

Lijian YANG

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Education

University of North Carolina, Chapel Hill Statistics M.S., 1993, Ph.D., 1995
Peking University, China Mathematics B.S., 1987

Research Interests

Inference for time series, high dimensional, functional, financial data, and sample survey data; applications of statistics in food science, agronomy, genetics, etc. (Erdős Number 3: Yao → Chen → Erdős)

Positions

April 2016-	Professor, Center for Statistical Science, Tsinghua University
May 2010-April 2016	Professor, Soochow University, and Director, Soochow University Center for Advanced Statistics and Econometrics Research
97-01/01-06/Jul. 06-Jan. 2014	Assistant/Associate/Full Professor of Statistics & Probability, MSU
2007-10	Graduate Director of Statistics & Probability, MSU
Jul. 2006-	Adjunct Professor, Center for Global Change & Earth Observations, MSU
Jun. 2010	Visiting Professor, Risk Management Institute (RMI), NUS
Jan.-Jul. 2005	Visiting Associate Professor, National University of Singapore (NUS)
Sept.-Dec. 2004	Visiting Professor, School of Management, Peking University
Jun. 2003-Jul. 04	ASA/NSF/BLS Research Fellow, Bureau of Labor Statistics
2001-02	Judith C. & William G. Bollinger Visiting Professor, the Wharton School, University of Pennsylvania
Oct. 1995-Jul. 97	Research Associate, Humboldt University

Honors and Awards

- **2017 Research Excellence Award**, Department of Industrial Engineering, Tsinghua University, 2018
- **2017 Talent Recruitment and Development Award**, Department of Industrial Engineering, Tsinghua University, 2018
- **Elected Fellow**, Institute of Mathematical Statistics, 2017.
- **Elected Fellow**, American Statistical Association, 2011.
- **Elected Member**, International Statistical Institute, 2006.
- **The Tjalling C. Koopmans Econometric Theory Prize**, 2000-2002 (with S. Sperlich and D. Tjøstheim) “Nonparametric estimation and testing of interaction in additive models”\$1,000.
- **Recruitment Program of Global Experts (Thousand Talent Program)**, China, 2012.
- **Jiangsu Leading Creative and Entrepreneurial Talents**, Jiangsu, China, 2011.
- **P. I., National Natural Science Foundation NSFC 11771240**, China, 2018-21, “Statistical analysis of complex time series and functional data”480,000 RMB.

- P. I., **National Natural Science Foundation** NSFC 11371272, China, 2014-17, “Statistical inference for functional data” 500,000 RMB.
- P. I., **Ministry of Education** 20133201110002, China, 2014-16, “Statistical inference for functional data” 120,000 RMB.
- P. I., **Key-Discipline Program (Statistics)** ZY 107002, Jiangsu, China, 2012-16, 6 million RMB.
- P. I., **Jiangsu Specially-Appointed Professor Program** SR 10700111, Jiangsu, China, 2011-14, 1 million RMB.
- P. I., **NUS RMI** Credit Rating Grant 2010 “Credit rating via generalized additive modelling” \$30,000.
- Sole P. I. of **National Science Foundation** DMS awards:
 1. 1007594, 2010-13 “Simultaneous confidence regions for functional data analysis: theory and methods” \$159,986
 2. 0706518, 2007-10 “Reduction of infinite data dimension via B spline smoothing” \$221,525
 3. 0405330, 2004-07 “Monte-Carlo multi-step ahead forecasting for nonlinear time series” \$192,053
 4. 9971186, 1999-2002 “Non- and semi- parametric identification and prediction of autoregressive models, with applications to econometrics” \$77,508
- Sole P. I. of **ASA/NSF/BLS** Research Fellowship, 2003-04: “Non- and semi- parametric analysis of multivariate seasonal time series data” \$59,009, from NSF award SES 0127722.

Professional Activities

Editorial Board Member	Series in Statistics & Data Science, Science Press, September 15, 2018-
Associate Editor	Stat Feb 2015-
Associate Editor	Journal of Business & Economic Statistics July, 2012-July, 2016
Associate Editor	Journal of Nonparametric Statistics Oct, 2007-July, 2017
Editor	Sankhyā Series B January 1, 2012-Jan 1, 2016
Associate Editor	Journal of Data Science 2007-2012
Associate Editor	Statistica Sinica, 2006-2011
Associate Editor	Computational Statistics, 2000-2006
President/Advisory Board Member	Suzhou Association for Applied Statistics, May 2013-May 2018/May 2018-
Executive Member, Board of Directors	Chinese Association for Applied Statistics, Section on Survival Analysis, April 2018-
Executive Member, Board of Directors	Chinese Association for Applied Statistics, Section on High Dimensional Data Statistics, April 2015-
Member, Board of Directors	Chinese Society of Probability and Statistics, October 2014-October 2018
Member, Board of Directors	Chinese Association for Applied Statistics, July 2013-November 2017
Member, Board of Directors	Jiangsu Association for Applied Statistics, July 2013–November 2017
Keynote Speaker	Workshop on Experimental Design & Statistical Science, Chinese Association for Applied Statistics Section on Experimental Design, Beijing, October, 2018
Keynote Speaker	Chinese Center for Disease Control and Prevention, Beijing, June, 2018
Keynote Speaker	The Third Peking-Tsinghua Joint Statistics Colloquium, Beijing, June, 2018
Keynote Speaker	Symposium on Modern Statistics at Xiamen University, Xiamen, December 2017
Keynote Speaker	Annual Conference of Chinese Association of Quantitative Economics Jiangxi University of Finance & Economics, Nanchang, October 2017
Keynote Speaker	Lilac International Conference of Application on Statistics, Harbin, June 2017
Keynote Speaker	Jiangsu Applied Statistics Annual Meeting, Yixing, September 2016
Keynote Speaker	The 1st Meeting of Chinese Association for Applied Statistics Section on High Dimensional Data Statistics, Wuhu, China, April, 2015

