Postdoc Seminar

Title：Synthesized Age-Period-Cohort Prediction Method and My Research Career

Speaker：Prof. Shih-Yung Su（蘇士詠 教授）
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Time：14:00 ~15:00, Wednesday, November 15, 2023

Place：Auditorium, B1F, Institute of Statistical Science, AS

Abstract

Age-period-cohort analysis involves three temporal factors: age (the length of time from birth to diagnosis), period (the calendar time of diagnosis), and cohort (the calendar time of birth). The application of age-period-cohort analysis in disease forecasting can help researchers and health authorities anticipate future disease burden. In this study, a synthesized age-period-cohort prediction method was proposed based on four assumptions: (i) no single model can dominate as the most accurate prediction model in all forecasting scenarios, (ii) historical trends will not continue indefinitely, (iii) a model with the most accurate forecast for the training data will also be appropriate for forecasting future data, and (iv) a model dominated the stochastic temporal change will be the best-selected model with the robust forecasting. An ensemble of age-period-cohort prediction models was constructed and Monte Carlo cross-validation was performed to evaluate forecasting accuracy of these models. Data on lung cancer mortality from 1996 to 2015 in Taiwan were used and projected to the year 2035 to illustrate the method. The actual lung cancer mortality rates from 2016 to 2020 were then used to verify the forecasting accuracy.

※ **Tea reception starts at 15：00.**
※ **Online live streaming through Cisco Webex will be available.**