Chen-Fu Chien （簡禎富）

Tsinghua Chair Professor （清華講座教授）
Micron Chair Professor （美光講座教授）
Asia Chair Professor （亞洲大學講座教授）

Ph.D., University of Wisconsin-Madison, U.S.A., 1996

Decision Analysis, Manufacturing Strategy, Data Mining, Modeling & Analysis for Semiconductor Manufacturing, Technology Management and Service Systems

E-mail: cfchien@mx.nthu.edu.tw

Dr. Chen-Fu Chien was born in 1966 in Taiwan, R.O.C. He received B.S. with double majors in Industrial Engineering and Electrical Engineering with the Phi Tao Phi Honor from National Tsing Hua University (NTHU) in 1990. He then served military obligation as a Lieutenant in the Army Armor School and retired with the Medal of Loyalty and Diligence in 1992. He received M.S. in Industrial Engineering and Ph.D. of Decision Sciences and Operations Research with two minors in Statistics and Business at the University of Wisconsin-Madison, U.S.A., in 1994 and 1996, respectively. He was a Fulbright Scholar in the Department of Industrial Engineering and Operations Research, UC Berkeley, from 2002 to 2003. He also received the Executive Training of PCMPCL from Harvard Business School (2007).

He is a Tsing Hua Chair Professor and Vice President and Chief of Staff, in NTHU, Taiwan since 2010. He joined the Department of Industrial Engineering, NTHU as Assistant Professor in 1996. He had been an Associate Professor from 1999 to 2003 and a Full Professor from 2003 to 2010. Then, he has become a Tsinghua Distinguished Professor since 2010. He also teaches EMBA in the School of Technology Management in NTHU. He was a Visiting Professor in Institute for Manufacturing, Cambridge University in 2004, 2005, and 2011 (sponsored by Royal Society, UK), a Visiting Professor in Beijing Tsinghua University in 2004 (sponsored by Chinese Development Foundation), and a Visiting Professor in Waseda University in 2005 (sponsored by Japan Interchange Association Young Scholar Fellowship).

His research mainly concerns the development of better analytical methods (Decision Analysis, OR, and Statistics) and solutions (implemented in terms of IT, e.g. DSS, Data Mining, Genetic Algorithm) for high-tech companies confronting with decision problems involved in strategy, manufacturing, and technology that are characterized by uncertain (incomplete information or Big data) and a need for tradeoff among various objectives and justification for the decisions. Dr. Chien and his Decision Analysis Lab Associates have been actively involved in many university-industry collaborative research projects in the high-tech industries including semiconductor manufacturing, solar, LED, and computers in which they employ their expertise in solving real problems with domain experts. From 2005 to 2008, he had been on-leave to serve as the Deputy Director of Industrial Engineering Division in Taiwan Semiconductor Manufacturing Company. Dr. Chien has applied several invention patents for semiconductor manufacturing methodologies, seven of which have been granted.

Dr. Chien has received many awards including the Management of Technology Award (DALab) from Chinese Society for Management of Technology (2017), the Outstanding Research Award from Ministry of Science & Technology (2017), the Executive Yuan Award for Outstanding Science & Technology (2016), the National Quality Award from the Executive Yuan (2012), twice Distinguished Research Award (2007, 2011), Tier-One Principal Investigator (2005-2008), and Best Research Awards from the National Science Council, University Industrial Contribution Award from Ministry of Economic Affairs for Individual Contribution (2009) and Group Contribution (2010), Distinguished University-Industry Collaborative Research Award from the Ministry of Education (2001), Distinguished Young Faculty Research Award (2001) and Distinguished University-Industry Collaborative Research Award (2007) by NTHU, Best Paper Award (2001), Distinguished Young Industrial Engineer Award (2001), IE Medal (2010) from Chinese

Institute of Industrial Engineers, Best Engineering Paper Award (2002) and Distinguished Engineering Professor (2010) by Chinese Institute of Engineers, TSMC-NTHU Faculty Semiconductor Research Grant (2004), and the Lu, Feng-Chang Award from Chinese Management Association (2007).

Dr. Chien is a member of IEEE, IIE, CIIE, CIDS, and CSMOT and is a Board Member of CIIE and CIDS. Dr. Chien has served as the Steering Committee of the Industrial Engineering and Management Program in National Science Council since 2002. He was a guest editor for *IEEE Transactions on Automation Science and Engineering*, *International Journal of Business*, *International Journal of Production Economics*, *International Journal of Service Technology and Management*, *Journal of Intelligent Manufacturing*, and *OR Spectrum*. He is currently Board Member of *Computers and Industrial Engineering*, Associate Editor for *IEEE Transactions on Automation Science and Engineering*, Area Editor for *Flexible Services and Manufacturing Journal* and Advisory Board of *OR Spectrum*. He is also on the editorial board for *International Journal of Operational Research* (UK), *Journal of the Chinese Institute of Industrial Engineers* (EI/TSSCI), *Sun Yat-Sen Management Review* (TSSCI), *Journal of Management and Systems* (TSSCI), and *Journal of Quality* (EI).

