GIFT GULATI INSTITUTE OF FINANCE AND TAXATION

Kerala Economic Association (KEA)
in association with
Gulati Institute of Finance and Taxation (GIFT)

One Week Workshop on

Time Series And Panel Data Econometrics

29th April - 4th May 2024

Venue:
Gulati Institute of Finance and Taxation (GIFT), Sreekariyam, Thiruvananthapuram

Sponsored by
Government of Kerala

About the Workshop

Econometric methods are generally considered as assortment of tools and techniques to empirically test and validate economic theories. However, the role of Econometrics in theory building is largely overlooked or unnoticed. The fact that the econometric investigations of time series data of US economy by Charles Cobb and Paul Douglas in the late 1920s and Simon Kuznets in the late 1930s were instrumental in developing the theory of production function and many of the theories of consumption function accentuates the importance of rigorous understanding in econometric methods for the analysis of economic phenomena. It is against this backdrop, the Kerala Economic Association has decided to conduct the one week workshop on Time Series and Panel Data Econometrics with a view to building a firm foundation in the subject matter among academicians and students of Economics.

Organising Committee:

Chair Person:
Prof K N Harilal, President, KEA

Vice Chair Persons:
Prof. K J Joseph, Director, GIFT and
Sri. Santhosh T Varghese, General Secretary, KEA

Coordinator:
Prof Godwin S K, Treasurer, KEA

Convener:
Dr Kiran Kumar Kakarlapudi, Executive Member, KEA & Assistant Professor, GIFT

Resource Person:
Prof Vijayamohanan Pillai N
Honorary Fellow,
Gulati Institute of Finance and Taxation (GIFT)
Thiruvananthapuram

Prof Vijayamohanan Pillai has an illustrious career as a theoretician in Econometrics spanning more than thirty years. He has been teaching Econometrics at leading centres of learning such as various Central Universities, different National Institutes of Technology, Ghokale Institute of Economics and Political Science, IIST Thiruvananthapuram. He was formerly at Centre for Development Studies, Thiruvananthapuram. He pioneered the organisation of One Week Workshops on Time Series Econometrics in Kerala in 2013 and has completed more than 15 such Workshops.

Registration Details

Please submit the details in Google Form: https://t.ly/yh5mT

Registration Fees

- The registration fee for the workshop is Rs 3000, however KEA life members may pay Rs. 1500.
- The registration fee for research scholars is Rs 1000.
- The students of UG/PG programmes need to pay only Rs 300. However, the registration fee will be waived for the UG/PG students if certificate from the HoD concerned is produced recommending fee concession.
- The workshop will have 30 seats for faculty members/research scholars and 25 seats for students which will be filled on the basis of first come first served.

Payment Details:

All payment must be made through online transfer/UPI transfer.
For online transfer (RTGS/NEFT/IMPS)
Name of Account: Kerala Economic Association
Account No: 0819101097488
IFSC Code: CNRB0000819
Bank Name: Canara Bank
Branch: Canara Bank, M.G.Road, Spencer Junction, Thiruvananthapuram 695 039

UPI ID: **keralaecoassn@cnrb**

Programme Details:

Day One: 29/04/2024, Monday

Technical Session 1 (09:30 to 11:00 am)
Statistical foundations of Time Series Analysis—Probability Distributions & their characteristics—Moment Generating

Functions Technical Session 2 (11:15 to 12:45pm)
Recapitulation of Classical Linear Regression Model—OLS—Assumptions—Consequences of Violation of Assumptions—HAC Standard Errors

Technical Session 3 (01:30 to 03:00 pm)
Introduction to Time Series Modelling: Stochastic Process —Stationary and White Noise Processes—Non Stationarity and Random Walk Models—Deterministic and Stochastic Trends / Trend and Difference Stationary Processes

Technical Session 4 (03:15 to 04:45 pm)
Data Lab and Discussion—Test of Stationarity, Correlogram/Auto Correlation Function (ACF) and its Significance—Q and LB Statistic

Day Two: 30/04/2024, Tuesday

Technical Session 5 (09:30 to 11:00 am)
World Decomposition Theorem—AR and MA processes—ARMA process—ARMAX—ARIMA and ARFIMA Modelling

