

Curriculum Vitae

T.M.J.A. Cooray

Senior Lecturer, Department of Mathematics



1. Name in Full: Tusecooray Mohottigurunnanselage Joseph Ansalam Cooray

Name with Initials: Cooray, T.M.J.A.(BSc) ,P.G.Diploma,(Mathemtics), MSc(Stat), Mphil(Stat)

2. Date of Birth : 21 April 1954,

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5. Official Address: Department of Mathematics
University of Moratuwa
Moratuwa
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6. Current Occupation: Senior Lecturer
Department of Mathematics
Moratuwa, Sri Lanka

7. Research Interests

Operations Research, Time Series Analysis & Forecasting.

Research Awards

- Outstanding researcher award of the University of Moratuwa by the senate in 2007
- Outstanding researcher award of the University of Moratuwa by the senate in 2006

Teaching Experience

38 years of experience of University of Moratuwa as an Assistant lecturer, lecturer and Senior Lecturer, Department of Mathematics, Faculty of Engineering , University of Moratuwa, Sri Lanka.

Responsibilities: Course Coordinator:MSc in Financial Mathematics (Founder of the course)
Course Coordinator:MSc in Operational Research,
Semester 7 and Semester 8 Level Coordinator,
Academic Coordinator.

Former Head of the Department of Mathematics

Achievements: As a Coordinator and Founder of **MSc in Financial Mathematics**

Our team won the first place in the Financial Analyst Competition, 2009 in Sri Lanka. The team participated in Asia Pacific regional final round of Financial Analyst Competition 2009, in the Philippines

Lecturing on: For Post graduate level

Introduction to Statistics,
Operational Research Technique I,
Operational Research Technique II,
Financial Time Series Analysis & Forecasting ,
Game Theory

Lecturing for Under graduate level:

Operational Research,
Time Series And Stochastic process ,
Applied Statistics,
Calculus,
Differential Equations and Applications

Numerical Methods

Methods of Mathematics,

Extra Activities

1983-1984, 2000-2006 Served as a Visiting Lecturer at the Sir John Kotlawala Defence Academy , Ratmalana, Sri Lanka.

2005- to 2007 External Examiner for Mathematics & Statistics, Sir John Kotlawala Academy University, Ratmalana, Sri Lanka.

1984-1990 Served as a Visiting Lecturer for BSc external degree program conducted by University of Peradeniya, Sri Lanka

2000-2007 Visiting Lecturer at the National Institute of Fisheries and Nautical Engineering in Sri Lanka, Mattakkuliya, for BSc in Marine Engineering program.

2006 - to date Examiner of Mathematics Part II and Part I and Part III, Institute of Engineers, Sri Lanka and College of Engineering

2006-to date Chief Examiner of Combined Mathematics for Advanced Level Examination in Sri Lanka

Member of Syllabus Revision Committee for Advanced Level Examination in Sri Lanka, National Institute of Education, Maharagama, since 2006

Senior Treasurer Mathematical Society University of Moratuwa since 2007

Details of the Publications

1. Indralingam, M, **Cooray, T.M.J.A.**, “Missing value Estimation of Time Series Data Using a Spreadsheet”, *Sri Lanka Journal for Applied statistics* Vol2, 2001, pp1-11.

2. Indralingam, M, **Cooray, T.M.J.A.**, “Evaluation of Some Techniques for Forecasting of Electricity Demand in Sri Lanka, Sri Lanka” *Journal for Applied statistics, Vol 3, 2002, pp 23-33.*

3. **Cooray T.M.J.A.**, “Effectiveness of Recursive Estimation of State Dependent Parameter Model Analysis”, *Sri Lanka Journal for Applied statistics, Vol 6, 2005, pp 53-73,*