Keynote Speaker	The 10th Meeting of the Jiangsu Society of Probability and Statistics, Suzhou, China, October, 2011
Member, Organizing Committee	ICSA Applied Statistics Symposium, Atlanta, June 2016
Invited Session Speaker/Organizer	IMS-China, July, Chengdu, 2013, Kunming, 2015, Nanning, 2017
Invited Session Speaker	ICSA-China Conference, July, Jilin, 2017, Qingdao, 2018, Tianjin, 2019
Invited Session Speaker	Joint Statistical Meeting, San Diego, 2012, Montréal, 2013, Boston, 2014
Invited Session Speaker	IMS-APRM (Seoul, Tokyo, Taipei, HK), July, 2010, 2011, 2014, 2016
Invited Session Speaker	FERM (Beijing, Guangzhou), June, 2014, 2016
Invited Session Speaker	Taihu International Statistics Forum (Wuxi, Shanghai), July, 2011, 2016
Invited Session Speaker	ICSA/KISS Applied Statistics Symposium, Portland, June 2014
Invited Session Speaker	ICSA International Conference, Hong Kong, December, 2013
Invited Session Speaker	HKUST International Forum on Probability & Statistics, December, 2013
Invited Session Speaker	Oberwolfach, January, 2010, September, 2013
Invited Session Speaker	ISI 59th World Statistics Congress, Hong Kong, August, 2013
Co-Organizer	The 2nd Taihu International Statistics Forum, Suzhou, China, July, 2013
Invited Session Speaker	Financial Time Series Analysis: High-dimensionality, Non-stationarity and the Financial Crisis, National University of Singapore, June, 2012
Invited Session Organizer	Joint Statistical Meeting, August, 2005, 2008, 2009, 2011
Invited Session Speaker	Workshop on Graphical Models and Related Topics Northeast Normal University, Changchun, China, July, 2011
Invited Session Organizer	ICSA Applied Statistics Symposium, June, 2005-2007, 2009-2011
Invited Session Speaker	Spring Meeting of ENAR, March, 2008, 2011
Collaborative Research Visit	Department of Statistics, University of Georgia, April 1-15, 2010
Shoemaker Lecturer	Department of Mathematics, University of Toledo, March 17-19, 2010
Proposal Reviewer	National Security Agency, 2009 & 2010
Invited Session Speaker	"New Directions in Asymptotic Statistics", UGA, 2009
Reviewer	Mathematical Review, 2008-
Statistics Program Quality Survey	National Research Council, May, 2007
Scholarship & Awards Committee	College of Natural Science, MSU, 2007-2010
Proposal Reviewer & Panelist	National Science Foundation, 2006
Invited Session Speaker	International Conference on Statistics in Honor of Professor Kai-Tai Fang's 65th Birthday, Hong Kong, June, 2005
Invited Session Organizer	ICSA International Conference, Singapore, July, 2004
Invited Session Speaker	International Symposium on Forecasting, Sydney, July, 2004
Invited Session Organizer	ISI 54th Session, Berlin, 2003

Membership in Professional Societies

Elected Fellow and Life Member, American Statistical Association
Elected Fellow and Life Member, Institute of Mathematical Statistics
Elected Member, International Statistical Institute
Life Member, International Chinese Statistical Association
Member, American Association for the Advancement of Science
Member, Association of Thousand Talent Experts

Peer-Reviewed Journal Publications (downloads at <http://lijianyang.com/papersall.html>)

1. Cai, L., Liu, R., Wang, S. and Yang, L. (2018+) Simultaneous confidence bands for mean and variance functions based on deterministic design. *Statistica Sinica* in press DOI:10.5705/ss.202017.0033.

2. Gu, L., Wang, S. and Yang, L. (2018+) Simultaneous confidence bands for the distribution function of a finite population in stratified sampling. *Annals of the Institute of Statistical Mathematics* in press DOI: 10.1007/s10463-018-0668-7.
3. Kong, J., Gu, L. and Yang, L. (2018) Prediction interval for autoregressive time series via oracally efficient estimation of multi-step ahead innovation distribution function. *Journal of Time Series Analysis* 39 (5), 690-708.
4. Zhang, Y. and Yang, L. (2018) A smooth simultaneous confidence band for correlation curve. *TEST* 27 (2), 247-269.
5. Shao, Q. and Yang, L. (2017) Oracally efficient estimation and consistent model selection for autoregressive moving average time series with trend. *Journal of the Royal Statistical Society Series B* 79 (2), 507-524.
6. Wang, J., Wang, S., and Yang, L. (2016) Simultaneous confidence bands for the distribution function of a finite population and its superpopulation. *TEST* 25 (4), 692-709.
7. Zheng, S., Liu, R., Yang, L. and Härdle, W. (2016) Statistical inference for generalized additive models: simultaneous confidence corridors and variable selection. *TEST* 25 (4), 607-626.
8. Liu, R. and Yang, L. (2016) Spline estimation of a semiparametric GARCH model. *Econometric Theory* 32 (4), 1023-1054.
9. Yang, M., Xue, L. and Yang, L. (2016) Variable selection for additive model via cumulative ratios of empirical strengths total. *Journal of Nonparametric Statistics* 28 (3), 595-616.
10. Cao, G., Wang, L., Li, Y. and Yang, L. (2016) Oracle-efficient confidence envelopes for covariance functions in dense functional data. *Statistica Sinica* 26 (1), 359-383. **Laha Award** at JSM 2011.
11. Ma, S., Racine, J. and Yang, L. (2015) Spline regression in the presence of categorical predictors. *Journal of Applied Econometrics* 30 (5), 705-717.
12. Cai, L. and Yang, L. (2015) A smooth simultaneous confidence band for conditional variance function. *TEST* 24 (3), 632-655.
13. Gu, L. and Yang, L. (2015) Oracally efficient estimation for single-index link function with simultaneous confidence band. *Electronic Journal of Statistics* 9 (1), 1540-1561. **IMS Travel Award** at JSM 2015.
14. Song, Q., Liu, R., Shao, Q., and Yang, L. (2014) A simultaneous confidence band for dense longitudinal regression. *Communications in Statistics—Theory and Methods* 43 (24), 5195-5210.
15. Gu, L., Wang, L., Härdle, K. and Yang, L. (2014) A simultaneous confidence corridor for varying coefficient regression with sparse functional data. *TEST* 23 (4), 806-843.
16. Zheng, S., Yang, L. and Härdle, W. (2014) A smooth simultaneous confidence corridor for the mean of sparse functional data. *Journal of the American Statistical Association* 109 (506), 661-673.
17. Wang, J., Liu, R., Cheng, F. and Yang, L. (2014) Oracally efficient estimation of autoregressive error distribution with simultaneous confidence band. *Annals of Statistics* 42 (2), 654-668.
18. Cheng, F., Yan, J., and Yang, L. (2014) Extended Glivenko-Cantelli theorem in nonparametric regression. *Communications in Statistics—Theory and Methods* 43 (17), 3720-3725.
19. Ma, S. and Yang, L. (2014) Oracally efficient two-step estimation for additive regression. *Handbook of Applied Nonparametric and Semiparametric Econometrics and Statistics* Chapter 6, 149-175.
20. Liu, R., Yang, L. and Härdle, W. (2013) Oracally efficient two-step estimation of generalized additive model. *Journal of the American Statistical Association* 108 (502), 619-631.