Journal Papers

1. Xie, Y., Gui, F.-X., Wang, W.-J., and **Chien, Chen-Fu** (2021), "A Two-stage Multi-population Genetic Algorithm with Heuristics for Workflow Scheduling in Heterogeneous Distributed Computing Environments," IEEE Transactions on Cloud Computing, DOI: 10.1109/TCC.2021.3137881. (SCIE) (2020 Impact Factor: 5.938, Rank by JIF: 24/161, 11/110) (Coming soon)

2. **Chien, Chen-Fu** and Lan, Y.-B. (2021), "Agent-based approach integrating deep reinforcement learning and hybrid genetic algorithm for dynamic scheduling for Industry 3.5 smart production," *Computers & Industrial Engineering,* 162, 107782, DOI: 10.1016/j.cie.2021.107782. (MOST 109-2634-F-007 -021; MOST 109-2634-F-007 -019) (SCI/SCIE) (2020 Impact Factor: 5.431, Rank by JIF: 14/49, 21/112) (Coming soon)

3. Do, H. T., Truong, L. H., Nguyen, M. T., **Chien, Chen-Fu**, Tran, H. T., Hua, H. T., Nguyen, C. V., Nguyen, H. T. T., and Nguyen, N. T. T. (2021), "Energy-Efficient Unmanned Aerial Vehicle (UAV) Surveillance Utilizing Artificial Intelligence (AI)," *Wireless Communications and Mobile Computing*, 2021, DOI: 10.1155/2021/8615367. (SCIE) (2020 Impact Factor: 2.336, Rank by JIF: 149/273, 56/91, 95/161) (Coming soon)

4. Aviso, K. B., **Chien, Chen-Fu**, Lim, M. K., Tan, R. R., and Tseng, M.-L. (2021), "Taiwan Drought was a Microcosm of Climate Change Adaptation Challenges in Complex Island Economies," *Process Integration and Optimization for Sustainability*, 5, 317-318, DOI: 10.1007/s41660-021-00188-1. (ESCI)

5. **Chien, Chen-Fu** and Chen, C.-C. (2021), "Adaptive parametric yield enhancement via collinear multivariate analytics for semiconductor intelligent manufacturing," *Applied Soft Computing*, 108, 107385, DOI: 10.1016/j.asoc.2021.107385. (MOST 108-2634-F-007-001; MOST 109-2634-F-007-019; MOST 109-2634-F-007-021) (SCI/SCIE) (2020 Impact Factor: 6.725, Rank by JIF: 11/112, 24/139) (Coming soon)

6. Lin, Y.-S., Cheng, C.-M., **Chien, Chen-Fu** (2021), "How Smart Manufacturing Can Help Combat the COVID-19 Pandemic," *Diagnostics*, 11(5), 885, DOI: 10.3390/diagnostics11050885. (SCI/SCIE) (2020 Impact Factor: 3.706, Rank by JIF: 45/169)

7. **Chien, Chen-Fu**, Chen, Y.-J., Han, Y.-T., and Wu, Y.-C. (2021), "Industry 3.5 for optimizing chiller configuration for energy saving and an empirical study for semiconductor manufacturing," *Resources, Conservation and Recycling*, 168, 105247, DOI: 10.1016/j.resconrec.2020.105247. (SCI/SCIE) (2020 Impact Factor:10.204, Rank by JIF: 5/54, 11/274) (Coming soon)

8. **Chien, Chen-Fu**, Halim, A. H., He, Z., Ho, T. P., Ishii, K., and Lee, T.-E. (2021), "Industry 3.5: IE developments and prospects in the Asia-pacific region," *Computers & Industrial Engineering*, 153, 107088, DOI: 10.1016/j.cie.2020.107088. (SCI/SCIE) (2020 Impact Factor: 5.431, Rank by JIF: 14/49, 21/112) (Coming soon)

9. Wang, C.-Y., Chen, Y.-J., and **Chien, Chen-Fu** (2021), "Industry 3.5 to empower smart production for poultry farming and an empirical study for broiler live weight prediction," *Computers & Industrial Engineering,* 151, 106931, DOI: 10.1016/j.cie.2020.106931. (MOST 109-2634-F-007 -019; MOST 109-2634-F-007 -021) (SCI/SCIE) (2020 Impact Factor: 5.431, Rank by JIF: 14/49, 21/112) (Coming soon)

10. Hong T.-Y. and **Chien, Chen-Fu** (2020), "A simulation-based dynamic scheduling and dispatching system

with multi-criteria performance evaluation for Industry 3.5 and an empirical study for sustainable TFT-LCD array manufacturing," *International Journal of Production Research*, 58(24), 7531-7547, DOI: 10.1080/00207543.2020.1777342. (MOST 108-2634-F-007 -001; MOST 108-2634-F-007 -008) (SCI/SCIE) (2020 Impact Factor: 8.568, Rank by JIF: 4/49, 2/84, 3/50)

11. Lee, C.-Y., **Chien, Chen-Fu** (2020), "Pitfalls and protocols of data science in manufacturing practice," *Journal of Intelligent Manufacturing*, 1-19, DOI: 10.1007/s10845-020-01711-w. (MOST 106-2218-E-031-001; MOST 109-2634-F-007-019) (SCI/SCIE) (2020 Impact Factor: 6.485, Rank by JIF: 25/139, 10/50) (Coming soon)

12. Fu, W., **Chien, Chen-Fu** and Tang, L. (2020), "Bayesian network for integrated circuit testing probe card fault diagnosis and troubleshooting to empower Industry 3.5 smart production and an empirical study," *Journal of Intelligent Manufacturing*, 1-14, DOI: 10.1007/s10845-020-01680-0. (MOST 108-2634-F-007 -001; MOST 108-2634-F-007 -008) (SCI/SCIE) (2020 Impact Factor: 6.485, Rank by JIF: 25/139, 10/50) (Coming soon)