4. **Cooray T.M.J.A.**, “A Time- Varying Parameter Approach of Tourism Demand Modelling in Sri Lanka”, *Proceeding of the 11th Annual Symposium*, Engineering Research Unit, University of Moratuwa,2005 pp 33-45,
5. **Cooray T.M.J.A.**, “Forecasting The Tourist Arrivals To Sri Lanka And Identifying Influential Factors”, 5th *Annual Research Session*, ARS (2006), pp 9. Eastern University of Sri Lanka,2006.
6. **Cooray T.M.J.A.**, “Determination of Degree of Differencing Necessary To Reduce The Stationarity In Non Stationary Time Series Models”, 5th *Annual Research Session*, ARS(2006), pp Eastern University of Sri Lanka,2006.
7. **Cooray T.M.J.A.**, “Effectiveness of Recursive Estimation of Time Series Models, 5th *Annual Research Session* , ARS(2006), pp 7. Eastern University of Sri Lanka, 2006.
8. **Cooray T.M.J.A.**,”Modeling Sector Wise Demand For Electricity In Sri Lanka Using Bayesian Techniques”, *Sri Lanka Journal for Applied statistics* Vol 7 ,2007, pp 1-15.
- 9.**Cooray**,T.M.J.A, Fernando,E.A.S.K “The Dynamic Response of A Ballooning Yarn Theory And Experiment”, *Journal of the National Science Foundation of Sri Lanka*, (2007),Vol34, No4, pp219-224)
- 10.**Cooray**,**T.M.J.A.**, Fernando,E.A.S.K,”Development/ Design of a Device For Uniform Unwinding Tension Based on Mathematical Modeling of Over-End Yarn Withdrawn”, 85th *Textile Conference was held 1st to 3rd of March 2007*. pp798-812.
- 11 Demmage,P, Wckramaighe, V and **Cooray**,**T.M.J.A** “Sustainable Development Through Workforce Planning: Forecasting Workforce Demand For the Industrial Sector For 2007-2016” *Annual Conference proceedings, University of Sri Jayawardanapura*(2008)pp 147-152,
12. **Cooray. T.M.J.A.** Peiris, TSG “Day and Night Electricity Load Forecasting for Peak Values in Sri Lanka”,*Sri Lanka Journal for Applied statistics*. Vol 9, 2008, pp121-131,
13. **Cooray. T.M.J.A.**”Analysis And Evaluation of Econometric Time Series Models: Dynamic Transfer Function Approach”, (2006). *Proceeding of the 62th Annual Session of the SLAAS*.
14. **Cooray. T.M.J.A** “The Impact of Economic Growth Intervention on Electricity Demand in Sri Lanka”, (2006). *Proceeding of the 62th Annual Session of the SLAAS*.
15. **Cooray. T.M.J.A** “MATLAB For Analysis of Time Series With Multiple Seasonality”, (2006). *Proceeding of the 62th Annual Session of the SLAAS*
16. **Cooray. T.M.J.A** “A New Approach of Identifying Arima Models For Seasonal Time Series”. *Proceeding of the 12th Annual Symposium*, Engineering Research Unit, University of Moratuwa

17. **Cooray, T.M.J.A** “Analysis And Forecasting of Multiple Time Series Models”, pp12-15. *Proceeding of The 13th Annual Symposium*, Engineering Research Unit, University of Moratuwa.
18. **Cooray, T.M.J.A** “Model for tourism forecasting and policy in complex situations”, (2006). *Proceedings, 10th International Conference*, University of Keleniya.
19. **Cooray, T.M.J.A** “Autoregressive Modeling Approach to Forecasting Paddy Yield in Sri Lanka”, *Proceedings, 10th International Conference, University of Keleniya*.
20. **Cooray, T.M.J.A** “Statistical Analysis And Forecasting of Main Agriculture Output of Sri Lanka: Rule-Based Approach”.(2006), *10th International Symposium*, Sabaragamuwa University of Sri Lanka.
21. **Cooray, T.M.J.A** “Development And Present Situation of Technical Education System In Sri Lanka”,(2006). *10th International Symposium*, Sabaragamuwa University of Sri Lanka.
22. **Cooray, T.M.J.A** “Influence of Kalman Filter For State Space Modeling”(2007), pp 23-26. *Proceeding of The 13th Annual Symposium*, Engineering Research Unit, University of Moratuwa.
23. **Cooray, T.M.J.A** “Measuring Volatility In Financial Data Series”.(2009), pp125-126, *Proceeding of The 15th Annual Symposium*, Engineering Research Unit, University of Moratuwa, will be held on 5th November 2009
24. **Cooray, T.M.J.A**, (2011), Capturing Leverage Effect of High Volatility Data, *Annual Academic Secession*, The Open University of Sri Lanka,
25. Pamoda Kodikara, **Cooray, T.M.J.A**, (2011), Econometric Analysis of Value Added Tax With Colombo Consumer Price Index In Sri Lanka , *8th International Conference on Business Management – 2011*, University of Sri Jayawardana Pura,
26. Dammage, P.T, Wickrmasighe, V.M, **Cooray, T.M.J.A** (2011) Sustainable development through Workforce Planning: An Analysis and Forecast of Investment-Based Employment Generation(2011), *Colombo Business Journal (International Journal of Theory and Practice)*, Volume 2.
27. Jayasundara, A.N, **Cooray, T.M.J.A**.(2012) An Approach To Investigate The Relationship Between Share Prices And Macroeconomics Variables, *9th International Conference on Business Management – 2012*, University of Sri Jayawardana Pura,
28. Bulathsinhala, G.J.K, **Cooray, T.M.J.A**.(2013) Higher Earnings of The Financial Intermediaries & Their Impact of Sri Lankan GDP, *10th International Conference on Business Management – (2013)*, pp 14-15.

