



## 張國浩

國立清華大學工業工程與工程管理學系副教授

### 得獎著作：

- ✿ Kuo-Hao Chang\*, 2015, “Improving the Efficiency and Efficacy of Stochastic Trust-Region Response-Surface Method for Simulation Optimization”, *IEEE Transactions on Automatic Control*, 60, 1235-1243.
- ✿ Kuo-Hao Chang\*, Yu-Hsuan, and Shih-Pang Yang, 2014, “Vehicle Fleet Sizing for Automated Material Handling Systems to Minimize Cost Subject to Time Constraints”, *IIE Transactions*, 46, 301-312.
- ✿ Kuo-Hao Chang\*, 2012, “Stochastic Nelder–Mead Simplex Method – A New Globally Convergent Direct Search Method for Simulation Optimization”, *European Journal of Operational Research*, 220, 684-694.

### 得獎簡評：

張教授提出一個新的方法稱為 Stochastic Trust-Region Response-Surface Method，簡稱為 STRONG 來突破了傳統反應曲面演算法無法量化最佳解之缺點，為五十年來反應曲面法最重大之突破。他在作業研究最佳化領域之卓越貢獻更使其獲頒國際年輕學者大獎 2012 INFORMS Border Scholar Research Award，是臺灣目前唯一獲得此殊榮之得獎人。此外，張教授亦獲得 2015 IIE Transactions Best Application Paper Award 之殊榮。申請人的研究能力也獲得國內學術界之肯定，獲得之榮譽包括了科技部吳大猷先生紀念獎、科技部優秀年輕學者計劃兩次、中國工業工程學會優秀青年工業工程師獎章等。

### 得獎人簡歷：

Kuo-Hao Chang is an Associate Professor in the Department of Industrial Engineering and Engineering Management, National Tsing Hua University (NTHU). He received his Ph.D. in the School of Industrial Engineering from Purdue University in 2008. Before joining NTHU, he was an Assistant Professor in the Department of Industrial and Management Systems Engineering, West Virginia University. Dr. Chang has received numerous domestic and international awards, including Bonder Scholar Research Award from INFORMS in 2012, Young Faculty Research Award (新進人員研究獎) from NTHU, Outstanding Young Industrial Engineers Award (優秀青年工業工程師) from Chinese Institute of Industrial Engineers in 2013, IIE Transactions Best Application Paper Award in 2015, Ta-You Wu Memorial Award (吳大猷先生紀念獎) from Ministry of Science and Technology in 2015, K.D. Tocher Medal from The OR Society in 2015, Outstanding Young Scholar Research Project Award (優秀年輕學者計劃) from Ministry of Science and Technology in 2012 and 2015 (twice). His research interests include simulation optimization, stochastic models and Monte Carlo simulation. His theoretical research is motivated by and is closely related to many applications such as yield improvement, logistics, operations management and energy management. He currently serves as the Executive Editor of Journal of Industrial and Production Engineering. He is a member of INFORMS, IIE and IEEE.

### 得獎著作簡介：

模擬最佳化(Simulation Optimization)是一系統化之方法論，透過系統模擬、機率、統計以及非線性最佳化等工具以處理真實世界中存在許多不確定性的隨機系統最佳化之問題。個人所發表之一系列模擬最佳化方法論不僅在學理上有相當大之突破，例如解決了傳統反應曲面法(Response Surface Methodology)之問題，使其可自動運行並且數學上證明了其具有收斂性，更重要的是其大幅提升了計算效率，擁有可處理大型隨機系統最佳化問題之能力，這在現今巨量資料時代顯的意義重大。除了學理上的突破與創新外，所研發之方法論亦已成功應用於產業界，例如應用於半導體廠之自動物料搬運系統之設計，使其在複雜的生產環境中能滿足大量且限時完成之搬運需求。由於學理上的突破以及成功的產業應用，此一系列之研究成果甫發表即獲得了國際研究社群之注意，如聲譽卓著之國際作業研究與管理科學學會 (INFORMS) 底下之雜誌 OR/MS Today 之報導。

### 得獎感言：

研究是一段孤獨而漫長的路程，能夠獲得中研院年輕學者研究著作獎，是給個人以及研究團隊這幾年來研究成果之肯定。非常感謝科技部、清華大學、以及資策會經費上之支持，尤其是本系許多老師這些年來的提攜與愛護。另外也要感謝一起努力打拚研究室夥伴，沒有他們就沒有這些豐碩的研究成果。最後感謝家人與朋友的全力支持，使個人在從事熱愛的教學與研究上無後顧之憂。