13. Nguyen, M.T., Truong, L.H.., Tran, T.T., and **Chien, Chen-Fu** (2020), "Artificial intelligence based data processing algorithm for video surveillance to empower industry 3.5," *Computers & Industrial Engineering*, 148, 106671, DOI: 10.1016/j.cie.2020.106671. (2020 Impact Factor: 5.431, Rank by JIF: 14/49, 21/112) (Coming soon)

14. Ju, Y., Liang, Y., Luis, M., Wang, A., **Chien, Chen-Fu**, Dong, P., and Gonzalez, E.D.R.S. (2020), "A new approach for heterogeneous linguistic failure mode and effect analysis with incomplete weight information," *Computers & Industrial Engineering*, 148, 106659, DOI: 10.1016/j.cie.2020.106659. (SCI/SCIE) (2020 Impact Factor: 5.431, Rank by JIF: 14/49, 21/112) (Coming soon)

15. **Chien, Chen-Fu** and Chen, C.-C. (2020), "Data-Driven Framework for Tool Health Monitoring and Maintenance Strategy for Smart Manufacturing," *IEEE Transactions on Semiconductor Manufacturing*, 33(4), 644-652, DOI: 10.1109/TSM.2020.3024284. (SCI/SCIE) (2020 Impact Factor: 2.874, Rank by JIF: 114/273, 30/50)

16. Wang, H.-K. and **Chien, Chen-Fu** (2020), "An inverse-distance weighting genetic algorithm for optimizing the wafer exposure pattern for enhancing overall wafer effectiveness," *Applied Soft Computing*, 94, 106430, DOI: 10.1016/j.asoc.2020.106430. (MOST 108-2634-F-007-001; MOST 109-2634-F-007-019; MOST 108-2218-E-035-007; MOST 108-2221-E-035-019-MY2; MOST 108-2634-F-007-008) (SCI/SCIE) (2020 Impact Factor: 6.725, Rank by JIF: 11/112, 24/139) (Coming soon)

17. Khakifirooz, M., Fathi, M., and **Chien, Chen-Fu** (2020), "Partially Observable Markov Decision Process for Monitoring Multilayer Wafer Fabrication," *IEEE Transactions on Automation Science and Engineering*, 1-12, DOI: 10.1109/TASE.2020.3017481. (SCI/SCIE) (2020 Impact Factor: 5.083, Rank by JIF:16/63) (Coming soon)

18. **Chien, Chen-Fu**, Chen, Y.-H., and Lo, M.-F. (2020), "Advanced quality control of silicon wafer specifications for yield enhancement for smart manufacturing," *IEEE Transactions on Semiconductor Manufacturing*, 33(4), 569-577, DOI: 10.1109/TSM.2020.3010200. (SCI/SCIE) (2020 Impact Factor: 2.874, Rank by JIF: 114/273, 30/50)

19. **Chien, Chen-Fu**, Kuo, C.-J., and Yu, C.-M. (2020), "Tool allocation to smooth work-in-process for cycle time reduction and an empirical study," *Annals of Operations Research*, 290(1), 1009-1033, DOI: 10.1007/s10479-018-3034-5. (SCI/SCIE) (2020 Impact Factor: 4.854, Rank by JIF: 21/84)

20. Wang, C., Lim, M.K., Zhao, L., Tseng, M.-L. **Chien, Chen-Fu** and Lev, B. (2020), "The evolution of Omega-The International Journal of Management Science over the past 40 years: A bibliometric overview," *Omega*, 93, 102098, DOI: 10.1016/j.omega.2019.08.005. (SSCI) (2020 Impact Factor: 7.084, Rank by JIF: 40/266, 5/84) (Coming soon)

21. **Chien, Chen-Fu**, Dauzère-Pérès, S., Huh, W.T., Jang, T.J., and Morrison, J.R. (2020), "Artificial intelligence in manufacturing and logistics systems: algorithms, applications, and case studies," *International Journal of Production Research*, 58(9), 2730-2731, DOI: 10.1080/00207543.2020.1752488. (SCI/SCIE) (2020 Impact Factor: 8.568, Rank by JIF: 4/49, 2/84, 3/50)

22. **Chien, Chen-Fu**, Lin, Y.-S. and Lin, S.-K. (2020), "Deep reinforcement learning for selecting demand forecast models to empower Industry 3.5 and an empirical study for a semiconductor component distributor," *International Journal of Production Research*, 58(9), 2784-2804, DOI: 10.1080/00207543.2020.1733125. (MOST 108-2634-F-007-001; MOST 109-2634-F-007-019; MOST 108-2634-F-007-008) (SCI/SCIE)

(2020 Impact Factor: 8.568, Rank by JIF: 4/49, 2/84, 3/50)

23. Jamrus, T., Wang, H.-K. and **Chien, Chen-Fu** (2020), "Dynamic coordinated scheduling for supply chain under uncertain production time to empower smart production for Industry 3.5," *Computers & Industrial Engineering*, 142, 106375, DOI: 10.1016/j.cie.2020.106375. (MOST 108-2634-F-007-001; MOST 108-2221-E-035-019-MY2; MOST 108-2634-F-007-008) (SCI/SCIE) (2020 Impact Factor: 5.431, Rank by JIF: 14/49, 21/112) <mark>(Coming soon)</mark>

