spatial predictions," *Technometrics*, **53**: 414–425.
- Nissan, A. B., Findley, K. O., and Hering, A. S. (2011) "Extreme value statistical analysis to determine the endurance limit of a 1045 induction hardened steel alloy," *Procedia Engineering*, **10**: 607–612.
- Hering, A. S. and Genton, M. G. (2010) Powering up with Space-Time Wind Forecasting. *Journal of the American Statistical Association*, **105**, 92-104.
- Hering, A. S., Bell, C. L., and Genton, M. G. (2009) Modeling Spatio-Temporal Wildfire Ignition Point Patterns. *Environmental and Ecological Statistics*, Special Issue on Statistics for Wildfire Processes, **16**, 225-250.
- Genton, M. G. and Hering, A. S. (2007) Blowing in the Wind. *Significance*, **4**, 11-14.

Conference Proceedings

- Wald, D. J., McWhirter, L., Thompson, E., and Hering, A. S. (2011) "A new strategy for developing Vs30 maps," *Proceedings of the 4th International Symposium on Effects of Surface Geology on Seismic Motion Symposium*, University of California at Santa Barbara.
- Rothleitner, L. M., Hering, A., Van Tyne, C. J. (2011) "Property and microstructure variation in forging bar steels," *Proceedings of Forging Industry Technical Conference*, Schaumburg, IL.

Papers Under Review

- Hering, A. S. and Bair, S. (2012) "Characterizing spatial and chronological target selection of serial offenders," *Under Review*.
- Teerlink, J., Hering, A. S., Higgins, C. P., and Drewes, J. E. (2012) "Site-specific fluctuations and variability of trace organic chemical concentrations in raw wastewater at three distinct sewershed scales," *Under Review*.

Papers in Preparation

- Bell, A. N., Hering, A. S., Nychka, D., and Comeaux, J. (2012) "Automated statistical quality control for historical radiosonde data," *In Preparation*.
- Yoder, M., Hering, A. S., Navidi, W., and Larson, K. (2012) "Short term forecasting of categorical changes in wind power with Markov chain models," *In Preparation*.

Grants

- *Bayesian Space-Time Point Process Models For Individually Identifiable Criminal Patterns* funded by Northrop Grumman, \$50,000, Jan-Dec 2011.

Invited Presentations

- Center for Research and Education in Wind 3rd Annual Symposium, Talk: *The Impacts of Climate Change on the Wind Resource*, NREL, Golden, CO (Aug 2011)
- Northrop Grumman Research Technology Symposium, Talk: *Bayesian Space-Time Point Process Models For Individually Identifiable Criminal Patterns*, Aurora, CO (Apr 2011)
- National Center for Atmospheric Research, Wind Energy Prediction R&D Workshop, Talk: *Space-Time Wind Speed Modeling Techniques*, Boulder, CO (May 2010)
- Colorado School of Mines, Environmental Science and Engineering Department, Talk: *Statistical Models for Short-Term Space-Time Wind Speed Forecasts*, Golden, CO (Apr 2010)
- National Center for Atmospheric Research, Research Applications Lab, Talk: *Statistical Models for Short-Term Space-Time Wind Speed Forecasts*, Boulder, CO (Nov 2009)
- Colorado State University, Department of Statistics, Talk: *Comparing Accuracy of Spatial Forecasts*, Fort Collins, CO (Oct 2009)
- Texas A&M University, Department of Statistics, Talk: *Comparing Accuracy of Spatial Forecasts*, College Station, TX (Jun 2009)
- Colorado School of Mines, Mathematical and Computer Sciences Department, Talk: *Powering Up with Space-Time Wind Forecasting*, Golden, CO (Feb 2009)
- University of Colorado at Denver, Talk: *Powering Up with Space-Time Wind Forecasting*, Denver, CO (Feb 2009)
- Kansas State University, Talk: *Powering Up with Space-Time Wind Forecasting*, Manhattan, KS (Feb 2009)
- Arizona State University, Talk: *Powering Up with Space-Time Wind Forecasting*, Tempe, AZ (Feb 2009)
- Iowa State University, Talk: *Powering Up with Space-Time Wind Forecasting*, Ames, IA (Feb 2009)
- University of Arizona, Talk: *Powering Up with Space-Time Wind Forecasting*, Tucson, AZ (Jan 2009)
- University of California at Los Angeles, Talk: *Powering Up with Space-Time Wind Forecasting*, Los Angeles, CA (Jan 2009)
- University of California at Santa Barbara, Talk: *Powering Up with Space-Time Wind Forecasting*, Santa Barbara, CA (Jan 2009)

