

Jian Zou, PhD

Associate Professor (with Tenure)
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BACKGROUND

1. EDUCATION

- Ph.D., Statistics, 2009, University of Connecticut, Storrs, CT.
- M.S., Mathematics, 2005, University of Connecticut, Storrs, CT.
- M.S., Computer Science, 2002, Shandong University, Jinan, China.
- B.S., Mathematics, 2000, Shandong University, Jinan, China.

2. WORK EXPERIENCE OTHER THAN TEACHING

- National Institute of Statistical Sciences and Duke University, RTP, NC.
Postdoctoral Fellow, **2009 - 2011**

SCHOLARSHIP

3. LIST OF PUBLICATIONS

Publications (Underlined authors are students coauthors, * indicates corresponding/senior author)

- (i) Wang, X., Shojaie, A. and **Zou, J.** (2019). Bayesian Hidden Markov Models for Dependent Large-Scale Multiple Testing. *Computational Statistics and Data Analysis*. Accepted.
- (ii) Zhang, Y., **Zou, J.***, Ravishanker, N. and Thavaneswaran, A. (2019). Modeling Financial Durations Using Penalized Estimating Functions. *Computational Statistics and Data Analysis*. 131:145-158.
- (iii) **Zou, J.***, Yan, H. and Zhang, Z. (2018). A Hybrid Hierarchical Bayesian Model for Spatio-Temporal Surveillance Data. *Statistics in Medicine*. 37(28):4216-4233.
- (iv) Zhang, Y., **Zou, J.***, Ravishanker, N. (2018). Structural Break Detection in Financial Durations. *Applied Stochastic Models in Business and Industry*. 34(6):9921006.
- (v) **Zou, J.***, Wang, F. and Wu, Y. (2018). Vast Portfolio Allocation and Risk Analysis using High-Frequency Financial Data. *Statistics and Its Interface*. 11(1):141-152. DOI: <http://dx.doi.org/10.4310/SII.2018.v11.n1.a12>.
- (vi) Liu, H., **Zou, J.*** and Ravishanker, N. (2018). Multiple Day Biclustering of High-Frequency Financial Time Series. *Stat*. 7(1): e176. DOI: <https://doi.org/10.1002/sta4.176>.
- (vii) Yan, H., Zhang, Z and **Zou, J.*** (2018). Dynamic Space-Time Model for Syndromic Surveillance with Particle Filters and Dirichlet Process. In: *Blasch, E., Ravela, S., Aved, A. (Eds.) Handbook of Dynamic Data Driven Application Systems*. Springer, Cham. 139-152. DOI: <https://doi.org/10.1007/978-3-319-95504-9>

- (viii) Comer, K.F., Gibson, P.J., **Zou, J.**, Rosenman, M. and Dixon, B.E. (2018). Electronic Health Record (EHR)-Based Community Health Measures: An Exploratory Assessment of Perceived Usefulness by Local Health Departments. *BMC Public Health*, 18(1). DOI: 10.1186/s12889-018-5550-2.
- (ix) Ansari, S.F., Yan, H., **Zou, J.**, Worth, R.M. and Barbaro, N.M. (2018). Hospital Length of Stay and Readmission Rate for Neurosurgical Patients. *Neurosurgery*. 82(2):173-181. DOI: 10.1093/neuros/nyx160.
- (x) Tlachac, M., Rundensteiner, E., Barton, K., Troppy, S., Beaulac, K., Doron, S. and **Zou, J.** (2018). CASSIA: An Assistant for Identifying Clinically and Statistically Significant Decreases in Antimicrobial Susceptibility. *Proceedings of 2018 IEEE International Conference on Biomedical and Health Informatics (BHI)*, Las Vegas, NV, 2018, pp. 389-392. DOI: 10.1109/BHI.2018.8333450
- (xi) Vilelli, N.W., Yan, H., **Zou, J.** and Barbaro, N.M. (2017). The Impact of the 2006 Massachusetts Healthcare Reform on Spine Surgery Patient Payer-Mix and Age. *Journal of Neurosurgery: Spine*. 27(6):694-699. DOI: 10.3171/2017.4.SPINE161141.
- (xii) Vilelli, N.W., Das, R., Yan, H., Huff, W., **Zou, J.** and Barbaro, N.M. (2017). Impact of the 2006 Massachusetts health care insurance reform on neurosurgical procedures and patient insurance status. *Journal of Neurosurgery*. **2017(Jan.);126(1):167-174.**
- (xiii) Yan, H., Zhang, Z. **Zou, J.*** (2017). An Online Spatio-Temporal Model for Inference and Predictions of Taxi Demand. *Proceedings of IEEE International Conference on Big Data 2017*, 3550-3557. DOI: 10.1109/BigData.2017.8258345
- (xiv) Patikorn, T., Selent, D., Heffernan, N., Beck, J. and **Zou, J.** (2017). Using a Single Model Trained across Multiple Experiments to Improve the Detection of Treatment Effects. *Proceedings of International Conference on Educational Data Mining (EDM) 2017*, 202–207.
- (xv) Yin, B., Botelho, A., Patikorn, T., Heffernan, N. and **Zou, J.** (2017). Causal Forest vs. Naive Causal Forest in Detecting Personalization: An Empirical Study in ASSISTments. *Proceedings of International Conference on Educational Data Mining (EDM) 2017*, 388–389.
- (xvi) Patikorn, T., Heffernan, N. and **Zou, J.** (2017). An Offline Individual Treatment Rule Evaluation Method and How to Find Heterogeneous Treatment Effect. *Proceedings of International Conference on Educational Data Mining (EDM) 2017*, 390–391.
- (xvii) Dixon, B.E., **Zou, J.**, Comer, K.F., Rosenman, M., Craig, J.L. and Gibson, P. (2016). Using electronic health record data to improve community health assessment. *Front Public Health Serv Sys Res*. **5(5):506.**
- (xviii) Wang, Y., Wu, S. and **Zou, J.** (2016). Quantum Annealing With Markov Chain Monte Carlo Simulations and D-Wave Quantum Computers. *Statistical Science*. **31(3):362-398.**
- (xix) Kim, D., Wang, Y. and **Zou, J.** (2016). Asymptotic theory for large volatility matrix estimation based on high-frequency financial data. *Stochastic Processes and their Applications*. **126(11):3527–3577.**
- (xx) **Zou J.***, Zhang H. (2016) High-Frequency Financial Statistics Through High-Performance Computing. In: Arora R. (eds) *Conquering Big Data with High Performance Computing*. Springer, Cham.

