淡江大學統計與資料科學學系

學 術 演 講

講　題：On Monitoring and Post-Detection Diagnostics of Correlated Quality Variables of Different Types

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地　點：B302A（淡水校園商管大樓）

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摘 要

Quality control applications in modern era, especially for non-manufacturing processes, often involve having to monitor correlated variables of different types, continuous, count and categorical. Most of the existing multivariate control charts implicitly assume that the correlated variables to be monitored are of the same type. Another equally challenging task in multivariate quality control which has received relatively little attention is identifying parameters that are actually out of control, when an out-of-control signal is detected on a control chart. In this talk, we will discuss how these two challenges present a unique opportunity to develop multivariate control charts which not only can monitor correlated variables of different types, but also can provide instantaneous diagnostics of out-of-control parameters. The talk will focus on discussing recent works which tackle these challenges by adopting multiple testing procedures in developing multivariate control charts. The proposed chart is shown to outperform the existing charts particularly in its ability to provide more accurate diagnostics. Future research directions along the same line will also be discussed.

Keywords：Diagnostics; Multiple testing procedure; Multivariate control chart; Phase-II monitoring.