

# 國立中央大學

## 統計研究所

### 學術演講

主講人：董弘平 博士

講題：**Optimal Designs for Exponential Dispersion Accelerated Degradation Tests**

時間：110 年 12 月 07 日（星期二）下午 16：00 ~ 17：00

地點：中央大學鴻經館 M-116 室

茶會：下午 15：30 ~ 16：00 地點：鴻經館 M510 室

### ABSTRACT

To assess the lifetime information of highly reliable products, accelerated degradation tests (ADTs) are widely used in the industry. Due to the high cost of conducting an ADT, planning an efficient ADT (so that we can obtain a precise lifetime prediction under limited budgets) becomes a crucial task. In this talk, I will focus on the optimal design of exponential dispersion (ED) ADT, which is a generalized degradation model covering several well-known processes, for example Wiener, Poisson, gamma and inverse Gaussian process. First, I will devise the optimal design of the single accelerating variable ED ADT. Second, I will advance the optimal design to the two accelerating variables ED ADT with an assumption that the model does not include the interaction. Finally, when the model includes the interaction, I will provide a conjecture design and verify that this conjecture design is exactly the optimal design by the general equivalence theorem.

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