

Webinar on
**Reliability and Applied Time Series
Analysis**

(RATSA-2021)

March 19 – 20, 2021



Organized by



**Department of Mathematics
National Institute of Technology Calicut
Kozhikode-673601, Kerala**

**Sponsored by TEQIP –III, MHRD
As a part of
Diamond Jubilee Celebrations of NIT
Calicut**

About the Department of Mathematics

The Department of Mathematics is one of the oldest departments in NIT Calicut (formerly known as Calicut Regional Engineering College (CREC)). It was established in the year 1961. In addition to the courses offered for the B. Tech., B. Arch, M.C.A. and M. Tech. programmes of the institute, the Department offers Ph. D and M.Sc. Degrees in Mathematics.

The Department has strong research groups in the areas of Pure and Applied Mathematics. The following are some specific research areas : Numerical Analysis and Scientific Computing, Graph theory, Fuzzy Graph Theory, Topology, Wavelets and Time Series Analysis, Stochastic Process and Applications, Singular Perturbation Problems, Set Generalizations, Operator Theory, Operation Research, Harmonic Analysis, Fractals, Computational Fluid Mechanics, Commutative Algebra, Statistical Inference, Reliability Modelling and Designs, and Fuzzy Reliability Estimation.

About NIT Calicut

National Institute of Technology Calicut (NITC) is fully funded by MHRD, Govt. of India, and is governed by the NIT Act 2007. Institute has ten Departments, three Schools and nine Research centers. It offers ten UG, and thirty PG programmes along with the Ph. D programme in various fields of Science, Technology and Engineering. Faculties in the various Departments have strong collaborations with Universities and Elite Institutions within and outside India for research and carry on consultancy for industries. For details see the website: www.nitc.ac.in

In Honor of



**Dr. Jessy John C
Professor**

Department of Mathematics

Dr. Jessy John C is a senior professor with 31 years of academic experience in the Department of Mathematics of National Institute of Technology Calicut (NITC). She started her teaching career as Junior Lecturer in Government College service in October 1981. Later, she joined as Lecturer in CUSAT and Associate Fellow in Centre for Development Studies, Trivandrum before joining NITC service, which was then known as Calicut Regional Engineering College (CREC). She was a post-doctoral fellow in the University of Calicut during 1989 – 1990. Dr. Jessy John C completed her Masters Degree in Mathematics and Doctoral degree in the area of Time Series Modelling and Forecasting from the Department of Mathematics of Cochin University of Science and Technology. She is a strong researcher in Time Series Modelling and Forecasting with good number of publications in National and International journals. Dr. Jessy John C has successfully guided four doctoral candidates and one Ph.D is ongoing under her supervision. She has coordinated a number of National/International workshops and conferences. She has served the institute in various capacities such as Warden, Chairperson of UG Admissions, Head of the Department, etc. Dr. Jessy John C is retiring from the services of NITC on 31st May 2021 after spending a wide span of her academic life in the institute. She has dedicated her whole service as a good academician and researcher, while actively engaging various developmental activities at the department as well as at the the Institute level. Her contributions to the Department of Mathematics and the Institute are noteworthy. This Webinar is organized as part of the celebration of diamond jubilee year of NIT Calicut and to honor Professor Jessy John C.

About the Webinar

Time series analysis comprises methods for analyzing time series data in order to extract meaningful statistics and other characteristics of the data. Time series analysis deals with model identification and forecasting. The webinar is aimed at providing a platform for understanding and sharing recent advances in time series analysis, forecasting and its applications in reliability data analysis among researchers in science and engineering. This webinar will also address some emerging applications in the field of time series analysis and forecasting using advanced computing facilities. The programme will focus on fundamental concepts as well as scientific and engineering applications of time series analysis using soft computing methods. The fundamental reliability theory concepts with an emphasis on utilizing industrial data for statistical inference will be discussed. Applications of new technology and soft-wares for modelling and forecasting real world time series will be discussed at great length to equip researchers with necessary skills to promote sustainable research and developments in the area of time series analysis and reliability. There will be some interactive sessions with eminent researchers to familiarize the concepts of time series data analysis with a focus on adapting reliability in data analysis.

