

## CURRICULUM VITAE of QIWEI YAO

**Name** : Qiwei Yao

**Academic Degrees** : BSc in Mathematics, MSc and PhD in Statistics.

**Date of Birth** : 20 July 1960.

**Marital Status** : Married, one son.

**Current Employment** : Professor of Statistics, Department of Statistics, The London School of Economics and Political Science.

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### Higher Education

Feb 1985 – Dec 1987: PhD in Statistics, Department of Statistics, Wuhan University, Wuhan, China.

*Thesis: Boundary crossing probabilities and their applications in sequential analysis and change-point problems.*

Feb 1982 – June 1984: MSc in Statistics, Department of Mathematics, Southeast University, Nanjing, China.

March 1978 – Jan 1982: BSc in Mathematics, Department of Mathematics, Southeast University, Nanjing, China.

### Employment History

From Oct 2002: Chair in Statistics, Department of Statistics, The London School of Economics and Political Science, Houghton Street, London WC2A 2AE.

Sept 2006 – Dec 2009: Head, Department of Statistics, The London School of Economics and Political Science, Houghton Street, London WC2A 2AE.

Jan 2000 – Sept 2002: Reader in Statistics, Department of Statistics, The London School of Economics and Political Science, Houghton Street, London WC2A 2AE.

Oct 1995 – Dec 1999: Senior Lecturer in Statistics, Institute of Mathematics and Statistics, University of Kent at Canterbury, Canterbury, Kent CT2 7NF, UK.

Jan 1993 – Sept 1995: Lecturer in Statistics, Institute of Mathematics and Statistics, University of Kent at Canterbury, Canterbury, Kent CT2 7NF, UK.

Aug 1991 – Dec 1992: Research Fellow funded by SERC, Institute of Mathematics and Statistics, University of Kent at Canterbury, Canterbury.

Dec 1990 – July 1991: *Wissenschaftl. Angestellte*, Institute of Applied Mathematics, University of Heidelberg, Germany.

Aug 1989 – Nov 1990: Research Fellow of the Alexander von Humboldt Foundation, Institute of Mathematical Statistics, University of Freiburg, Germany.

Dec 1987 – July 1989: Lecturer, Department of Mathematics, Southeast University, Nanjing, China.

July 1984 – Feb 1985: Assistant Lecturer, Department of Mathematics, Southeast University, Nanjing, China.

## Honours

- Fellow of *Institute of Mathematical Statistics*
- Elected member of *International Statistical Institute*
- Fellow of *American Statistical Association*
- ICSA 2015 Outstanding Service Award, *International Chinese Statistical Association*

## Professional Memberships

- Fellow of *Royal Statistical Society*
- Member of *International Chinese Statistical Association*
- Member of *Bernoulli Society*

## Editorial Service

- Associate Editor of *Journal of the American Statistical Association* (Theory and Methods), February 2017 – .
- Associate Editor of the *Annals of Statistics*, January 2004 – August 2012, January 2019 - .
- Associate Editor of *Journal of Business & Economic Statistics*, October 2018 – .
- Associate Editor of *Journal of the American Statistical Association* (Applications and Case Studies), July 2012 – December 2018.
- Associate Editor of the *Journal of the Royal Statistical Society*, **B**, April 1998 – July 2002, and January 2015 – December 2018.
- Co-Editor of *Statistica Sinica*, August 2011 – July 2014.
- Associate Editor of *Statistica Sinica*, October 2008 – July 2011.
- Co-Editor of the *Statistics and Its Interface*, June 2007 – May 2011.
- Co-Editor of the *Journal of the Korean Statistical Society*, January 2008 – December 2010.
- Associate Editor of *Journal of Time Series Analysis*, September 2009 – December 2010.
- Co-Editor of the *Sankhya*, May 2004 – December 2007.

- Associate Editor of the *Australian and New Zealand Journal of Statistics*, February 2001 – December 2007.

