



National Agricultural Higher Education Project (NAHEP) Funded

Online Training Course on

Time Series Techniques for Forecasting in Agriculture

1-10 December, 2021

Convenor

Dr. Alka Singh

Head and Professor

Co-convenor

Dr. Girish K Jha

Principal Scientist

Coordinators

Dr. Nithyashree M L

Scientist

Dr. Asha Devi S S

Scientist

Division of Agricultural Economics, ICAR-IARI, New Delhi-12

Last date to register : 28th November, 2021

Registration fee : Nil

Register here : <https://forms.gle/GbuyWmiKB7wQPZNC9>

QR Code for registration :



Contact Details : nahep.eco2020@gmail.com

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About NAHEP-CAAST

Centre for Advanced Agricultural Science and Technology (CAAST) is a new initiative and student-centric sub-component of World Bank sponsored National Agricultural Higher Education Project (NAHEP) granted to IARI in order to provide a platform for strengthening education and research activities of post-graduate and doctoral students. CAAST theme for IARI is “Genomic Assisted Crop Improvement and Resource Management” that aims explicitly at inculcating genomics literacy and skills among the students of IARI and other universities.

Training at a glance

The course is designed to familiarize the students with advanced quantitative techniques in specific areas such as demand projection of agricultural commodities and forecasting of agricultural prices using time series techniques. Besides, the training will help the students to get acquainted with Artificial Intelligence (AI) and Machine Learning (ML) which are emerging as important tools for forecasting. The analytical tools covered in this training will facilitate students to update their knowledge and skills that enable them to address research issues pertained to these specified areas with empirical rigour. There will be balanced emphasis on both theory and application. The training encourages discussion of practical issues in implementing each of these techniques besides the hands-on exercises. Training sessions will be conducted by eminent researchers of national and international repute.

Trainees on completion of the course will receive a certificate of participation

Program Schedule

**Classes will be held in two sessions daily
3:30 PM –5.00 PM & 5.15 PM-6.45 PM**

Day 1 : Forecasting Techniques: An overview; Regression and Causal Inference

Day 2 : Introduction to R Software: Data structures, data frames, import of external data in various file formats; Graphics and plot : Plot of the autocorrelation and partial autocorrelation functions

Day 3 : Econometric models for consumption analysis; Estimation of Almost Ideal Demand System (AIDS) model for food commodities

Day 4 : Application of commodity outlook models for generating outlook on agricultural commodities and policy simulations; Hands-on session on generating medium- and long-term outlook of agricultural commodities

Day 5 : Statistical time series models: Box-Jenkins methodology for ARIMA models; Modelling volatility: Illustration for fitting ARIMA and (G) ARCH Models

Day 6 : Multi-equation time series models; Hands-on session on Vector Auto-regression (VAR) analysis

Day 7 : Cointegration and error correction models; Hands-on session on Engle-Granger and Johansen methodologies for cointegration

Day 8 : Introduction to Machine Learning (ML): Error functions, optimizations algorithm, learning and generalization; Hands-on session on Artificial Neural Networks (ANN) for agricultural price forecasting using real data

Day 9 : Introduction to Artificial Intelligence: Convolutional Neural Network (CNN) and long short-term memory (LSTM) model; Deep Neural Networks for agricultural price forecasting using Python

Day 10 : Application of Empirical Price Forecasting Project : Issues and challenges; Open session &Valedictory

Who can participate?

Students pursuing M.Sc. or Ph.D. in Agricultural Economics /Extension / Statistics at various Agricultural Universities/Central Agricultural Universities /UGC recognized private agricultural universities/ICAR institutes are eligible to apply. Knowledge of R software is desirable. No. of participants is limited to 50 (10 candidates from ICAR-IARI, Delhi and 40 from other agricultural universities/ Organizations). Laptop and a good internet connection are mandatory.

How to apply?

Interested candidates can apply till 28th November, 2021 through the Google form link provided previously. It is mandatory to attach a permission/forwardal letter/endorsement by e-mail from the department/university to be eligible for the training. The training will be hosted on Zoom.

All those who could not be the part of the web training programme can access the sessions through You Tube link given on www.nahep-caast.iari.res.in.

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