- (xxi) **Zou, J.*** and Huang, C. (2016). Efficient Portfolio Allocation with Sparse Volatility Estimation for High-Frequency Financial Data. *Proceedings of IEEE International Conference on Big Data 2016*, 2332-2341. DOI: 10.1109/BigData.2016.7840866
- (xxii) Hong, L. and **Zou, J.** (2015). Jump tests for semimartingales. *South African Actuarial Journal*. **15(1)**:93-108.
- (xxiii) **Zou, J.***, An, Y. and Yan, H. (2015). Volatility Matrix Inference in High-Frequency Finance with Regularization and Efficient Computations. *Proceedings of IEEE International Conference on Big Data 2015*, 2437-2444. DOI: 10.1109/BigData.2015.7364038
- (xxiv) **Zou, J.***, Karr, A.F., Datta, G., Lynch, J. and Grannis, S. (2014). A Bayesian spatio-temporal approach for real-time detection of disease outbreaks: A case study. *BMC Medical Informatics and Decision Making*. **14**:108.
- (xxv) Wang, Y. and **Zou, J.** (2014). Volatility Analysis in High-Frequency Financial Data. *WIREs: Computational Statistics*, 6(6):393–404.
- (xxvi) **Zou, J.*** and Zhang, H. (2014). High-frequency financial statistics with parallel R and Intel Xeon Phi coprocessor. *Proceedings of IEEE International Conference on Big Data 2014*, 61–69. DOI: 10.1109/BigData.2014.7004414
- (xxvii) **Zou, J.*** and Wang, Y. (2013). Statistical Methods for Large Portfolio Risk Management. *Statistics and Its Interface*, 6, 477–485.
- (xxviii) **Zou, J.*** and Huang, H. (2013). On Portfolio Allocation: A Comparison of Using Low-Frequency and High-Frequency Financial Data. *Topics in Applied Statistics*, Hu, M.; Liu, Y. & Lin, J. (Eds.) Springer New York, 55, 13–22.
- (xxix) **Zou, J.***, Karr, A.F., Banks, D., Heaton, M., Datta, G., Lynch, J. and Vera, F. (2012). Bayesian Methodology for the Analysis of Spatial-Temporal Surveillance Data. *Statistical Analysis and Data Mining*, 5, 194–204.
- (xxx) Heaton, M., Banks, D., **Zou, J.**, Datta, G., Karr, A.F., Lynch, J. and Vera, F. (2012). A Spatio-Temporal Absorbing State Model for Disease and Syndromic Surveillance. *Statistics in Medicine*, 31, 2123–2136.
- (xxxi) Cressie, N., Assuncao, R., Holan, S., Levine, M, Nicolis, O., Zhang, J. and **Zou, J.** (2012). Dynamical Random-Set Modeling of Concentrated Precipitation in the US. *Statistics and Its Interface*, 5, 169–181.
- (xxxii) Tao, M., Wang, Y., Yao, Q., **Zou, J.** (2011). Large Volatility Matrix Inference via Combining Low-Frequency and High-Frequency Approaches. *Journal of the American Statistical Association*, 106, 1025–1040.
- (xxxiii) Wang, Y. and **Zou, J.** (2010). Vast Volatility Matrix Estimation for High-Frequency Financial Data. *Annals of Statistics*, 38, 943–978.
- (xxxiv) Duan, J., Wang, Y. and **Zou, J.** (2009). The Speed of Option Price Convergence from GARCH to Diffusion Models. *International Journal of Theoretical and Applied Finance*, 12, 359–391.
- (xxxv) **Zou, J.** and Wang, X. (2002). Research on a Multimedia Network Real-Time Monitor-Control Platform. *Proceedings of Distributed and Parallel Computing Symposium*, 20–24.