21. Cao, G., Todem, D., Yang, L. and Fine, J. (2013) Evaluating statistical hypotheses for non-identifiable models using estimating functions. *Scandinavian Journal of Statistics* 40 (2), 256-273.
22. Wang, J., Cheng, F. and Yang, L. (2013) Smooth simultaneous confidence bands for cumulative distribution functions. *Journal of Nonparametric Statistics* 25 (2), 395-407.
23. Qiu, D., Shao, Q. and Yang, L. (2013) Efficient inference for autoregressive in the presence of trend. *Journal of Multivariate Analysis* 114 (1), 40-53.
24. Shao, Q. and Yang, L. (2012) Polynomial spline confidence band for time series trend. *Journal of Statistical Planning and Inference* 142 (7), 1678-1689.
25. Cao, G., Yang, L. and Todem, D. (2012) Simultaneous inference for the mean function based on dense functional data. *Journal of Nonparametric Statistics* 24 (2), 359-377.
26. Wang, L., Feng, C., Song, Q. and Yang, L. (2012) Efficient semiparametric GARCH modelling of financial volatility. *Statistica Sinica* 22 (1), 249-270.
27. Ma, S., Yang, L. and Carroll, R. (2012) A simultaneous confidence band for sparse longitudinal regression. *Statistica Sinica* 22 (1), 95-122.
28. Shao, Q. and Yang, L. (2011) Autoregressive coefficient estimation in nonparametric analysis. *Journal of Time Series Analysis* 32 (6), 587-597.
29. Mishra, D. K., Dolan, K. D. and Yang, L. (2011) Bootstrap confidence intervals for the kinetic parameters for degradation of anthocyanins in grape pomace. *Journal of Food Process Engineering* 34 (4), 1220-1233.
30. Ma, S., Yang, L., Romero, R. and Cui, Y. (2011) Varying coefficient model for gene-environment interaction: a non-linear look. *Bioinformatics* 27 (15), 2119-2126.
31. Ma, S. and Yang, L. (2011) A jump-detecting procedure based on spline estimation. *Journal of Nonparametric Statistics* 23 (1), 67-81.
32. Ma, S. and Yang, L. (2011) Spline-backfitted kernel smoothing of partially linear additive model. *Journal of Statistical Planning and Inference* 141 (1), 204-219. **Laha Award** at JSM 2009, #6 of 25 most cited articles published in the *Journal of Statistical Planning and Inference* since 2011.
33. Wang, L. and Yang, L. (2010) Simultaneous confidence bands for time series prediction function. *Journal of Nonparametric Statistics* 22 (8), 999-1018.
34. Song, Q. and Yang, L. (2010) Oracally efficient spline smoothing of nonlinear additive autoregression model with simultaneous confidence band. *Journal of Multivariate Analysis* 101 (9), 2008-2025. **Laha Award** at JSM 2009.
35. Liu, R. and Yang, L. (2010) Spline-backfitted kernel smoothing of additive coefficient model. *Econometric Theory* 26 (1), 29-59.
36. Wang, J. and Yang, L. (2009) Efficient and fast spline-backfitted kernel smoothing of additive regression model. *Annals of the Institute of Statistical Mathematics* 61 (3), 663-690.
37. Song, Q. and Yang, L. (2009) Spline confidence bands for variance function. *Journal of Nonparametric Statistics* 21 (5), 589-609.
38. Wang, L. and Yang, L. (2009) Spline estimation of single index model. *Statistica Sinica* 19 (2), 765-783 + 15 pages of supplement. **Laha Award** at IMS Annual Meeting 2006.
39. Wang, J. and Yang, L. (2009) Polynomial spline confidence bands for regression curves. *Statistica Sinica* 19 (1), 325-342 + 11 pages of supplement. **Laha Award** at JSM 2005.

