

Qian Michelle Zhou

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I am a statistician who conducts research in the areas of model diagnosis, model selection, risk prediction, survival analysis, and longitudinal data analysis.

Academic Positions

Assistant Professor Department of Mathematics and Statistics, Mississippi State University	Jan. 2016 - Present
Assistant Professor Department of Statistics and Actuarial Science, Simon Fraser University	July 2012 - Dec. 2015
Postdoctoral Research Fellow Department of Biostatistics, Harvard School of Public Health Principal Investigators: Tianxi Cai, Ph.D, and Xihong Lin, Ph.D	Oct. 2009 - June 2012

Education

Ph.D. in Statistics (specializing in Biostatistics) University of Waterloo, Waterloo, ON, Canada Thesis: <i>Information matrices in estimating function approach: Tests for model misspecification and model selection.</i> Advisors: Peter X.-K. Song, Ph.D, and Mary E. Thompson, Ph.D	Jan. 2006 - Aug. 2009
M.Math in Statistics University of Waterloo, Waterloo, ON, Canada Topic: <i>Sequential learning of SVMs for target identification in drug discovery.</i> Advisor: Mu Zhu, Ph.D	Sept. 2004 - Dec. 2005
B.Sc. in Statistics University of Science and Technology of China, Hefei, Anhui, China	Sept. 2000 - July 2004

Research Grants

1. Academic Excellence Travel Support Funding (PI), College of Arts and Sciences, MSU, \$1250, Jan. 1st, 2017 ? June 30th, 2017.
2. Natural Sciences and Engineering Research Council of Canada (NSERC) (PI), \$80,000 (total) 2013-2018
3. SFU Vice President's Research Start-up Grant (PI), \$30,000 (total) 2012-2015.
4. SFU Endowed Research Fellowship (PI), \$5,000 (total) 2012-2013.

Awards and Scholarships

1. **2009 Pierre Robillard Award** 2010
 - Organization: Statistical Society of Canada
 - Detail: Best Ph.D. thesis in the areas of probability and statistics defended in Canadian universities in 2009.
2. Best Student Paper Award 2009
 - Organization: Statistical Society of Canada
 - Detail: Best student paper presented in Survey Methods Section of the 2008 Statistical Society of Canada meeting.
3. Ontario Graduate Scholarship in Science and Technology 2008
4. MITACS/NPCPS Industrial Internship Award 2007
5. Student Awards — University of Waterloo
 - Comprehensive Exam Scholarship 2007
 - Detail: Best performance in comprehensive examination.
 - Teaching Assistant Award 2007
6. Student Travel Award 2006
 - Organization: Statistical Society of Canada

Refereed Journal Publications

1. Zhang, S., **Zhou, Q.**, Zhu, D. and Song, P. (2017) “Goodness-of-Fit Test In Multivariate Jump Diffusion Models.” *Journal of Business & Economic Statistics*, accepted.
2. Zhang, S., Okhrin, O., **Zhou, Q.** and Song, P. (2016) “Goodness-of-fit test for specification of semiparametric copula dependence models.” *Journal of Econometrics*, 193(1): 215-233.
3. **Zhou, Q.**, Zheng, Y., Chibnik, L., Karlson, E. and Cai, T. (2015) “Assessing incremental value of biomarkers with multi-phase nest case control studies.” *Biometrics*, 71 (4): 1139-1149.
4. **Zhou, Q.**, Song, P. and Thompson, M. (2015) “Profiling Heteroscedasticity in Linear Regression Models”. *Canadian Journal of Statistics*, 43(3): 358–377.
5. **Zhou, Q.**, Zheng, Y., and Cai, T. (2013) “Assessment of biomarkers for risk prediction with nested case-control studies.” *Clinical Trials*, 10(5): 667–679.
6. **Zhou, Q.**, Zheng, Y., and Cai, T. (2013) “Subgroup specific incremental value of new markers for risk prediction.” *Lifetime Data Analysis*, 19(2): 142–169.
7. Zhang, S., Song, P., Shi, D. and **Zhou, Q.** (2012) “Information ratio test for model misspecification on parametric structures in stochastic diffusion models.” *Computational Statistics and Data Analysis*, 56(12): 3975–3987.
8. **Zhou, Q.**, Song, P. and Thompson, M. (2012) “Information ratio test for model misspecification in quasi-likelihood inference.” *Journal of the American Statistical Association*, 107(497): 205–213.
9. You, Y. and **Zhou, Q.** (2011) “Hierarchical Bayes small area estimation under a spatial model with application to health survey data.” *Survey Methodology*, 37: 25–27.
10. Lin, X., Cai, T., Wu, M., **Zhou, Q.**, Liu, G., Christiani, D., Lin, X. (2011) “Kernel machine SNP-set analysis for censored survival outcomes in genome-wide association studies.” *Genetic Epidemiology*, 35(7): 620–631.

11. Rybicki, F., Mitsouras, D., Owens, C., Whitmore, A., Gerhard-Herman, M., Wake, N., Cai, T., **Zhou, Q.**, Conte, M., Creager, M., and Mulkern, R. (2010) "Multi-contrast high spatial resolution black blood inner volume three-dimensional fast spin echo MR imaging in peripheral vein bypass grafts." *The International Journal of Cardiovascular Imaging*, 26(6): 683–691.
12. Lin, H., Song, P. and **Zhou, Q.** (2007) "Varying-coefficient marginal models and applications in longitudinal data analysis." *Sankhyā*, 69(3): 581–614.

