

Dr. Zhuo-Song Zhang

BASIC INFORMATION

- Department of Statistics and Applied Probability
- National University of Singapore
- Email: zszhangstat@gmail.com
- Homepage: <https://zhuosongz.github.io>

EDUCATION

The Chinese University of Hong Kong, Hong Kong

- Ph.D. in Statistics
 - Supervisor: Prof. Qi-Man Shao.

Aug 2013 – Jul 2017

Wuhan University, China

- B.S. in Statistics.

Sep 2009 – Jun 2013

RESEARCH EXPERIENCE

Stanford University, Statistics Department

- Visiting Student Researcher
 - Adviser: Prof. Sourav Chatterjee.

Jul 2016 – Aug 2016

Melbourne University, School of Mathematics and Statistics

- Research Fellow in statistics
 - Adviser: Prof. Aurore Delaigle.

Aug 2017 – Jun 2019

National University of Singapore, Department of Statistics and Applied Probability

- Research Fellow
 - Adviser: Prof. Adrian Roellin.

Jul 2019 – present

RESEARCH INTERESTS

Asymptotic theory in probability and statistics; Stein's method; Functional data analysis; Nonparametric statistics; Random Graph theory.

PUBLICATIONS

- [1] Q.-M. Shao and Z.-S. Zhang. (2016). "Identifying the limiting distribution by a general approach of Stein's method", *Sci. China Math.*, vol. 59, 2379–2392.
- [2] Q.-M. Shao and Z.-S. Zhang. (2019). "Berry–Esseen bounds of normal and non-normal approximation for unbounded exchangeable pairs", *Ann. Probab.*, vol. 47, 61–108.
- [3] Q.-M. Shao, M.-C. Zhang and Z.-S. Zhang. (2021), "Cramér-type moderate deviations for non-normal approximation". *Ann. Appl. Probab.* Vol. 31, 247–283.
- [4] Q.-M. Shao and Z.-S. Zhang (2020), "Berry–Esseen bounds for multivariate nonlinear statistics with applications to M-estimators and stochastic gradient descent algorithms". To appear in *Bernoulli*.

SUBMITTED PAPERS

- [1] Z.-S. Zhang, "Cramér-type moderate deviations of normal approximation for exchangeable pairs". Available at arXiv: 1901.09526.
- [2] Z.-S. Zhang, "Berry–Esseen bounds for generalized U -statistics". Available at arXiv: 2104.03479.
- [3] Z.-S. Zhang, "Berry–Esseen bounds for self-normalized sums of local dependent random variables". Available at arXiv: 2104.03683.
- [4] S. Liu and Z.-S. Zhang, "Cramér-type moderate deviation under Stein's identities with applications to local dependence and combinatorial central limit theorems". Submitted.
- [5] A. Roellin and Z.-S. Zhang, "Dense multigraphon-valued stochastic processes and edge-changing dynamics in the configuration model". Submitted.

WORKING PAPERS

- [1] A. Delaigle, D. Dutta and Z.-S. Zhang, "Reconstructing fragmented functional data by Markov chains".
- [2] A. Delaigle and Z.-S. Zhang, "Reconstructing functional data by nonparametric methods".

INVITED PRESENTATIONS	<p>[1] <i>62nd ISI World Statistics Congress 2019</i>, Kuala Lumpur, Malaysia. Aug 2019.</p> <p>[2] <i>Stein's Method and Related Topics</i>, Macau, China, Dec 2018.</p> <p>[3] <i>The 5th Institute of Mathematical Statistics Asia Pacific Rim Meeting</i>, The National University of Singapore, Singapore, Jun 2018.</p> <p>[4] <i>2017 IMS-China International Conference on Statistics and Probability</i>, Guangxi University For Nationalities, Nanning, China, Jun 2017</p> <p>[5] <i>The 10th ICSA international conference</i>, Shanghai Jiao Tong University, Shanghai, China, Dec 2016.</p> <p>[6] <i>The International Symposium on Probability Theory and Related Fields</i>, Southern University of Science and Technology, Shenzhen, China, Nov 2016.</p> <p>[7] <i>The 4th Institute of Mathematical Statistics Asia Pacific Rim Meeting</i>, The Chinese University of Hong Kong, HK, Jun 2016.</p>
AWARDS & SCHOLARSHIPS	<ul style="list-style-type: none"> ▪ Overseas Research Award, 2015–2016 Department of Statistics, The Chinese University of Hong Kong ▪ Nominee of Global Young Scientists Summit 2015, 2014–2015 Science Faculty, The Chinese University of Hong Kong ▪ Wuhan University Outstanding Graduate student, 2013 ▪ National motivational scholarships, 2011 ▪ Wuhan University Outstanding students scholarship, 2011 ▪ Wuhan University Excellent student, 2011
PROFESSIONAL SERVICES	<p>REVIEWERS</p> <p>Journals: Bernoulli, Probability in the Engineering and Informational Sciences</p>
SUPERVISION EXPERIENCE	<p>PHD STUDENTS</p> <p>Mr. Debajit Dutta, PhD student</p> <p>Co-supervisor of his thesis work on “fragmented functional data”.</p>
TEACHING	<ul style="list-style-type: none"> ▪ Fall 2018, MAST90123, Advanced Mathematical Statistics, University of Melbourne
TEACHING ASSISTANT	<ul style="list-style-type: none"> ▪ Fall 2013, STAT 2001 A/B, Basic Concepts in Probability and Statistics I ▪ Spring 2014, STAT 2006 A/B, Basic Concepts in Probability and Statistics II ▪ Fall 2014, STAT 5005, Advanced Probability Theory ▪ Spring 2015, STAT 4003, Statistical Inference ▪ Fall 2015, STAT 5005, Advanced Probability Theory ▪ Fall 2015, RMSC 5001, Advanced Statistical Theory in Risk Management ▪ Spring 2016, RMSC 4001, Simulation Methods for Risk Management Science and Finance ▪ Fall 2016, STAT 3210, Statistical Techniques in Life Sciences