29. Plewattahge, N.K, **Cooray, T.M.J.A**, (2013), An empirical Investigation on Wagner's Law in Sri Lanka, *10th International Conference on Business Management – (2013)*, pp 42-56.
30. Jayasundara, A.N, **Cooray, T.M.J.A**.(2013) An Approach To Investigate The Relationship Between Share Prices And Macroeconomics Variables, *8th International Conference on Management and Finance – 2013*, University of Sri Colombo.pp176-187
31. Fernando, J.M.M.P, **Cooray, T.M.J.A**, and Dissanayake, D.M.D.O.K, (2013), Development of an Algorithm to Find the Optimum Dredging Region for Short term Scheduling, *National Resource on Earth resource management, ERE 2013, Proceeding of the 7th Annual Conference*, University of Moratuwa, pp 58
32. Shehan Fernando, **Cooray, T.M.J.A**, (2013), Mean Shift Kalman Object Tracking for Video Surveillance, *National Engineering Conference 2013, 19th ERU Symposium*, Faculty of Engineering, University of Moratuwa, pp93-98
33. Selvarajah, Selvandra, **Cooray, T.M.J.A**.(2013) Improving the Epidemiology using The Big Data analysis With Statistical Models, Annual Academic Sessions (2013), The Open University of Sri Lanka. pp 1141-1144.
34. Ranasinghe, L.P, Dissanayake, R.A, **Cooray, T.M.J.A**, (2013), Portfolio Optimization using Quadratic Programming, *8th International Conference on Management and Finance – 2013*, University of Sri Colombo. pp 205-217.
35. E.P, Silili, **Cooray, T.M.J.A**, (2014), Sri Lankan Fashion Clothing Consumers' Attitudes Toward , The Domestic And Imported Fashion Clothing, *5th International Conference on Business and Information*, University of Kelaniya. pp 110-118.
36. Ruchika, Atukorala, **Cooray, T.M.J.A**, (2014), Causal Relationship between Construction Activities and GDP Growth in Sri Lanka, *5th International Conference on Business and Information*, University of Kelaniya. pp 8-20.
37. Gnanapragasam, S. R. **Cooray, T. M. J. A**. Tourist Arrivals after the Internal Conflict in Sri Lanka: A Time Series Analysis using *Holt- Winter's* method, Proceedings of Open University Research Sessions (OURS2016), p.59.
38. Gnanapragasam, S. R. **Cooray, T. M. J. A**. Forecasting Post-War Tourist Arrivals to Sri Lanka using Dynamic Transfer Function method, Proceedings of 3rd International Conference on Multidisciplinary Approaches (iCMA 2016), p.88.