- (xxxvi) Zhang, H. and **Zou, J.** (2002). Research on Distributed Multimedia Network Collaborative Platform. *Journal of Computer Engineering and Applications* 17, 172–174.

Other Publications

- (xxxvii) **Jian Zou**, “Volatility estimation and option pricing”, University of Connecticut, Storrs, CT

4. FELLOWSHIPS AND GRANTS

- (i) Senior Personnel, National Science Foundation, “REU Site: Research Experiences for Undergraduates in Data Science”, \$367,500 , 05/01/16 - 04/30/19 (PI: Elke Rundensteiner).
- (ii) PI, National Science Foundation (TG-DMS150005), “Monte Carlo Simulation of Quantum Evolution”, XSEDE (Extreme Science and Engineering Discovery Environment at Texas Advanced Computing Center) Computing Resources, Stamped: 50000 SUs; Ranch: 500 GB; 9/2015-3/2017 (Supporting Zou’s high performance computing needs for research).
- (iii) Co-PI, Robert Wood Johnson Foundation (I.D. 71271): “Leveraging Integrated Electronic Data Sources to Improve Population Health Assessment at Local Levels”, \$200,000, 09/15/2013 - 09/14/2015. (PI: Brian Dixon).
- (iv) PI, National Science Foundation (TG-DMS130018), “Cluster-enabled Large Scale High-frequency Financial Data Analytics”, XSEDE (Extreme Science and Engineering Discovery Environment at Texas Advanced Computing Center) Computing Resources, Stamped: 75000 SUs; Ranch: 500 GB; 7/2013-7/2015 (Supporting Zou’s high performance computing needs for research).
- (v) PI, Subcontract of National Science Foundation (DMS-0914906) grant from the National Institute of Statistical Sciences, “Collaborative Research for Developing ATD: Bayesian Methods in Syndromic Surveillance: CAR Models and Computational Implementation”, \$644,019, 09/01/2012 - 08/31/2014.
- (vi) Senior Personnel, National Institute of Health (K23HD057130): “Neighborhood poverty and sexually transmitted infections”, \$ 100,000, 08/01/2013 - 07/31/2014 (PI: Sarah Wiehe).

5. PROFESSIONAL PRESENTATIONS

- (i) (Invited) “When Big Data Meet Financial Statistics: A Data Science Perspective.” 2018 ICSA China Conference, Qingdao, China, July, 2018.
- (ii) (Invited) “A Hybrid Hierarchical Bayesian Model for Spatio-Temporal Surveillance Data.” ICSA 2018 Applied Statistics Symposium, New Brunswick, NJ, June, 2018.
- (iii) “An Online Spatio-Temporal Model for Inference and Predictions of Taxi Demand.” 2017 IEEE International Conference on Big Data, Boston, MA, December, 2017.