40. Liu, R. and Yang, L. (2008) Kernel estimation of multivariate cumulative distribution function. *Journal of Nonparametric Statistics* 20 (8), 661-677. **Laha Award** at JSM 2007.
41. Huang, X., Wang, L., Yang, L. and Kravchenko, A. N. (2008) Management practice effects on relationships of grain yields with topography and precipitation. *Agronomy Journal* 100 (5), 1463-1471.
42. Yang, L. (2008) Confidence band for additive regression model. *Journal of Data Science* 6 (2), 207-217.
43. Mishra D. K., Dolan, K. D. and Yang, L. (2008) Confidence intervals for modeling anthocyanin retention in grape pomace during non-isothermal heating. *Journal of Food Science* 73 (1), E9-E15.
44. Wang, L. and Yang, L. (2007) Spline-backfitted kernel smoothing of nonlinear additive autoregression model. *Annals of Statistics* 35 (6), 2474-2503.
45. Yang, L. (2007) Nonparametric modelling of quarterly unemployment rates. *Journal of Data Science* 5 (1), 85-101.
46. Dolan, K. D., Yang, L. and Trampel, C. P. (2007) Nonlinear regression technique to estimate kinetic parameters and confidence intervals in unsteady-state conduction-heated foods. *Journal of Food Engineering* 80 (2), 581-593.
47. Xue, L. and Yang, L. (2006) Additive coefficient modelling via polynomial spline. *Statistica Sinica* 16 (4), 1423-1446. **Laha Award** at JSM 2005.
48. Yang, L., Park, B. U., Xue, L. and Härdle, W. (2006) Estimation and testing of varying coefficients in additive models with marginal integration. *Journal of the American Statistical Association* 101 (475), 1212-1227.
49. Xue, L. and Yang, L. (2006) Estimation of semiparametric additive coefficient model. *Journal of Statistical Planning and Inference* 136 (8), 2506-2534. **ICSA Student Travel Award** 2004.
50. Yang, L. (2006) Semiparametric GARCH model and foreign exchange volatility. *Journal of Econometrics* 130 (2), 365-384.
51. Chen, R., Yang, L. and Hafner, C. (2004) Nonparametric multi-step ahead prediction in time series analysis. *Journal of the Royal Statistical Society Series B* 66 (3), 669-686.
52. Huang, J. and Yang, L. (2004) Identification of nonlinear additive autoregressive models. *Journal of the Royal Statistical Society Series B* 66 (2), 463-477.
53. Yang, L., Sperlich, S. and Härdle, W. (2003) Derivative estimation and testing in generalized additive models. *Journal of Statistical Planning and Inference* 115 (2), 521-542.
54. Simons, G., Yao, Y. and Yang, L. (2002) Doob, Ignatov and optional skipping. *Annals of Probability* 30 (4), 1933-1958.
55. Yang, L. and Tschernig, R. (2002) Non- and semiparametric identification of seasonal nonlinear autoregression models. *Econometric Theory* 18 (6), 1408-1448.
56. Sperlich, S., Tjøstheim, D. and Yang, L. (2002) Nonparametric estimation and testing of interaction in additive models. *Econometric Theory* 18 (2), 197-251. **Tjalling C. Koopmans Econometric Theory Prize**.
57. Yang, L. (2002) Direct estimation in an additive model when the components are proportional. *Statistica Sinica* 12 (3), 801-821.
58. Tschernig, R. and Yang, L. (2000) Nonparametric lag selection for time series. *Journal of Time Series Analysis* 21 (4), 457-487.

59. Yang, L. (2000) Finite nonparametric GARCH model for foreign exchange volatility. *Communications in Statistics-Theory and Methods* 29 (5 & 6), 1347-1365.
60. Yang, L. (2000) Root-n convergent transformation-kernel density estimation. *Journal of Nonparametric Statistics* 12 (4), 447-474.
61. Yang, L., Härdle, W. and Nielsen, J. P. (1999) Nonparametric autoregression with multiplicative volatility and additive mean. *Journal of Time Series Analysis* 20 (5), 579-604.
62. Yang, L. and Marron, J. S. (1999) Iterated transformation-kernel density estimation. *Journal of the American Statistical Association* 94 (446), 580-589.
63. Yang, L. and Tschernig, R. (1999) Multivariate bandwidth selection for local linear regression. *Journal of the Royal Statistical Society Series B* 61 (4), 793-815.
64. Härdle, W., Tsybakov, A. B. and Yang, L. (1998) Nonparametric vector autoregression. *Journal of Statistical Planning and Inference* 68 (2), 221-245.

Other Publications

- I Tschernig, R. and Yang, L. (2003) Multiple index identification of nonlinear vector autoregression. *Bulletin of the International Statistical Institute 54th Session: Proceedings*, 326-329.
- II Härdle, W., Cizek, P. and Yang, L. (2002) Comments on “An adaptive estimation of dimension reduction space” by Xia et. al. *Journal of the Royal Statistical Society, Series B* 64 (3), 363-410.
- III Smith, H., Mutka, M. and Yang, L. (2001) Feedback scalability for multicast videoconferencing. *Proceedings of the International Conference on Networks*, 640-648.
- IV Yang, L. and Tschernig, R. (2000) Non- and semiparametric identification of seasonal nonlinear autoregression models. *Statistical Modelling: Proceedings of the 15th International Workshop on Statistical Modelling* (Núñez-Antón, Ferreira Ed), 288-293.
- V Grund, B. and Yang, L. (2000) Hazard regression. *XploRe: Applications Guide* (Härdle, Hlávka, Klinke Ed.), Springer-Verlag, 115-144.
- VI Härdle, W. and Yang, L. (1997) Nonparametric time series model selection. *Interface 96, Computing Science and Statistics*, 407-412.
- VII Härdle, W., Marron, J. S. and Yang, L. (1997) Discussion of “Polynomial splines and their tensor products in extended linear modelling”, by Stone et. al. *Annals of Statistics* 25 (4), 1443-1450.
- VIII Yang, L. (1995) Transformation-density estimation. Ph.D. dissertation, University of North Carolina, Institute of Statistics Mimeo Series #2337.

Guidance of Ph. D. Students as Major Professor (14 Ph.D. students, 9 completed; 13 grand Ph.D. descendants completed, see <http://genealogy.math.ndsu.nodak.edu/id.php?id=47442>)

Lan Xue Fall 2002-Summer 2005, Michigan State University
Full/Associate/Assistant Professor 2018-/2011-2018/2005-2011, Department of Statistics, Oregon State University; **Laha Award**, 2005; **Elected Member**, International Statistical Institute, 2007; P.I., **NSF** awards DMS 0906739, DMS 1812258; P.I., **Simons Foundation** award 272556

Jing Wang Spring 2003-Spring 2006, Michigan State University
Associate/Assistant Professor 2012-/2006-2012, Department of Mathematics, Statistics, and Computer Science, University of Illinois at Chicago; **Laha Award**, 2005; **Elected Member**, International Statistical

Institute, 2010; P.I., **NSF** award DMS 1107017

Li Wang Fall 2004-Spring 2007, Michigan State University
Associate Professor 2014-, Department of Statistics, Iowa State University; **Associate/Assistant Professor** 2013-2014/2007-2013, Department of Statistics, University of Georgia; **Laha Award**, 2006; **Chinese Government Award** for Outstanding Self-Financed Students Abroad, 2006; **Elected Member**, International Statistical Institute, 2008; P.I., **NSF** awards DMS 0905730, DMS 1309800, DMS 1542332, **ASA/NSF/BLS** Research Fellowship; Co-P.I., **NSF** award DMS 1106816

