



# 國立中興大學農藝學系生物統計研究室

## Biometrics Laboratory, Department of Agronomy, National Chung-Hsing University



指導老師：郭寶錚教授

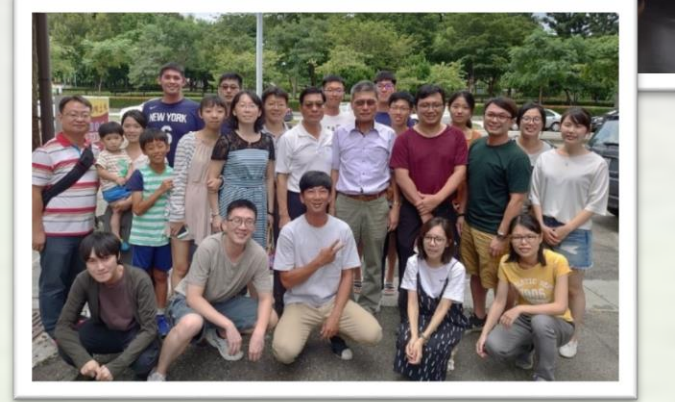
學歷：美國Virginia Commonwealth Univ. 生物統計系博士

美國Iowa State Univ. 統計系碩士

國立中興大學糧食作物研究所碩士

國立中興大學農藝學系學士

研究領域：生物統計、試驗設計、NIR光譜資料處理、淨最小平方法之研究、作物生長模式、模擬基改作物花粉飄散、量測不確定度的評估、智慧科技在農業生產上之應用