- (iv) "Efficient Portfolio Allocation with Sparse Volatility Estimation for High-Frequency Financial Data", Joint Statistical Meetings, Baltimore, MD, August, 2017.
- (v) (Invited) "Dynamic Space-Time Model for Syndromic Surveillance with Particle Filters and Dirichlet Process", QPRC 2017: The 34th Quality and Productivity Research Conference, Storrs, CT, June, 2017.
- (vi) (Invited) "Efficient Portfolio Allocation with Sparse Volatility Estimation for High-Frequency Financial Data", International Society for Business and Industrial Statistics (ISBIS) 2017 Meeting on Statistics in Business Analytics, Yorktown Heights, NY, June, 2017.
- (vii) (Invited) "High Dimensional Dynamic Modeling for Massive Spatio-Temporal Data", 31th New England Statistics Symposium, Storrs, CT, April, 2017.
- (viii) "Efficient Portfolio Allocation with Sparse Volatility Estimation for High-Frequency Financial Data", IEEE International Conference on Big Data 2016 (IEEE BigData 2016), Washington DC, December, 2016.
- (ix) (Invited) "Conquering Big Data in Volatility Inference and Risk Management", Department of Mathematical Sciences Colloquium, Northeastern University, Boston, MA, October, 2016.
- (x) "Volatility Matrix Inference in High-Frequency Finance with Regularization and Efficient Computations", Joint Statistical Meetings, Chicago, IL, August, 2016.
- (xi) (Invited) "Conquering Big Data in Volatility Inference and Risk Management", International Symposium on Business and Industrial Statistics, Barcelona, Spain, June, 2016.
- (xii) "Conquering Big Data in Volatility Inference and Risk Management", SAMSI Games and Decisions in Reliability and Risk Workshop, RTP, NC, May, 2016.
- (xiii) (Invited) "Conquering Big Data in Volatility Inference and Risk Management", Department of Mathematical Sciences Colloquium, UMass, Dartmouth, MA, April, 2016.
- (xiv) (Invited) "Conquering Big Data in Volatility Inference and Risk Management", Department of Mathematical Sciences Colloquium, UMass, Amherst, MA, March, 2016.
- (xv) (Invited) "Volatility Matrix Inference in High-Frequency Finance with Regularization and Efficient Computations", IEEE International Conference on Big Data 2015 (IEEE BigData 2015), Santa Clara, CA, October, 2015.
- (xvi) (Invited) "Volatility Matrix Inference in High-Frequency Finance with Regularization and Efficient Computations", Department of Mathematical Sciences Colloquium, Boston University, Boston, MA, October, 2015.
- (xvii) "High-frequency financial statistics with parallel R and Intel Xeon Phi coprocessor", Joint Statistical Meetings, Seattle, WA, August, 2015.
- (xviii) (Invited) "Bayesian Spatio-Temporal Methodology for Biosurveillance", 60th ISI World Statistics Congress, Rio de Janeiro, Brazil, July, 2015.
- (xix) (Invited) "High Performance Computations for Statistical Methods in High-Frequency Finance", Fifth International IMS-FIPS Workshop, New Brunswick, NJ, June, 2015
- (xx) (Invited) "Statistical Methods for Large Portfolio Risk Management", 29th New England Statistics Symposium, Storrs, CT, April, 2015.

- (xxi) (Invited) “Bayesian Spatio-Temporal Methodology for Biosurveillance”, Department of Statistics Colloquium, University of Connecticut, Storrs, CT, February, 2015.
- (xxii) (Invited) “High-frequency financial statistics with parallel R and Intel Xeon Phi coprocessor”, IEEE International Conference on Big Data 2014 (IEEE BigData 2014), Washington DC, October, 2014.
- (xxiii) (Invited) “Statistical Methods for Large Portfolio Risk Management”, Joint Statistical Meetings, Boston, MA, August, 2014.
- (xxiv) (Invited) “Statistical Methods for Large Portfolio Risk Management”, International Symposium on Financial Engineering and Risk Management 2014 (FERM 2014), Beijing, China, June, 2014.
- (xxv) (Invited) “High Performance Computations and Statistical Methods for Large Portfolio Risk Management”, Department of Computer Science Colloquium, Shandong University, Jinan, China, June, 2014.
- (xxvi) (Invited) “Statistical Methods for Large Portfolio Risk Management”, Department of Statistics Colloquium, Shanghai University of Finance and Economics, Shanghai, China, June, 2014.
- (xxvii) (Invited) “Bayesian Spatio-Temporal Methodology for Real-Time Detection of Disease Outbreaks”, School of Mathematics Lingnan Special Lecture, Sun Yat-Sen University, Guangzhou, China, May, 2014.
- (xxviii) (Invited) “Bayesian Spatio-Temporal Methodology for Real-Time Detection of Disease Outbreaks”, Department of Mathematical Sciences Colloquium, Worcester Polytechnic Institute, Worcester, MA, April, 2014.
- (xxix) (Invited) “Statistical Methods for Large Portfolio Risk Management”, Department of Statistics Colloquium, Purdue University, West Lafayette, IN, January, 2014.

6. CONSULTING GRANT

- Hologic, Inc, Indianapolis, IN: “Multifactor Experimental Design and Analysis for Cancer Diagnostic Devices”, PI, 2013.
- Polymer Technology Systems, Inc, Indianapolis, IN: “Statistical Modeling of Variation Adjustment and Outlier Detection for Polymer Technology Systems”, PI, 2012.

TEACHING

7. TEACHING EXPERIENCE

- Indiana University-Purdue University Indianapolis, Indianapolis, IN.
Assistant Professor, **2011 - 2014**
- Worcester Polytechnic Institute, Worcester, MA
Assistant Professor, **2014 - 2018**.
- Worcester Polytechnic Institute, Worcester, MA
Associate Professor, **2018 - Present**.