39. Gnanapragasam, S. R. **Cooray, T. M. J. A.** Dissanayake, R. Prediction of international tourist arrivals to Sri Lanka using state space modeling method: An empirical study after the civil war, Proceedings of 9th International Research Conference on Professional Integration for a Secure Nation, p. 202.
40. Gnanapragasam, S. R. **Cooray, T. M. J. A.** An empirical analysis of forecasting international tourist arrivals to Sri Lanka by using *Box-Jenkin's* method: A postwar perspective, Proceedings of Wayamba International Conference (WinC2016), p.19.
41. Gnanapragasam, S. R. **Cooray, T. M. J. A.** Prediction of Dengue Fever Cases in Sri Lanka using Time Series Analysis, Proceedings of 3rd Ruhuna International Science and Technology Conference (RISTCON 2016), p. 35.
42. Senaviratna N.A.M.R., **Cooray, T.M.J.A.**, Forecasting Gold Prices in Sri Lanka Using Generalized Autoregressive Conditional Heteroskedasticity Approach, International Research Journal of Natural and Applied Sciences , Volume4, July 2017, p 99-113
43. Senaviratna N.A.M.R., **Cooray, T.M.J.A** Major factors affecting the severity of motorcycle accidents in Sri Lanka, Proceeding of the 3rd International Symposium on Pure and Applied Sciences, 26th October 2018, Faculty of Scienced, University of Kelaniya
44. Munasighe, H.A.H.C, **Cooray, T.M.J.A.**, Oil Demand in Sri Lanka: An Econometric Approach, International Conference on Business Innovation (ICOBI) 25th August 2018, NSBM, Sri Lanka, p115-119
45. Aponsu, G.M.L.M. **Cooray, T.M.J.A.** Dynamic Relations Between Macroeconomic Variables and The Stock Market Index: Evidence From Sri Lanka, International Research Journal of Natural and Applied Sciences , Volume4, August 2017, p 102-119
46. Dias, D. P. N. P, **Cooray, T.M. J. A.** & Wasantha Rajapakse, Employee Satisfaction of Academics in Sri Lanka: A Logistic Regression Approach, Global Journal of Computer Science and Technology, Volume Xviii, version 1, 2018, p5-11.
47. Kalpage, L.U, **Cooray, T.M.J.A.**, Determinants of Merchandise Export Performance in Sri Lanka, Proceeding of the 15th Open University Research Sessions (OURS 2017) September , pp 363-367.
48. Udeshika, N.B.W.I, **Cooray, T.M.J.A.**, Temporal Patterns Analysis of Paddy Production in Sri Lanka, Proceeding of the 15th Open University Research Sessions (OURS 2017) September , pp 41-45.

49. WEjeyasiri, M, Cooray, TMJA, Macroeconomic Determinants of Household Expenditure In Sri Lanka: A Multivariate Co-Integration Approach, International Research Journal of Natural and Applied Sciences, Volume6, January 2019, p 12-32.

Project Supervision for MSc Students

1. Mr. V.P.G. Gunathilake, Optimization of Container Load Plan for Multi Destination Cargo Consolidation, 2010.
2. Ms. M.G.S.M.A. Fernadinus, Comparing the Applicability of Box-Jenkins ARIMA Methodology and ARCH/GARCH Methodology Among Real Data Sets, 2011
3. Ms. A. Wejeseckara, Preventive Maintenance Model for Automated Filling Machine, 2012
4. Mr. G.J.K. Bulathsinhala, Higher Earnings of the Financial Intermediates & Their Impact of Sri Lankan GDP, 2013
5. Mr. M.D.N. Gunarathna, Model for Risk Probability of Chronic Kidney Diseases in North Central Region of Sri Lanka, 2015
6. J.S.K.C. Pryanka, Analysis of the Sales Checkout Operation in Super Markets Using Queuing Theory. 2015
7. Ms. B.B.U. Pperera, A Strategy to Minimize The Resource Wastage in Scheduling University Course Time Table: Mathematical Approach, 2015
8. Mr. G.M.L.M. Aponsu, Dynamic Relationship Between Macroeconomic Variables and All Share Price Index in Colombo Stock Exchange, 2017
9. Mr. Hettiarchchi A.T, Applications of Queuing Theory to Enhance The Operational Efficiency of the Banking System, 2014
10. Mr. B.M.C.S Hemantha Bandara, Evaluation Of Optimum Time For Planning Scheduling and Resource Allocations of New Ship Construction Project at Colombo Dockyard, 2013
11. Mr D.M.S.P. Bandara, The Impact of Service Quality on Customer Loyalty In Public And Private Banking Sector, 2013.
12. Ms. K.M.E.M. Karunawardana, Analysis of The Relationship Between Exchange Rate and Inflation Rate & Gold Price of Sri Lanka: Co-Integration Approach, 2017
13. W.S.P. Fernando, Enhanced Camshaft Kalman Filter Object Tracking, 2014
14. K.R.S. Koswatta, Solving Multi Index Assignment Problems with Multidimensional Array

