Whitney Huang

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CONTACT INFORMATION	School of Mathematical and Statistical Sciences ☎: (864) 656-3070 O-221 Martin Hall, Clemson University ✉: wkhuang@clemson.edu Clemson, SC 29634 🖥: https://whitneyhuang83.github.io/

CITIZENSHIP United States

RESEARCH INTERESTS Statistics of extremes; Spatio-temporal statistics; Design and analysis of computer experiments; Time-frequency analysis; Multiscale statistical modeling; Spatial point processes; Environmental applications; High-frequency physiological data analysis.

EMPLOYMENT

Clemson University, Clemson, SC   Aug. 2019 to Present

- **Assistant Professor of Applied Statistics and Data Science**, School of Mathematical and Statistical Sciences

Statistical and Applied Mathematical Sciences Institute (SAMSI) and **Canadian Statistical Sciences Institute (CANSSI)**   Aug. 2017 to July 2019

- **CANSSI Postdoctoral Fellow**, Pacific Climate Impacts Consortium and School of Earth and Ocean Sciences, University of Victoria, Victoria, BC, Canada
 Mentored by Dr. Francis Zwiers and Dr. Adam H. Monahan   Aug. 2018 to July 2019
- **SAMSI Postdoctoral Fellow**, Program on Mathematical and Statistical Methods for Climate and the Earth System, University of North Carolina at Chapel Hill, Chapel Hill, NC. Mentored by Dr. Richard L. Smith   Aug. 2017 to July 2018

EDUCATION

Ph.D. in Statistics, **Purdue University**, West Lafayette, IN   Aug. 2017

- Advisor: Dr. Hao Zhang, Professor, Statistics, Forestry and Natural Resources

M.S. in Statistics, **The University of Akron**, Akron, OH   Dec. 2009

- Advisor: Dr. Desale Habtzghi, (Now Associate Professor, DePaul University)

B.S. in Mechanical Engineering, **National Cheng Kung University**, Taiwan

June 2006

REFEREED PUBLICATIONS

Citations (from Google Scholar)

- Total number of citations = 251
- h-index = 6
- i10–index = 6 (# publications with at least 10 citations)

1. Wu, H, Tan, X., Zhang, Q., **Huang, W.K.**, Lu, X., Nishimura, Y., Zhang, Y. "Multiresolution data assimilation for auroral energy flux and mean energy using DMSP SSUSI, THEMIS ASI, and an empirical model." *Space Weather* (2022): 20, e2022SW003146. https://doi.org/10.1029/2022SW003146

2. Yaddanapudi, R., Mishra, A., **Huang W.K.**, , Chowdhary, H. "Compound Wind and Precipitation Extremes in Global Coastal Regions under Climate Change." *Geophysical Research Letters* (2022): e2022GL098974

3. **Huang, W. K.**, Chung, YM, Wang, YB, Mandel J. E., Wu, HT. "Airflow recovery from thoracic and abdominal movements using Synchrosqueezing Transform and Locally Stationary Gaussian Process Regression." *Computational Statistics & Data Analysis* (2022): 174, 107384.

4. **Huang, W. K.**, Monahan , A. H., Zwiers, F. W. "Estimating Concurrent Climate Extremes: A Conditional Approach." *Weather and Climate Extremes* (2021): 100332.

5. Russell, B. T., and **Huang, W. K.**. "Modeling short-ranged dependence in block extrema with application to polar temperature data" *Environmetrics*, **32(3):e2661**, (2021).

6. **Huang, W. K.**, Cooley, D. S., Ebert-Uphoff, I., Chen, C., Chatterjee, S.B. "New Exploratory Tools for Extremal Dependence: χ Networks and Annual Extremal Networks" *Journal of Agricultural, Biological, and Environmental Statistics*, Special Issue on Climate and Earth System, **20(3)**, 484–501 (2019).

7. **Huang, W. K.**, Nychka, D. W., Zhang, H. "Estimating Precipitation Extremes using Log-Histospline," *Environmetrics*, Special Issue on Statistics for Climate Informatics, **30(4):e2543**, 1–15 (2019).

8. **Huang, W. K.**, Stein, M. L., McInerney, D. J., Sun., S., Moyer, E. J. "Estimating changes in temperature extremes from millennial scale climate simulations using generalized extreme value (GEV) distributions." (2016). *Advances in Statistical Climatology, Meteorology and Oceanography*, 2, 79–103.

9. Wang, J., Han, Y., Stein, M. L., Kotamarthi, R., **Huang W. K.** "Evaluation of dynamically downscaled extreme temperature using a spatially-aggregated generalized extreme value (GEV) model." (2016). *Climate Dynamics*, 47(9), 2833–2849.

10. Dixon Hamil, K., Iannone III, B. V., **Huang, W. K.**, Fei, S., and Zhang, H. "Cross-scale contradictions in ecological relationships." (2016). *Landscape Ecology*, 31(1), 7–18.

11. Iannone III, B. V., Potter, K. M., Dixon Hamil, K., **Huang, W.**, Zhang, H., Guo, Q., Oswalt, C. M., Woodall, C. W., and Fei, S. "Evidence of biotic resistance to invasions in forests of the Eastern USA." (2016), *Landscape Ecology*, 31(1), 85–99.