24. Ku, C.-C., **Chien, Chen-Fu** and Ma, K.-T. (2020), "Digital transformation to empower smart production for Industry 3.5 and an empirical study for textile dyeing," *Computers & Industrial Engineering*, 142, 106297, DOI: 10.1016/j.cie.2020.106297. (MOST 108-2634-F-007-001; MOST 108-2634-F-007-008) (SCI/SCIE) (2020 Impact Factor: 5.431, Rank by JIF: 14/49, 21/112) <mark>(Coming soon)</mark>

25. Chien, Chen-Fu, Tseng, M.-L., Tan, R. R., Tan, K., and Velek, O. (2020), "Industry 3.5 for Sustainable Transition and Total Resource Management," *Resources, Conservation and Recycling*, 152, 104482, DOI: 10.1016/j.resconrec.2019.104482. (SCI/SCIE) (2020 Impact Factor:10.204, Rank by JIF: 5/54, 11/274) <mark>(Coming soon)</mark>

26. Khakifirooz, M., **Chien, Chen-Fu**, Fathi, M. and Pardalos, P. (2019), "Minimax Optimization for Recipe Management in High-Mixed Semiconductor Lithography Process," *IEEE Transactions on Industrial Informatics*, 16(8), 4975-4985, DOI: 10.1109/TII.2019.2957145. (SCI) (2020 Impact Factor: 10.215, Rank by JIF: 1/49, 4/63, 3/112)

27. Khakifirooz, M., **Chien, Chen-Fu** and Chen, Y.-J. (2019), "Dynamic Support Vector Regression Control System for Overlay Error Compensation with Stochastic Metrology Delay," *IEEE Transactions on Automation Science and Engineering*, 17(1), 502-512, DOI: 10.1109/TASE.2019.2935179. (SCI) (2020 Impact Factor: 5.083, Rank by JIF:16/63)

28. Fu, W., and **Chien, Chen-Fu** (2019), "UNISON Data-Driven Intermittent Demand Forecast Framework to Empower Supply Chain Resilience and An Empirical Study in Electronics Distribution," *Computers & Industrial Engineering*, 135, 940-949, DOI: 10.1016/j.cie.2019.07.002. (MOST 108-2634-F-007-001; MOST 108-2634-F-007-008) (SCI) (2020 Impact Factor: 5.431, Rank by JIF: 14/49, 21/112)

29. Tseng, M.-L., Chiu, A., **Chien, Chen-Fu** and Tan, R. (2019), "Pathways and Barriers to Circularity in Food Systems," *Resources, Conservation and Recycling*, 143, 236-237. DOI: 10.1016/j.resconrec.2019.01.015 (SCI) (2020 Impact Factor:10.204, Rank by JIF: 5/54, 11/274)

30. Khakifirooz, M., **Chien, Chen-Fu** and Fathi, M. (2019), "Compensating Misalignment Using Dynamic Random-Effect Control System: A Case of High-Mixed Wafer Fabrication," *IEEE Transactions on Automation Science and Engineering*, 16(4), 1788-1799, DOI: 10.1109/TASE.2019.2894668. (SCI) (2020 Impact Factor: 5.083, Rank by JIF:16/63)

31. Hu, Y.-F., Hou, J.-L. and **Chien, Chen-Fu** (2019), "A UNISON Framework for Knowledge Management of University–Industry Collaboration and an Illustration," *Computers & Industrial Engineering*, 129, 31-43, DOI: 10.1016/j.cie.2018.12.072. (MOST 107-2634-F-007-002; MOST 107-2634-F-007-009) (SCI) (2020 Impact Factor: 5.431, Rank by JIF: 14/49, 21/112)

32. Khakifirooz, M., Fathi, M. and **Chien, Chen-Fu** (2018), "Modelling and Decision Support System for Intelligent Manufacturing: An Empirical Study for Feedforward-Feedback Learning-Based Run-to-Run Controller for Semiconductor Dry-Etching Process," *International Journal of Industrial Engineering: Theory, Applications and Practice*, 25(6), 828-842. (SCI) (2020 Impact Factor: 0.441, Rank by JIF: 49/50, 48/49)

33. Huynh, N.-T., Haung, Y.-C. and **Chien, Chen-Fu** (2018), "A hybrid genetic algorithm with 2D encoding for the scheduling of rehabilitation patients," *Computers & Industrial Engineering*, 125, 221-231, DOI: 10.1016/j.cie.2018.08.030. (MOST 107-2634-F-007-002; MOST105-2221-E-007-078-MY3; MOST 103-2218-E-007-023) (SCI) (2020 Impact Factor: 5.431, Rank by JIF: 14/49, 21/112)

34. Hong, T.-Y., Chien, C**hen-Fu**, Wang, H.-K. and Guo, H.-Z. (2018), "A two-phase decoding genetic algorithm for TFT-LCD array photolithography stage scheduling problem with constrained waiting time," *Computers & Industrial Engineering*, 125, 200-211, DOI: 10.1016/j.cie.2018.08.024. (MOST 105-2811-E-007-050; MOST 106-2811-E-007-042; MOST 107-2634-F-007-002) (SCI) (2020 Impact Factor: 5.431, Rank by JIF: 14/49, 21/112)

35. Zheng, J.-N., **Chien, Chen-Fu** and Wu, J.-Z. (2018), "Multi-objective demand fulfillment problem for solar cell industry," *Computers & Industrial Engineering*, 125, 688-694, DOI: 10.1016/j.cie.2018.05.006. (MOST 105-2622-E-468-004-CC3; MOST 105-2218-E-007-028; MOST105-2622-8-007-002-TM1, 106-2622-8-007-002-TM1) (SCI) (2020 Impact Factor: 5.431, Rank by JIF: 14/49, 21/112)