8. LECTURE COURSES TAUGHT

- AT WPI
 - (i) **C15 Term** MA2611 *Applied Statistics I* (4 sections, 108 students)
 - (ii) **D15 Term** MA2612 *Applied Statistics II* (4 sections, 89 students)
 - (iii) **Fall 2015** MA554 *Applied Multivariate Analysis* (14 students)
 - (iv) **D16 Term** MA2612 *Applied Statistics II* (4 sections, 100 students)
 - (v) **A16 Term** MA2611 *Applied Statistics I* (4 sections, 107 students)
 - (vi) **Fall 2016** MA550 *Time Series Analysis* (27 students)
 - (vii) **D17 Term** MA2612 *Applied Statistics II* (4 sections, 92 students)
 - (viii) **D18 Term** MA2612 *Applied Statistics II*
 - (ix) **Fall 2018** MA590 *Computational Statistics*
 - (x) **B18 Term** MA2612 *Applied Statistics II*
 - (xi) **Spring 2019** MA542 *Regression Analysis*
 - (xii) **D19 Term** MA2612 *Applied Statistics II*
- AT IUPUI
 - (i) **Fall 2011** STAT35000 *Introduction to Statistics* (36 students)
 - (ii) **Fall 2011** STAT52100 *Statistical Computing* (14 students)
 - (iii) **Spring 2012** STAT52000 *Time Series and Applications* (13 students)
 - (iv) **Fall 2012** STAT35000 *Introduction to Statistics* (39 students)
 - (v) **Fall 2012** STAT52100 *Statistical Computing* (13 students)
 - (vi) **Spring 2013** STAT52000 *Time Series and Applications* (8 students)
 - (vii) **Fall 2013** STAT35000 *Introduction to Statistics* (38 students)
 - (viii) **Fall 2013** STAT52100 *Statistical Computing* (13 students)
 - (ix) **Spring 2014** STAT35000 *Introduction to Statistics* (38 students)
 - (x) **Spring 2014** STAT52000 *Time Series and Applications* (13 students)

9. UNDERGRADUATE PROJECT ADVISING AT WPI (IQPs AND MQPs)

INTERACTIVE QUALIFYING PROJECTS

- AY 2014/2015, Terms B/C (Worcester Project Center)
 - (i) Commercial Kitchen Profitability (Sponsor: Worcester Regional Food Hub)
 - Nicholas Comei, Thomas Danko, Ashley Nistler, Michael Vaitkunas
 - (ii) Assistive Technology Intervention Process (Sponsor: Seven Hills Foundation)
 - Jahan Dadlani, Joseph Fainer, David Goodrich, Jacob Hackett
 - (iii) Abby's House 40th Anniversary Video (Sponsor: Abby's House)
 - William Beatty, Elizabeth Bliss, Jordan Feeley, Arianna Smith
 - (iv) Family Accessibility of the Worcester Art Museum (Sponsor: Worcester Art Museum)

- Michael Caldwell, Sebastian Espinosa, Dylan Roche, Bruno Scherrer
- (v) Marketing and Recruiting College Student Volunteers for Habitat for Humanity Metro West ReStore (Sponsor: Habitat for Humanity)
 - Christian Duskocil, Julie Valim, Kevin Wormer

MAJOR QUALIFYING PROJECTS

- (i) Statistical method for risk management and portfolio theory
AY 2014/2015, Terms D/A/B
 - Li, Zhenyan
- (ii) Flexible Infrastructure Supporting Machine Learning for Anomaly Detection in Big Data (Sponsor: ACI Worldwide)
AY 2016/2017, Terms A/B/C/D, co-advised with Prof. Elke Rundensteiner (CS)
 - Erin Esco, Alexander Huot, Yihong Zhou, Ziyang Ding

OTHER UNDERGRADUATE PROJECTS

- (i) CityView 2.0: Informative Urban Mobility Data Visualization
Data Science Research Experiences for Undergraduates (REU), Summer 2018
 - Vindhya Kuchibhotla (Boston University) and Emmanuel Odofin (Lincoln University)
 - Poster presented at the 2018 WPI Summer Undergraduate Research Showcase
- (ii) SURV: A Visualization System for Massive Urban Data
Data Science Research Experiences for Undergraduates (REU), Summer 2017
 - Christian Huacon (Hostos Community College) and Lucas Pelegrin (Michigan Technological University)
 - Paper presented at the 2017 IEEE MIT Undergraduate Research Technology Conference
- (iii) Deep Learning For Multi-Task Network Extraction from Time Series Data
Research Experiences for Undergraduates (REU), Summer 2016
 - Rajeshware Majumdar (University of Connecticut) and Puja Trivedi (University of Maryland)
 - Poster presented at the 2016 Annual Biomedical Research Conference for Minority Students (ABRCMS)

10. GRADUATE CAPSTONE PROJECTS, THESES AND DISSERTATIONS ADVISED

Completed:

- (i) Jiabin Liu, Chi Zhang, Shanshan Zhou, and Tianyu Zou, Master's Capstone Project (Applied Statistics), *State Space Statistical Models for Multispecies Marine Fish Population Dynamics*, Graduated May, 2017.