REFEREED CONFERENCE PROCEEDINGS

1. Ebert-Uphoff, I., **Huang, W. K.**, Mitra, A, Cooley, D.S., Chatterjee, S.B., Chen, C., and Wang, Z. "Studying extremal dependence in climate using complex networks" *Proceedings of the 8th International Workshop on Climate Informatics (CI 2018)*, Boulder, CO, 2018.

2. Malik, A., Maciejewski, R., Elmqvist, N., Jang, Y., Ebert, D. S., and **Huang, W.** "A correlative analysis process in a visual analytics environment." *Visual Analytics Science and Technology (VAST), 2012 IEEE Conference on*, pp. 33–42.

SUBMITTED MANUSCRIPTS

1. Wu, Q., Bessac, J., **Huang W.K.**, and Wang, J.. "Station-wise statistical joint assessment of wind speed and direction under future climates across the United States." Submitted to *Advances in Statistical Climatology, Meteorology and Oceanography*

2. Russell, B. T., Ding, T., **Huang, W. K.**, and Dyer, J. L. "Characterizing Tail Dependence between a Satellite Precipitation Product and Station Data in the Northern US Rocky Mountains" Submitted to *Stochastic Environmental Research and Risk Assessment*.

MENTORING

- Doctoral Advisor or Co-advisor

    1. Eva Murphy, School of Mathematical and Statistical Sciences, Clemson University
       Apr. 2021-present
       Awards:

       – The Institute for Mathematical and Statistical Innovation (IMSI) travel awards for attending the long program on "Confronting Global Climate Change"
       Sep., Oct., Nov. 2022

       – ASA Section on Statistics and the Environment (ENVR) travel award for attending ENVR 2022 Workshop: Environmental and Ecological Statistical Research and Applications with Societal Impacts, Provo, UT   Oct. 2022

- – Clemson Graduate Travel Grant   Oct. 2022
- – Dr. Kenyon Fairey Graduate Fellowship   Sep. 2022 - May 2023
- – Call Me Doctor Dissertation Completion Grant   Aug. 2022 - Aug. 2023
- – Student Presentation Award at the SC-ASA Palmetto Symposium, April 2022.

2. Kanon Kamronnaher, School of Mathematical and Statistical Sciences, (Co-advised with Colin Gallagher) Clemson University   June. 2021-present

3. Jiyun Huang, School of Mathematical and Statistical Sciences, (Co-advised with Brook Russell) Clemson University   Feb. 2022-present
   Awards:

   - – ASA ENVR travel award for attending ENVR 2022 Workshop: Environmental and Ecological Statistical Research and Applications with Societal Impacts, Provo, UT   Oct. 2022

- Doctoral Advisory Committee Member

  1. Stephen Parris, Plant and Environmental Sciences Department, Clemson University
                                                                  Sep. 2022-present

  2. Kenneth Blake Greene, Food, Nutrition, and Packaging Sciences, Clemson University
                                                                  Feb. 2022 to present

  3. Srinivasan Nagarajan, Department of Civil Engineering, Clemson University
                                                                  Jan. 2022-July 2022

  4. Camilius Amevorku, Glenn Department of Civil Engineering, Clemson University
                                                                  Aug. 2021-present

  5. Zhen Liu, School of Mathematical and Statistical Sciences, Clemson University
                                                                  Jan. 2020-Aug. 2021

- Argonne National Laboratory (ANL) Graduate Internship mentor (joint with Jiali Wang, Atmospheric Scientist, ANL and Julie Bessac, Assistant Computational Statistician)

  1. Qiuyi Wu, Ph.D. student, Department of Biostatistics & Computational Biology, University of Rochester   2019 & 2020 Summer

- MS Committee Chair/Co-Chair

  1. Katherine Kreuser, School of Mathematical and Statistical Sciences, Clemson University. Current position: Ph.D. student at SMSS, Clemson Univ.   Jan. 2022 - Apr. 2022

  2. Adam Diaz, School of Mathematical and Statistical Sciences, Clemson University. Current position: Principal Research Statistician at Northern California Institute for Research and Education   May. 2021 - Apr. 2022

  3. Emily Tidwell, School of Mathematical and Statistical Sciences, Clemson University. Current position: Dynetics, Huntsville, Alabama   Aug. 2020 to Apr. 2021

  4. Andrew Bellucco, M.S., Mathematical and Statistical Sciences, Clemson University (Co-advised with Colin Gallagher). Current position: Recommendation Analytics at Credit Karma, Charlotte, NC   Sep. 2019 to Dec. 2019

- MS Committee Member

  1. Elliott Degbe, School of Mathematical and Statistical Sciences, Clemson University
                                                                  Dec. 2021 to Apr. 2022

  2. Jax Li, School of Mathematical and Statistical Sciences, Clemson University
                                                                  Nov. 2021 to Apr. 2022

  3. Sydney Newman, School of Mathematical and Statistical Sciences, Clemson University
                                                                  Oct. 2021 to Apr. 2022

  4. Andrew Otte, School of Mathematical and Statistical Sciences, Clemson University
                                                                  Oct. 2021 to Apr. 2022

5. Jushawn Macon, School of Mathematical and Statistical Sciences, Clemson University

Sep. 2021 to present

6. Heidi-Jo Shuttleworth, School of Mathematical and Statistical Sciences, Clemson University

Apr. 2021 to Nov. 2021

7. Jack Huang, Food, Nutrition, and Packaging Sciences, Clemson University

Jan. 2020 to Nov. 2021

8. Abdul Mahama, School of Mathematical and Statistical Sciences, Clemson University

Jan. 2021 to Apr. 2021

9. Michael Foss, School of Mathematical and Statistical Sciences, Clemson University

Ocu. 2020 to Apr. 2021.

