

Che-Jung Chang

Writing

A. Journal Papers

1. Liang-Sian Lin, Hui-Chi Chuang, Yi-Chung Cheng, Chih-Chuan Chen, and Che-Jung Chang. Enhancing small data prediction performance via Bézier-interpolated virtual sample generation with bagging U-net GAN. *Journal of King Saud University Computer and Information Sciences*, 38, Article ID: 422, 2026. **(SCI)**
2. Xinyu Wang, Xinquan Liu, Yingyi Huang, Che-Jung Chang, and Jianhong Guo. Multivariate fractional grey model for port throughput prediction. *Journal of Grey System*, 37(2), 23-32, 2025. **(SCI)**
3. Jianhong Guo, Che-Jung Chang^{*}, and Yingyi Huang. Utilizing a fractional-order grey model to predict the development trends of China's electronic commerce service industry. *Fractal and Fractional*, 8(3), Article ID: 169, 2024. **(SCI)**
4. Jianhong Guo^{*}, Tianci Li, Yingyi Huang, and Che-Jung Chang. A multi-model grey fusion forecasting procedure for China's e-commerce service industry. *Journal of Grey System*, 35(3), 18-26, 2023. **(SCI)**
5. Che-Jung Chang^{*}, Wen-Li Dai, Der-Chiang Li, Chien-Chih Chen, and Guiping Li. An extrapolation non-equigap grey model for operation management. *Journal of Grey System*, 35(1), 101-112, 2023. **(SCI)**
6. Jianhong Guo, Che-Jung Chang^{*}, Yingyi Huang, and Xiaotian Zhang. An aggregating prediction model for management decision analysis. *Complexity*, 2022, Article ID: 6312579, 2022. **(SCI)**
7. Che-Jung Chang^{*}, Chien-Chih Chen, Wen-Li Dai, and Guiping Li. A new grey prediction model considering the data gap compensation. *Grey Systems: Theory and Application*, 11(4), 650-663, 2021. **(SCI)**
8. Jianhong Guo, Che-Jung Chang^{*}, Yingyi Huang, and Kun-Peng Yu. A fuzzy-decomposition grey modeling procedure for management decision analysis. *Mathematical Problems in Engineering*, 2021, Article ID: 6670196, 2021. **(SCI, SSCI, EI)**
9. Che-Jung Chang, Guiping Li, Jianhong Guo^{*}, and Kun-Peng Yu. Data-driven forecasting model for small data sets. *Economic Computation and Economic Cybernetics Studies and Research*, 54(4), 217-229, 2020. **(SCI, SSCI)**
10. Tung-I Tsai, Chun-Wu Yeh^{*}, Liang-Sian Lin, Che-Jung Chang, and Der-Chiang Li. A fuzzy-based approach for improving accuracy of grey forecasting models. *Journal of Grey System*, 32(3), 21-33, 2020. **(SCI)**
11. Chien-Chih Chen, Che-Jung Chang, Zheng-Yun Zhuang, and Der-Chiang Li^{*}. An envelopment learning procedure for improving prediction accuracies of grey models. *Computers & Industrial Engineering*. 139, 106185, 2020. **(SCI, EI)**
12. Che-Jung Chang, Guiping Li, Shao-Qing Zhang^{*}, and Kun-Peng Yu. Employing a fuzzy-based grey modeling procedure to forecast China's sulfur dioxide emissions.

International Journal of Environmental Research and Public Health. 16(14), Article ID: 2504, 2019. **(SCI, SSCI)**

