

## Publications and Presentations

The most significant papers of research and scholarly work are asterisked.

### Ten Career Best Publications \*

- Allen, D., Chan, F., McAleer, M., Peiris, S. (2008), Asymptotic and Finite Sample Properties of the QMLE for the Log-ACD Model: Application to Australian Stocks, *Journal of Econometrics*, (to appear)
- Peiris, M.S. & Rao, C.R. (2004), A Note on Testing for Serial Correlation in Large Number of Small samples Using Tail Probability Approximations, *Communications in Statistics, Theory and Methods*, **5(2)**, 172-183.
- Peiris, M.S. & Thavaneswaran, A. (2004), A Note on the Filtering for Some Time Series Models, *Journal of Time Series Analysis*, **25(3)**, 397-407.
- Peiris, S. & Thavaneswaran, A. (2001), Multivariate Stable ARMA Processes with time dependent Coefficients, *Metrika*, **54(2)**, 131-138.
- Thavaneswaran, A. & Peiris, S. (1998), Hypothesis testing for some time-series models: a power comparison, *Statistics and Probability Letters*, **38**, 151-156.
- Peiris, S. & Singh, N. (1996), Predictors for seasonal and nonseasonal fractionally integrated arima models, *Biometrical Journal*, **38**, 741-752.
- Chen, G, Abraham, B & Peiris, M.S. (1994), Lag window estimation of the degree of differencing in fractionally integrated time series models, *Journal of Time Series Analysis*, **15**, 473-487
- Peiris, M.S. (1988), On the study of some functions of Multivariate ARMA processes, *Journal of Multivariate Analysis*, **25(1)**, 146-151.
- Peiris, M.S. & Perera, B.J.C. (1988), On the prediction with fractionally differenced ARMA models, *Journal of Time Series Analysis*, **9**, 215-220.
- Peiris, M.S. & Singh, N. (1987), A note on the properties of some nonstationary ARMA processes, *Stochastic Processes and their Applications*, **24**, 151-155.

### Edited Book

1. *Current Research in Modeling, Data Mining and Quantitative Techniques*, (2003), ISBN 0-9751599-0-9, University of Western Sydney Press, V. Pemajayantha, R. Mellor, S. Peiris & J. Rajasekera eds., 21 chapters and 314 pages of text.

### Chapters in Books

2. \*Abraham, B., Thavaneswaran, A. & Peiris, S. (1997), On the prediction scheme for some nonlinear time series models using estimating functions, *IMS Lecture Notes - Monograph Series*, Ishwar V. Basawa, V.P. Godambe & Robert Taylor eds., Institute of Mathematical Statistics, 259-271.
3. Perera, D., Peiris, S. & Weber, N. (2003), A Note on the Distribution of Serial Correlation in Large number of Small Samples, *Current Research in Modeling, Data Mining and Quantative Techniques*, ISBN 0-9751599-0-9, University of Western Sydney Press, V. Pemajayantha, R. Mellor, S. Peiris & J. Rajasekera eds., Chapter 13, 172-192.

4. Ainkaran, P., Peiris, S. & Mellor, R. (2003), A Note on the Analysis of Short AR(1) Type Time Series Models with Replicated Observations, *Current Research in Modeling, Data Mining and Quantative Techniques*, ISBN 0-9751599-0-9, University of Western Sydney Press, V. Pemajayantha, R. Mellor, S. Peiris & J. Rajasekera eds., Chapter 11, 143-157.