Topics to be covered in the Webinar

- Fundamental concepts of Reliability and Time Series Analysis
 - Introduction to Applied Time Series Analysis
 - Modelling of stationary/non-stationary Time Series
 - Analysis of nonlinear Time Series
 - Reliability theory and applications
 - Interactive session by participants
- (Participants are advised to keep their Laptop ready for the hands-on training sessions)

Resource Persons

The sessions will be handled by experts from ISI, IIST, IIT, NIT Calicut and guest faculty from leading Research Institutes/Universities and R & D organizations.

Eligibility

- Faculty members from Academic and Technical Institutions
- Working professionals and Practicing Engineers from various Research Organizations and Industries, and Research scholars and PG students in Mathematics/Statistics/Engineering.

Registration Fee

A registration fee of **Rs.100/- (inclusive of 18% GST)** is to be paid online. Participants from NIT Calicut are exempted from the payment of registration fee.

The selection to this webinar is on **first come first serve basis** from the applicants.

How to Apply?

For registration, fill the online google form at <https://forms.gle/tqcWSbKXEjX6UsfHA> and upload the scanned copy of the signed endorsement form. The registration fee has to be paid through online transfer and is nonrefundable.

The bank details for online transfer of registration fee are given below.

**Bank : State Bank of India,
Branch : Chathamangalam, NIT Campus P.O.,
IFSC : SBIN0002207, MICR Code : 673002012,
Account Number : 31994129466,
Account Holder's Name: Director NIT Calicut.**

Please mention "RATSA 2021" in Remarks/Comments during online transaction.

All the registered participants on attending the webinar will be provided e-certificates.

Last date for registration is 17 March 2021.

Registration Form for RATSA 2021

1. Name :
2. (a) Date of birth : (b) Sex : M/F
3. Designation :
4. Department :
5. Institution :
6. Mobile :
7. Email :
8. Highest qualification
9. Category : Faculty/Industry/Research Scholar/PG Student
10. Registration fee paid :
11. Online transaction Ref. No. And date :

Self-Endorsement

I hereby certify that I am an employee/student of and hereby register for the webinar on "**Reliability and Applied Time Series Analysis (RATSA 2021)**" organized by the Department of Mathematics of NIT Calicut during the period from 19th - 20th, March 2021.

Place:

Date: Name & Signature of Participant

Coordinators

**Dr. Lineesh M C & Dr. Mahesh Kumar
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TEQIP III, MHRD Sponsored Webinar

Reliability and Applied Time Series Analysis (RATSA-21), March 19 - 20, 2021

Organised by Department of Mathematics, NIT Calicut as a Part of Diamond Jubilee Celebrations of NIT Calicut

Day 1	09.00 – 09.20	09.30 – 11.00	11.10 – 12. 25	01.00 – 02.15	02.30 – 03.45	04.00 – 05.15
19.03.2021 Friday	Inauguration	Multi-Phased Mission Systems : Applications and Reliability Assessment - KJ	Introduction to ARIMA Model - SKK	Nonlinear Time Series Analysis - AKCV	Non-Homogeneous Poisson Process models and its Applications-I - MK	Non-Homogeneous Poisson Process models and its Applications-II - MK
Day 2	09.00 – 10.00	10.15 – 11.45	11.55 – 01.15	02.00 – 03.15	03.30 – 04.45	05.00 – 05.30
20.03.2021 Saturday	Issues Related to Time Series Analysis and Applications - WWSW	Large Scale Reliability Testing in E-commerce - AB	Time Series Modeling using Gini-Auto-covariance and Autoinformation Function - SKK	Non Gaussian Time Series Modeling -KJK	Applications of TP2/RR2 Functions in Probability and Statistics : A Review of Some Key Results- NM	Valedictory Function

WWSW – Dr. William W S Wei, Professor of Statistics, Temple University, United States.	AB – Mr. Anurag Beniwal – Senior Applied Researcher, Amazon, US.	MK - Dr. Muralidharan K, Professor, Department of Statistics, M S University of Baroda.	KJ – Dr. Kanchan Jain, Professor, Department of Statistics, Central University of Punjab.
KJK – Dr. K Jayakumar, Professor, Department of Statistics, University of Calicut.	SKK – Dr. Sudheesh Kumar K, Associate Professor, Applied Statistics Unit, Indian Statistical Institute, Chennai.	NM – Dr. Neeraj Misra, Professor, Department of Mathematics and Statistics, IIT Kanpur.	AKCV- Dr. Anil Kumar C V, Professor, Department of Mathematics, IIST, Trivandrum.