Rong Liu Fall 2005-Summer 2009, Michigan State University
Associate/Assistant Professor 2016-/2009-2016, Department of Mathematics and Statistics, University of Toledo; **Laha Award**, 2007; **Elected Member**, International Statistical Institute, 2013

Qiongxia Song Fall 2007-Summer 2010, Michigan State University
Quantitative Financial Analyst 2017-, Bank of America; **Assistant Professor** 2010-2017, Department of Mathematical Sciences, University of Texas at Dallas; **Laha Award**, 2009; **Elected Member**, International Statistical Institute, 2011

Shujie Ma Fall 2007-Summer 2011, Michigan State University
Associate/Assistant Professor 2017-/2011-2017, Department of Statistics, University of California at Riverside; **Laha Award**, 2009; **Chinese Government Award** for Outstanding Self-Financed Students Abroad, 2010; **Elected Member**, International Statistical Institute, 2012; P.I., **NSF** awards DMS 1306972, DMS 1712558; Co-P.I., **NIH** award R01ES024732

Guanqun Cao (co-advisor, David Todem) Spring 2009-Summer 2012, Michigan State University
Associate/Assistant Professor 2017-/2012-2017, Department of Mathematics and Statistics, Auburn University; **Laha Award**, 2011; P.I., **Simons Foundation** award 354917; P.I., **NSF** award DMS 1736470

Lijie Gu Fall 2011-Spring 2015, Soochow University
Associate Professor 2016-, School of Mathematical Sciences, Soochow University; **IMS Travel Award**, 2015; P.I., **NSFC** award 11701403

Jiangyan Wang Fall 2013-Fall 2016, Soochow University
Lecturer 2017-, School of Statistics and Mathematics, Nanjing Audit University; **IMS Travel Award**, 2014; P.I., **NSFC** award 11801272

Li Cai Fall 2015-, Soochow University

Yuanyuan Zhang Fall 2017-, Tsinghua University

Jie Li Fall 2017-, Tsinghua University

Kun Huang Fall 2018-, Tsinghua University

Zening Song Fall 2018-, Tsinghua University

Guidance of Other MSU Ph. D. Students

13 in Statistics; 12 in Economics, Measurement and Quantitative Methods, Agricultural Economics, Geography, Education, Computer Science, Biosystems Engineering, Civil Engineering

Evaluation for

- **Associate Professorship with Tenure (17)**

Georgia State U, Illinois State U, University of New Hampshire	2008, all successes
Colorado State U, Purdue U, University of Central Florida	2009, all successes
Indiana University Purdue University Indianapolis	2010, success
University of Georgia, University of Illinois at Urbana-Champaign	2011, all successes
Virginia Polytechnic Institute and State University, Clemson University	2012, all successes
University of Illinois at Chicago, College of William & Mary	2013, all successes
George Washington University, Shanghai University of Finance and Economics	2014, all successes
Shanghai University of Finance and Economics	2015, success
Tsinghua University	2016, success

- **Full Professorship with Tenure (5)**

University of Minnesota at Duluth	2011, success
Shanghai University of Finance and Economics	2013, success
Baylor University	2014, success
Auburn University	2016
Shanghai University of Finance and Economics	2018, success

Conference and Seminar Talks

- 1 Oracally efficient estimation for dense functional data with holiday effects. Workshop on Experimental Design and Statistical Science, Beijing Institute of Technology, Beijing, China, October, 2018.
- 2 Time varying models for time series data. The 206-th Shuangqing Forum, Xiamen University, Xiamen, China, August, 2018.
- 3 Estimation of additive frontier functions with shape constraints. The 2018 ICSA China Conference, Ocean University of China, Qingdao, China, July, 2018.
- 4 Two-step estimation for time varying ARCH model. The Eighth International Forum on Statistics, Renmin University of China, Beijing, China, July, 2018.
- 5 Wide applications of functional data analysis. Chinese Center for Disease Control and Prevention, Beijing, China, June, 2018.
- 6 Generalized additive model: theory, methods and applications over thirty years. Northwestern Polytechnical University, Xi'an, China, June, 2018.
- 7 Generalized additive model: theory, methods and applications over thirty years. The Third Peking-Tsinghua Joint Statistics Colloquim, Peking University, Beijing, China, June 3, 2018.
- 8 Prediction interval for autoregressive time series via oracally efficient estimation of multi-step ahead innovation distribution function. Chinese Academy of Sciences, Beijing, China, March, 2018.
- 9 Wide applications of functional data analysis. Shanghai Jiaotong University, Shanghai, China, March, 2018.
- 10 Prediction interval for autoregressive time series via oracally efficient estimation of multi-step ahead innovation distribution function. Tsinghua University Center for Statistical Science Seminar, Beijing, China, March, 2018.
- 11 Efficient estimation for time varying ARCH model. Harbin Institute of Technology, Harbin, China, January, 2018.