#### Articles in Refereed Journals

5. Allen, D., Chan, F., McAleer, M., Peiris, S.(2008), Asymptotic and Finite Sample Properties of the QMLE for the Log-ACD Model: Application to Australian Stocks, *Journal of Econometrics*, (to appear)
6. Perera, D., Peiris, S., Robinson, J., Weber, N. (2008), The Empirical Saddlepoint Method applied to testing for Serial Correlation in Panel Time Series Data, *Statistics and Probability Letters*, (to appear)
7. Thavaneswaran, A.\*, Peiris, S. and Singh, J. (2008), Derivation of Kurtosis and Option Pricing Formulas for Popular Volatility Models with Applications in Finance, *Communications in Statistics: Theory and Methods* **37 (11)** (to appear).
8. Thavaneswaran, A., Peiris, S., Appadoo,S. (2008), Random Coefficient Volatility Models, *Statistics and Probability Letters*, **78**, 582-593.
9. Shitan, M. and Peiris, S. (2008), Generalized Autoregressive (GAR) Model: A Comparison of Maximum Likelihood and Whittle Estimation Procedures Using a Simulation Study, *Communications in Statistics, Simulation and Computation*, **37**, 560-570.
10. Peiris, M.S., Ng, K.H., Ibrahim, I.M., (2007), A Review of Recent Developments of Financial Time Series: ACD Modelling using the Estimating Function Approach, *Sri Lankan Journal of Applied Statistics*, **8**, 1-17.
11. Peiris MS, Thavaneswaran A.(2007), An introduction to volatility models with indices, *Applied Mathematics Letters*, **20**, no. 2, 177-182.
12. Bertrum, W. and Peiris, S. (2007), An example of a misclassification problem applied to Australian equity data, *Computational Statistics and Data Analysis*, 3627-3630.
13. Perera DI, Peiris MS, Robinson J, Weber NC.(2006), Saddlepoint approximation methods for testing of serial correlation in panel time series data, *Journal of Statistical Computation and Simulation*, **76**, no. 11, 1001-1015.
14. Peiris,S., Allen, D., Yang, W. (2005), Some Statistical Models for Durations and an application to News Corporation stock prices, *Mathematics and Computers in Simulation*, **68**, 549-556.
15. Allen D, Peiris MS, Yang JW. (2005) An examination of the role of time and its impact on price revision, *Australian Journal of Management*, **30**, no. 2, 283-301.
16. Thavaneswaran, A., Appadoo, S., Peiris, S. (2005), Forecasting Volatility, *Statistics and Probability Letters*, **75** , 1-10.
17. \*Peiris, M.S. & Rao, C.R. (2004), A Note on Testing for Serial Correlation in Large Number of Small samples Using Tail Probability Approximations, *Communications in Statistics, Theory and Methods*, **33(8)**, 1767-1777.
18. Peiris,S., Allen,D., Thavaneswaran, A. (2004), An introduction to generalized moving average model and applications, *Journal of Applied Statistical Science*, **13**, 251-267.

19. Peiris, M.S. & Thavaneswaran, A. (2004), A Note on the Filtering for Some Time Series Models, *Journal of Time Series Analysis*, **25(3)**, 397-407.
20. Thavaneswaran, A. & Peiris, S. (2004), Smoothed Estimates for Models with Random Coefficients and Infinite Variance, *Mathematical and Computer Modelling*, **39**, 363-372.
21. \*Peiris, M.S. (2003), Improving the Quality of forecasting using Generalized AR Models: An Application to Statistical Quality Control, *Statistical Methods*, **5(2)**, 172-183.
22. Peiris, S., Thavaneswaran, A., Allen, D. & Mellor, R. (2003), Applications of Recursive Estimation Methods in Statistical Process Control, *Statistical Methods*, **5(2)**, 156-171.
23. Hunt, R. L., Peiris, M. S. & Weber, N. C. (2003), The Bias of Lag Window Estimators of the Fractional Difference Parameter, *Journal of Applied Mathematics and Computing*, **12**, 67-79.
24. \*Thavaneswaran, A. & Peiris, S. (2003), Generalized smoothed estimating functions for nonlinear time series, *Statistics and Probability Letters*, **65**, 51-56.
25. Peiris, S., Mellor, R. & Ainkaran, P. (2003), Maximum Likelihood Estimation for Short Time Series with Replicated Observations: A Simulation Study, *InterStat*, **9**, 1-16.
26. Singh, N., Yadavalli, V.S.S. & Peiris, M.S. (2002), A Note on the Modelling and Analysis of Vector ARMA Processes with Nonstationary Innovations, *Mathematical and Computer Modelling*, **36**, 1409-1424.
27. Thavaneswaran, A. & Peiris, S. (2001), Inference for some time series models with random coefficients and infinite variance, *Mathematical and Computer Modelling*, **33**, 843-849.
28. \*Peiris, S. & Thavaneswaran, A. (2001), Recursive Estimation for Regression with Infinite Variance Fractional ARIMA Noise, *Mathematical and Computer Modelling*, **34**, 1133-1137.
29. \*Peiris, S. & Thavaneswaran, A. (2001), Multivariate Stable ARMA Processes with time dependent Coefficients, *Metrika*, **54(2)**, 131-138.
30. Peiris, M.S. & Thavaneswaran, A. (2001), On the properties of some nonstationary ARMA processes with infinite variance, *International Journal of Modelling and Simulation*, **21**, 301-304.
31. Thavaneswaran, A. & Peiris, S. (1999), Estimation for regression with infinite variance errors, *Mathematical and Computer Modelling*, **29**, 177-180.
32. Thavaneswaran, A. & Peiris, S. (1998), Hypothesis testing for some time-series models: a power comparison, *Statistics and Probability Letters*, **38**, 151-156.
33. Singh, N. & Peiris, M.S. (1997), A simulation study on vector arma processes with nonstationary innovation: a new approach to identification, *Journal of Statistical Computation and Simulation*, **58**, 37-58.
34. Anh, V.V., Lunney, K. & Peiris, S. (1997), Stochastic models for characterisation and prediction of time series with long-range dependence and fractality, *Environmental Modelling and Software*, **12**, 67-73.
35. Poznanski, R.R. & Peiris, S. (1996), Subthreshold response to white-noise current input in a tapering cable model of a neuron, *IMA Journal of Mathematics Applied In Medicine & Biology*, **13**, 207-222.

