Clifford Lam

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Present Position

- **London School of Economics, UK.** **2008-**
  Lecturer, Department of Statistics.

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.

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 or environmental variables. Various aims include estimating the volatility matrix or the inverse of the volatility matrix, with implications on risk management and portfolio allocations in finance, or detecting change of structures for possible effects of climate change in environmental data. Further, to develop regularisation methods for general factor modeling of high dimensional time series data for purposes such as improvement of predictions, identification of factors and detection of the number of them, etc.

Papers/Working Papers

- Lam, C. (2011). Local smoothing for factor models with smooth loadings. *Working Paper.*
- Lam, C. (2011). Estimation of Locally Stationary Factor Models by Utilizing local Autocorrelation. *Working Paper.*
- Lam, C. and Yao, Q. (2011).Factor Modelling for High Dimensional Time-Series: A Dimension-Reduction Approach. *Revision in progress, submitted to Annals of Statistics.*
- Lam, C., Yao, Q. and Bathia, N. (2011). Estimation of Latent Factors for High-Dimensional Time Series. *Biometrika 2011*; doi: 10.1093/biomet/asr048
- Lam, C. (2010). Estimation of Large Precision Matrices Through Block Penalization. *Revision in progress, submitted to Statistica Sinica.*
- 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

Associate editor of:

- Statistica Sinica (2011-2012)
- Journal of Statistical Planning and Inference (2012-2013)

Also served as a referee for:
Annals of Statistics, Journal of the American Statistical Association, Journal of the Royal Statistical Society: Series B, Econometrica, Journal of Time Series Analysis.

Presentations

- Seminar, the University of Bristol, December 2, 2011.
- Invited speaker for JSM 2011, July 30 - August 4, Miami Beach, Florida.
- Invited speaker for IWFOS 2011, June 16-18, 2011, Santander, Spain.
- Seminar, the University of Manchester, March 9, 2011.
- Invited speaker for ICSA 2010, December 19-22, 2010, Guangzhou University, Guangzhou, China.
- Invited speaker for INSPIRE 2010 Conference on information representation and estimation, September 6-8, 2010, UCL, UK.
- Invited speaker for EMS 2010, August 17-22, 2010, The University of Piraeus, Greece.
- Guest Lectures on Factor Modeling, July 27 - August 9, 2010, Center for the Study of Finance and Insurance, Osaka University.

- Invited speaker for the "Young Researchers Workshop on Finance 2010", Tokyo Metropolitan University & CARF, The University of Tokyo.

- Seminar, Department of Mathematics, University of York. February 25, 2010.

- 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

- 2011/12 : Lecture, ST203 Statistical Models and Data Analysis.
- 2010/12 : Lecture, ST422 Time Series.
- 2008/12 : 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)