- 12 Wide applications of functional data analysis. Renmin University of China, Beijing, China, December, 2017.
- 13 Efficient estimation for time varying ARCH model. Symposium on Modern Statistics at Xiamen University, Xiamen, China, December, 2017.
- 14 Efficient estimation for time varying ARCH model. SDSForum, Fudan University, Shanghai, China, October, 2017.
- 15 Oracally efficient estimation and consistent model selection for auto-regressive moving average time series with trend. Annual Conference of Chinese Association of Quantitative Economics, Jiangxi University of Finance and Economics, Nanchang, China, October, 2017.
- 16 Wide applications of functional data analysis. Soochow University Center for Systems Biology, Suzhou, China, August, 2017.
- 17 A smooth simultaneous confidence band for correlation curve. Northeast Normal University, Changchun, China, July, 2017.
- 18 A smooth simultaneous confidence band for correlation curve. ICSA China Conference, Jilin, China, July, 2017.
- 19 Oracally efficient estimation for dense functional data with holiday effects. IMS-China, Nanning, China, July, 2017.
- 20 A smooth simultaneous confidence band for correlation curve. Southwestern University of Finance and Economics, Chengdu, China, June, 2017.
- 21 Wide applications of functional data analysis. Professor Salon, Tsinghua University, Beijing, China, June, 2017.
- 22 Statistical inference for functional data via simultaneous confidence regions. Lilac International Conference of Application on Statistics, Harbin Institute of Technology, Harbin, China, June, 2017.
- 23 Oracle-efficient confidence envelopes for covariance functions in dense functional data. The 3rd Meeting of Chinese Association for Applied Statistics Section on High Dimensional Data Statistics, Xiamen University, Xiamen, China, April, 2017.
- 24 Oracally efficient estimation and consistent model selection for auto-regressive moving average time series with trend. Chinese Academy of Sciences, Beijing, China, November, 2016.
- 25 Simultaneous confidence bands for the distribution function of a finite population and its superpopulation. Statistics Workshop, Guangxi Normal University, Guilin, China, October, 2016.
- 26 Simultaneous confidence bands for the distribution function of a finite population and its superpopulation. Jiangsu Applied Statistics Annual Meeting, Yixing, China, September, 2016.
- 27 Simultaneous confidence bands for the distribution function of a finite population and its superpopulation. Renmin University, Beijing, China, September, 2016.
- 28 Oracally efficient estimation and consistent model selection for auto-regressive moving average time series with trend. The Third Taihu International Statistics Forum, Shanghai, China, July, 2016.
- 29 Oracally efficient estimation and consistent model selection for auto-regressive moving average time series with trend. Workshop on Statistics and Stochastic Analysis, Shandong University, Jinan, China, July, 2016.
- 30 Oracally efficient estimation and consistent model selection for auto-regressive moving average time series with trend. FERM 2016, Guangzhou, China, June, 2016.

- 31 Simultaneous confidence bands for the distribution function of a finite population and its superpopulation. Shanghai University of Finance and Economics, Shanghai, China, June, 2016.
- 32 Oracally efficient estimation and consistent model selection for ARMA time series with trend. 2015 International Conference on Data Science, Fudan University, Shanghai, China, December, 2015.
- 33 Oracally efficient estimation for single-index link function with simultaneous confidence band. Shanghai University of Finance and Economics, Shanghai, China, November, 2015.
- 34 Parsimonious, accurate and confident credit rating. Peking University, Beijing, China, October, 2015
- 35 Simultaneous confidence corridors and variable selection for generalized additive model. Chinese University of Hong Kong, Hong Kong, China, August, 2015.
- 36 Oracally efficient estimation for single-index link function with simultaneous confidence band. Harbin Institute of Technology, Harbin, China, July, 2015.
- 37 Simultaneous confidence corridors and variable selection for generalized additive model. Harbin Engineering University, Harbin, China, July, 2015.
- 38 Simultaneous confidence corridors and variable selection for generalized additive model. Nanjing University of Aeronautics and Astronautics, Nanjing, China, July, 2015.
- 39 Simultaneous confidence corridors and variable selection for generalized additive model. Beijing Normal University, Beijing, China, July, 2015.
- 40 Oracally efficient estimation for single-index link function with simultaneous confidence band. IMS-China, Kunming, China, July, 2015.
- 41 Simultaneous confidence corridors and variable selection for generalized additive model. Renmin University of China, Beijing, China, June, 2015.
- 42 Simultaneous confidence corridors and variable selection for generalized additive model. Anhui Normal University, Wuhu, China, April, 2015.
- 43 Oracally efficient estimation and consistent model selection for ARMA time series with trend. Shanghai University of Finance and Economics, Shanghai, China, April, 2015.
- 44 Oracle-efficient confidence envelopes for covariance functions in dense functional data. Tsinghua-Sanya workshop on Big Data, Sanya, China, December, 2014.
- 45 Oracally efficient estimation of innovation quantile and prediction bounds for autoregressive time series. Capital Normal University, Beijing, China, November, 2014.
- 46 Oracally efficient smooth simultaneous confidence band for conditional variance function. Shanghai University of Finance and Economics, Shanghai, China, November, 2014.
- 47 Oracally efficient estimation of innovation quantile and prediction bounds for autoregressive time series. Tongji University, Shanghai, China, July, 2014.
- 48 Statistical inference for functional data via simultaneous confidence regions. Tongji University, Shanghai, China, July, 2014.
- 49 Oracally efficient estimation of autoregressive error distribution with simultaneous confidence band. Hebei University of Technology, Tianjin, China, July, 2014.
- 50 Simultaneous confidence corridors and variable selection for generalized additive model. IMS-APRM, Taipei, July, 2014.

- 51 Oracally efficient estimation of autoregressive error distribution with simultaneous confidence band. FERM 2014, Central University of Finance and Economics, Beijing, China, June, 2014.
- 52 Oracally efficient estimation of autoregressive error distribution with simultaneous confidence band. Nankai University, Tianjin, China, April, 2014.
- 53 Oracally efficient estimation of autoregressive error distribution with simultaneous confidence band. Soochow University, Suzhou, China, January, 2014.
- 54 Statistical inference for functional data via simultaneous confidence regions. The Ninth ICSA International Conference, Hong Kong, China, December, 2013.
- 55 Oracally efficient estimation of autoregressive error distribution with simultaneous confidence band. The Second HKUST International Forum on Probability and Statistics, Hong Kong, China, December, 2013.
- 56 Oracally efficient estimation of ARMA model in the presence of trend. Applicable Semiparametrics, Berlin, October, 2013.
- 57 Oracally efficient estimation of ARMA model in the presence of trend. Joint Statistical Meeting, Montréal, August, 2013.
- 58 Oracally efficient estimation of ARMA model in the presence of trend. Tongji University, Shanghai, China, July, 2013.
- 59 Oracally efficient estimation of autoregressive error distribution with simultaneous confidence bands. Tongji University, Shanghai, China, July, 2013.
- 60 Generalized additive modelling of credit rating. Tongji University, Shanghai, China, July, 2013.
- 61 Statistical inference for functional data via simultaneous confidence regions. IMS-China, Chengdu, China, July, 2013.
- 62 Generalized additive modelling of credit rating. Capital University of Economics and Business, Beijing, China, December, 2012.
- 63 Generalized additive modelling of credit rating. Southeast University, Nanjing, China, October, 2012.
- 64 Efficient inference for autoregression in the presence of trend. Peking University, Beijing, China, June, 2012.
- 65 Generalized additive modelling of credit rating. Shandong University, Jinan, China, May, 2012.
- 66 Efficient inference for autoregression in the presence of trend. Shandong Normal University, Jinan, China, May, 2012.
- 67 Efficient inference for autoregression in the presence of trend. Tongji University, Shanghai, China, April, 2012.
- 68 Generalized additive modelling of credit rating. Nankai University, Tianjin, China, April, 2012.
- 69 Efficient inference for autoregression in the presence of trend. East China Normal University, November, 2011.
- 70 The effects of detrending on time series analysis. The Tenth Meeting of the Jiangsu Society of Probability and Statistics, Suzhou, China, October, 2011.
- 71 Generalized additive modelling of credit rating. The First Wuxi International Statistics Forum, Wuxi, China, July, 2011.