主持計畫：

109年，農糧署，建立蔬菜種苗生理參數分析模組

109~110年，種苗場，種子檢查技術統計分析模式之建立

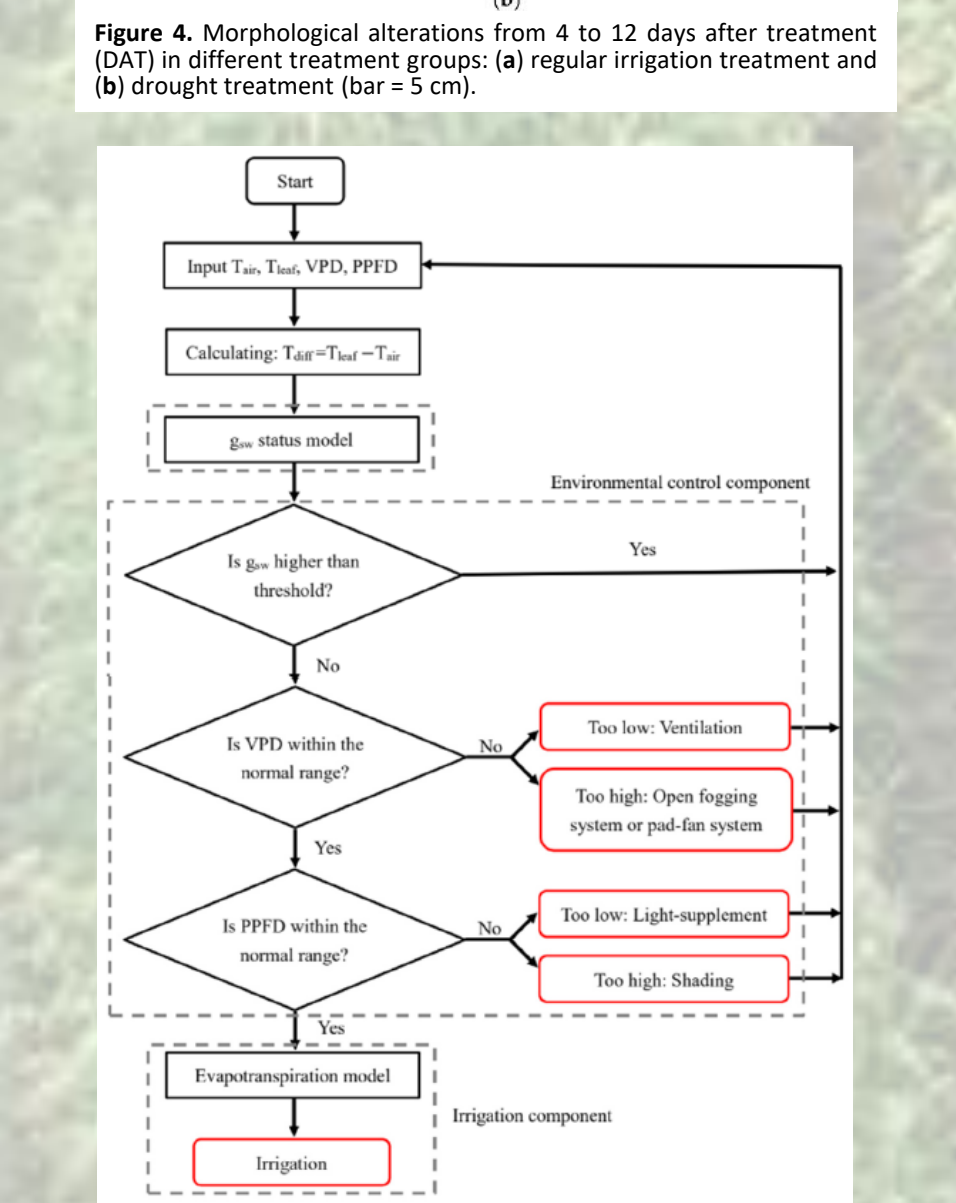
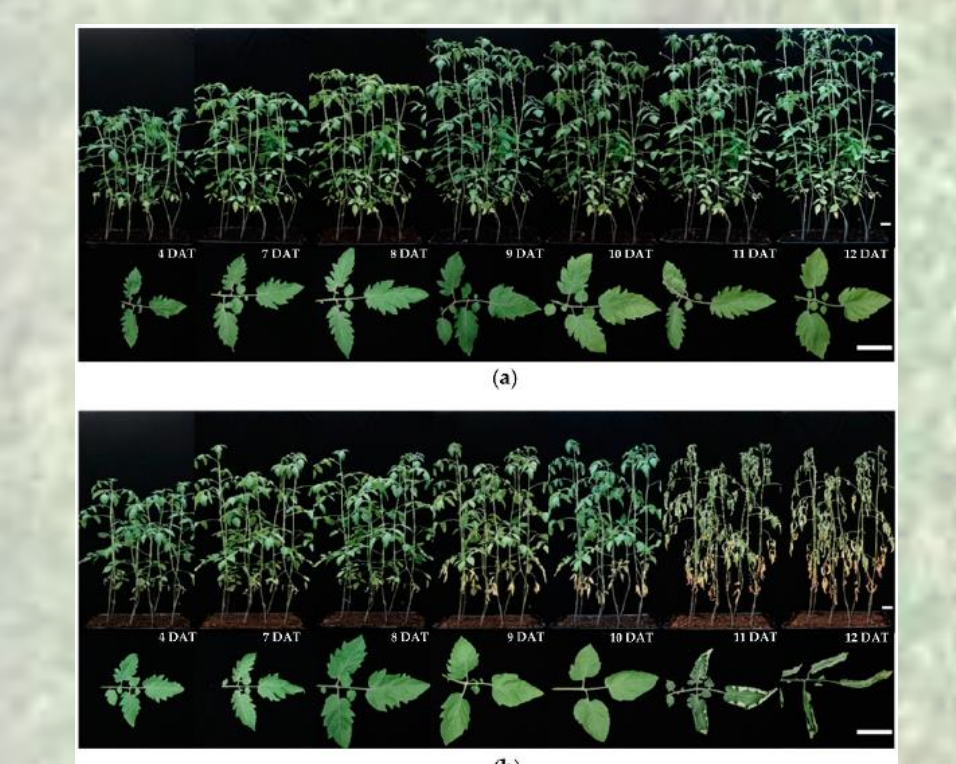