36. Huynh, N.T. and **Chien, Chen-Fu** (2018), "A hybrid multi-subpopulation genetic algorithm for textile batch dyeing scheduling and an empirical study," *Computers & Industrial Engineering*, 125, 615-627, DOI: 10.1016/j.cie.2018.01.005. (MOST 104-2622-E-007-002; MOST 107-2634-F-007-002; 106N536CE1) (SCI) (2020 Impact Factor: 5.431, Rank by JIF: 14/49, 21/112)

37. Chen, Y.-J. and **Chien, Chen-Fu** (2018), "An empirical study of demand forecasting of non-volatile memory for smart production of semiconductor manufacturing," *International Journal of Production Research*, 56(13), 4629-4643, DOI: 10.1080/00207543.2017.1421783. (MOST 103-2218-E-007-023; MOST 106-2218-E-007-024; MOST 106-2622-8-155-004-TM1) (SCI) (2020 Impact Factor: 8.568, Rank by JIF: 4/49, 2/84, 3/50)

38. 王俊堯、陳暎仁、**簡禎富**（2018），「探針卡印刷電路板電鍍銅製程關鍵參數搜尋之資料挖礦架構與實證研究」，《品質學報》，25（6），361-379。 (EI)

39. **Chien, Chen-Fu**, Wang, H.-K., and Fu, W. (2018), "Industry 3.5 Framework of an Advanced Intelligent Manufacturing System: Case Studies from Semiconductor Intelligent Manufacturing," *Management Review*, 37, 105-121. (TSSCI)

40. Khakifirooz, M., **Chien, Chen-Fu** and Chen, Y.-J. (2018), "Bayesian inference for mining semiconductor manufacturing big data for yield enhancement and smart production to empower industry 4.0," *Applied Soft Computing*, 68, 990-999, DOI: 10.1016/j.asoc.2017.11.034. (MOST 105-2218-E-007-027; MOST 105-2622-8-007-002-TM1) (SCI) (2020 Impact Factor: 6.725, Rank by JIF: 11/112, 24/139)

41. **Chien, Chen-Fu**, Dou, R. and Fu, W. (2018), "Strategic capacity planning for smart production: Decision modeling under demand uncertainty," *Applied Soft Computing*, 68, 990-999, DOI: 10.1016/j.asoc.2017.06.001. (MOST 105-2218-E-007-027; MOST105-2622-8-007-002-TM1; MOST 103-2218-E-007-023) (SCI) (2020 Impact Factor: 6.725, Rank by JIF: 11/112, 24/139)

42. Zhao, L., **Chien, Chen-Fu**, and Gen, M. (2018), "A Bi-objective Genetic Algorithm for Intelligent Rehabilitation Scheduling Considering Therapy Precedence Constraints," *Journal of Intelligent Manufacturing*, 29(5), 973-988, DOI: 10.1007/s10845-015-1149-y. (NSC 102-2221-E-007-057-MY3; MOST 103-2218-E-007-023; MOST 104-2911-I-007-502) (SCI) (2020 Impact Factor: 6.485, Rank by JIF: 25/139, 10/50)

43. Tseng, M.-L., Tan, R.-R., Chiu, A.-S.-F., **Chien, Chen-Fu** and Kuo, T.-C. (2018), "Circular economy meets industry 4.0: Can big data drive industrial symbiosis?" *Resources, Conservation and Recycling*, 131, 146-147, DOI: 10.1016/j.resconrec.2017.12.028. (SCI) (2020 Impact Factor:10.204, Rank by JIF: 5/54, 11/274)

44. **Chien, Chen-Fu** and Huynh, N.-T. (2018), "An Integrated Approach for IC Design R&D Portfolio Decision and Project Scheduling and a Case Study," *IEEE Transactions on Semiconductor Manufacturing,* 31(1), 76-86, DOI: 10.1109/TSM.2018.2792783. (SCI) (2020 Impact Factor: 2.874, Rank by JIF: 114/273, 30/50)

45. **簡禎富**、侯建良、吳建瑋、林國義、胡益芬、朱珮君（2017），「推動高等教育校務經營全面品質管理之研究──以國立清華大學為實證」，《管理與系統》，24（4），591-614。(TSSCI)

46. Wang, H.-K., **Chien, Chen-Fu**, and Chou, C.-W. (2017), "An empirical study of bio manufacturing for the scheduling of hepatitis in vitro diagnostic device with constrained process time window," *Computers & Industrial Engineering*, 114, 31-44, DOI: 10.1016/j.cie.2017.09.023. (MOST 104-2218-E-007-014; MOST 105-2622-8-007-002-TM1; MOST105-2221-E-007-078-MY3; 105N536CE1; 102A26; GBC) (SCI) (2020 Impact Factor: 5.431, Rank by JIF: 14/49, 21/112)

47. Chamnanlor, C., Sethanan, K., Gen, M., and **Chien, Chen-Fu** (2017), "Embedding Ant System in Genetic Algorithm for Re-entrant Hybrid Flow Shop Scheduling Problems with Time Window Constraints," *Journal of Intelligent Manufacturing*, 28(8), 1915-1931. DOI: 10.1007/s10845-015-1078-9. (SCI) (2020 Impact Factor: 6.485, Rank by JIF: 25/139, 10/50)