10. Tianqi Zhang, School of Mathematical and Statistical Sciences, Clemson University

Aug. 2020 to Oct. 2020

11. Tyler Sullivan, School of Mathematical and Statistical Sciences, Clemson University

Jan. 2020 to Apr. 2020

- Undergraduate Advisor

  1. Katie Murrell, School of Mathematical and Statistical Sciences

  Aug. 2021-May 2022

  2. Michael Grieb, School of Mathematical and Statistical Sciences

  Aug. 2021-May 2022

  3. Marissa Lewandowski, School of Mathematical and Statistical Sciences

  Nov. 2020-present

  4. Jason Turenchalk, School of Mathematical and Statistical Sciences

  Feb. 2020 to Dec. 2020

- COURAGE: Clemson Online Undergraduate Research on Algebra and Graphs Expanded

  June 2020 to Aug. 2020

  1. Alexander Harriman: "Analyzing Worst-Case Scenarios for Transportation Security Administration (TSA) Claim Data"

  2. Sylvia Wu: "Extreme value analysis with the temperature in Mobile, AL"

  3. Emily Graham: "Extreme value analysis applied to Tornadoes"

- SAMSI Undergraduate Modelling Workshop: Extreme value analysis of Gulf coast rainfall, group leader

  May 2018

  1. Seth Temple, Senior in Mathematics at University of Oregon. Currently a Ph.D. student of Statistics at University of Washington

  2. Jessica Robinson, Senior in Mathematics at Portland State University. Currently a Master's student of Statistics at Oregon State University

  3. Adam Wu, Senior in Economics/Mathematics at Indiana University Bloomington. Currently Quantitative Trader/Researcher in New York

  4. Erin Song, Junior in Statistics at Rice University. Currently Data Scientist at IBM

  5. Lin Ge, Junior in Statistics at North Carolina State University (NCSU). Currently a Ph.D. student of Statistics at NCSU

  6. Jianan Jiang, Freshman in Computer Science Rice University.

GRANTS

- Co-PI NSF DMS ($33,147): *Interdisciplinary Workshop on Weather and Climate Extremes*

  Sep. 2022-Aug. 2023

Research Member, The Institute for Mathematical and Statistical Innovation (IMSI)
Confronting Global Climate Change Program, Chicago, IL   Sep. 2022- Dec. 2022

Research Visitor, Department of Statistics, University of British Columbia

- Host: Prof. William J. Welch   Nov. 2018

Research Visitor, Department of Statistics & Actuarial Science, Simon Fraser University

- Host: Prof. Derek Bingham   Nov. 2018, June 2019

Research Visitor, The Institute for Mathematics Applied to Geosciences (IMAGe),
National Center for Atmospheric Research (NCAR)

- Mentor: Dr. Douglas W. Nychka   Apr. 2015, Sep 2016, Apr. 2017

Research Visitor, Mathematics and Computer Science Division (MCS), Argonne National
Laboratory

- Mentor: Dr. Emil Constantinescu   Mar. 2017

Research Visitor, Environmental Science Division (EVS), Argonne National Laboratory

- Mentor: Dr. V. Rao Kotamarthi   Mar 2015, July 2016, May 2019

Visiting student, Department of Statistics, University of Chicago

- Mentor: Prof. Michael L. Stein   May 2013 - June 2013, May 2014 - June 2014

Visitor, NOAA's National Climatic Data Center

- Mentor: Dr. Dongsoo Kim   Nov. 2012, Dec. 2014

Teaching Award

- **Faculty Teaching Award**, Clemson University   April 2022
  "For Excellent in Teaching to the School of Mathematical and Statistical Sciences."

Presentation/Poster Competition

- **Best posters competition**, Institute for Mathematics and its Applications (IMA)
  workshop on Forecasting from Complexity, Minneapolis, MN   Apr. 2018

- **1st place in the Student Presenter Competition**, Conference on Probability and
  Statistics in the Atmospheric Sciences, Baltimore, MD   July 2017

- **Runner-up in the student poster competition**, Graybill/ENVR conference, Fort
  Collins, CO   Sept. 2014

Travel Awards

- ENVR 2022 Workshop: Environmental and Ecological Statistical Research   Oct. 2022
- IMSI Workshop on Expressing and Exploiting Structure in Modeling, Theory,
  and Computation with Gaussian Processes, Chicago, IL   Aug. 2022
- 2022 Mathematical and Physical Sciences Workshop for Young Investigators June 2022
- SAMSI MUMS Transition Workshop and SPUQ   May 2019
- Coupling Uncertain Geophysical Hazards Workshop   Mar. 2019
- SAMSI Opening Workshop on MUMS   Sept. 2018
- 20th IMS New Researchers Meeting   July 2018
- IMA workshop on Forecasting from Complexity   Apr. 2018
- STATMOS/SAMSI Workshop on Climate Statistics   July 2017
- Statistical Perspectives of Uncertainty Quantification   May 2017