- University of Iowa, Talk: *Powering Up with Space-Time Wind Forecasting*, Iowa City, IA (Jan 2009)
- Virginia Commonwealth University, Talk: *Powering Up with Space-Time Wind Forecasting*, Richmond, VA (Dec 2008)
- Louisiana State University, Talk: *Powering Up with Space-Time Wind Forecasting*, Baton Rouge, LA (Nov 2008)
- Baylor University, Talk: *Powering Up with Space-Time Wind Forecasting*, Waco, TX (Nov 2008)
- College of Charleston, Talk: *Powering Up with Space-Time Wind Forecasting*, Charleston, SC (Oct 2008)
- International Symposium on Forecasting, Talk: *Powering Up with Space-Time Wind Forecasting*, Nice, France (Jun 2008)
- University of Geneva Seminar, Talk: *Powering Up with Space-Time Wind Forecasting*, Geneva, Switzerland (Mar 2008)
- Joint Statistical Meetings, Invited Session: *Models for Short-Term Wind Speed Prediction*, Salt Lake City, UT (Jul 2007)
- Joint Statistical Meetings, Invited Poster: *Statistical Approaches to El Niño Forecasting*, Salt Lake City, UT (Jul 2007)
- Geophysical Statistics Project Informal Seminar NCAR, Talk: *Powering up with Space-Time Wind Forecasting*, Boulder, CO (Jul 2007)

Contributed Presentations

- TIES Workshop on the Visualization of Climate Data, Poster: *Approaches to Investigating the Impact of Climate Change on the Wind Resource*, Reykjavik, Iceland (Aug 2011)
- International Symposium on Forecasting, Talk: *Comparing Spatial Predictions*, Prague, Czech Republic (Jun 2011)
- Applied Mathematics and Statistics Department, Talk: *Comparing Spatial Predictions*, CSM, Golden, CO (Mar 2011)
- Workshop on Environmetrics, Poster: *Verification of Climatological Wind Speeds Using a Neighborhood Approach*, Boulder, CO (Oct 2010)
- American Meteorological Society, Talk: *Varying-Coefficient Space-Time Models for Short-Term Wind Forecasting*, Atlanta, GA (Jan 2010)
- Workshop on Environmetrics, Poster: *Comparing Accuracy of Spatial Forecasts*, Boulder, CO (Oct 2008)
- Joint Statistical Meetings, Contributed Session: *Wind Forecasting Models and Loss Function*, Denver, CO (Aug 2008)
- WINDPOWER 2008, Scientific Track: *Powering Up with Short-Term Statistical Space-Time Wind Forecasting*, Houston, TX (Jun 2008)
- Multivariate Methods in Environmetrics, Poster: *Modeling Spatio-Temporal Wildfire Ignition Point Patterns*, Chicago, IL (Oct 2006)

Course Instruction

- Fall 2009, 2010, 2011: MATH 530 Statistical Methods I
- Spring 2010, 2011, 2012: MATH 531 Statistical Methods II
- Spring 2011: MATH 498/598 Spatial Statistics
- Spring 2012: MATH 437/598 Multivariate Analysis

Students Supervised

- Chris Bukowski, M.S., (May 2012)
- Sean Bair, Ph.D., (Anticipated 2017)
- Ashley Bell, M.S./Ph.D., (May 2013/May 2016)
- Chris Lorenzini, M.S. (May 2012)
- Megan Yoder, M.S./Ph.D., (May 2012/May 2015)

Reviewer for Articles

- Journal of the American Statistical Association
- Journal of Computational and Graphical Statistics
- IEEE Transactions on Power Systems
- Chilean Journal of Statistics
- Environmetrics
- Wind Energy

Awards

- P.E.O. Scholar Award (\$15,000) from the Philanthropic Educational Organization (2008-2009)
- Student Paper Competition Winner (\$500) for ASA Section on Statistics in the Environment (Aug 2008)
- Travel Award, International Symposium on Forecasting; Nice, France (Jun 2008)
- Rudd Mayer Memorial Travel Award, WINDPOWER 2008; Houston, TX (Jun 2008)
- Travel Award, A Statistical Consensus on Global Warming; Boulder, CO (Oct 2007)

Service

- AMS Departmental Colloquium Co-Organizer (Fall 2011-present)
- Center for Research and Education in Wind Interim CSM Site Director (Fall 2011)
- AMS Departmental Social Committee (Fall 2010-Spring 2011)
- Co-chair of Section on Statistics and the Environment Biennial Workshop, Boulder, CO (Oct 2010)
- Talk for Bechtel K-12 Teacher's Workshop: *Wind Power Basics*, Golden, CO (July 2010)
- Supervision of three Summer Internships in Parallel Computational Science students at NCAR, Boulder, CO (Jun-Aug 2010)
- Joint Coordinator with David Johnson for Wind Energy at NCAR-CSM Symposium, Golden, CO (May 2010)
- Talk for Texas A&M University Statistics Graduate Students: *Interviewing for Academic Jobs*, Given remotely (Nov 2009)
- Talk for KME/SIAM Colorado School of Mines Undergraduate Students: *Wind Power Basics*, Golden, CO (Nov 2009)
- Statistics Representative of MACS for Preview CSM, a recruiting effort for prospective students (Nov 2009)
- Referee for *Environmetrics*, *Journal of the American Statistical Association*, *Journal of Computational and Graphical Statistics*
- Member, Undergraduate Committee (2009-present)
- Brown Bag Seminar Coordinator for Statistics Department at TAMU (2005-2008)

Memberships

- Institute of Mathematical Statistics (IMS); American Statistical Association (ASA); ASA Sections: Statistics and the Environment and Nonparametric Statistics; International Institute of Forecasters (IIF); The International Environmetrics Society (TIES)