48. **Chien, Chen-Fu**, Hong, T.-Y. and Guo, H.-Z. (2017), "An empirical study for smart production for TFT-LCD to empower Industry 3.5," *Journal of the Chinese Institute of Engineers*, 40(7), 552-561. DOI: 10.1080/02533839.2017.1372220. (SCI) (2020 Impact Factor: 0.43, Rank by JIF: 71/91)

49. Lin, K.-Y., Yu, A. P.-I., Chu, P.-C., and **Chien, Chen-Fu** (2017), "User-experience-based design of experiments for new product development of consumer electronics and an empirical study," *Journal of Industrial and Production Engineering*, 34(7), 504-519, DOI: 10.1080/21681015.2017.1363089. (EI/TSSCI)

50. Jamrus, T., **Chien, Chen-Fu**, Gen, M., and Sethanan, K. (2017), "Hybrid particle swarm optimization combined with genetic operators for flexible job-shop scheduling under uncertain processing time for semiconductor manufacturing," *IEEE Transactions on Semiconductor Manufacturing*, 31(1), 32-41. DOI: 10.1109/TSM.2017.2758380. (SCI) (2020 Impact Factor: 2.874, Rank by JIF: 114/273, 30/50)

51. Yu, C.-M., **Chien**, **Chen-Fu**, and Kuo, C.-J. (2017), "Exploit the Value of Production Data to Discover Opportunities for Saving Power Consumption of Production Tools," *IEEE Transactions on Semiconductor Manufacturing*, 30(4), 345-350. DOI: 10.1109/TSM.2017.2750712. (SCI) (2020 Impact Factor: 2.874, Rank by JIF: 114/273, 30/50)

52. **Chien, Chen-Fu**, Liu, C.-W., and Chuang, S.-C. (2017), "Analysing semiconductor manufacturing big data for root cause detection of excursion for yield enhancement," *International Journal of Production Research*, 55(17), 5095-5107, DOI:10.1080/00207543.2015.1109153. (NSC 100-2628-E-007-017-MY3; NSC 102-2221-E-007-057-MY3; NSC102-2622-E-007-013; MOST 103-2218-E-007-023; 100A0259JC) (SCI) (2020 Impact Factor: 8.568, Rank by JIF: 4/49, 2/84, 3/50)

53. 簡禎富，林國義（2016），「建構半導體晶圓廠整廠績效指標架構與全面資源管理」，《管理與系統》，23（4），451-474。(NSC 102-2221-E-007 -057 -MY3; NSC 105-2410-H-468-002-MY2; MOST 103-2218-E-007-023; 99A0286JC; 104N2074E1) (TSSCI)

54. Chu, P.-C., Chen, C.-C., **Chien, Chen-Fu** (2016), "Analyzing TFT-LCD Array Big Data for Yield Enhancement and an Empirical Study of TFT-LCD Manufacturing in Taiwan," *International Journal of Industrial Engineering: Theory, Applications and Practice*, 23(5), 318-331. (SCI) (2020 Impact Factor: 0.441, Rank by JIF: 49/50, 48/49)

55. **Chien, Chen-Fu**, Kerh, R., Lin, K.-Y., and Yu, API (2016), "Data-driven Innovation to Capture User-experience Product Design: An Empirical Study for Notebook Visual Aesthetics Design," *Computers & Industrial Engineering*, 99, 162-173, DOI: 10.1016/j.cie.2016.07.006. (NSC 102-2221-E-007-057-MY3; MOST 105-2622-8-007-002-TM1, MOST 105-2410-H-468-002-MY2; MOST 103-2218-E-007-023; MOST 105-2221-E-007-078-MY3; 104N2074E1) (SCI) (2020 Impact Factor: 5.431, Rank by JIF: 14/49, 21/112)

56. Lin, K.-Y., **Chien, Chen-Fu**, and Kerh, R. (2016), "UNISON Framework of Data-Driven Innovation for Extracting User Experience of Product Design of Wearable Devices," *Computers & Industrial Engineering*. 99, 487-502, DOI: 10.1016/j.cie.2016.05.023. (NSC 102-2622-E-007-013, NSC 102-2221-E-007-057-MY3, MOST 105-2622-8-007-002-TM1, MOST 105-2410-H-468-002-MY2) (SCI) (2020 Impact Factor: 5.431, Rank by JIF: 14/49, 21/112)

57. Xie, Y., **Chien, Chen-Fu**, and Tang, R.-Z. (2016), "A Dynamic Task Assignment Approach Based on Individual Worklists for Minimizing the Cycle Time of Business Processes," *Computers & Industrial Engineering*, 99, 401-414, DOI: 10.1016/j.cie.2015.11.023. (NSC 100-2628-E-007-017-MY3; 101N2074E1) (SCI) (2020 Impact Factor: 5.431, Rank by JIF: 14/49, 21/112)

58. **Chien, Chen-Fu**, Peng, J.-T., and Yu, H.-G. (2016), "Building Energy Saving Performance Indices for Cleaner Semiconductor Manufacturing and An Empirical Study," *Computers & Industrial Engineering*, 99, 448-457, DOI: 10.1016/j.cie.2015.11.004. (SCI) (2020 Impact Factor: 5.431, Rank by JIF: 14/49, 21/112)

