

# Biostatistical Applications of Time Series Analysis

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## **Abstract**

Time series data refers to observations that are collected in time. For instance, the daily temperature recorded at a certain region or registering the daily number of admitted patients to some hospital. We will present several cases of time series analysis methods with a focus to biostatistical problems, that is questions raising from medical applications. We will discuss statistical methods which are based on both spectral and time domain analysis of time series data. For the spectral domain methods, the emphasis will be given to the identification of possible periodicities and clustering. For the time domain methods, we focus on modeling and prediction of integer count time series data. The talk will be given in terms of real data examples and any theory underlying these methods will be briefly outlined.