# 國立中山大學應用數學系
# 學術演講

講　者：Prof. Masanobu Taniguchi (Waseda University)

講　題：Invitation to Time Series Analysis : Theory ＆Applications

時　間：2025/3/10（Monday）14:10 ~ 15:00

地　點：理 SC 4009-0 教室

茶　會：13:45

**Abstract**

In this talk, topics from the elementary statistics to modern new one will be delivered. First, we explain the meaning of mean, variance, deviation,,, of statistical data. As the theoretical aspect, we introduce mathematical statistics, mentioning estimator, unbiasedness, sufficiency etc. For goodness of estimator, Rao-Blackwell theorem is stated with an interesting episode of C.R.Rao.

Then we explain the elements of time series, feature of financial data, and nonlinear time series models. Their optimal inference is discussed based on LAN structure, and as an optimal estimator, MLE is given. We apply time series analysis for medical data e.g., ECoG, EMG data to illuminate diseases.

Actual data are essentially non-stationary. For such time series, the optimal inference is established. Classification problems are addressed for such data.

We also deal with the problem of portfolio. For this the optimal portfolio coefficients are given by our modern statistical methods.

As an interesting episode, Nightingale's life will be mentioned. We explain her relationship to statistics and graphical method in statistics.

Finally Granger causality will be introduced two time series, and we apply this concept for tourism statistics.

敬　請　公　告！　歡　迎　參　加！

應用數學系：http://math.nsysu.edu.tw
校園地圖：http://math.nsysu.edu.tw/var/file/183/1183/img/779/nsysu_math_map.jpg
交通資訊：https://www.nsysu.edu.tw/p/412-1000-4132.php?Lang=zh-tw

應用數學系 校園地圖 交通資訊