36. Thavaneswaran, A. & Peiris, S. (1996), Nonparametric estimation for some nonlinear models, *Statistics and Probability Letters*, **28**, 227-233.
37. Peiris, S. (1996), Improving the precision of forecasting, *Microelectronics and Reliability*, **36**, 1375-1378.
38. \*Peiris, S. & Singh, N. (1996), Predictors for seasonal and nonseasonal fractionally integrated arima models, *Biometrical Journal*, **38**, 741-752.
39. \*Rai, S.N., Abraham, B & Peiris, M.S. (1995), Analysis of Short Time Series with Overdispersion Model, *Communications in Statistics: Theory and Methods*, **24**, 335-348.
40. Peiris, M.S. (1995), Some Aspects of Forecasting with Vector MA Processes, *Calcutta Statistical Association Bulletin*, **44**, 175-176.
41. \*Chen, G., Abraham, B. & Peiris, M.S. (1994), Lag window estimation of the degree of differencing in fractionally integrated time series models, *Journal of Time Series Analysis*, **15**, 473-487.
42. \*Peiris, M.S. & Court, J.R. (1993), A note on the estimation of the degree of differencing in long memory time series, *Journal of Probability and Mathematical Statistics*, **14**, 223-229.
43. Peiris, M.S. (1991), Some non-stationary ARMA models, *Advances in Modelling and Simulation*, **27**, 21-34.
44. Peiris, M.S. (1990), Analysis of multivariate ARMA processes with nonstationary innovations, *Communications in Statistics: Theory and Methods*, **19**, 2847-2852.
45. Peiris, M.S. & Singh, N. (1989), Optimal experimental design for linear time series models with stochastic coefficients, *Journal of the Indian Society for Statistics and Operations Research*, **10**, 1-4.
46. \*Peiris, M.S. (1988), On the study of some functions of Multivariate ARMA processes, *Journal of Multivariate Analysis*, **25(1)**, 146-151.
47. \*Peiris, M.S. & Perera, B.J.C. (1988), On the prediction with fractionally differenced ARMA models, *Journal of Time Series Analysis*, **9**, 215-220.
48. Peiris, M.S. (1987), A note on the predictors of differenced sequences, *The Australian Journal of Statistics*, **29**, 42-48.
49. \*Peiris, M.S. & Singh, N. (1987), A note on the properties of some nonstationary ARMA processes, *Stochastic Processes and their Applications*, **24**, 151-155.
50. Peiris, M.S. & Singh, N. (1987), A simple and asymptotically optimal test for equality of  $q > 2$  multivariate normal distributions: A pragmatic approach to one way classification, *Microelectron. Reliab.*, **27**, 567-573.
51. Peiris, M.S. (1987), On prediction of multivariate ARMA processes with a time dependent covariance structure, *Communications in Statistics: Theory and Methods*, **17**, 27-37.
52. Peiris, M.S. & Singh, N. (1987), Optimal experimental design for linear time series models, *J.Indian Soc. Statist. Oper. Res.*, **8**, 1-9.
53. \*Peiris, M.S. (1986), On prediction with time dependent ARMA models, *Communications in Statistics: Theory and Methods*, **15**, 3659-3668.

#### Published Articles - Teaching Related

54. Peiris, S. and Beh, E. (2006), Where statistics teaching can go wrong, *CAL-laborate*, UniServe Science, 21-23 (ISSN 1443-4482 or 1443-4490).
55. Peiris, S. and Peseta, T. (2004), Learning Statistics in First Year by Active Participating Students, UniServe Science, *UniServe Science Conference Proceedings*, 76-79.
56. Peiris, M.S. (2002), Teaching Mathematical Statistic, Scholarly Inquiry in Flexible Science Teaching and Learning, UniServe Science, *UniServe Science Conference Proceedings*, 85-86.
57. Peiris, M.S. (2002), A way of teaching statistics: An approach to flexible learning, *CAL-laborate*, **9**, 13-15.