- (ii) Chuqin Huang, Master's Capstone Project (Applied Statistics), *Multivariate Statistical Analysis for Financial Time Series*, Graduated January, 2017.
- (iii) Yunbo An, Master's Capstone Project (Financial Mathematics), *High-Dimensional Volatility Inference for High-Frequency Financial Data*, Graduated May, 2016.
- (iv) Dongchen Jiang, Master's Thesis (Applied Statistics), *Model Comparison of Multivariate Volatility Modeling for High-Frequency Financial Data*, Graduated May, 2015.

Dissertation Committee:

- (v) Binod Manandhar, PhD Dissertation (Mathematical Sciences (Statistics)), *Bayesian Models for the Analysis of Noisy Responses from Small Areas: An Application to Poverty Estimation*, Graduated May, 2017. *PhD thesis committee member, Advisor: Dr. Balgobin Nandram at WPI*
- (vi) Sounthar Manickavasagam, Master Thesis (Data Science), *Deployment of Autonomous Electric Taxis with Consideration for Charging Stations*, Graduated June, 2017. *Thesis committee member, Advisor: Dr. Andrew Trapp at WPI*
- (vii) Jiani Yin, PhD Dissertation (Mathematical Sciences (Statistics)), *Hierarchical Bayesian Models, Small Area Estimation and Dirichlet Processes*, Graduated May, 2016. *PhD thesis committee member, Advisor: Dr. Balgobin Nandram at WPI*

Ongoing:

- (viii) Hong Yan, PhD Dissertation (Mathematical Sciences (Statistics)), *Advanced Topics in Bio-surveillance and Volatility Inference*, expected graduation date: May, 2018.
- (ix) Haitao Liu, PhD Dissertation (Data Science), *Advanced Topics in Graphical Models and Risk Management*, Co-Advisor: Dr. Randy Paffenroth at WPI, expected graduation date: May, 2020.
- (x) Biao Yin, PhD Dissertation (Data Science), *Advanced Topics in Learning Science*, Co-Advisor: Dr. Neil Heffernan at WPI, expected graduation date: May, 2020.

Dissertation Committee:

- (xi) Wen Liu, PhD Dissertation (Data Science), *Identifying Fixations in Gaze Data via Inner-Density and Optimization*, PhD thesis committee member, Advisor: Dr. Andrew Trapp at WPI, expected graduation date: May, 2019.

11. INDEPENDENT STUDIES AT WPI (In total 22 course-persons registered in Banner).

Note: Most of the independent studies are offered upon students' requests due to lack of advanced graduate course offerings in research topics.

- (i) **Fall 2014**, INDEPENDENT STUDY/GRADUATE - ISG JZ2 597: Hong Yan
- (ii) **Fall 2014**, INDEPENDENT STUDY/GRADUATE - ISG JZ2 595: Hong Zhang
- (iii) **Fall 2014**, MS THESIS - THES JZ2 599: Dongchen Jiang
- (iv) **Spring 2015**, ADVANCED TIME SERIES ANALYSIS - ISG JZ2 595: Hong Yan
- (v) **Spring 2015**, MS THESIS - THES JZ2 599: Dongchen Jiang
- (vi) **Summer 2015**, INDEPENDENT STUDY/GRADUATE - ISG JZ2 596: Yunbo An