59. **Chien, Chen-Fu**, Chou, C.-W., and Yu, H.-C. (2016), "A Novel Route Selection and Resource Allocation Approach to Improve the Efficiency of Manual Material Handling System in 200-mm Wafer Fabs for Industry 3.5," *IEEE Transactions on Automation Science and Engineering*, 13(4), 1567-1580, DOI: 10.1109/TASE.2016.2583659. (NSC 102-2221-E-007-057-MY3, MOST 103-2622-E-007-002-TM1, NSC 102-2622-E-007-013, and MOST 103-2218-E-007-023; 105N536CE1) (SCI) (2020 Impact Factor: 5.083, Rank by JIF:16/63)

60. **Chien, Chen-Fu**, Hu, C.-H., and Hu, Y.-F. (2016), "Overall Space Effectiveness (OSE) for Enhancing Fab Space Productivity," *IEEE Transactions on Semiconductor Manufacturing*, 29(3), 239-247, DOI: 10.1109/TSM.2016.2587735. (NSC 100-2628-E-007-017-MY3; MOST 103-2218-E-007-023; MOST 105-2622-8-007-002-TM1; 104N2074E1; 102A26) (SCI) (2020 Impact Factor: 2.874, Rank by JIF: 114/273, 30/50)

61. Jamrus, T. and **Chien, Chen-Fu** (2016), "Extended Priority-based Hybrid Genetic Algorithm for the Less-than-container Loading Problem," *Computers & Industrial Engineering*. 96, 227-236, DOI: 10.1016/j.cie.2016.03.030. (NSC 102-2221-E-007-057-MY3; MOST 103-2218-E-007-023; MOST 104-2622-E-007-002; 104N2074E1) (SCI) (2020 Impact Factor: 5.431, Rank by JIF: 14/49, 21/112)

62. 陳暎仁，**簡禎富**，黃馨滿（2016），「建構彩色濾光膜及微透鏡缺陷樣型分析之資料挖礦架構」，《資訊管理學報》，23（2），129-153。(MOST 103-2218-E-007-023; MOST 104-2622-E-007-002; 101A51; 104N2074E1; 105N536CE1) (TSSCI)

63. **簡禎富**、林國義、許鉅秉、吳政鴻（2016），「台灣生產與作業管之相關期刊文獻回顧與前瞻：從工業 3.0 到工業 3.5」，《管理學報》，33（1），87-103。(TSSCI)

64. 周哲維，**簡禎富**（2016），「需求不確定性之產能擴充決策分析-TFT-LCD 產業之個案研究」，《管理與系統》，23（1），1-29。(NSC 96-2221-E-007-048; NSC 100-2628-E-007-017-MY; NSC 102-2221-E-007-057-MY3; NSC 103-2622-E-007-002; MOST 104-2622-E-007-002; 103N2075E1; 102A26) (TSSCI)

65. Zheng, J.-N., **Chien, Chen-Fu**, and Gen, M. (2015), "Multi-objective Multi-population Biased Random-key Genetic Algorithm for the 3-D Container Loading Problem," *Computers & Industrial Engineering*, 89, 80-87, DOI: 10.1016/j.cie.2014.07.012. (NSC 100-2628-E-007-017-MY3; NSC 102-2221-E-007-057-MY3; NSC 102-2811-E-007-005; 103N2075E1) (SCI) (2020 Impact Factor: 5.431, Rank by JIF: 14/49, 21/112)

66. Lin, Y.-H., **Chien, Chen-Fu**, Yu, C.-M. (2015), "UNISON Decision Analysis Framework for Workforce Planning for Semiconductor Fabs and an Empirical Study," *International Journal of Industrial Engineering: Theory, Applications and Practice*, 22(5),631-644. (SCI) (2020 Impact Factor: 0.441, Rank by JIF: 49/50, 48/49)

67. **Chien, Chen-Fu**, Chu, P.-C., and Zhao, L. (2015), "Overall Resource Effectiveness (ORE) Indices for Total Resource Management and Case Studies," *International Journal of Industrial Engineering: Theory, Applications and Practice*, 22(5), 618-630. (SCI) (2020 Impact Factor: 0.441, Rank by JIF: 49/50, 48/49)

68. **Chien, Chen-Fu**, Chen, Y.-J., and Hsu, C.-Y. (2015), "A Novel Approach to Hedge and Compensate the Critical Dimension Variation of the Developed-and-Etched Circuit Patterns for Yield Enhancement in Semiconductor Manufacturing," *Computers & Operations Research*, 53, 309-318, DOI: 10.1016/j.cor.2014.05.009. (NSC100-2628-E-007-017-MY3; NSC101-2811-E-007-004; NSC102-2622-E-007-013; 101N2073E1; 102N2075E1; 102A26) (SCI) (2020 Impact Factor: 4.008, Rank by JIF: 17/49, 39/112, 25/84)

69. 符光南，林國勝，**簡禎富**（2015），「建構工業安全績效指標—以半導體廠為例」，《中小企業發展季刊》，35，29-70。

70. Hsu, C.-Y., Lin, S.-C., and **Chien, Chen-Fu** (2015), "A Back-propagation Neural Network with a Distributed Lag Model for Semiconductor Vendor-Managed Inventory," *Journal of Industrial and Production Engineering*, 32(3), 149-161, DOI: 10.1080/21681015.2015.1026418. (NSC100-2628-E-007-017-MY3; MOST 103-2221-E-155-029-MY2; MOST 104-2622-E-007-002) (EI/TSSCI)