## Published Articles - Other

58. Peiris, M.S. and Rao, C.R.(2003), On testing for serial correlation in large number of small samples using tail probability approximations, *Bulletin of the International Statistical Institute, 54th Session*, Berlin, 232-233.
59. Peiris, M.S. and Allen, D. (2002), Autoregressive Conditional Duration Models, *Proceedings of the Sydney Conference on Probability and Statistics*, 69-81 (P. Cooke, S. Peiris and A. Kozek eds.).

## Published Refereed Conference Papers

60. Shitan, M. and Peiris, S. (2006), Maximum Likelihood Estimation of Generalised Autoregressive GAR (1) Parameters: A Simulation Study, *Proceedings of The National Conference on Mathematical and Statistical Modelling*, pp 50-53, 5-6 Sept, 2006, University Putra Malaysia.
61. Peiris, S., Allen, D. and Peiris, U. (2005), Generalised Autoregressive Models with Conditional Heteroscedasticity: An Application to Financial Time Series, (*Proceedings of the University of Wollongong Workshop on Research Methods: Statistics and Finance*), 66-74. Eric J Beh, Robert G Clark, J C W Rayner (eds.) University of Wollongong, Wollongong, ISBN 1 74128 107 5
62. Bertram, W. and Peiris, S. (2005), Increasing the quality of volatility forecasting with fractional ARIMA models. (*Proceedings of the University of Wollongong Workshop on Research Methods: Statistics and Finance*). Eric J Beh, Robert G Clark, J C W Rayner (eds.) University of Wollongong, Wollongong, ISBN 1 74128 107 5
63. Peiris, S. and Rao, C.R. (2004), An application of Edgeworth expansion on testing for serial correlation in large number of small samples, *International Statistics conference (Sri Lanka) proceedings*, 341-354 (B.M. de Silva & N.Mukhopadyay eds.).
64. Perera, D. and Peiris, S. (2004), Significant testing for lag one serial correlation in repeated measurements using saddlepoint approximation, *International Statistics conference (Sri Lanka) proceedings*, 363-370 (B.M. de Silva & N.Mukhopadyay eds.).
65. Peiris, S., Allen, D. & Wenling Yang (2003), Some statistical models for durations and their applications in finance, Modsim 2003, *Modelling and Simulation Society of Australia and New Zealand Inc.*, 1210-1214.

## Articles in Press (accepted for publication in refereed journals)

66. 2008: Random Coefficient Volatility Models, A. Thavaneswaran, S.Peiris and S.Appadoo, *Statistics and Probability Letters*
67. 2008: GAR Models: A Simulation Study, M. Shitan and S.Peiris, *Communications in Statistics, Theory and Methods*
68. 2008: Financial Time Series Modelling, A.Thavaneswaran, S.Peiris and J.Singh, *Communications in Statistics, Theory and Methods*

### **Articles in Press (accepted for publication in refereed conference proceedings)**

69. Mahendran Shitan, Shelton Peiris and Peh Koa Peng (2007), The Performance of the Method of Moments and Maximum Likelihood Estimators for the Parameters of Generalized Autoregressive (GAR) and Generalized Moving Average (GMA) Model, Proceedings of The 3rd IMT-GT 2007 Regional Conference on Mathematics, Statistics and Applications, 5-6 Dec, 2007, Penang.

### **Successful Research Projects (accepted for awards)**

70. Edgeworth and Saddle point approximations in time series, PhD. (2007)  
Student: D.Perera
71. Financial Modelling, PhD. (2006)  
Student: William Bertrum
72. Nonlinear time series analysis, MSc (2004)  
Student: P. Ainkaran; Supervisor: S. Peiris; Associate Supervisor: M. Raimondo
73. Bias of lag window spectral density based estimates of the fractional degree of differencing, MSc (1996)  
Student: R. Hunt; Supervisor: S. Peiris; Associate Supervisor: N. Weber
74. Detection of serial correlation in large number of small samples, MA (1995)  
Student: M. Lee; Supervisor: S.Peiris
75. Theory of bilinear time series, MA (1994)  
Student: E. Hendy; Supervisor: S.Peiris
76. Analysis of short time series, MSc (1993) (University of Waterloo)  
Student: J. Leung; Supervisor: B. Abraham; Associate: S. Peiris
77. Analysis of long memory time series, Honours (1991)  
Student: R. Court; Supervisor: S. Peiris

