Clifford Lam

Department of Statistics
London School of Economics
and Political Science
Houghton Street
London WC2A 2AE
UK

Mobile: +44 07523 665 958
Office: +44 (0)20 7955 7636
Email: C.Lam2@lse.ac.uk
Web: http://stats.lse.ac.uk/lam/

Present Position

Lecturer, Department of Statistics, London School of Economics and Political Science, UK.

Education

- **Princeton University, U.S.A.** **2004 - 2008**
  Ph.D. student in Operations Research & Fin. Eng.

  Ph.D. thesis: High-dimensional profile likelihood inference and covariance matrices estimation.
  Adviser: Prof. Jianqing Fan.

  Courses taken include: Statistical Theory and Methods, Linear and Non-linear Optimization, Stochastic Modeling, Probability Theory, Stochastic Calculus and Finance, Financial Econometrics, Generalized Linear Models, Markov Processes, Asymptotic Theory in Statistics, Nonparametric Modeling and Functional Data Analysis.

- **University of Oxford, U.K.** **2000 - 2001**
  M.Sc. in Applied Statistic — Class: Distinction

  M.Sc. dissertation : The British General Election : Analysis Of The Changes Of Electoral Results From 1997 To 2001.
  Adviser: Prof. David Firth.

- **University of Oxford, U.K.** **1997 - 2000**
  B.A. in Mathematical Sciences — Class: First Class Honor

Research Grants

- STICERD/Annual Fund New Researcher Award. "Dimension Reduction Using Factor Models : With Applications in Finance". April 2009 - August 2010.

Honors/Awards

- Student award and travel grant for the International Chinese Statistical Association Symposium 2007. Award to papers with students as the first-author. Please see here for more details.

- College scholarships for the academic years 1998/1999 and 1999/2000 in the University of Oxford for undergraduates with high academic performance throughout the year.

- Swire Scholarship awarded by The John Swire and Sons Ltd to read for the Honor School of Mathematics in the University of Oxford starting from 1997, with full stipends and living expenses.

Research Interests

My research interests include semiparametric modeling, variables and feature selection, regularisation methods and high dimensional data analysis. In particular, estimation of large covariance and precision matrices under different scientific disciplines. Currently my work is on large factor models handling a medium to large set of stocks, with aims to estimate the volatility matrix or the inverse of the volatility matrix, and implications on risk management and portfolio allocations. Further, to develop regularisation methods for general factor modelling of high dimensional time series data for purposes such as improvement of predictions, identification of factors, etc.

Papers/Working Papers

- Lam, C., Yao, Q. and Bathia, N. (2009). Estimation of Large Latent Factor Models for Time Series Data. *Working paper.*

- Lam, C. (2008). Estimation of Large Precision Matrices Through Block Penalization. *Revision in progress, submitted to Journal of Royal Statistical Society, Series B.*

- Lam, C. and Fan, J. (2009). Sparsistency and Rates of Convergence in Large Covariance Matrix Estimation. *Ann. statist.*, **37(6B)**, 4254–4278.

- Lam, C. and Fan, J. (2008). Profile-kernel likelihood inference with diverging number of parameters. *Ann. Statist.*, **36(5)**, 2232–2260.

Referee Services

Annals of Statistics, Journal of the American Statistical Association.

Presentations

- Invited speaker for the conference in celebration of Howell Tong's 65th birthday, Hong Kong University. December 2009.

- TSE-IMT Workshop "Statistics and Econometrics with High Dimensional Data", Toulouse School of Economics, "Estimation of Large Latent Factor Models for Time Series Data", December 1, 2009.

- Seminar, Universiteé catholique de Louvain, "Estimation of Large Latent Factor Models for Time Series Data", October 23, 2009.

- Invited speaker for the 2009 International Conference on Financial Statistics and Financial Econometrics, Southwestern University of Finance and Economics, Chengdu, Sichuan. July 2009.

- Seminar, Oxford-Man Institute of Quantitative Finance. "Large Precision Matrix Estimation for Time Series Data with Latent Factor Model", April 28, 2009.

- Sparsity in Machine Learning and Statistics 2009. "Large Precision Matrix Estimation for Time Series Data with Latent Factor Model", Cumberland Lodge, UK, 1 - 3 April 2009.

- The Fourth London Oxbridge Time Series Conference 2009. "Large Precision Matrix Estimation for Time Series Data with Latent Factor Model", March 20, 2009.

- Seminar, Dept. of Statistics, LSE. “Large Precision Matrix Estimation for Time Series Data with Latent Factor Model”, Feb 6, 2009.

- Dept. of Statistics, LSE. “High Dimensional Factor Analysis with Time Series Data”, Dec 10, 2008.

- Dept. of Statistics, UCL. “Block Penalisation for Precision Matrix Estimation”.

- Dept. of Statistics, the University of Bath. “Block Penalisation for Precision Matrix Estimation”, Oct 3 2008.

- 7^{th} World Congress in Probability and Statistics Singapore 2008. “Estimation of large covariance matrices through block penalization”.

- Invited seminar, Dept. Of Statistics and Actuarial Science, the University of Hong Kong, “Estimation of large covariance matrices through penalization”, Feb 13, 2008.

- Invited seminar, Statistics Dept., the Chinese University of Hong Kong,“Estimation of large covariance matrices through penalization”, Feb 12, 2008.

- The Joint Statistical Meetings 2007, Salt Lake City, Utah, USA. Presentation of “Profile-kernel likelihood inference with diverging number of parameters”.

- ICSA 2007 Applied Statistics Symposium, Raleigh, North Carolina, USA. Student award presentation of “Profile-kernel likelihood inference with diverging number of parameters”.

Teaching Experience

Courses in LSE

- 2008/10 : Lecture, ST300 Regression and Generalised Linear Models.

- 2008/10 : Class tutor, ST201 Statistical Models and Data Analysis.

Teaching Assistant, Princeton University.

- Undergraduate level:
  - ORF 245: Fundamentals of Engineering Statistics (by Prof Jianqing Fan).
  - For four academic terms, including one hour of precept every week. Office hours and grading responsibility.
- Graduate level:
  - ORF 524: Statistical Theory and Methods (by Prof Jianqing Fan).
  - ORF 535: Financial Risk Management (by Prof Patrick Cheridito).
  - ORF 525: Generalized Regression Models (by a postdoctoral student of Prof Jianqing Fan).

Each course requires office hours and grading responsibility, and I have been a teaching assistant for one academic term for each of these courses.

Languages

- English (fluent in reading, speaking and writing)
- Cantonese (fluent in reading, speaking and writing)
- Mandarin (Intermediate in speaking, fluent in reading and writing)