- (vii) **Fall 2015**, DIRECTED RESEARCH/GRADUATE - DR JZ2 598: Hong Yan
- (viii) **Fall 2015**, ADVANCED TIME SERIES ANALYSIS - ISG JZ2 595: Lu Chen
- (ix) **Spring 2016**, INDEPENDENT STUDY/GRADUATE - ISG JZ2 595A: Hong Yan
- (x) **Spring 2016**, STATISTICAL SEMINAR - ISG JZ2 595B: Hong Yan
- (xi) **Spring 2016**, DIRECTED RESEARCH/GRADUATE - DR JZ2 598: Chuqin Huang
- (xii) **Fall 2016**, DIRECTED RESEARCH/GRADUATE - DR JZ2 598: Chuqin Huang
- (xiii) **Fall 2016**, INDEPENDENT STUDY/GRADUATE - ISG JZ2 595: Yuan Yu
- (xiv) **Fall 2016**, PHD DISSERTATION - PHD JZ2 699: Hong Yan
- (xv) **Spring 2017**, DIRECTED RESEARCH/GRADUATE - DR JZ2 598: Haitao Liu
- (xvi) **Spring 2017**, INDEPENDENT STUDY/GRADUATE - ISG JZ2 595: Patchara Santawisook
- (xvii) **Spring 2017**, INDEPENDENT STUDY/GRADUATE - ISG JZ2 595D: Wenjing Li
- (xviii) **Spring 2017**, MATH CAPSTONE - ISG JZ2 596: Jiaxin Liu, Chi Zhang, Shanshan Zhou, Tianyu Zou
- (xix) **Spring 2017**, PHD DISSERTATION - PHD JZ2 699: Hong Yan
- (xx) **Fall 2017**, PHD DISSERTATION - PHD JZ2 699: Hong Yan
- (xxi) **Spring 2018**, PHD DISSERTATION - PHD JZ2 699: Hong Yan
- (xxii) **Spring 2018**, PHD DISSERTATION - PHD JZ2 699: Haitao Liu
- (xxiii) **Fall 2018**, PHD DISSERTATION - PHD JZ2 699: Hong Yan
- (xxiv) **Fall 2018**, PHD DISSERTATION - PHD JZ2 699: Haitao Liu
- (xxv) **Spring 2019**, PHD DISSERTATION - PHD JZ2 699: Haitao Liu
- (xxvi) **Spring 2019**, INDEPENDENT STUDY/GRADUATE - ISG JZ2 595: Yanzhao Wang

12. ACADEMIC ADVISING AT WPI

Undergraduate Students Advised:

- (i) Kumar, Rahul K. (Class of 20 MA), AY 2016-present
- (ii) Mitchell, Leah M. (Class of 20 MA), AY 2016-present
- (iii) Peri-okonny, Yanniode (Class of 20 MA), AY 2016-present
- (iv) Sargent, Adam L. (Class of 20 CS, MA), AY 2016-present

Graduate Students Advised:

PhD Advisees:

- (i) Liu, Haitao (PhD Student, Data Science), AY 2016-present
- (ii) Manandhar, Binod (PhD Student, Statistics) AY 2014-2016
- (iii) Wang, Yanzhao (PhD Student, Statistics), AY 2018-present
- (iv) Yan, Hong (PhD Student, Statistics), AY 2016-present

(v) Yin, Biao (PhD Student, Data Science), AY 2016-present

(vi) Yin, Jiani (PhD Student, Statistics), AY 2015-2017

Master Thesis and Project Advisees:

(vii) Jiang, Dongchen (Master Student, Applied Statistics), AY 2015-2016

(viii) An, Yunbo (Master Student, Financial Mathematics), AY 2015-2016

(ix) Huang, Chuqin (Master Student, Applied Statistics), AY 2016-2017

(x) Liu, Jiaxin (Master Student, Applied Statistics), AY 2016-2017

(xi) Zhang, Chi (Master Student, Applied Statistics), AY 2016-2017

(xii) Zhou, Shanshan (Master Student, Applied Statistics), AY 2016-2017

(xiii) Zou, Tianyu (Master Student, Applied Statistics), AY 2016-2017

Master Academic Advisees:

(xiv) Famelia, Cut (Fullbright Student, Data Science), AY 2015-2017

(xv) Ding, Yichen (Master Student, Data Science), AY 2016-2017

(xvi) Niu, Mu (Master Student, Data Science), AY 2016-2017

(xvii) Pasini, Jose (Master Student, Data Science), AY 2016-present

(xviii) Su, Zhaoning (Master Student, Data Science), AY 2016-present

(xix) Wang, Ye (Master Student, Data Science), AY 2016-present

(xx) Yue, Yun (Master Student, Data Science), AY 2016-present

13. PROFESSIONAL SOCIETY MEMBERSHIPS AND OFFICES

- Member, American Statistical Association (ASA)
- Member, Institute of Mathematical Statistics (IMS)
- Permanent Member, International Chinese Statistical Association (ICSA)
- Member, International Statistical Institute (ISI)

14. EDITORIAL, CONFERENCE ORGANIZATION AND REFEREE SERVICES

Editorial

- (i) Associate Editor, *Statistica Sinica* 2017 - present
- (ii) Associate Editor, *Statistics and Its Interface* 2013 - present
- (iii) Associate Editor for Special Issue on "Financial Engineering and Risk Management" of *Statistics and Its Interface*.
- (iv) Ad Hoc Book Chapter Reviewer for edited volume *Economic Time Series: Modeling and Seasonality*, Chapman & Hall/CRC Press.