- [Conference on Applied Statistics in Agriculture](#)   Apr. 2017
- [STATMOS Workshop on Climate and Weather Extremes](#)   Oct. 2016
- [Rossbypalooza workshop: Climate meets Statistics at the UChicago](#)   July 2016
- [STATMOS workshop on High performance computing for spatial statistics](#)   Sept. 2015
- [Workshop on Spatial Statistics](#)   Jan. 2015
- [2014 Graybill/ENVR Conference: Modern Statistical Methods for Ecology](#)   Sept. 2014
- [Pan-American Advanced Study Institute on Spatio-Temporal Statistics](#)   June 2014
- [SAMSI/NCAR Workshop on Massive Datasets in Environment and Climate](#)   Feb. 2013
- [NSF-CBMS Regional Conference on Statistical Climatology](#)   Aug. 2012

Student Awards – Purdue University

- Purdue Research Foundation (PRF) Fellowship   Aug. 2016 – May 2017
- Graduate School Summer Research Grants   2015
- Homeland Security - Science, Technology, Engineering and Mathematics (HS-STEM) Career Development Program: This program is designed to support undergraduate and graduate students in developing the skills to become preeminent scientists in the homeland security scientific and technical community.   Jan. 2011 – Dec. 2013

PRESENTATIONS

Invited Short Course

Statistical Methods for Analyzing Climate Extremes, Minitutorial, Society for Industrial and Applied Mathematics (SIAM) Conference on Mathematics of Planet Earth (MPE22), Pittsburgh, PA   July 2022

Invited Panel Discussion

Postdoctoral Panel, National Institute of Statistical Sciences (NISS) Graduate Student Network, (virtual)   Jan. 2022

Invited Talks

Airflow recovery from thoracic and abdominal movements using Synchrosqueezing Transform and Locally Stationary Gaussian Process Regression

- AADS AI/ML Community of Practice, Eli Lilly and Company, (virtual) Oct. 2022
- Statistics colloquium, Department of Statistics and Probability, Michigan State University, (virtual)
      Jan. 2022
- Statistics Colloquium, Department of Statistics, University of Missouri, (virtual)
      Feb. 2021
- Biostatistics Seminar, Department of Biostatistics, Virginia Commonwealth University, (virtual)   Jan. 2021
- Statistics Seminar, Department of Applied and Computational Mathematics and Statistics, University of Notre Dame, (virtual)   Nov. 2020
- Statistics and Data Science Seminar, Department of Mathematics and Statistics, Auburn University, (virtual)   Oct. 2020
- Taiwan National Center for Theoretical Sciences Seminar on Data Science, (virtual)
      Sep. 2020

Estimating Concurrent Climate Extremes: A Conditional Approach

- IMSI workshop on Detection and Attribution of Climate Change, Chicago IL
  Oct. 2022

- Banff International Research Station (BIRS) UBCO Workshop on Climate Change Scenarios and Financial Risk, Kelowa, BC Canada   July 2022

- Session on Spatio-Temporal Models for Environmental and Health Applications. The 5th International Conference on Econometrics and Statistics, (virtual)
  June 2022

- Statistics Seminar, Department of Statistics, University of Nebraska–Lincoln, (virtual)   Oct. 2021

- Session on Spatial and Spatio-Temporal Statistics and Its Applications, The 34th New England Statistics Symposium, (virtual)   Oct. 2021

- Minisymposium on Advances and Challenges in Wind Modeling and its Applications, Society for Industrial and Applied Mathematics (SIAM) Conference on Mathematics of Planet Earth (MPE20), (virtual)   Aug. 2020

- Session on Multivariate extremes, Workshop on Risk Analysis for Extremes in the Earth System, Berkeley, CA   July 2019

- Session on CANSSI Postdoctoral Showcase, 2019 Statistical Society of Canada (SSC) Annual Meeting, Calgary, AB, Canada   May 2019

- A Workshop Celebrating Michael L. Stein's 60th Birthday, Chicago, IL Apr. 2019

A Combined Physical-Statistical Approach for Estimating Storm Surge Risk

- Quantifying Uncertainty in Natural Hazards, ENVR 2022 Workshop: Environmental and Ecological Research with Societal Impacts, Provo, UT   October 2022.

- Atmosphere and climate Seminar, Environmental Science Division (EVS), Argonne National Laboratory, Lemont, IL   Sep. 2022

- Minisymposium on the Science of Hazards-Part I of II, Society for Industrial and Applied Mathematics (SIAM) Conference on Uncertainty Quantification (UQ22), Atlanta, GA   Apr. 2022

- Session on Modern Topics on Mining Massive Spatial-temporal Data, 2021 INFORMS Annual Meeting   Oct 2021

- Session on Advances in Spatial and Spatio-temporal Modeling and its Applications, 2021 ICSA Applied Statistics Symposium   Sep. 2021

- Section on Frontiers of Spatial and Temporal data modeling, The 4th International Conference on Econometrics and Statistics, (virtual)   June 2021

- SAMSI MUMS Transition Workshop, Chapel Hill, NC   May 2019

- Environmental Science Division (EVS), Argonne National Laboratory, Lemont, IL
  May 2019