13. Che-Jung Chang^{*}, Der-Chiang Li, Chien-Chih Chen, and Wen-Chih Chen. Extrapolation-based grey model for small-data-set forecasting. *Economic Computation and Economic Cybernetics Studies and Research*, 53(1), 171-182, 2019. **(SCI, SSCI)**
14. Che-Jung Chang^{*}, Wen-Li Dai, Der-Chiang Li, and Chien-Chih Chen. Latent-function-based residual discrete grey model for short-term demand forecasting. *Cybernetics and Systems*, 49(4), 170-180, 2018. **(SCI, EI)**
15. Che-Jung Chang, Jan-Yan Lin, and Peng Jin^{*}. A grey modeling procedure based on the data smoothing index for short-term manufacturing demand forecast. *Computational and Mathematical Organization Theory*, 23(3), 409-422, 2017. **(SCI, SSCI, EI)**
16. Che-Jung Chang, Liping Yu, and Peng Jin^{*}. A mega-trend-diffusion grey forecasting model for short-term manufacturing demand. *Journal of the Operational Research Society*, 67(12), 1439-1445, 2016. **(SCI, SSCI, EI)**
17. Che-Jung Chang^{*}, Jan-Yan Lin, and Meng-Jen Chang. Extended modeling procedure based on the projected sample for forecasting short-term electricity consumption. *Advanced Engineering Informatics*, 30(2), 211-217, 2016. **(SCI, EI)**
18. Che-Jung Chang^{*}, Wen-Li Dai, and Chien-Chih Chen. A novel procedure for multimodel development using the grey silhouette coefficient for small-data-set forecasting. *Journal of the Operational Research Society*, 66(11), 1887-1894, 2015. **(SCI, SSCI, EI)**
19. Der-Chiang Li^{*}, Wen-Chih Chen, Che-Jung Chang, Chien-Chih Chen, and I-Hsiang Wen. Practical information diffusion techniques to accelerate new product pilot runs. *International Journal of Production Research*, 53(17), 5310-5319, 2015. **(SCI, EI)**
20. Che-Jung Chang, Der-Chiang Li^{*}, Yi-Hsiang Huang, and Chien-Chih Chen. A novel gray forecasting model based on the box plot for small manufacturing data sets. *Applied Mathematics and Computation*, 265, 400-408, 2015. **(SCI, EI)**
21. Der-Chiang Li^{*}, Wen-Ting Huang, Chien-Chih Chen, and Che-Jung Chang. Employing box plots to build high-dimensional manufacturing models for new products in TFT-LCD plants. *Neurocomputing*, 142, 73-85, 2014. **(SCI, EI)**
22. Che-Jung Chang, Der-Chiang Li^{*}, Wen-Li Dai, and Chien-Chih Chen. A latent information function to extend domain attributes to improve the accuracy of small-data-set forecasting. *Neurocomputing*, 129, 343-349, 2014. **(SCI, EI)**
23. Che-Jung Chang, Der-Chiang Li^{*}, Chien-Chih Chen, and Chia-Sheng Chen. A forecasting model for small non-equigap data sets considering data weights and occurrence possibilities. *Computers & Industrial Engineering*, 67(1), 139-145, 2014. **(SCI, EI)**
24. Che-Jung Chang, Der-Chiang Li^{*}, Wen-Li Dai, and Chien-Chih Chen. Utilizing an adaptive grey model for short-term time series forecasting - a case study of wafer-level packaging. *Mathematical Problems in Engineering*, 2013, Article ID: 526806, 2013. **(SCI)**
25. Che-Jung Chang^{*}, Der-Chiang Li, Chien-Chih Chen, and Wen-Li Dai. A grey-based rolling procedure for short-term forecasting using limited time series data. *Economic*

Computation and Economic Cybernetics Studies and Research, 47(3), 75-90, 2013. (SCI, SSCI)

26. Der-Chiang Li*, Wen-Ting Huang, Chien-Chih Chen, and Che-Jung Chang. Employing virtual samples to build early high-dimensional manufacturing models. *International Journal of Production Research*, 51(11), 3206-3224, 2013. (SCI, EI)
27. Der-Chiang Li*, Che-Jung Chang, Chien-Chih Chen, and Wen-Chih Chen. Forecasting short-term electricity consumption using the adaptive grey-based approach - an Asian case. *Omega-International Journal of Management Science*, 40(6), 767-773, 2012. (SCI, SSCI)
28. Der-Chiang Li*, Chien-Chih Chen, Wen-Chih Chen, and Che-Jung Chang. Employing dependent virtual samples to obtain more manufacturing information in pilot runs. *International Journal of Production Research*, 50(23), 6886-6903, 2012. (SCI, EI)
29. Der-Chiang Li, Che-Jung Chang*, Chien-Chih Chen, and Wen-Chih Chen. A grey-based fitting coefficient to build a hybrid forecasting model for small data sets. *Applied Mathematical Modelling*, 36(10), 5101-5108, 2012. (SCI, EI)
30. Der-Chiang Li*, Wen-Chih Chen, Chiao-Wen Liu, Che-Jung Chang, and Chien-Chih Chen. Determining manufacturing parameters to suppress system variance using linear and non-linear models. *Expert Systems with Applications*, 39(4), 4020-4025, 2012. (SCI, EI)
31. Der-Chiang Li*, Chien-Chih Chen, Che-Jung Chang, and Wen-Chih Chen. Employing Box-and-Whisker plots for learning more knowledge in TFT-LCD pilot runs. *International Journal of Production Research*, 50(6), 1539-1553, 2012. (SCI, EI)
32. Der-Chiang Li*, Chien-Chih Chen, Che-Jung Chang, and Wu-Kuo Lin. A tree-based-trend-diffusion prediction procedure for small sample sets in the early stages of manufacturing systems. *Expert Systems with Applications*, 39(1), 1575-1581, 2012. (SCI, EI)
33. Der-Chiang Li*, Che-Jung Chang, Wen-Chih Chen, and Chien-Chih Chen. An extended grey forecasting model for omnidirectional forecasting considering data gap difference. *Applied Mathematical Modelling*, 35(10), 5051-5058, 2011. (SCI, EI)
34. Der-Chiang Li*, Che-Jung Chang, Chien-Chih Chen, and Chia-Sheng Chen. Using non-equispaced grey model for small data set forecasting - a color filter manufacturing example. *Journal of Grey System*, 22(4), 375-382, 2010. (SCI)
35. Der-Chiang Li*, Chun-Wu Yeh, and Che-Jung Chang. An improved grey-based approach for early manufacturing data forecasting. *Computers & Industrial Engineering*, 57(4), 1161-1167, 2009. (SCI, EI)