### **Conference Papers (revised research reports)**

78. Generalised AR Models and Applications, Statistics in Industry and Business, Cochin, India, January 2003.
79. ACD models and their applications in finance, Sydney Summer Statistics Workshop Series, No.7, UNSW, February 2002.
80. Bias of lag window estimation, Royal Statistical Society (RSS) Conference, University of Glasgow, July 2002.
81. Long memory time series analysis and applications, Oxford University Seminar Series, July 2002.
82. Predictors of seasonal and non-seasonal fractionally integrated ARIMA models, Workshop on Long Range Dependence, QUT, January 1997.
83. A comparison of predictors of some ARMA type time series, Workshop on Recent developments of Time Series and Chaos, ANU, July 1996.
84. Bilinear time series analysis, 13th Australian Statistical Society Conference, Sydney 1996.

85. Bilinear time series models with time dependent coefficients, 23rd conference on Stochastic Processes and Applications, National University of Singapore, June 1995.
86. Experience with fractional time series modeling, 12th Australian Statistical Society Conference, Monash University, July 1994.
87. Some aspects of forecasting with vector ARMA processes, 11th Australian Statistical Society Conference, UWA, July 1992.
88. Multivariate ARMA processes with non-stationary innovations, 10th Australian Statistical Society Conference, UNSW, July 1990.

### **Additional Publications**

89. Time Series: Concepts and Methods, 2004, ISBN 0-646-43301-6. (Developed from class notes.)
90. Time Series in Splus: A Simplified Version, 7th edition, 2005. (Developed from class notes.) Other editions 1999 to 2004.
91. A review of 'Non Standard Time Series', SSAI news letter, 105, p.16, 2003. (Review article.)
92. Proceedings of the Sydney Conference on Probability and Statistics held on 22 February, 2002 at UNSW, Peter Cook, Shelton Peiris and Andrzej eds (10 articles).

### **Papers Completed and Submitted for Publication**

93. A note on filtering and recursive algorithms for some time series.
94. Analysis of volatility models with indices (with A. Thavaneswaran).
95. Statistical Quality Control Charts for Hospital Data.

### **Research Projects in Progress (current)**

96. Financial Modelling (with R. Bhar at the School of Banking and Finance, UNSW).
97. Analysis of Micro Market Structure (with David Allen, Edith Cowan University).
98. Teaching Statistics for First Year Students.
99. Analysis of ACD models and applications to financial data.
100. A new approach in parameter estimation of ARMA models using Bayesian theory.
101. Modelling Road Traffic Accidents using ARMA models.

## Invited Presentations

1. Applied Statistics Association of Sri Lanka, Colombo, January 2008.
2. International Islamic Statistics Conference, Kuala Lumpur, December 2007.
3. University of Malaya/ISM Workshop, November 2007.
4. International Statistical Conference in Malaysia, December 2005.
5. International Statistical Conference in Sri Lanka, December 2004.
6. Illawara Statistics Group Meeting, The University of Wollongong, December 2004.
7. Statistics in Finance Workshop, The University of Wollongong, December 2004.
8. An application of Edgeworth expansion in Time Series. The University of Kelaniya, January, 2003.
9. Tail Probability Applications in Time Series. Department of Statistics, National University of Singapore, January 2003.
10. International Conference in Statistics in Business and Industry. Cochin University India, January 4-5, 2003.
11. An Application of Edgeworth Expansion. Department of Statistics, Pennsylvania State University, September 2002.
12. ACD Models and Applications. Sydney Summer Statistics Conference, 7, 2002, UNSW.
13. Long memory Time Series Analysis and Applications. Thammasat University, Thailand, January 1998.
14. Teaching Time Series Analysis: An easy way. Thaksin University, Thailand, January, 1998.
15. Applications of Estimating Functions. Department of Statistics and Actuarial Science, University of Iowa, 1997.
16. An Introduction to Long Memory Time Series. Institute of Fundamental Studies, Sri Lanka, July 1996.
17. Analysis of vector ARMA processes. Monash University, January 1995.
18. Prediction with Long Memory Time Series. QUT, January 1994.
19. Analysis of Long Memory Time Series. The University of Manitoba, Canada, May 1993.
20. Estimation and Prediction with Long Memory Time Series. Department of Statistics and Actuarial Science, University of Waterloo, April 1993.