- Statistics Seminar, Department of Mathematical Sciences, University of Cincinnati, Cincinnati, OH   Apr. 2019

- Minisymposia on Statistics of Extreme Weather and Climate Events, SIAM MPE18, Philadelphia, PA   Sept. 2018

- SAMSI CLIM Transition Workshop, Durham, NC   May 2018

Network Analysis of Gulf Coast Extreme Precipitation

- Session on Climate Networks and Extremes, Section on Risk Analysis, Joint Statistical Meetings (JSM), Denver, CO (presented by Snigdhansu Chatterjee)   July 2019
- SAMSI Climate Extremes Workshop, Durham, NC   May 2018

Estimating Precipitation Extremes using Log-Histospline

- Statistics Colloquium, Department of Statistics, University of Georgia, Athens, GA
  Aug. 2019

- Statistics Seminar, Department of Mathematics and Statistics, University of Victoria, Victoria, BC, Canada   Nov. 2018
- 28th The International Environmetrics Society (TIES) Conference, Guanajuato, Mexico   July 2018
- Math Colloquium, Department of Mathematics and Statistics, University of North Carolina at Greensboro, Greensboro, NC   Nov. 2017
- Environmental seminar, Department of Statistics, North Carolina State University, Raleigh, NC   Sep. 2017
- International Chinese Statistical Association Applied (ICSA) Statistics Symposium, Chicago, IL   June 2017
- Department of Mathematical Sciences, University of Wisconsin-Milwaukee, Milwaukee, WI   Mar. 2017
- Mathematics and Computer Science Division (MCS), Argonne National Laboratory, Lemont, IL   Mar. 2017

Estimating changes in temperature extremes from millennial scale climate simulations using generalized extreme value (GEV) distributions

- Pacific Climate Seminar Series, University of Victoria, Victoria, BC, Canada Sept. 2018
- STATMOS Workshop on Climate and Weather Extremes, State College, PA   Oct. 2016
- Atmospheric sciences colloquia, Department of Atmospheric Sciences, University of Illinois at Urbana–Champaign, Champaign, IL   Oct. 2016
- Workshop on Uncertainty and Causality Assessment in Modeling Extreme and Rare Events, National Center for Atmospheric Research, Boulder, CO   Apr. 2016
- Data Science Seminar, Mathematics Department, College of William and Mary, Williamsburg, VA   Mar. 2016
- IMAGe Brown Bag Seminar, National Center for Atmospheric Research (NCAR), Boulder, CO   Apr. 2015
- Environmental Science Division (EVS), Argonne National Laboratory, Lemont, IL   Mar. 2015

Spatial Extremes – Current Approaches and Future Outlook

- National Climatic Data Center (NCDC), Asheville, NC   Nov. 2012

Topic contributed Talks

Estimating Concurrent Climate Extremes: A Conditional Approach

- Topic contributed session on Volume, Velocity, and Variety in Environmental Statistics: New Perspectives and Methods, Section on Statistics and the Environment, JSM, (virtual)   Aug. 2021
- Oral session on Correlated Climate Extremes: Drivers, Mechanisms, and Projections I, American Geophysical Union (AGU) Fall Meeting, (virtual)   Dec. 2020

Estimating Extreme Storm Surge Levels: A Statistical Perspective

- Topic contributed session on On Surrogate Modeling of Emerging Issues in Physical and Engineering Simulators, Section on Physical and Engineering Sciences, JSM, DC   Aug. 2022
- Advances in Extreme Value Analysis and Application to Natural Hazards (EVAN) Conferences, Orlando, FL   May 2022
- Topic contributed session on Uncertainty Quantification for Environmental Applications, Section on Statistics and the Environment, JSM, (virtual) Aug. 2020

- Topic contributed session on The Climate Extremes Program at SAMSI, Section on Statistics and the Environment, JSM, Vancouver, BC, Canada   Aug. 2018

Estimating Precipitation Extremes using Log-Histospline

- 14th International Meeting on Statistical Climatology (IMSC), Toulouse, France June 2019
- Oral session on Utilizing Long-Term Precipitation Data Records for Understanding Climate Extremes I, American Geophysical Union (AGU) Fall Meeting, New Orleans, LA   Dec. 2017

Estimating changes in temperature extremes from millennial scale climate simulations using generalized extreme value (GEV) distributions

- Oral session on Characterizing and Interpreting Changes in Temperature and Precipitation Extremes, AGU Fall meeting, San Francisco, CA   Dec. 2015

Contributed Talks

A Combined Physical-Statistical Approach for Estimating Storm Surge Risk

- Session on The Climate Program at SAMSI, Section on Statistics and the Environment, JSM, Denver, CO (cancelled)   Aug. 2019

Estimating Precipitation Extremes using Log-Histospline

- Session on Environmental Extremes, Section on Statistics and the Environment, JSM, Baltimore, MD   Aug. 2017
- Session on Extreme Value Analysis and Prediction, Section on Statistics and the Environment, Conference on Probability and Statistics in the Atmospheric Sciences, Baltimore, MD   July 2017

Spatial Basis Function Approach to Accommodate Teleconnection Patterns in Climate Data

- Conference on Applied Statistics in Agriculture, Manhattan, KS   Apr. 2017
- Session on Nonstationary Models for Spatial Data, Section on Statistics and the Environment, JSM, Chicago, IL   Aug. 2016

Estimating changes in temperature extremes from millennial scale climate simulations using generalized extreme value (GEV) distributions

- 13th International Meeting on Statistical Climatology meeting, Canmore, Alberta, Canada   June 2016
- Session on Analysis of Extreme Values, Section on Statistics and the Environment, JSM, Seattle, WA   Aug. 2015
- Session on Modeling extreme events: precipitation and floods, The 9th international conference on Extreme Value Analysis (EVA), Ann Arbor, MI   June 2015

Dependence modeling of spatio-temporal weather extreme events

- Session on Spatial-temporal Data, The Ninth International Chinese Statistical Association International Conference: Challenges of Statistical Methods for Interdisciplinary Research and Big Data, Hong Kong   Dec. 2013
- Session on Statistical Methods and Inference for Extreme Environmental Events, Section on Statistics and the Environment, JSM, Montreal, QC   Aug. 2013

Clemson University Talks

1. *Extreme value statistics and the study of climate change*, 2022 Research Symposium
   May 2022

2. *Estimating Concurrent Climate Extremes: A Conditional Approach*,
   2021 Research Symposium, May 2021

3. *Some Research Topics in Environmental Statistics and Biomedical Signal Analysis.* First-Year Graduate Student seminar,
   School of Mathematical and Statistical Sciences Feb. 2021

4. *Airflow recovery from thoracic and abdominal movements using Synchrosqueezing Transform and Locally Stationary Gaussian Process Regression.*
   Clemson Statistics Seminar Nov. 2020

5. *Airflow recovery from thoracic and abdominal movements using Synchrosqueezing Transform and Locally Stationary Gaussian Process Regression.*
   Clemson College of Science Rising Star Symposium Sept. 2020

6. *Some Research Topics in Environmental Statistics.* First-Year Graduate Student seminar,
   School of Mathematical and Statistical Sciences Jan. 2020

7. *Extreme Value Analysis for Climate Research.* Math Club Seminar,
   School of Mathematical and Statistical Sciences Jan. 2020

8. *Panel Discussion on Preparing for a CAREER in Math & Stat.* Graduate Student Seminar (GSS), School of Mathematical and Statistical Sciences Oct. 2019

Purdue University Talks

Job/Summer Internship Panel. Graduate Student Organization seminar, Department of Statistics Apr. 2017

An Overview of Spatial Extremes. Mathematical Statistics Seminar, Department of Statistics Oct. 2015

An Introduction to Extreme Value Analysis. Graduate Student Organization seminar, Department of Statistics Mar. 2014

Contributed Posters

Airflow recovery from thoracic and abdominal movements using Synchrosqueezing Transform and Locally Stationary Gaussian Process Regression

- IMSI Workshop on Expressing and Exploiting Structure in Modeling, Theory, and Computation with Gaussian Processes, Chicago, IL Aug. 2022

Modeling Compound Wind and Precipitation Extremes using a Large Climate Model Ensemble

- Advances in Extreme Value Analysis and Application to Natural Hazards (EVAN) Conferences, Orlando, FL May 2022
- Session on Extreme value analysis for climate applications, 14th International Meeting on Statistical Climatology (IMSC), Toulouse, France June 2019

Estimating Extreme Storm Surge Levels: A Statistical Perspective

- Coupling Uncertain Geophysical Hazards Workshop, Raleigh, NC March 2019
- SAMSI MUMS Opening Workshop, Durham, NC Aug. 2018

Estimating Precipitation Extremes using Log-Histospline

- IMS New Researchers Meeting, Burnaby, BC, Canada July 2018

- IMA workshop on Forecasting from Complexity, Minneapolis, MN Apr. 2018
- Triangle Machine Learning Day (TMLD 2018), Durham, NC Apr. 2018
- SAMSI CLIM Program Opening Workshop, Durham, NC Aug. 2017
- Statistical Perspectives of Uncertainty Quantification, Atlanta, GA May 2017

Estimating changes in temperature extremes from millennial scale climate simulations using generalized extreme value (GEV) distributions

- Workshop on Spatial Statistics, College Station, TX Jan. 2015
- 2014 Graybill/ENVR Conference: Modern Statistical Methods for Ecology, Fort Collins, CO Sept. 2014
- STATMOS Annual Meeting, Chicago, IL Sept. 2014

Dependence modeling of spatio-temporal weather extreme events

- Environmental and Longitudinal Data Analysis, Eastern North American Region (ENAR) spring meeting, Baltimore, MD Mar. 2014
- Frontiers of Statistics and Forecasting in Celebration of the 80th Birthday of George C. Tiao, Taipei, Taiwan Dec. 2013
- SAMSI LDHD Opening Workshop, Research Triangle Park, NC Sept. 2013

SERVICE

ASA program officer

– ASA ENVR: Publications Chair-Elect 2022 (In 2023 rotates to Publications Chair for 2-year term)

Proposal Referee:

2021: NSF's Climate and Large-scale Dynamics Program

2019: NSF's Climate and Large-scale (CLD) Dynamics Program (CLD)

Journal Referee:

2017: *Journal of Geophysical Research: Atmosphere, Advances in Statistical Climatology, Meteorology and Oceanography, Stat, Journal of the Korean Statistical Society, Computational Statistics & Data Analysis, Environmetrics*

2018: *Annals of Applied Statistics (2), Environmetrics, Computational Statistics, Journal of Agricultural, Biological, and Environmental Statistics, Journal of Hydrologic Engineering*

2019: *Environmetrics (2), Technometrics (2), Journal of Statistical Distributions and Applications, Science, Environmental and Ecological Statistics*

2020: *Climatic Change, Statistica Sinica, Biometrics, Brazilian Journal of Probability and Statistics, Technometrics (2), Advances in Statistical Climatology, Meteorology and Oceanography, Computational Statistics & Data Analysis (2), Scientific Reports, Atmosphere*

– 2021: *Journal of Climate (3),Technometrics, Nature, Environmental Modelling and Software, Environmental and Ecological Statistics,Geoscientific Model Development, Journal of Agronomy and Crop Science, Extremes, Annals of Applied Statistics, Environmetrics, Journal of Agricultural, Biological, and Environmental Statistics, Journal of Computational and Graphical Statistics,* Environmetrics (2)

– 2022: *IISE Transactions, Environmental and Ecological Statistics, Environmetrics, Journal of Climate, AOAS, Technometrics, Atmosphere-Ocean*

Session Organizer:

- Topic Contributed Panel on Future Directions of Climate Statistics, Section on Statistics and the Environment, Joint Statistical Meetings, DC   Aug. 2022

- Modern statistical methods for environmental data analysis, The 5th International Conference on Econometrics and Statistics, (virtual)   June 2022

- Minisymposium on The Science of Hazards - Part II of II, 2022 SIAM Conference on Uncertainty Quantification, Atlanta, GA   Apr. 2022

- Minisymposium on The Science of Hazards - Part I of II, 2022 SIAM Conference on Uncertainty Quantification, Atlanta, GA   Apr. 2022

- Modern Topics on Mining Massive Spatial-temporal Data, 2021 INFORMS Annual Meeting   Oct 2021

- Advances in Statistical Climatology, Joint Statistical Meetings, Section on Statistics and the Environment, Seattle, WA   Aug. 2021

- Minisymposium on Advances and Challenges in Wind Modeling and its Applications, SIAM MPE20, (virtual)   Aug. 2020

- Uncertainty Quantification for Environmental Applications, Section on Statistics and the Environment, Joint Statistical Meetings, (virtual)   Aug. 2020

- Recent developments in climate/environmental statistics, The 4th International Conference on Econometrics and Statistics, Seoul, South Korea   (Postponed)

- Minisymposium on the Science of Hazards: Tsunami and Storm Surges, SIAM Conference on Uncertainty Quantification, München, Germany   (Postponed)

- The Climate Program at SAMSI, Section on Statistics and the Environment, Joint Statistical Meetings, Denver, CO   July 2019

- Minisymposium on Statistics of Extreme Weather and Climate Events, SIAM Conference on Mathematics of Planet Earth, Philadelphia, PA   Sept. 2018

- The Climate Extremes Program at SAMSI, Section on Statistics and the Environment, Joint Statistical Meetings, Vancouver, BC, Canada   Aug. 2018

Session Chair:

- Spatial Statistics and UQ: Foundations for Innovation in Environmental Science, Invited Session, Section on Statistics and the Environment, Joint Statistical Meetings, DC   Aug. 2022

- Modern statistical methods for environmental data analysis, The 5th International Conference on Econometrics and Statistics, (virtual)   June 2022

- Minisymposium on The Science of Hazards - Part I of II, 2022 SIAM Conference on Uncertainty Quantification, Atlanta, GA   Apr. 2022

- Modern Topics on Mining Massive Spatial-temporal Data, 2021 INFORMS Annual Meeting
(virtual)   Oct 2021

- Uncertainty Quantification Across the Boundaries, Topic Contributed Session, JSM, Uncertainty Quantification in Complex Systems Interest Group   Aug. 2021

- Recent developments in climate/environmental statistics, The 4th International Conference on Econometrics and Statistics, (virtual)   June 2021

- Minisymposium on Advances and Challenges in Wind Modeling and its Applications, SIAM MPE20,   Aug. 2020

- Invited Session II, Georgia Statistics Day 2019, Atlanta, GA   Oct. 2019

- Methods for High-Dimensional and Large Data I, 2019 Statistical Society of Canada (SSC) Annual Meeting, Calgary, AB, Canada   May 2019

- Statistical Methods of Air Quality and Exposure, Section on Statistics and the Environment, Joint Statistical Meetings, Vancouver, BC, Canada   Aug. 2018
  - Environmental Applications of Bayesian Methods, Section on Bayesian Statistical Science, Joint Statistical Meetings, Baltimore, MD   July. 2017
  - Environmental Extremes, Section on Statistics and the Environment, Joint Statistical Meetings, Chicago, IL   Aug. 2016

Program Committee:

  - The 10th International Workshop on Climate Informatics   Sept. 2020
  - The 9th International Workshop on Climate Informatics   Oct. 2019
  - The 4th International Conference on Big Data and Information Analytics
       Aug. 2018

Seminar Organizer:

  - Statistics Seminars, School of Mathematical and Statistical Sciences, Clemson University   Aug. 2021-present
  - Community Climate Science Seminars (CCSS), University of Victoria
       Oct. 2018 to Apr. 2019
  - Spatial statistics and Statistical Climatology Seminars, Department of Statistics, Purdue University   Aug. 2013 to May 2017
  - Graduate Student Organization (GSO) Seminar: Department of Statistics, Purdue University   Jan. 2014 to May 2015

SAMSI Administrative Service:

  - Storm Surge Risk Working Group, Statistical and Applied Mathematical Sciences MUMS program   Aug. 2018 to Present
  - Extremes and Risk and Coastal Hazards Working Groups administrator, CLIM program,   Aug. 2017–Jun. 2018

Student presentation competition judger:

  - 35th New England Statistics Symposium   May 2022
  - 2021 SC-ASA Palmetto Symposium   Apr. 2021

TEACHING EXPERIENCE

School of Mathematical and Statistical Sciences, Clemson University

- STAT 8110: Special Problems in Experimental Statistics (Spatial Interpolation) 21 Fall
- MATH 8090: Time Series Analysis, Forecasting and Control   21 Fall
- DSA 8070: Multivariate Analysis   21 Fall, 22 Fall
- MATH 9700: Some Useful Tools for Environmental Data Analysis   21 Spring
- DSA 8020: Statistical Method II   21 Spring, 22 Spring
- STAT 8010: Statistical Method I   19 Fall, 20 Spring, 20 Fall
- STAT 8020 Statistical Method II   19 Fall, 20 Spring
- STAT 8050: Design and Analysis of Experiments   20 Spring
- **Guest Lecturer**: MATH 9810: Computer Experiments and Uncertainty Quantification Dec. 4, 2019

Department of Mathematics and Statistics, University of Victoria

Guest Lecturer: STAT 457/554 Time Series Analysis   Nov. 7, 2018

– Gave an introductory lecture on extreme value analysis

SAMSI Education and Outreach Programs and Workshops

Undergraduate Modelling Workshop   May 2018

– Designed and led a week-long project on "Estimating extreme US southeast rainfall"
– Mentored a team of 6 undergrad students with Statistics, Mathematics, and Computer Sciences background. **Final group presentation**: Slides; Video

Undergraduate workshop on climate extremes   Oct. 2017

– Gave a tutorial on extreme value analysis for climate research (Slides)
– Presented a demos of extreme value analysis using R (Handout)

Department of Statistics, Purdue University

Instructor: STAT 225 Introduction to Probability Models   Aug. 2013 – May 2014

– Conducted lectures and prepared course slides [Syllabus; Course website].

Teaching Assistant   May 2012 – May 2016

– STAT 598 G Introduction to Computational Statistics, Fall 2012.
– STAT 598 HZ Modern Applied Statistics, Spring 2015.
– STAT 526 Advanced Statistical Methodology, Fall 2012.
– STAT 525 Intermediate Statistical Methodology, Fall 2015.
– STAT 529 K Bayesian Applied Decision Theory, Summer 2012, Spring 2013, Spring 2015, Spring 2016.
– STAT 511 Statistical Methods, Spring 2013.

School of Industrial Engineering, Purdue University

Teaching Assistant: IE 535 Linear Programming   Aug. 2010 – Dec. 2010

Department of Statistics, University of Akron

Teaching Assistant: STAT 250 Statistics for Everyday Life   Aug. 2008 – Dec. 2009

RESEARCH AND CONSULTING EXPERIENCE

Research Assistant   Jan. 2015 to Aug. 2016
USDA grant: The role of international trade in adapting U.S. agriculture to increased global climate variability, Department of Agricultural Economics, Statistics, and Agronomy, Purdue University

– Responsibilities: To analyze historical and future climate data to exact climate patterns relevant for a better understanding of global commodity markets.
– Supervisor: Prof. Nelson Villoria, Prof. Hao Zhang, and Prof. Dev Niyogi

Consultant   Jan. 2012 to May 2013, Aug. 2014 to Dec. 2014
Statistical Consulting Service, Department of Statistics, Purdue University

– Responsibilities: To assist members of Purdue academic community with statistical design, data analysis, and software issues for their research.

Research Assistant   Jan. 2011 to Aug. 2012
Purdue University Rendering and Perceptualization Lab, School of Electrical and Computer Engineering, Purdue University

– Responsibilities: To analyze spatio-temporal data for homeland security projects.
– Supervisor: Prof. David Ebert, Dr. Ross Maciejewski, and Dr. Yun Jang

COMPUTER SKILLS

Programming Languages: R, MATLAB

Applications: LaTeX, MySQL.

Operating Systems: Mac OS X, Linux and other UNIX variants.

PROFESSIONAL MEMBERSHIP

American Statistical Association (ASA)	Since Dec. 2010
Institute of Mathematical Statistics (IMS)	Since June 2012
International Chinese Statistical Association (ICSA)	Since Mar. 2013
American Geophysical Union (AGU)	Since July 2015
The International Environmetrics Society (TIES)	Since Dec. 2016
American Meteorological Society (AMS)	Since Feb. 2017
Society for Industrial and Applied Mathematics (SIAM)	Since Feb. 2017
Statistical Society of Canada (SSC)	Since Oct. 2018