71. Jamrus, T., **Chien, Chen-Fu**, Gen, M., and Sethanan, K. (2015), "Multistage Production Distribution under Uncertain Demands with Integrated Discrete Particle Swarm Optimization and Extended Priority-based Hybrid Genetic Algorithm," *Fuzzy Optimization and Decision Making*, 14(3), 265-287, DOI: 10.1007/s10700-014-9200-6. (NSC 100-2628-E-007-017-MY3; NSC 101-2811-E-007-004; NSC 102-2622-E-007-013; NSC 102-2811-E-007-005; 102N2075E1) (SCI) (2020 Impact Factor: 4.128, Rank by JIF: 23/84, 40/139)

72. Wang, H.-K., **Chien, Chen-Fu**, and Gen, M. (2015), "An Algorithm of Multi-subpopulation Parameters with Hybrid Estimation of Distribution for Semiconductor Scheduling with Constrained Waiting Time," *IEEE Transactions on Semiconductor Manufacturing*, 28(3), 353-366, DOI: 10.1109/TSM.2015.2439054. (NSC 100-2628-E-007-017-MY3; MOST 103-2218-E-007-023; NSC 102-2622-E-007-013; 104N2074E1; 102A26) (SCI) (2020 Impact Factor: 2.874, Rank by JIF: 114/273, 30/50) **(2015 IEEE TSM Best Paper Award)**

73. **Chien, Chen-Fu** and Chuang, S.-C. (2014), "A Framework for Root Cause Detection of Sub-Batch Processing System for Semiconductor Manufacturing Big Data Analytics," *IEEE Transactions on Semiconductor Manufacturing*, 27(4), 475-488, DOI: 10.1109/TSM.2014.2356555. (NSC100-2628-E-007-017-MY3; NSC103-2622-E-007-002; 102N2075E1; 102A26) (SCI) (2020 Impact Factor: 2.874, Rank by JIF: 114/273, 30/50)

74. Hao, X.-C., Wu, J.-Z., **Chien, Chen-Fu**, and Gen, M. (2014), "The Cooperative Estimation of Distribution Algorithm: A Novel Approach for Semiconductor Final Test Scheduling Problems," *Journal of Intelligent Manufacturing*, 25(5), 867-879, DOI: 10.1007/s10845-013-0746-x. (NSC101-2811-E-007-004; NSC100-2410-H-031-011-MY2; NSC 100-2628-E-007-017-MY3; 101N2073E1) (SCI) (2020 Impact Factor: 6.485, Rank by JIF: 25/139, 10/50)

75. **Chien, Chen-Fu**, Chang, K.-H., and Wang, W.-C. (2014), "An Empirical Study of Design-of-Experiment Data Mining for Yield-Loss Diagnosis for Semiconductor Manufacturing," *Journal of Intelligent Manufacturing*, 25(5), 961-972, DOI: 10.1007/s10845-013-0791-5. (NSC 99-2221-E-007-047-MY3; NSC 102-2622-E-007-013; 101N2073E1; 93A0309J8) (SCI) (2020 Impact Factor: 6.485, Rank by JIF: 25/139, 10/50)

76. Yu, H.-C., Lin, K.-Y., and **Chien, Chen-Fu** (2014), "Hierarchical Indices to Detect Equipment Condition Changes with High Dimensional Data for Semiconductor Manufacturing," *Journal of Intelligent Manufacturing*, 25(5), 933-943, DOI: 10.1007/s10845-013-0785-3. (NSC 100-2628-E-007-017-MY3; NSC 102-2622-E-007-013; 100A0259JC; 101N2074E1) (SCI) (2020 Impact Factor: 6.485, Rank by JIF: 25/139, 10/50)

77. **Chien, Chen-Fu**, Zheng, J.-N., and Lin, Y.-J. (2014), "Determining the Operator-Machine Assignment for Machine interference Problem and an Empirical Study in Semiconductor Test Facility," *Journal of Intelligent Manufacturing*, 25(5), 899-911, DOI: 10.1007/s10845-013-0777-3. (NSC 99-2221-E-007-047-MY3; 101N2074E1) (SCI) (2020 Impact Factor: 6.485, Rank by JIF: 25/139, 10/50)

78. Chou, C.-W., **Chien, Chen-Fu**, and Gen, M. (2014), "A Multiobjective Hybrid Genetic Algorithm for TFT-LCD Module Assembly Scheduling," *IEEE Transactions on Automation Science and Engineering*, 11(3), 692-705, DOI: 10.1109/TASE.2014.2316193. (NSC 96-2221-E-007-048; NSC 102-2622-E-007-013; NSC 103-2622-E-007-002; NSC 102-2221-E-007-057-MY3; 102A26; 102N2075E1) (SCI) (2020 Impact Factor: 5.083, Rank by JIF:16/63)

79. Liao, C.-S., Hsieh, T.-J., Huang, Y.-S., and **Chien, Chen-Fu** (2014), "Similarity Searching for Defective Wafer Bin Maps in Semiconductor Manufacturing," *IEEE Transactions on Automation Science and Engineering*, 11(3), 953-960, DOI: 10.1109/TASE.2013.2277603. (NSC 100-2221-E-007-108-MY3; NSC 100-2628-E-007-017-MY3; NSC 102-2221-E-007-075-MY3) (SCI) (2020 Impact Factor: 5.083, Rank by JIF:16/63)

80. **Chien, Chen-Fu**, Diaz, A.C., and Lan, