

Xuerong Meggie Wen

CONTACT INFORMATION

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RESEARCH INTERESTS

Dimension reduction, variable and model selection, survival analysis, recurrent event data analysis, and statistical modeling in science and engineering.

EDUCATION

June 2005	Ph.D. in Statistics <i>Advisor: R. Dennis Cook</i> University of Minnesota, Twin Cities
July 2000	M.S. in Operation Research and Control Theory <i>Advisor: Hanfu Chen</i> Chinese Academy of Sciences
July 1997	B.S. in Probability and Statistics Peking University

EMPLOYMENT

08/12-- Present	Associate Professor with Tenure, Department of Mathematics and Statistics, Missouri University of Science and Technology.
08/05--08/12	Tenure-track Assistant Professor, Department of Mathematics and Statistics, Missouri University of Science and Technology (formerly, University of Missouri, Rolla).
06/03--06/05	Research Assistant, School of Statistics, University of Minnesota. (Except in Fall 2004 on graduate fellowship)
09/00--05/03	Teaching Assistant, School of Statistics, University of Minnesota.

SUPPORT AND FUNDING

- China NSF 1115711, “Sufficient Dimension Reduction with Multivariate Response and Common Sufficient Dimension Reduction with Multi-population”, Dec. 2019 –Dec. 2023, joint with Yu, Zhou.

- China NSF 11201151, “*Sufficient Dimension Reduction and Common Sufficient Dimension Reduction for Multi-populations*”, Dec. 2015 – Dec. 2018, joint with Yu, Zhou.
- Hong Kong Baptist University, “Multi-Population Dimension Reduction”, May 2013, HK \$17,000.
- Missouri Research Board, “*On Partial Dimension Reduction with Applications to Partially Linear model*”, Dec. 2010 – Dec. 2011, \$13,000.
- Hong Kong Baptist University, “*On Inference and Variable Selection for Semiparametric Models with High Dimensional Predictors*”, Dec. 2010 – Jan. 2011, HK \$30,000.
- 10th Meeting of New Researchers in Statistics and Probability, Salt Lake City, July 2007, travel fund of \$200.
- ENAR Workshop for Junior Researchers, Arlington, March 2008, travel fund of \$800.
- Missouri University of Science and Technology startup, Aug. 2005 – Aug. 2008, \$5000.

PUBLICATIONS

Peer-reviewed Papers (published or accepted)

1. **Xuerong Meggie Wen**, R. Dennis Cook (2007). Optimal sufficient dimension reduction for regressions with categorical predictors. *Journal of Statistical Planning and Inference*, **137**, 1961--1978.
2. **Xuerong Meggie Wen** (2007). A note on sufficient dimension reduction. *Statistics and Probability Letter*, **77**, 817--821.
3. **Xuerong Meggie Wen**, R. Dennis Cook (2009). New approaches to bivariate dimension reduction. *Journal of Statistical Planning and Inference*, **139**, 734--748.
4. **Xuerong Meggie Wen**, C. Messan Setodji, Akim Adekpedjou (2009). A minimum discrepancy approach to multivariate dimension reduction via K-means inverse regression. *Journal of Statistics and Its Interface*, **2**, 503--511.
5. **Xuerong Meggie Wen** (2010). On sufficient dimension reduction for proportional censorship model with covariates. *Computational Statistics and Data Analysis*, **54**, 1975--1982.
6. **Xuerong Meggie Wen** (2010). Discussion of “Envelope models for parsimonious and efficient multivariate linear regression”. *Statistica Sinica*, **27**, 987--988.
7. Zhou Yu, Li-Xing Zhu, **Xuerong Meggie Wen** (2012). On model-free conditional tests for regressions. *Journal of Multivariate Analysis*, **109**, 61--72.
8. Zhenhui Feng, **Xuerong Meggie Wen (co-first author and corresponding author)**, Zhou Yu, Li-Xing Zhu (2013). On partial sufficient dimension reduction with applications to partially linear models. *Journal of the American*

Statistical Association, **108**, 237--246.

9. Akim Adekpedjou, Jonathan Quiton, **Xuerong Meggie Wen** (2013). Nonparametric estimation with correlated recurrent event data. *Statistical Methodology*, **10**, 1--13.
10. Bilin Zeng, Zhou Yu, **Xuerong Meggie Wen** (2015). A note on cumulative mean estimation. *Statistics and Probability Letters*, **96**, 322--327.
11. Xuejing Liu, Zhou Yu, **Xuerong Meggie Wen**, Robert Paige (2015). On testing common indices for two multi-index models: a link-free approach. *Journal of Multivariate Analysis*, **136**, 75--85.
12. Tao Wang, **Xuerong Meggie Wen**, Li-Xing Zhu (2017). Multiple-population shrinkage estimation via sliced inverse regression. *Statistics and Computing*, **27**, 103--114.
13. Xuejing Liu, Lei Huo, **Xuerong Meggie Wen**, Robert Paige (2017). A link-free approach for testing common indices for three or more multi-index models. *Journal of Multivariate Analysis*, **153**, 236--245.
14. Bilin Zeng, **Xuerong Meggie Wen**, Li-Xing Zhu (2017). A Link-free sparse Group variable selection method for single-index model. *Journal of Applied Statistics*, **44**, 2388--2400.
15. Lei Huo, **Xuerong Meggie Wen**, Zhou Yu (2018). Trace pursuit variable selection for multi-population data. *Journal of Nonparametric Statistics*, **2**, 430--447.
16. Lu Li, **Xuerong Meggie Wen**, Zhou Yu (2019). Review of sparse sufficient dimension reduction. Invited paper by *Statistical Theory and Related Fields*, to appear.
17. Lei Huo, **Xuerong Meggie Wen**, Zhou Yu (2020). Conditional model-free variable screening. *Journal of Nonparametric Statistics*, to appear.

Peer-reviewed Papers Under-review

- Lu Li, Kai Tan, **Xuerong Meggie Wen**, Zhou Yu (2019). Variable dependent partial dimension reduction. Submitted to *Statistica Sinica*.

Papers Under-preparation

- **Xuerong Meggie Wen**, Tao Wang, Li-Xing Zhu (2020). Sufficient dimension reduction for multi populations. *Under final preparation*.
- Lu Li, **Xuerong Meggie Wen**, Zhou Yu (2020). Some tests for common sufficient dimension reduction. *Under final preparation for Biometrika*.

CONFERENCE PRESENTATIONS

- Optimal sufficient dimension reduction for regressions with categorical predictors. 2004 Joint Statistical Meetings, Toronto, August 2004.

- A new method for partial sufficient dimension reduction by using intra-slice information. 2005 Joint Statistical Meetings, Minneapolis, August 2005.
- Generalized K-means inverse regression. 2007 Joint Statistical Meetings, Salt Lake City, August 2007.
- The generalized inverse K-means regression. Tenth Meeting of New Researchers in Statistics and Probability, University of Utah, Salt Lake City, July 2007.
- Bivariate dimension reduction and variable selection when $n < p$. 2008 ENAR Meeting, Arlington, March 2008.
- Sufficient dimension reduction for proportional censorship model with covariates. 2009 Joint Statistical Meetings, Washington D.C., August 2009.
- Dimension reduction with categorical predictors via likelihood approach. 2010 Joint Statistical Meetings, Vancouver, August 2010.
- On partial sufficient dimension. 2011 Joint Statistical Meetings, Miami, August 2011.
- Multi-population sufficient dimension reduction. 2014 Joint Statistical Meetings, Boston, August 2014.

INVITED PRESENTATIONS

- Optimal sufficient dimension reduction for regressions with categorical predictors. Department of Statistics, University of Virginia, Charlottesville, February 2005.
- Optimal sufficient dimension reduction for regressions with categorical predictors. Department of Mathematics, University of Toledo, Toledo, March 2005.
- Introduction to dimension reduction for regressions. 2005 Microarray Research Coordination Network by UAB, New York, September 2005.
- Sufficient dimension with applications to survival analysis. Department of Mathematics and Statistics, Missouri University of Science and Technology, December 2010.
- On partial sufficient dimension reduction with applications to partially linear models. Department of Statistics, School of Management, Fudan University, Shanghai, June 2012.
- On partial sufficient dimension reduction with applications to partially linear models. School of Finance and Business, East China Normal University, June 2012.
- Multi population sufficient dimension reduction. Department of Mathematics, Hong Kong Baptist University, May 2013.
- Multi population sufficient dimension reduction. Institute for Financial Studies, Shandong University, May 2013.

- Variable selection via multiple population sufficient dimension reduction. University of Missouri in St. Louis, Nov. 2016.
- Variable selection via multiple population sufficient dimension reduction. Washington University in St. Louis, April 2017.
- A model-free conditional screening approach via sufficient dimension reduction. The 11th ICSA International Conference, Hangzhou, China, December 2019.

STUDENTS

Doctoral Students

- Bilin Zeng
Current Position: Tenured Associate Professor, California State University, Bakersfield.
Dissertation Topic: *Dimension Reduction with Applications to Gene Pathway Analysis*, July 2013.
- Xuejing Liu (Co-adviser: Robert Paige)
Current Position: Quantitative Analyst in Traded Risk Methodology at HSBC, New York.
Dissertation Topic: *Dimension Reduction for Multiple Datasets*, July 2015.
- Lei Huo
Current Position: Quantitative Modeling Analyst at Regions Bank, Alabama.
Dissertation Topic: *New Developments in Sufficient Dimension Reduction*, July 2018.

Master Students

- Xuejing Liu
May 2011. Continuing for Ph.D degree.
- Lan Xu
July 2015. Continuing for Ph.D degree in Univ. of Florida.
- Philip Amewudah
2020-2021

TEACHING

Missouri University of Science and Technology

Instructor for the following courses:

Stat 215/3115 (taught 8 times) Engineering Statistics

Stat 217/3117 (taught 11 times) Introduction to Probability and Statistics

Stat 343/5643 (taught 11 times) Probability and Statistics (with online distance learning session)

Stat 344/5644 (taught 5 times)	Mathematical Statistics
Stat 346/5346 (taught 4 times)	Regression Analysis (with online distance learning session)
CS 366/5204 (taught 4 times)	Co-listed with Stat 346/5346
Stat 400 (taught 1 time)	Special Problems
Stat 401/6001 (taught 2 times)	Special Topics
Math 410-2B (taught 1 time)	Graduate Seminar
Stat 444 (taught 1 time)	Design and Analysis of Experiments
Stat 457 (taught 2 times)	Advanced Mathematical Statistics (I)
Stat 458 (taught 2 times)	Advanced Mathematical Statistics (II)
Stat 6342 (taught 2 times)	Categorical Data Analysis
Stat 6553 (taught 2 times)	Linear Model (I)
Stat 6554 (taught 2 times)	Linear Model (II)

University of Minnesota

Teaching Assistant for the following courses:

Stat 3021	Introduction to Probability and Statistics
Stat 5021	Statistical Analysis

PROFESSIONAL ACTIVITIES

Appointments

- **Chapter Secretary**, Mid-Missouri Chapter of the ASA. January 2020 to present.
- **Chapter Treasurer**, Mid-Missouri Chapter of the ASA. January 2018 to December 2019.
- **Chapter Vice President**, Mid-Missouri Chapter of the ASA. January 2011 to May 2014.
- **Chapter Officer**, Mid-Missouri Chapter of the ASA. January 2008 to 2010.

Grant Reviewing

- The Missouri Research Board

Journal Referee

- Australian & New Zealand Journal of Statistics
- Statistica Sinica
- Statistical Analysis and Data Mining
- Journal of Statistical Computation and Simulation
- Mathematical Reviews
- Journal of Multivariate Analysis
- Statistics and Probability Letter

- Journal of Computational and Graphical Statistics
- Technometrics
- Journal of Nonparametrics

Session Chair for Joint Statistical Meetings

- 2012, 2015, 2016, 2017, 2018

SERVICES AND CONSULTING

- Department New Faculty Hiring Committee, 2006, 2008, 2010, 2011.
- Campus Library and Learning Resources Committee, 2008.
- Department Policy Committee, 2012, 2013.
- Department Graduate Admissions Committee, 2019, 2020.
- Consulting service to **Missouri S & T**: Ph.D students – Hong Wang, Walter Casquino; Faculty – Steve Gao, Xiaoping Du, Rosa Zheng, Joon-Ho Choi; **University of Minnesota**: served at Statistical Clinic in Fall 2003.
- Member of Department Policy Committee, Member of University Library Committee.
- Co-organizer of Department Graduate Student Seminar, Fall 2007, Spring 2008.
- Assisting DGS in evaluating graduate assistantship applicants from China.
- Serve as committee members for Ph.D students: Luyang Wang, Mahdi Gharehbaygloo (CE), Yuqing Su, Muna Hammuda, Tarek Bennaser, Daniel Bowerman, Ahmed Eshebli, Mark Boateng (Nuclear Eng.), Zhifu Zhu (ME), Yao Cheng (ME), Yue Qiu (Petroleum Eng.), Huchun (CSE), Youself Elmehdwi (CSE), Feng Li (CSE), Renren Zhao, Emad Mohamed, Milad, Jornaz, Pasan Edirisinghe, Hu Zhen (ME), Yao Cheng (ME), Bilin Zeng, Xuejing Liu, Hongyan Chen (Eng. Management), Thomas Matthews, Maduka Rupasinghe, Tiange Shao, Noroharivelo Randrianampy, Purna Mukhopadhyay, Asitha Edirisinghe, Thidaporn Supapakorn, Jia Guo, Xiaojun Hu, Xu Cao, Julius Heim, Qingfang Xiang, Suman Sanyal, Carlos Chaves (Eng. Management); Master Committee Members: Shengnan Kan, Xuejing Liu, Renren Zhao, Logan Roddy, Yuepeng Cui, Maduka Rupasinghe, Rotchana Chieochan, Withanage De Mel, Pasan Edirisinghe, Tao Li, Vu Ong, Malaka Thilakaratne, Lin Yang, Quang Le and many others.
- Outreach Service: give talks at Math Circle hosted by Math Dept. of Washington University in St. Louis; organize and assist with teaching a Math competition class for middle school students in St. Louis area.