Abstracts

1. Chandran, V., Gottlieb, A., Cook, A., Callis, K., Garg, A., Helliwell, P., Kavanaugh, A., Kreuger, J., Langley, R., Lynde, C., McHug, N., Mease, P., Olivieri, L., Rahman, P., Rosen, C., Salvarani, C., Thaci, D., Toloza, S., Wong, M., **Zhou, Q.**, Gladman, D. (2007) "International Multi-centre Psoriasis and Psoriatic Arthritis Reliability Trial (GRAPPA-IMPART): Assessment of skin, joints, nails and dactylitis." *Arthritis & Rheumatism*, 56 (Suppl. 9): S798.

Submitted Journal Publications

1. **Zhou, Q.**, Dai, W., Zheng, Y. and Cai, T. "Robust Dynamic Risk Prediction with Longitudinal Studies." Submitted to *Statistical Theory and Related Fields*.
2. Yuan, Y., **Zhou, Q.**, Li, B., Cai, H., Chow, E., and Armstrong, G. "A threshold-free prospective prediction accuracy measure for censored time to event data". Under Revision at *Statistics in Medicine*.

Work in Progress

1. Zhang S., **Zhou, Q.** and Lin, H., "Goodness-of-fit test of copula functions for semiparametric time series models".
2. **Zhou, Q.** and Mei, M. "Goodness of fit tests of copula models for multivariate survival data".

Invited Talks

1. IMS-China International Conference on Statistics and Probability, Nanning, Guangxi, China, June 2017
2. Data Science, Precision Medicine, and Risk Analysis with Lifetime Data, University of Connecticut, Storrs, CT, USA. May 2017
3. Seminar, Department of Mathematics, University of Mississippi, May 2017
4. Seminar, Department of Agriculture Economics, MSU, April 2017
5. Seminar, Social Science Research Center, MSU, Sept. 2016
6. Seminar, Faculty of Economics, Humboldt University of Berlin, Berlin, Germany. Dec. 2014
7. Seminar, Public Health & Preventive Medicine, Oregon Health & Science University, Portland, USA. Oct. 2014
8. Seminar, Department of Mathematical and Statistical Sciences, University of Alberta, Edmonton, Canada. Oct. 2014
9. Statistical Society of Canada Annual Meeting, Toronto, Canada. May 2014

10. Canadian Human and Statistical Genetics Meeting, Victoria, Canada.	May 2014
11. Seminar, Center of Statistical Research, Southwestern University of Finance and Economics, Chengdu, China.	Mar. 2014
12. The 9th ICSA conference, HongKong.	Dec. 2013
13. The 15th IMS New Researcher Conference, Montréal, Canada.	Aug. 2013
14. UBC-SFU Joint Graduate Student Seminar, Vancouver, Canada.	Mar. 2013
15. Seminar, Department of Statistics, UBC, Vancouver, Canada.	Oct. 2012
16. Statistical Society of Canada Annual Meeting, Guelph, Canada.	June 2012
17. New England Statistics Symposium, Connecticut, USA.	Apr. 2011
18. Statistical Society of Canada Annual Meeting, Quebec City, Canada.	May 2010
19. Statistical Society of Canada Annual Meeting, Ottawa, Canada.	May 2008

Teaching Experience: Graduate Courses

1. ST 8533 Applied Probability, Mississippi State University	Spring 2016, Spring 2017
2. ST6523/4523 Introduction to Probability, Mississippi State University	Fall 2016, Fall 2017
3. ST8114 Statistical Methods, Mississippi State University	Fall 2016, Fall 2017
4. STAT 851 Generalized Linear Models and Discrete Data Analysis, Simon Fraser University	Spring 2015

Teaching Experience: Undergraduate Courses

1. STAT 445 Applied Multivariate Analysis, Simon Fraser University	Spring 2015
2. STAT 330 Introduction to Mathematical Statistics, Simon Fraser University	Fall 2014
3. STAT 101 Introduction to Statistics, Simon Fraser University	Fall 2013
4. STAT 201 Statistics for Life Sciences, Simon Fraser University	Fall 2013
5. STAT 285 Intermediate Probability and Statistics, Simon Fraser University	Spring 2013
6. STAT 230 Probability, University of Waterloo	Fall 2007
7. STAT 231 Statistics, University of Waterloo	Spring 2007

Student Supervision

- Zhou Fang, PhD, Sept. 2017 to present, Mississippi State University
- Monirehrahmati Rahmati Bongisouei, MSc, Jan. to Apr. 2017, Mississippi State University
- Mathew Kilpatrick, MSc, Jan. to Apr. 2017, Mississippi State University

- Alex Wang, MSc, Sept. 2015 to present, Simon Fraser University
- Moyan Mei, MSc, Sept. 2014 to Aug. 2016, Simon Fraser University
- Bingying Li, MSc, Sept. 2013 to Aug. 2015, Simon Fraser University
- Willam Ruth, Undergraduate, NSERC Undergraduate Student Research Awards, May to Aug. 2013, Simon Fraser University

Service

- Organizer and Chair of an invited session, Data Science, Precision Medicine, and Risk Analysis with Lifetime Data, University of Connecticut, Storrs, CT, USA. May 2017
- Organization Committee for the "Workshop on statistical issues in biomarker and drug co-development", Montréal, Canada, Nov. 7-8, 2014.
- Member of the the Pierre Robillard Award Committee (the best PhD thesis award in Canada) for SSC in year 2011.
- Department Committee
 - Statistics Committee, MSU Sept. 2016 - Aug. 2017
 - Graduate Student Recruitment Committee, MSU Sept. 2016 - Aug. 2017
 - Tenure & Promotion Committee, SFU Sept. 2013 - Aug. 2014
 - Seminar Committee, SFU Sept. 2013 - Aug. 2013