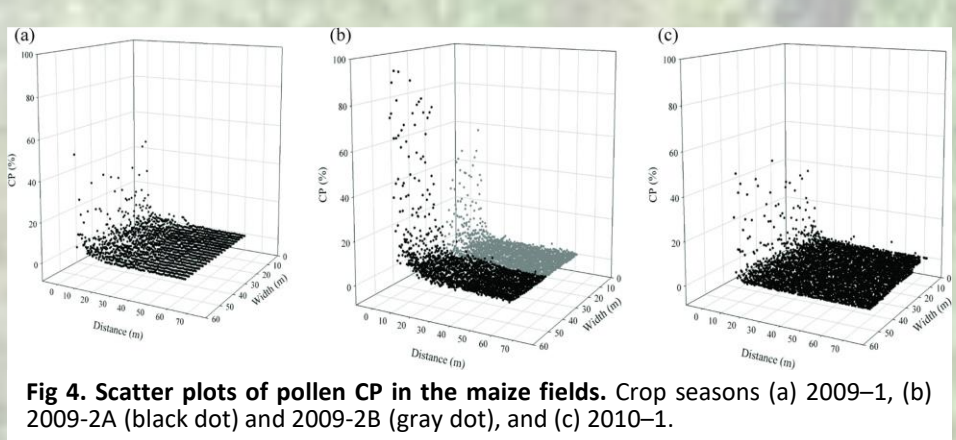
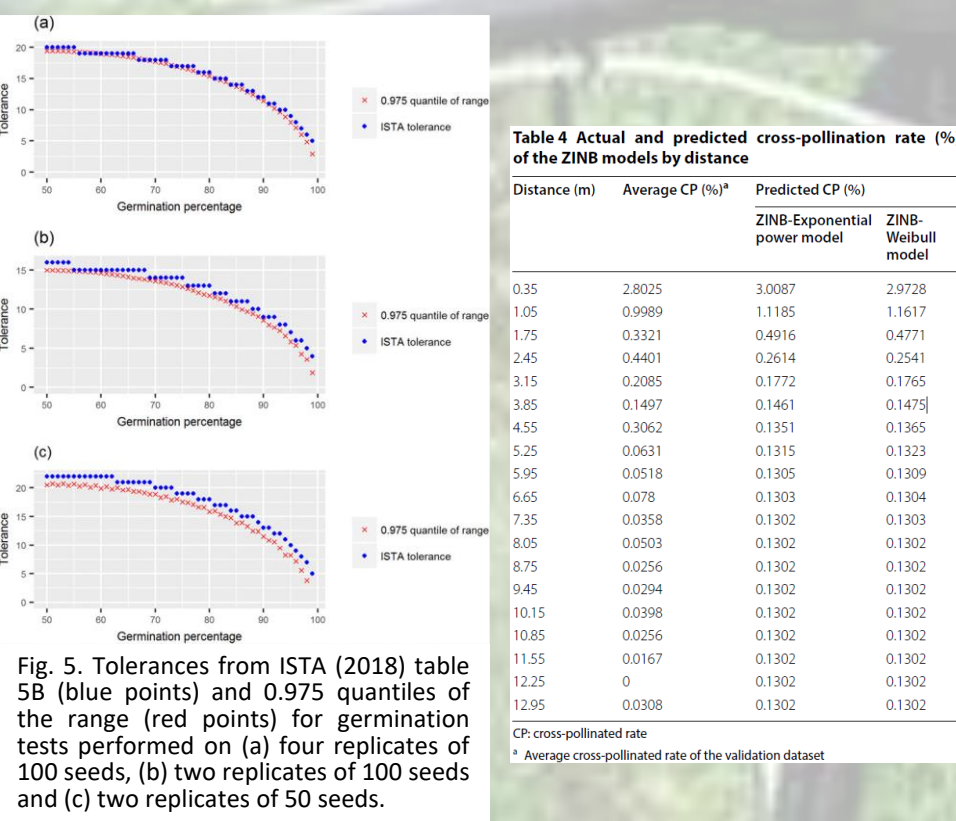
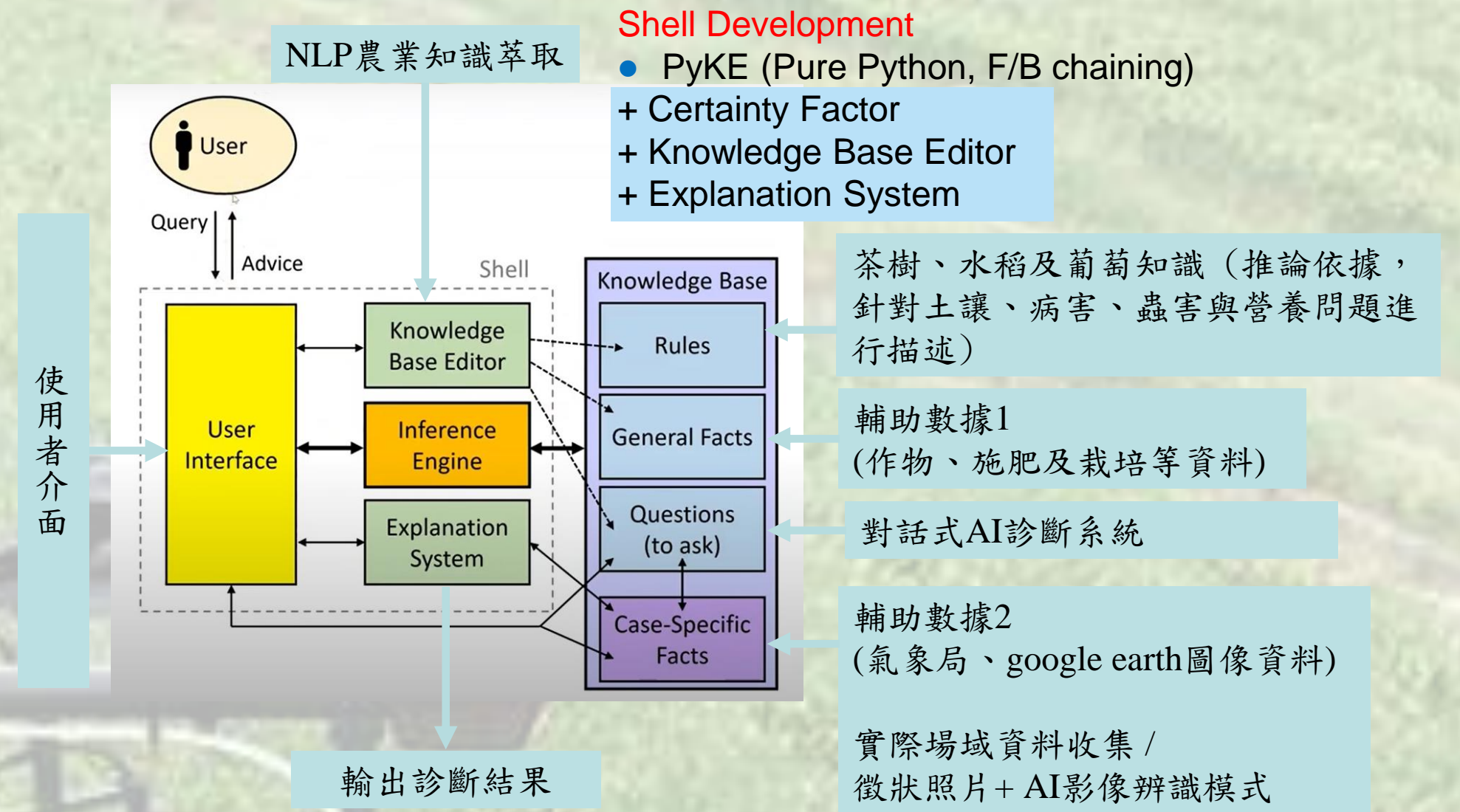
107~111年，科技部，利用AI智慧感知技術建構溫室番茄栽培管理決策系統