Conference Organization

- (i) Workshop Program Committee, IEEE International Conference on Big Data 2017, Boston, MA, December, 2017.
- (ii) Organizer and Chair, 61th ISI World Statistics Congress, Marrakech, Morocco, July, 2017.
- (iii) Organizing Committee, Organizer and Chair, 34th Quality and Productivity Research Conference, Storrs, CT, June, 2017.
- (iv) Workshop Program Committee, IEEE International Conference on Big Data 2016, Washington DC, December, 2016.
- (v) Chair, International Symposium on Business and Industrial Statistics, Barcelona, Spain, June, 2016.
- (vi) Organizer and Chair, 60th ISI World Statistics Congress, Rio de Janeiro, Brazil, July, 2015.
- (vii) Chair, Fifth International IMS-FIPS Workshop, New Brunswick, NJ, June, 2015.
- (viii) Organizer and Chair, 29th New England Statistics Symposium, Storrs, CT, April, 2015.
- (ix) Organizer, Business and Economic Statistics Section, Joint Statistical Meetings, Montreal, Quebec, Canada, August, 2013
- (x) Chair, Section on Bayesian Statistical Science, Joint Statistical Meetings, Montreal, Quebec, Canada, August, 2013

Recent Referee Services

- (i) Annals of Applied Statistics
- (ii) Annals of Statistics
- (iii) Applied Stochastic Models in Business and Industry
- (iv) Canadian Journal of Statistics
- (v) Entropy
- (vi) INFORMS Journal on Computing
- (vii) Journal of the American Statistical Association
- (viii) Journal of Business and Economic Statistics
- (ix) Methods in Ecology and Evolution
- (x) PLOS ONE
- (xi) Spatial Statistics
- (xii) Statistica Sinica
- (xiii) Statistics and Its Interface
- (xiv) Statistics and Probability Letters
- (xv) Statistics in Medicine
- (xvi) WIREs Computational Statistics

Proposal Review

- Reviewer for Canada Research Chairs, 2018
- NSF MMS Program Ad Hoc Reviewer, 2016
- Reviewer for Hong Kong Research Grants Council, 2014

15. HONORS, AWARDS AND OTHER RECOGNITION RELATED TO SCHOLARSHIP

- NSF Travel Award, SAMSI Games and Decisions in Reliability and Risk Workshop, 2016.
- NSF Travel Award, Fifth International IMS-FIPS Workshop, 2015
- NSF Travel Award, 14th Meeting of New Researchers in Statistics and Probability, 2012
- NSF Travel Award, Uncertainty Quantification for High-Performance Computing Workshop, 2012
- Travel Award, NISS/ASA Writing Workshop for Junior Researchers, 2009
- NSF Travel Award, Conference on Modeling High Frequency Data in Finance, 2009
- IBM T.J.Watson Student Research Paper Award, New England Statistics Symposium, 2009
- Graduate Pre-doctoral Fellowship, University of Connecticut, 2005

SERVICE

16. SERVICE TO PROFESSION

- Manage and review manuscripts for journals
- Grant reviewer for NSF
- Organize and chair special sessions in international conferences/workshops
- Panel for career development for Research Experience for Undergraduate students

17. SERVICE TO DEPARTMENT AND UNIVERSITY - WPI COMMITTEE AND ADMINISTRATIVE ASSIGNMENT

- Member, WPI Math Department Graduate Program Committee, August 2016 - Present.
- Member, WPI Data Science Hiring Committee, September 2016 - April 2017.
- Member, WPI Math Department Undergraduate Committee, August 2014 - July 2016.
 - Facilitated successfully passing 12 CAO proposals for new course developments and revisions of existing undergraduate courses.
 - Co-organized and co-chaired the undergraduate awards ceremony.
- Member, WPI Data Science Steering Committee, January 2015 - Present.
- Member, WPI Data Science Curriculum Committee, January 2015 - Present.

- (vi) Member, WPI Bioinformatics & Computational Biology Steering Committee, May 2015 - Present.
- (vii) Member, WPI Math Department Hiring Committee, September 2015 - April 2016.
- (viii) Member, WPI Data Science Hiring Committee, September 2014 - April 2015.
- (ix) Member, WPI Center for Industrial Mathematics and Statistics, October 2014 - Present.
- (x) Designer and Grader, WPI Math Department general comprehensive examination (GCE) in Probability and in Mathematical Statistics, August 2014 - Present.
- (xi) Organizer and Chair, WPI Math Department Statistics Seminar, August 2014 - Present.
- (xii) Faculty Mentor for Assistant Teaching Professor Buddika Peiris, August 2016 - Present.

18. SERVICE TO STUDENTS AT WPI

- (i) Panel participant at Graduate School Panel at WPI, August 2015
- (ii) Judge for Graduate Research Innovation Exchange (GRIE), February 2015, 2016, 2017.