- 72 Generalized additive modelling of credit rating. Workshop on Graphical Models and Related Topics, Northeast Normal University, Changchun, China, July, 2011.
- 73 Generalized additive modelling of credit rating. Huazhong University of Science and Technology, Wuhan, China, April, 2011.
- 74 Two-step estimation of generalized additive model. Huazhong University of Science and Technology, Wuhan, China, April, 2011.
- 75 A simultaneous confidence band for sparse longitudinal regression. Statistics Workshop, Chinese Academy of Sciences, January, 2011.
- 76 A simultaneous confidence band for sparse longitudinal regression. East China Normal University, January, 2011.
- 77 Simultaneous inference for the mean function of dense functional data. Shanghai University of Finance and Economics, December, 2010.
- 78 Simultaneous inference for the mean function of dense functional data. Fudan University, December, 2010.
- 79 A jump-detecting procedure based on spline estimation. Joint Statistical Meeting, Vancouver, August, 2010.
- 80 A simultaneous confidence band for sparse longitudinal regression. National University of Singapore, June, 2010.
- 81 A simultaneous confidence band for sparse longitudinal regression. Peking University, May, 2010.
- 82 A simultaneous confidence band for sparse longitudinal regression. University of Science and Technology of China, May, 2010.
- 83 A simultaneous confidence band for sparse longitudinal regression. Soochow University, May, 2010.
- 84 A simultaneous confidence band for sparse longitudinal regression. University of Georgia, April, 2010.
- 85 Shoemaker Lecture III: A simultaneous confidence band for sparse longitudinal regression. University of Toledo, March, 2010.
- 86 Shoemaker Lecture II: Spline confidence bands for variance function. University of Toledo, March, 2010.
- 87 Shoemaker Lecture I: Polynomial Spline confidence bands for regression curves. University of Toledo, March, 2010.
- 88 Simultaneous confidence band for sparse longitudinal regression curve. Georgia State University, November, 2009.
- 89 Simultaneous confidence band for sparse longitudinal regression curve. Georgia Institute of Technology, November, 2009.
- 90 Simultaneous confidence band for sparse longitudinal regression curve. University of Michigan, October, 2009.
- 91 Spline confidence bands for variance function. Inverse Problems Symposium, Michigan State University, May 2009.
- 92 Spline-backfitted kernel smoothing of additive models in time series. Universität Göttingen, Göttingen, Germany, July 2008.

- 93 Spline-backfitted kernel smoothing of additive models in time series. Universität München (Munich), Munich, Germany, July 2008.
- 94 Spline-backfitted kernel smoothing of additive models in time series. Universität Regensburg, Regensburg, Germany, July 2008.
- 95 Spline-backfitted kernel smoothing of additive models in time series. Kazakh National University, Almaty, Kazakhstan, June 2008.
- 96 Spline single index prediction model. Spring Meeting of ENAR, Washington, D.C., March 2008.
- 97 Spline-backfitted kernel smoothing of additive models in time series. University of Central Florida, November 2007.
- 98 Spline-backfitted kernel smoothing of additive models in time series. Clemson University, October 2007.
- 99 Polynomial Spline confidence bands for regression curves, University of Georgia, October 2007.
- 100 Polynomial Spline confidence bands for regression curves. Georgia Institute of Technology, October 2007.
- 101 Spline-backfitted kernel smoothing of additive models in time series. Joint Statistical Meeting, Salt Lake City, August 2007.
- 102 Spline-backfitted kernel smoothing of additive models in time series. Oregon State University, May 2007.
- 103 Spline-backfitted kernel smoothing of additive models in time series. University of Manitoba, April 2007.
- 104 Spline single index prediction model. University of Illinois at Chicago, March 2007.
- 105 Spline-backfitted kernel smoothing of additive models in time series. Purdue University, March 2007.
- 106 The impact of economic intervention on environmental quality: a nonparametric analysis. Humboldt Universität, June 2006,
- 107 Spline confidence band and hypothesis testing of leaf area index trend in East Africa. Michigan State University, February 2006.
- 108 Efficient and fast spline-backfitted kernel smoothing of additive regression model. Texas A & M University, January 2006.
- 109 Confidence band and hypothesis testing of leaf area index trend. International Conference on Statistics in Honor of Professor Kai-Tai Fang's 65th Birthday, Hong Kong, June 2005.
- 110 Efficient and fast spline-backfitted kernel smoothing of additive regression model. National Tsing Hua University, Taiwan, June 2005.
- 111 Spline confidence band and hypothesis testing of leaf area index trend in East Africa. National Taiwan University, Taiwan, June 2005.
- 112 Efficient and fast spline-backfitted kernel smoothing of additive regression model. National University of Singapore, Singapore, May 2005.
- 113 Spline confidence band and hypothesis testing of leaf area index trend in East Africa. University of South Carolina, March 2005.
- 114 Spline confidence band and hypothesis testing of leaf area index trend in East Africa. Colorado State University, March 2005.
- 115 Spline confidence band and hypothesis testing of leaf area index trend in East Africa. Institute for Mathematical Sciences, National University of Singapore, Singapore, March 2005.