110~111年，教育部，大專校院教學實踐研究計畫-應用數位教材結合互動討論教學在生物統計學課程

110~112年，科技部，智慧永續新農業研究發展中心

110~113年，科技部，在不同模式校正方法下利用DSSAT模擬播種期對玉米生長反應之效應

### 作物栽培管理專家診斷系統開發



研究成果：

陳思婷、許鑄云、郭育姘、郭寶錚。2018。多次調查減緩種子試驗中不足變異之評估。作物、環境與生物資訊，15:159-168。

林詠淳、康樂、郭寶錚。2020。隨機森林的理論及應用範例說明。作物、環境與生物資訊，17: 1-12。

Laffont, J. L., Hong, B., Kuo, B. J., & Remund, K. M. (2019). Exact theoretical distributions around the replicate results of a germination test. Seed Science Research, 29: 64-72 (SCI)

Tu, Y. K., Chen, H. W., Tseng, K. Y., Lin, Y. C., Kuo, B. J. (2020). Morphological and genetic characteristics of F<sub>1</sub> hybrids introgressed from *Brassica napus* to *B. rapa* in Taiwan. Botanical Studies, 61:1. <https://doi.org/10.1186/s40529-019-0279-5> (SCI)

Su, Y. C., Wang, P. S., Yang, J. L., Hong, H., Lin, T. K., Tu, Y. K., Kuo, B. J. (2020). Using a zero-inflated model to assess gene flow risk and coexistence of *Brassica napus* L. and *Brassica rapa* L. on a field scale in Taiwan. Botanical Studies, 61:17. <https://doi.org/10.1186/s40529-020-00294-2> (SCI)

Hsieh, C. Y., Fang, S. L., Wu, Y. F., Chu, Y. C., & Kuo, B. J. (2021). Using sigmoid growth curves to establish growth models of tomato and eggplant stems suitable for grafting in subtropical countries. Horticulturae, 7(12), 537. (SCI)

Jhong, Y. S., Lin, W. S., Yiu, T. J., Su, Y. C., & Kuo, B. J. (2021). Effectiveness of different sampling schemes in predicting adventitious genetically modified maize content in a smallholder farming system. GM Crops & Food, 12(1), 212-223. (SCI)

Kuo, B. J., Jhong, Y. S., Yiu, T. J., Su, Y. C., & Lin, W. S. (2021). Bootstrap simulations for evaluating the model estimation of the extent of cross-pollination in maize at the field-scale level. PloS one, 16(5), e0249700. (SCI)

Su, Y. C., Lee, C. B., Yiu, T. J., & Kuo, B. J. (2021). Incorporating the field border effect to reduce the predicted uncertainty of pollen dispersal model in Asia. Scientific Reports, 11, 22187. (SCI)

Tu, Y. K., Chen, H. W., Fang, S. L., Yao, M. H., Tseng, Y. Y., & Kuo, B. J. (2021). Establishing of early discrimination methods for drought stress of tomato by using environmental parameters and NIR spectroscopy in greenhouse. Acta Hort. 1311, 501-512

Tu, Y. K., Kuo, C. E., Fang, S. L., Chen, H. W., Chi, M. K., Yao, M. H., & Kuo, B. J. (2022). A 1D-SP-Net to determine early drought stress status of tomato (*Solanum lycopersicum*) with imbalanced Vis/NIR spectroscopy data. Agriculture, 12(2), 259. <https://doi.org/10.3390/agriculture12020259> (SCI)

Fang, S. L., Chang, T. J., Tu, Y. K., Chen, H. W., Yao, M. H., & Kuo, B. J. (2022). Plant-response-based control strategy for irrigation and environmental controls for greenhouse tomato seedling cultivation. Agriculture, 12(5), 633. (SCI)