B. Book Edited/ Book Chapters

C. Conference Papers

1. 張哲榮*、郭建宏，Using a fractional grey model to predict the electronic commerce development trends in China，2024 灰色系統與不確定性分析國際會議 (2024

- International Congress of GSUA*)暨第38屆全國灰色系統學術會議, 西安市, 2024。
2. 張哲榮*, 針對中國電子商務服務業市場規模測的趨勢潛力灰色分解融合模型, 2023 中國工業工程學會年會暨學術研討會, 台中市, 2023。
 3. 張哲榮*、郭建宏, 針對電子商務發展趨勢的趨勢潛力灰色重構模型, 2023 灰色系統與不確定性分析國際會議 (2023 *International Congress of GSUA*) 暨第37屆全國灰色系統學術會議, 鄭州市, 2023。
 4. 張哲榮、郭建宏、黃英藝, 使用線性外推灰模型分析大陸學生赴臺灣地區就讀高校趨勢, 全國沿海高校服務區域經濟發展聯盟第八屆學術研討會, 泉州市, 293-299, 2018。
 5. Chun-Wu Yeh, Tung-I Tsai, Che-Jung Chang, I-Hsiang Wen, Solving the stock preparing problem in return materials authorization process in TFT-LCD industry with MTD-based grey model, *The 2017 International Conference on Computing Intelligence and Information System*, Nanjing, 2017.
 6. Che-Jung Chang*, Liping Yu, Applying a grey-based approach to forecast the short-term demand for TFT-LCD panels, 2015 *Leverhulme Trust* 灰色系統學術會議, 南京市, 2015。
 7. 張哲榮*、陳建智, 以適應性灰預測模型求解短期需求預測問題, 2014 企業電子化實務應用研討會, 台南市, 61-67, 2014。
 8. 張哲榮*、戴文禮、陳建智, 以潛在資訊函數為基礎之殘差離散灰模型預測短期需求, 第二十五屆灰色系統全國會議, 北京市, 356-360, 2014。
 9. 葉俊吾、陳惠昭、張哲榮、陳建智*、利德江, 應用整體趨勢擴展技術整合多模式整合法之預測數值, 第二十五屆灰色系統全國會議, 北京市, 361-365, 2014。
 10. 蔡東亦、陳志瑋、張哲榮、陳建智*、利德江, 藉由虛擬樣本改善集成法的分類正確率, 第二十五屆灰色系統全國會議, 北京市, 366-371, 2014。
 11. 林耀三、張延全、張哲榮、陳建智*、利德江, 虛擬樣本合適性篩選機制, 第二十五屆灰色系統全國會議, 北京市, 372-379, 2014。
 12. 陳建智*、陳建頌、薛玉美、張哲榮、利德江, 使用基於模糊分群法之資訊擴散技術求解小樣本學習問題, 第二十五屆灰色系統全國會議, 北京市, 380-388, 2014。
 13. 張峯銘、曾國立、張哲榮、陳建智*、利德江, 基於資訊擴散技術的調適性神經模糊推論系統, 第二十五屆灰色系統全國會議, 北京市, 389-394, 2014。
 14. Che-Jung Chang*, Wen-Li Dai, A grey silhouette coefficient for the small sample forecasting, *The 4th IEEE International Conference on Grey Systems and Intelligent Services*, Macau, 81-83, 2013. (EI)

15. 張哲榮*、林震岩、張孟仁，以倒傳遞神經網路與潛在資訊函數進行短期電力需求量預測，2013 工業工程學會年會暨學術研討會，屏東縣，327，2013。
16. 張哲榮*、戴文禮，以灰色側影係數決定彩色濾光片制程參數，第十八屆灰色系統理論與應用暨第五屆感性工學聯合研討會，台中市，C21/1-4，2013。
17. 張哲榮*、溫怡翔，藉由潛在資訊函數改善晶圓級封裝程式之試產效能，2013 企業電子化實務應用研討會，台南市，58-66，2013。
18. 張哲榮、戴文禮*，適應性灰模型於晶圓級封裝程式之應用，2013 年海峽兩岸管理與經濟學術研討會，西安市，18，2013。
19. 戴文禮*、張哲榮，應用制程創新設計理念改善供應鏈協同作業績效，2013 系統性創新研討會暨第五屆中華系統性創新學會年會，桃園縣，47，2013。
20. 張哲榮*、利德江、黃涇翔、陳建智，灰預測模型於散熱銅柱凸塊制程之應用，2012 工業工程學會年會暨學術研討會，彰化縣，138，2012。
21. 張哲榮*、戴文禮、利德江，應用潛在資訊函數建構鋁價預測模型，2012 工業工程學會年會暨學術研討會，彰化縣，127，2012。
22. 利德江、黃涇翔、張哲榮*、陳建智，應用箱形圖改良灰模型的預測效能，第十七屆灰色系統理論與應用暨第四屆感性工學聯合研討會，宜蘭縣，8-12，2012。
23. 利德江、張哲榮*，應用灰色方法建構鋁價預測模型，第十六屆灰色系統理論與應用研討會，高雄市，7-11，2011。
24. 利德江、張哲榮*、林良憲，使用潛在資訊提升小樣本學習準確率，第十七屆資訊管理暨實務研討會，台南市，9，2011。
25. 利德江、張哲榮*、林良憲，針對短期電力消耗量預測的灰色建模程式，2011 電子化企業實務研討暨論文發表會，台南市，45-55，2011。
26. 利德江、張哲榮*、陳文智、陳建智，使用灰色方法預測短期電力耗損量，2010 電子化企業實務研討暨論文發表會，台南縣，15-16，2010。
27. 利德江、張哲榮*、陳奎靜，使用灰色絕對關聯度降低預測誤差變異，第十五屆灰色系統理論與應用研討會，彰化縣，4，2010。
28. 利德江、張哲榮*、陳文智、陳建智、陳嘉聲，利用非等間距灰模型於光阻塗布制程之厚度預測，2009 電子化企業實務研討暨論文發表會，台南縣，67-68，2009。
29. 利德江、陳建智*、張哲榮、陳文智、洪書帆，以潛在樣本降低小樣本學習之預測誤差，第十五屆資訊管理暨實務研討會，高雄市，111，2009。
30. 利德江、張哲榮*、陳建智、陳嘉聲，灰色理論於彩色濾光片製造資料之應用，第十五屆資訊管理暨實務研討會，高雄市，109，2009。

31. 利德江、張哲榮*、陳建智、陳嘉聲，改良式非等間距灰預測模型，*第十四屆人工智慧與應用研討會*，台中縣，83，2009。
32. Chun-Wu Yeh*, Che-Jung Chang, Der-Chiang Li, A modified grey prediction method to early manufacturing data sets. *International MultiConference of Engineers and Computer Scientists 2009*, Hong Kong, 667-670, 2009.

D. Research Reports

a. NATIONAL SCIENCE COUNCIL Research Projects

1. 應用灰色側影係數建立針對少量製造資料的混合模型，2013.08~2014.07，行政院國家科學委員會，NSC 102-2221-E-033-055-。
2. 利用潛在資訊函數擴展領域屬性以提升小樣本預測的正確率，2012.09~ 2013.08，行政院國家科學委員會，NSC 101-2218-E-033-004-。

b. Other Research Projects

1. 基於潛藏資訊的小數據穩健預測方法與實踐應用研究，2022.08~2025.06，福建省社會科學規劃項目/一般項目，FJ2022B064。
2. 基於資訊擴散的小數據分析方法與實踐應用研究，2019.07~2022.06，福建省社會科學規劃項目/一般項目，FJ2019B099。
3. 針對小數據預測之灰色擴展技術，2019.01~2021.12，浙江省自然科學基金/一般項目，Y19G010002。
4. 以映射樣本為基礎之小樣本模型建構程式，2016.01~2018.12，浙江省自然科學基金/一般項目，Y16G010002。
5. 針對小數據預測之適應性灰色模型的構建與應用，2017.08~2018.12，錢江人才計畫C類項目，浙人社發〔2017〕73號。