Technical Session 6 (11:15 to 12:45 pm)
Non Stationary Time Series and the problem of Spurious Regression—Solutions—Transforming the Non Stationary Time Series

Technical Session 7 (01:30 to 03:00 pm)
Unit Root Test—Augmented Dicky-Fuller test—Nonparametric PP Test—Structural Change

Technical Session 8 (03:15 to 04:45 pm)
Linear combination of non-stationary series: Cointegration—Difference between Unit Root and Cointegration Tests — Augmented Engle-Granger test and Johansen—Juselius tests—Bounds Testing (ARDL)

Day Three: 01/05/2024, Wednesday

Technical Session 9 (09:30 to 11:00 am)
Data Lab and Discussion—Unit Root Test and Structural Change—Test and Use of Dummy Variables

Technical Session 10 (11:15 to 12:45 pm)
Cointegration and Error Correction Mechanism and Granger Representation Theorem—Granger Causality—VEC (Vector Error Correction Model) —Toda and Yamamoto Procedure

Technical Session 11 (01:30 to 03:00 pm)
Data Lab and Discussion—Classical Test of Stationarity—Cointegration—Critique

Technical Session 12 (03:15 to 04:45 pm)
Data Lab and Discussion—Augmented Engle-Granger test—Johansen Juselius Test—VEC

Day Four: 02/05/2024, Thursday

Technical Session 13 (09:30 to 11:00 am)
Time Series Forecasting— Single Equation and Simultaneous Equation Regression Modelling and the Lucas Critique—Point Forecasts and Forecast Optimality

Technical Session 14 (11:15 to 12:45 pm)
Introduction on VAR, VEC (Vector Error Correction Model), Structural VAR (SVAR) and Bayesian's VAR (BVAR) —Impulse Response Functions—The issue of optimal lag length—Simple time series forecasting models—In sample & out of sample (VAR)

Technical Session 15 (01:30 to 03:00 pm)
Data Lab and Discussion—VAR—Granger Causality—SVAR—Impulse Response Functions—VEC

Technical Session 16 (03:15 to 04:45 pm)
Measurement of Volatility, ARCH/GARCH/TARCH/EGARCH Models, Forecasting and Estimation

Day Five: 03/05/2024, Friday

Technical Session 17 (09:30 to 11:00 am)
Data Lab and Discussion—Measurement of Volatility—ARCH and GARCH Models—Forecasting and Estimation

Technical Session 18 (11:15 to 12:45 pm)
Panel Data Models—Nature and Data Sources—Constant Coefficients Model— Error Components Models—Fixed Effect (Lest Squares Dummy Variable LSDV) Model—Fixed Effect (Within Groups WG) Estimator—Random Effects Model (REM)

Technical Session 19 (01:30 to 03:00 pm)
Breusch-Pagan Test—Hausman Test—Consistency Property of Estimators

Technical Session 20 (03:15 to 04:45 pm)
Data Lab and Discussion: Panel Data Models—Various Tests

Day Six: 04/05/2024, Saturday

Technical Session 21 (09:30 to 11:00 am)
Dynamic Panel Data Analysis—Panel Data Unit Root—Cointegration Tests

Technical Session 22 (11:15 to 12:45 pm)
Data Lab and Discussion: Dynamic Panel Data Models—Unit Root and Cointegration Tests

Technical Session 23 (01:30 to 03:00 pm)
Growth Rate Estimation—Robustness—Endogenous and Exogenous Breaks—Kinked Exponential Growth Rates—Robustness—Endogenous and Exogenous Breaks

Technical Session 24 (03:15 to 04:45 pm)
Data Lab & Discussion: Growth Rate Estimation—Exogenous and Endogenous Breaks—Kinked Exponential Growth Rates

Highlights of the Workshop

Academic Content:

Total Duration: 36 Hours (Details inside) | Theoretical Aspects: 24 Hours | Data Lab and Discussion: 12 Hours

Career Advancement:

According to the 7th UGC Regulations, Workshops with a duration of at least 5 days will be considered as Short-term programme for CAS (Career Advancement Scheme) placements / promotions for College &University teachers.

Duty Leave:

Duty leave will be issued as per GO No 1864/2023/H Edu dt 16-12-2023

Course Certificate:

The course certificate will be issued to all the registered participants of the Workshop.