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# Different aspects of statistical modeling for the prediction of infectious disease dissemination

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In this talk, we will be discussing three different statistical modelling and prediction techniques namely Distribution Fitting, Time Series Modelling and Epidemiological Modelling for various infectious diseases including the recent pandemic of COVID-19. The distribution fitting, time series modelling along with predictive monitoring approaches and epidemiological modelling are illustrated. When the epidemiology data is sufficient to fit, the normal distribution in general and other theoretical distributions are fitted and the best-fitted distribution is obtained for the prediction of the spread of the disease on the basis of their goodness of fit. As the infectious diseases develop over time, different time series models are fitted and the prediction is done based on the best-fitted model. In epidemiological modelling, more biological parameters are incorporated in the models and the forecasting of the disease spread is carried out on the basis of the fitted compartmental model. Thus on the basis of the results obtained from different approaches of analysing and predicting the infectious disease spread, the best policies may be made and the most suitable measures may be applied to control the further dissemination of the infectious disease.

**Keywords:** Distribution Fitting, Time Series Regression Models, Epidemiological Models, Parameters, Estimation, Prediction.

**Biography**

Dr. Subhash Kumar Yadav completed his PhD at the age of 27 years from the Department of Statistics, University of Lucknow, India. He worked for eight years as Assistant Professor at Department of Mathematics and Statistics, Dr Rammanohar Lohia Avadh University, Ayodhya, India. Presently he is working as Associate professor at Department of Statistics, Babasaheb Bhimrao Ambedkar University, Lucknow. He has published more than 60 papers in reputed journals indexed with Scopus/WoS in different areas of Statistics which includes Sampling, Regression Analysis, Econometrics, Operations Research and Disease Modelling. He has been serving as an editorial board member and reviewers of different reputed journals. He has got Best Paper Award in a conference at Virginia, USA in 2018 and Research and Academic Excellence Award in 2020 and 2022 at his current institution.

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