Solving Algorithm (MASA), 2013

15. Mr R.Athukorala, Causal Relationship Between Construction Activities & GDP Growth In Sri Lanka, 2014

16. Ms. R.K.M.M.Rajapaksha, Daily Profit Maximization Using Linear Programming Techniques: Sapugaskanda Oilrefinery Station, 2014

17. M.D.N.Gunaratne, Model Of Risk Probability Of Chronic Kidney Disease In North Central Region Of Sri Lanka, 2015

18. Mr. Sebastian Reyalt Gnanapragasm, Time Series Forecasting for Post War prospects of Sri Lankan Tourism 2016.

19. Mr. Selvarajah Selvendra, Lung Cancer Data Analysis Using Mathematical Approach To Develop Big Data Solutions, 2016.

20. Mrs. Viraji Tharanaga Waidyasekara , Identification Of Factors In Selecting Higher Education Oppotunitnuties By General Public, 2015

21. Mrs. W.M.H.De Silva, Develop The Existing Queuing System For Banking Sector Using Monti Carlo Simulation, 2014.

22. Ms. N.K. Pelwathage, An Emprical Investigation of Wagner Law: The Case Study of Sri Lanka, 2014.

23. Mr. WMWAB Wasala , Design And Developing Of User Friendly Software For A Centralized Store Facility Management, 2018.

24. Mr Weeratunga P.R , The Impact of International Financial Reporting Standards Adoption on Accounting Quality: Evidence from Sri Lanka, 2015

26. I.W.Gihan Wishwanath, Factor Affecting Buying Behavior Of Consumers With Loyalty Cards , 2014.

27. Mr. W.A.B. Wasala, Develop a Stochastic Inventory Control Model: A Case Study in Rubber Manufacturing Industry, 2017.

28. Mr. T. Jeyamugan, : Factors Influencing Tourists' Satisfaction in Eastern Province, Sri Lanka, 2018.

29. Ms. M.A.H.C Munasighe, Modeling and Forecasting the Crude Oil Demand in Sri Lanka: An Econometric Approach, 2018

30. Ms D.P.N.P Dias, Statistical Analysis for Predicting the Employee Satisfaction of Academics in Sri Lanka: A Case Study, 2018.

31. Mr. N.E. Linosh, An Improved Primal Solution for the Transportation Problems in Operational Research, 2018.
32. Mr. M.P.M.R.B. Wejesiri, Macroeconomic Determinants of Household Expenditure in Sri Lanka: A Multivariate Co-Integration Approach, 2018.

Publication of Text Books for Undergraduate and Postgraduate level

1. 1st Edition 2003, reprint 2005,2007, Revised Edition 2008

T.M.J.A.Cooray, Advanced Mathematics For Engineers (Volume 1), 287pp. ISBN 955-9027-12-3 , Cooray Printers, Wilorawattha, Moratuwa. (With Solution Manual)

2. T.M.J.A.Cooray, Advanced Mathematics For Engineers (Volume 2), 356pp.

ISBN 955-9982-0-1, Cooray Printers, Wilorawattha, Moratuwa.

3. **T.M.J.A.Cooray**, Applied Time Series Analysis and Forecasting, 2008, 294pp, ISBN 978-1-84265-471-2 Published at Alpha Science International Ltd, Oxford OX4 2JZ, U.K

4. **T.M.J.A.Cooray**, “Engineru Upadi Patamalawa sandaha Usas ganithaya” Sinhala translation of Advanced Mathematics For Engineers (Volume 1), 240pp. ISBN 955-9027-13-1 , Cooray Printers, Wilorawattha, Moratuwa.