- 116 Nonparametric modelling of quarterly unemployment rates. Zhongnan University of Economics and Law, Wuhan, China, December 2004.
- 117 Additive coefficient modelling. Huazhong University of Science and Technology, Wuhan, China, December 2004.
- 118 Nonparametric modelling of quarterly unemployment rates. Huazhong University of Science and Technology, Wuhan, China, December 2004.
- 119 Nonparametric regression. Huazhong University of Science and Technology, Wuhan, China, November 2004.
- 120 Additive coefficient modelling. Beijing Normal University, Beijing, China, November 2004.
- 121 Additive coefficient modelling. Peking University, Beijing, China, November 2004.
- 122 Additive coefficient modelling. Chinese Academy of Sciences, Beijing, China, October 2004.
- 123 Nonparametric modelling of quarterly unemployment rates. Bureau of Labor Statistics, Washington D. C., July 2004.
- 124 Nonparametric modelling of quarterly unemployment rates. Twenty-fourth International Symposium on Forecasting, Sydney, Australia, July 2004.
- 125 Nonparametric multi-step ahead prediction in time series analysis. Bureau of Labor Statistics, Washington D. C., June 2003.
- 126 Non- and semiparametric identification of seasonal nonlinear autoregression models. Bureau of Labor Statistics, Washington D. C., April 2003.
- 127 Identification of additive nonlinear time series: selecting significant lags. Michigan State University, September 2002.
- 128 Nonparametric estimation of generalized impulse response functions. International Conference on Current Advances and Trends in Nonparametric Statistics, July 2002.
- 129 Identification of additive nonlinear time series: selecting significant lags. Universität Konstanz, Germany, July 2002.
- 130 Identification of additive nonlinear time series: selecting significant lags. Econometrics Seminar, Humboldt Universität, July 2002.
- 131 Identification of additive nonlinear time series: selecting significant lags. University of North Carolina-Charlotte, May 2002.
- 132 Direct estimation in an additive model when the components are proportional. Statistics Colloquium, Wharton School, University of Pennsylvania, September 2001.
- 133 Direct estimation in an additive model when the components are proportional. Statistik-Kolloquium, Universität Giessen, Germany, July 2001.
- 134 Direct estimation in an additive model when the components are proportional. ICSA 2001 Applied Statistics Symposium, Chicago, June 2001.
- 135 Nonparametric estimation of generalized impulse response functions. Statistics Colloquium, Wharton School, University of Pennsylvania, November 2000.
- 136 Nonparametric estimation and testing of interaction in additive models. Joint Statistical Meeting, Indianapolis, August 2000.

- 137 Non- and semiparametric identification of seasonal nonlinear autoregression models. Fifteenth International Workshop on Statistical Modelling, Bilbao, Spain, July 2000.
- 138 Nonparametric multi-step ahead prediction in time series analysis. Twentieth International Symposium on Forecasting, Lisbon, Portugal, June 2000.
- 139 Non- and semiparametric identification of seasonal nonlinear autoregression models. Fifth Congress of Bernoulli Society, Guanajuato, Mexico, May 2000.
- 140 Finite nonparametric GARCH model for foreign exchange volatility. ICSA 1999 Applied Statistics Symposium, Georgetown University, June 1999.
- 141 Multivariate bandwidth selection for local linear regression. Weierstrass Institute of Applied Analysis and Stochastics, July 1998.
- 142 Transformation-kernel density estimation. University of Michigan, April 1998.
- 143 Nonparametric time series model selection. Chinese Academy of Sciences, Beijing, China, June 1997.
- 144 Nonparametric time series model selection. Peking University, Beijing, China, June 1997.
- 145 Nonparametric time series model selection. University of California, Santa Barbara, March 1997.
- 146 Nonparametric time series model selection. Michigan State University, February 1997.
- 147 Nonparametric time series model selection. Georgia Institute of Technology, January 1997.
- 148 Nonparametric time series model selection. Charles University, Czech Republic, December 1996.
- 149 Nonparametric time series model selection. Tilburg University, Netherland, November 1996.
- 150 Nonparametric time series model selection. Weierstrass Institute of Applied Analysis and Stochastics, October 1996.
- 151 Nonparametric time series model selection. Sydney International Statistical Congress, Sydney, Australia, July 1996.
- 152 Nonparametric time series analysis. Sixteenth Meeting of the French-Belgian Statisticians: Nonlinear Time Series Models, Brussels, Belgium, November 23-24, 1995.
- 153 Transformation density estimation. Rutgers University, New Jersey, February 1995.
- 154 The use of transformation in kernel smoothing. The Annual IMS meeting, Chapel Hill, North Carolina, June 1994.

Referee Service (over 120 in total, *more than once)

Advances in Statistical Analysis, Advances in Water Resources, American Statistician, Annals of the Institute of Statistical Mathematics*, Annals of Statistics*, Applied Stochastic Models in Business & Industry, Australian & New Zealand Journal of Statistics*, Biometrics, Biometrika*, Canadian Journal of Statistics*, Computational Statistics, Computational Statistics & Data Analysis*, Econometric Theory*, Electronic Journal of Statistics, IEEE Transactions on Automatic Control*, International Journal of Environmental Studies*, Journal of Applied Econometrics, Journal of Business & Economic Statistics*, Journal of Computational & Graphical Statistics*, Journal of Econometrics, Journal of Empirical Finance*, Journal of the Royal Statistical Society, Series B*, Journal of Statistical Planning & Inference*, Journal of the American Statistical Association*, Journal of Time Series Analysis*, Journal of Multivariate Analysis*, Journal of Nonparametric Statistics*, Probability Theory & Related Fields*, Sankhya, Scandinavian Journal of Statistics, Statistica Sinica*, Statistical Science, Statistics*, Statistics & Computing*, Statistics & Decisions, Statistics & Probability Letters*, TEST*