## Professional Service

- Member of IMS Committee on Fellow, the Institute of Mathematical Statistics, September 2018 – August 2021.
- The IMS representative to the IMS-China Committee, the Institute of Mathematical Statistics, August 2016 – August 2019.
- Elected Member of Council, the Institute of Mathematical Statistics, August 2011 – July 2014.
- Member of the Committee on Nominations, the Institute of Mathematical Statistics, August 2011 – July 2012 and August 2015 – July 2016.
- Member of the Peer Review College of the Engineering and Physical Sciences Research Council, since January 2006.
- Specialist (Time Series) advisor for the 2008 UK Research Assessment Exercise “Mathematics” sub-panel, “Statistics and Operational Research” sub-panel, and “Business and Management Studies” sub-panel.
- Member of the Research Section Committee of the the Royal Statistical Society, May 2003 – April 2007.
- Member of the Postgraduate Training Program Committee of the Royal Statistical Society, October 2004 – September 2006.
- Chairman of the Postgraduate Training Program Committee of the Royal Statistical Society, October 2006 – September 2007.
- Member of the Board of Directors of the International Chinese Statistical Association. 2003 – 2006.
- Referee for: *American Journal of Mathematical and Management Sciences*, *Annals of the Institute of Statistical Mathematics*, *Annals of Statistics*, *Applied Statistics (JRSS C)*, *Atmospheric Environment*, *Bernoulli*, *Biometrical Journal*, *Biometrics*, *Biometrika*, *Communications in Statistics – Theory and Methods*, *Computational Statistics*, *Computational Statistics and Data Analysis*, *Econometrica*, *Econometric Reviews*, *Econometric Theory*, *Econometrics Journal*, *Environmetrics*, *Geophysics*, *IEEE Transactions on Signal Processing*, *Journal of American Statistical Association*, *Journal of Business & Economic Statistics*, *Journal of Econometrics*, *Journal of Empirical Finance*, *Journal of Financial Econometrics*, *Journal of Multivariate Analysis*, *Journal of Nonparametric Statistics*, *Journal of Royal Statistical Society Series B*, *Journal of Statistical Planning and Inference*, *Journal of Time Series Analysis*, *Philosophical Transaction of the Royal Society (London) Series A*, *Proceedings of the Royal Society (London) Series A*, *Probability Theory and Related Fields*, *Sankhya*, *Scandinavian Journal of Statistics*, *Statistical Inference for Stochastic Processes*, *Statistical Methods and Applications*, *Statistica Neerlandica*, *Statistica Sinica*, *Statistics and Computing*, *Statistics and Probability Letters*, *Stochastic Processes and their Applications*, *Studies in Nonlinear Dynamics and Econometrics*, *The Lancet*, *The Statistician (JRSS D)*, *Test*.

- Grant proposal review for: Biotechnology and Biological Science Research Council (UK), Economic and Social Research Council (UK), Engineering and Physical Research Council (UK), Medical Research Council (UK), The Leverhulme Trust (UK), Australian Research Council, Belgian National Fund for Scientific Research, Hong Kong Research Grant Council, National Science Foundation (USA), National Security Agency (USA), Natural Sciences and Engineering Research Council of Canada, Social Sciences and Humanities Research Council of Canada.
- Book proposal review for: Chapman & Hall, Imperial College Press, Oxford University Press, Springer, Wiley, World Scientific.

## External Duties

- External Examiner of Statistics, University of Leicester, since 2017/9.
- External Examiner of Statistics, University of Kent at Canterbury, 2013/10 — 2017/9.
- External Examiner for MSc Data Science and Business Statistics, The Chinese University of Hong Kong, 2010/10 — 2016/9.
- External Examiner of Financial Mathematics (Statistics), University of Sussex, 2007/10 — 2012/12.
- External Examiner of Statistics, York University, 2006/7 — 2008/9.
- External Examiner of Statistics, Hong Kong University, 2005/6 — 2007/8.
- External Examiner of Statistics and Operational Research, Cardiff University, 2001/2 — 2004/5.
- Visiting Examiner of Statistics, The Chinese University of Hong Kong, 2002/3 — 2004/5.

## Consultancies Experiences

Barclays Bank PLC (2012-2014): *providing statistical expertise on implementation of Basel III — A global regulatory standard on bank capital adequacy, stress testing and market liquidity risk.*

Électricité de France (since 2010): *providing methodological expertise on forecasting and classification of electricity demands.*

Winton Capital Management (2011): *modelling and forecasting limit order books for high-frequency trading.*

## Research Grants

January 2019 – December 2020: “Forecasting oil prices based on quantitative methods”. (£148,757). Research grant funded by Andurand Capital Management. (Jointly with Y Chen.)

September 2018 – August 2020: “Analysing and forecasting large electricity consumption data”. (€12,000). Fondation Mathématique Jacques Hadamard, Orsay, France.

Jan 2014 – Dec 2016: “Modelling vast time series: sparsity and segmentation”. (£392,910). EPSRC Research Grant.

- June 2010 – May 2013: “High-dimensional time series, common factors, and nonstationarity” (£334,034). EPSRC Research Grant.
- Oct 2005 – Jan 2009: “Dimension reduction for multivariate time series” (£167,573). EPSRC Research Grant. (Jointly with H Tong and J Penzer.)
- April 2003 – March 2006: “Statistical inference for volatility of time series” (£154,142). EPSRC Research Grant. (Jointly with P Hall and J Penzer.)
- Oct 2002 – Sept 2005: “Spatial and spatio-temporal modelling” (£127,823). Leverhulme Trust Research Grant.
- Feb 1999 – Jan 2002: “Nonlinear time series modelling of periodically fluctuating vertebrate population: a spatio-temporal approach” (£113,772). BBSRC/EPSRC Research Grant. (Jointly with H Tong and N C Stenseth.)
- Feb 1997 – Nov 1998: “Applying the principles of nonlinear time series models to high frequency financial market rates” (£91,176). Research grant funded by Royal Bank of Scotland. (Jointly with B Cheng, M G Kenward and H Tong).
- Jan 1997 – Dec 1998: “A dynamical system approach to multi-input-output nonlinear stochastic systems” (£72,741). EPSRC Research Grant. (Jointly with H Tong.)

**Current Research Interest:** Time series analysis; high-dimensional time series modelling and forecasting; dimension reduction and factor modelling; dynamical network modelling; spatio-temporal modelling; financial econometrics; nonparametric regression.

## Publications

### Books:

1. Fan, J. and Yao, Q. (2017). *The Elements of Financial Econometrics*. Cambridge University Press, Cambridge.
2. Fan, J. and Yao, Q. (2003). *Nonlinear Time Series: Nonparametric and Parametric Methods*. Springer, New York.

### Research Papers:

3. Zhang, R., Robinson, P. and Yao, Q. Identifying cointegration by eigenanalysis. *Journal of the American Statistical Association*, to appear.
4. Li, Z., Lam, C., Yao, J. and Yao, Q. On testing a high-dimensional white noise. *The Annals of Statistics*, to appear.
5. Tu, Y., Yao, Q. and Zhang, R. Error-correction factor models. *Statistica Sinica*, to appear.
6. Gao, Z., Ma, Y., Wang, H. and Yao, Q. (2019). Banded spatio-temporal autoregressions. *Journal of Econometrics*, **208**, 211-230.
7. Chang, J., Guo, B. and Yao, Q. (2018). Principal component analysis for second-order stationary vector time series. *The Annals of Statistics*, **46**, 2094-2124.
8. Chang, J., Qiu, Y., Yao, Q. and Zou, T. (2018). Confidence regions for entrices of a large precision matrix. *Journal of Econometrics*, **206**, 57-82.

9. Ke, Y., Li, D. and Yao, Q. (2018). Nonlinear regression estimation using subset-based kernel principal components. *Statistica Sinica*, **28**, 2771-2794.
10. Chang, J., Yao, Q. and Zhou, W. (2017). Testing for high-dimensional white noise using maximum cross correlations. *Biometrika*, **104**, 111-127.
11. Gao, W., Bergsma, W. and Yao, Q. (2017). Estimation for dynamic and static panel probit models with large individual effects. *Journal of Time Series Analysis*, **38**, 266-284.
12. Peng, L. and Yao, Q. (2017). Estimating conditional mean with heavy tails. *Statistics & Probability Letters*, **127**, 14-22.
13. Guo, S., Wang, Y. and Yao, Q. (2016). High dimensional and banded vector autoregressions. *Biometrika*, **103**, 889-903.
14. Dou, B., Parrella, M.L. and Yao, Q. (2016). Generalized Yule-Walker estimation for spatio-temporal models with unknown diagonal coefficients. *Journal of Econometrics*, **194**, 369-382.
15. Li, W., Gao, J., Li, K. and Yao, Q. (2016) Modelling multivariate volatilities via latent common factors. *Journal of Business & Economic Statistics*, **34**, 564-573.
16. Gong, J., Li, Y., Peng, L. and Yao, Q. (2015). Estimation of extreme quantiles for functions of dependent random variables. *Journal of the Royal Statistical Society*, **B**, **77**, 1001-1024.
17. Sgouropoulos, N., Yao, Q. and Yastremiz, C. (2015). Matching a distribution by matching quantiles estimation. *Journal of the American Statistical Association*, **110**, 742-759.
18. Chang, J., Guo, B. and Yao, Q. (2015). High dimensional stochastic regression with latent factors, endogeneity and nonlinearity. *Journal of Econometrics*, **189**, 297-312.
19. Cho, H., Goude, Y., Brossat, X. and Yao, Q. (2015). Modelling and forecasting daily electricity load via curve linear regression. In *Modeling and Stochastic Learning for Forecasting in High Dimension* edited by A. Antoniadis & X. Brossat, Lecture Notes in Statistics, 35-54, Springer.
20. Cho, H., Goude, Y., Brossat, X. and Yao, Q. (2013). Modelling and forecasting daily electricity load curves: a hybrid approach. *Journal of the American Statistical Association*, **108**, 7-21.
21. Wu, B., Yao, Q. and Zhu, S. (2013). Estimation in the presence of many nuisance parameters: composite likelihood and plug-in likelihood. *Stochastic Processes and Their Applications*, **123**, 2876-2897.
22. Lam, C. and Yao, Q. (2012). Factor modelling for high-dimensional time series: inference for the number of factors. *The Annals of Statistics*, **40**, 694-726.
23. Tao, M., Wang, Y., Yao, Q. and Zou, J. (2011). Large volatility matrix inference via combining low-frequency and high-frequency approaches. *Journal of the American Statistical Association*, **106**, 1025-1040.
24. Lam, C., Yao, Q. and Bathia, N. (2011). Estimation of latent factors for high-dimensional time series. *Biometrika*, **98**, 901-918.
25. Bathia, N., Yao, Q. and Ziegelmann, F. (2010). Identifying the finite dimensionality of curve time series. *The Annals of Statistics*, **38**, 3352-3386.

26. Liu, J.M., Chen, R. and Yao, Q. (2010). Nonparametric transfer function models. *Journal of Econometrics*, **157**, 151-164.
27. Pan, J., Polonik, W., and Yao, Q. (2010). Estimating factor models for multivariate volatilities: An innovation expansion method. In *Proceedings of COMPSTAT'2010*, V. Lechevalier, G. Saporta (edit.), 305-314. Physica-Verlag HD.
28. Lu, Z., Steinskog, D.J., Tjøstheim, D. and Yao, Q. (2009). Adaptively varying coefficient spatio-temporal models. *Journal of the Royal Statistical Society*, **B**, **71**, 859-880.
29. Penzer, J., Wang, M. and Yao, Q. (2009). Approximating volatilities by asymmetric power GARCH functions. *Australian & New Zealand Journal of Statistics*, **51**, 201-225.
30. Fan, J., Peng, L., Yao, Q. and Zhang, W. (2009). Approximating conditional density functions using dimension reduction. *Acta Mathematica Applicatae Sinica*, **25**, 445-456.
31. Li, Q., Pan, J. and Yao, Q. (2009). On determination of cointegration ranks. *Statistics and Its Interface*, **2**, 45-56.
32. Pan, J. and Yao, Q. (2008). Modelling multiple time series via common factors. *Biometrika*, **95**, 365-379.
33. Fan, J., Wang, M. and Yao, Q. (2008). Modelling multivariate volatilities via conditionally uncorrelated components. *Journal of the Royal Statistical Society*, **B**, **70**, 679-702.
34. Polonik, W. and Yao, Q. (2008). Testing for multivariate volatility functions using minimum volume sets and inverse regression. *Journal of Econometrics*, **147**, 151-162.
35. Huang, D., Wang, H. and Yao, Q. (2008). Estimating GARCH models: when to use what? *Econometrics Journal*, **11**, 27-38.
36. Lu, Z., Tjøstheim, D. and Yao, Q. (2008). Spatial smoothing, nugget effect and infill asymptotics. *Statistics and Probability Letters*, **18**, 3145-3151.
37. Kreiss, J.P., Nuemann, M. and Yao, Q. (2008). Bootstrap tests for simple structures in nonparametric time series regression. *Statistics and Its Interface*, **1**, 367-380.
38. Fan, J., Hall, P. and Yao, Q. (2007). To how many simultaneous hypothesis tests can normal, student's  $t$  or bootstrap calibration be applied? *Journal of the American Statistical Association*, **102**, 1282-1288.
39. Lu, Z., Lundervold, A., Tjøstheim, D. and Yao, Q. (2007). Exploring spatial nonlinearity using additive approximation. *Bernoulli*, **13**, 447-472.
40. Pan, J., Wang, H. and Yao, Q. (2007). Weighted least absolute deviations estimation for ARMA models with infinite variance. *Econometric Theory*, **23**, 852-879.
41. Lu, Z., Tjøstheim, D. and Yao, Q. (2007). Adaptive varying-coefficient linear models for stochastic processes: asymptotic theory. *Statistica Sinica*, **17**, 177-197.
42. Yao, Q. and Brockwell, J.P. (2006). Gaussian maximum likelihood estimation for ARMA models II: spatial processes. *Bernoulli*, **12**, 403-429.
43. Yao, Q. and Brockwell, J.P. (2006). Gaussian maximum likelihood estimation for ARMA models I: time series. *Journal of Time Series Analysis*, **27**, 857-875.

44. Hall, P. and Yao, Q. (2005). Approximating conditional distribution functions using dimension reduction. *The Annals of Statistics*, **33**, 1404-1421.
45. Wang, M. and Yao, Q. (2005). Modelling multivariate volatilities: an ad hoc approach. In *Contemporary Multivariate Analysis and Experimental Designs – In Celebration of Professor Kai-Tai Fang's 65th Birthday* J. Fan & G. Li (edit.), 87-97. World Scientific, Singapore.
46. Peng, L. and Yao, Q. (2004). Nonparametric regression under infinite variance dependent errors. *Annals of the Institute of Statistical Mathematics*, **56**, 73-86.
47. Wolff, R.C., Yao, Q. and Tong H. (2004). Statistical tests for Lyapunov exponents of deterministic systems. *Studies in Nonlinear Dynamics and Econometrics*, **8**, 2, Article 10 (<http://www.bepress.com/snnde/vol8/iss2/art10>) .
48. Hall, P. and Yao, Q. (2003). Inference in ARCH and GARCH models with heavy tailed errors. *Econometrica*, **71**, 285-317.
49. Peng, L. and Yao, Q. (2003). Least absolute deviations estimation for ARCH and GARCH models. *Biometrika*, **90**, 967-975.
50. Zhang, W., Yao, Q., Tong, H. and Stenseth, N.C. (2003). Smoothing for spatio-temporal models and its application in modelling muskrat-mink interaction. *Biometrics*, **59**, 813-821.
51. Hall, P. and Yao, Q. (2003). Inference in components of variance models with low replication. *The Annals of Statistics*, **31**, 414-441.
52. Hall, P. and Yao, Q. (2003). Data tilting for time series. *Journal of the Royal Statistical Society*, **B**, **65**, 425-442.
53. Fan, J., Yao, Q. and Cai, Z. (2003). Adaptive varying-coefficient linear models. *Journal of the Royal Statistical Society*, **B**, **65**, 57-80.
54. Yao, Q. (2003). Exponential inequalities for spatial processes and uniform convergence rates for density estimation. In *Development of Modern Statistics and Related Topics — In Celebration of Professor Yaoting Zhang's 70th Birthday*, J. Huang and H. Zhang (edit.), 118-128. World Scientific, Singapore.
55. Polonik, W. and Yao, Q. (2002). Set-Indexed Conditional Empirical and Quantile Processes Based on Dependent Data. *Journal of Multivariate Analysis*, **80**, 234-255.
56. Hall, P., Peng, L. and Yao, Q. (2002). Prediction and nonparametric estimation for time series with heavy tails. *Journal of Time Series Analysis*, **23**, 313-331.
57. Hyndman, R.J. and Yao, Q. (2002). Nonparametric estimation and symmetry tests for conditional density functions. *Journal of Nonparametric Statistics*, **14**, 259-278.
58. Hall, P., Peng, L. and Yao, Q. (2002). Moving-maximum models for extrema of time series. *Journal of Statistical Planning and Inference*, **103**, 51-63.
59. Cai, Z., Yao, Q. and Zhang, W. (2001). Smoothing for discrete-valued time series. *Journal of the Royal Statistical Society*, **B**, **63**, 357-375.
60. Yao, Q., Zhang, W. and Tong, H. (2001) Bootstrap estimation of actual significance levels for tests based on estimated nuisance parameters. *Statistics and Computing*, **11**, 367-371.



61. Finkenstädt, B., Yao, Q. and Tong, H. (2001). A conditional density approach to the order determination of time series. *Statistics and Computing*, **11**, 229-240.
62. Polonik, W. and Yao, Q. (2000). Conditional minimum volume predictive regions for stochastic processes. *Journal of the American Statistical Association*, **95**, 509-519.
63. Cai, Z., Fan, J. and Yao, Q. (2000). Functional-coefficient regression models for nonlinear time series. *Journal of the American Statistical Association*, **95**, 941-956.
64. Yao, Q., Tong, H. Finkenstädt, B. and Stenseth, N.C. (2000). Common structure in panels of short ecological time series. *Proceeding of the Royal Society (London)*, **B**, **267**, 2457-2467.
65. Yao, Q. and Tong, H. (2000). Nonparametric estimation of ratios of noise to signal in stochastic regressions. *Statistica Sinica*, **10**, 751-770.
66. Hall, P., Wolff, R.C.L. and Yao, Q. (1999). Methods for estimating a conditional distribution function. *Journal of the American Statistical Association*, **94**, 154-163.
67. Yao, Q. and Morgan, B.J.T. (1999). Empirical transform estimation for indexed stochastic models. *Journal of the Royal Statistical Society*, **B**, **61**, 127-141.
68. Fan, J. and Yao, Q. (1998). Efficient estimation of conditional variance functions in stochastic regression. *Biometrika*, **85**, 645-660.
69. Hjellvik, V., Yao, Q., and Tjøstheim, D. (1998). Linearity testing using local polynomial approximation. *Journal of Statistical Planning and Inference*, **68**, 295-321.
70. Yao, Q. and Tong, H. (1998). Cross-validatory bandwidth selections for regression estimation based on dependent data. *Journal of Statistical Planning and Inference*, **68**, 387-415.
71. Yao, Q. and Tong, H. (1998). A bootstrap detection for operational determinism. *Physica*, **D**, **115**, 49-55.
72. Fan, J, Yao, Q. and Tong, H. (1996). Estimation of conditional densities and sensitivity measures in nonlinear dynamical systems. *Biometrika*, **83**, 189-206.
73. Yao, Q. (1996). Conditional boundary crossing probabilities and two-stage tests for a change-point. *Scandinavian Journal of Statistics*, **23**, 511-525.
74. Yao, Q. and Tong, H. (1996). Asymmetric least squares regression estimation: a nonparametric approach. *Journal of Nonparametric Statistics*, **6**, 273-292.
75. Yao, Q. and Tong, H. (1994). Quantifying the inference of initial values on nonlinear prediction. *Journal of the Royal Statistical Society*, **B**, **56**, 701-725.
76. Yao, Q. and Tong, H. (1994). On prediction and chaos in stochastic systems. *Philosophical Transaction of the Royal Society (London)* **A**, **348**, 357-369. (An extended version is published in *Chaos and Forecasting* (1995) ed. by H Tong, World Scientific, Singapore, 57-86.)
77. Yao, Q. and Tong, H. (1994). On subset selection in non-parametric stochastic regression. *Statistica Sinica*, **4**, 51-70.
78. Yao, Q. (1993). Tests for change-points with epidemic alternatives. *Biometrika*, **80**, 179-191.
79. Yao, Q. (1993). Asymptotically optimal detection of a change in a linear model. *Sequential Analysis*, **12**, 201-210.

80. Yao, Q. (1993). Boundary crossing probabilities of some random fields related to likelihood ratio test for epidemic alternatives. *Journal of Applied Probability*, **30**, 52-65.
81. Sun, Y. and Yao, Q. (1993). Pre-test estimate of the parameters in seemingly unrelated regression system. *Chinese Journal Applied Probability & Statistics*, **9**, 1-10.
82. Zhang, Y. and Yao, Q. (1991). Some maximal information and generalized maximal entropy priors. *Chinese Journal Applied Probability & Statistics*, **7**, 192-200.
83. Yao, Q. (1989). Large deviations for boundary crossing probabilities of some random fields. *Journal Mathematical Research & Exposition*, **9**, 181-192.
84. Yao, Q. (1987). The MVUE and the MINQE(I, U) of variance components. *Journal of Nanjing Institute of Technology*, **17**, 111-122.

**Reviews and Discussions:**

85. Yao, Q. (2011). Discussion of “Feature matching in time series modeling” by Y. Xia and H. Tong. *Statistical Science*, **26**, 57-58.
86. Yao, Q. (2009). Chaos perspective of nonlinear time series: a selective review. In *Exploration of a Nonlinear World: An Appreciation of Howell Tong's Contributions to Statistics* ed. by K.S.Chan, 149-154. World Scientific, Singapore.
87. Yao, Q. (2008). A discussion on ‘Sure independence screening for ultrahigh dimensional feature space’ by J Fan and J Lv. *Journal of the Royal Statistical Society*, **B**, **70**, 887-888.
88. Yao, Q. (2002). A discussion on ‘An adaptive estimation of dimension reduction space’ by Y Xia, H Tong, WK Li and L Zhu. *Journal of the Royal Statistical Society*, **B**, **64**, 293.
89. Yao, Q. (2001). Book review on “Asymptotic Theory of Statistical Inference for Time Series” by Taniguchi M. & Kakizawa Y. *Biometrics*, **57**, 656-657.
90. Fan, J. and Yao, Q. (1999). A discussion on ‘Fractal analysis of surface roughness by using spatial data’ by S Davies and P Hall. *Journal of the Royal Statistical Society*, **B**, **61**, 33.
91. Yao, Q. (1997). A discussion on ‘Predicting multivariate responses in multiple linear regression’ by L. Breiman and J.H. Friedaman. *Journal of the Royal Statistical Society*, **B**, **59**, 44.
92. Yao, Q. and Tong, H. (1995). On initial-condition sensitivity and prediction in nonlinear stochastic systems. *Bulletin of The International Statistical Institute*, **IP** **10.3**, 395-412.

**Preprints:**

93. Chang, J., Kolaczyk, E.D. and Yao, Q. Estimation of subgraph density in noisy networks.
94. Huang, D., Yao, Q. and Zhang, R. Krigings over space and time based on latent low-dimensional structures.
95. Chen, E.Y., Yao, Q. and Chen, R. Multivariate spatial-temporal prediction on latent low-dimensional functional structure with non-stationarity.
96. Tu, Y., Lin, Y. and Yao, Q. Sieve estimation of transformation for nonlinear cointegration models.

97. Dong, H. and Yao, Q. Estimating spillovers under factor-induced constraints.
98. Zhu, P., Ji, Y. and Yao, Q. The effect of R&D expenditure deduction policy on non-state owned high-tech industry.
99. An, H.-Z., Huang, D., Yao, Q. and Zhang, C.-H. Stepwise searching for feature variables in high-dimensional linear regression.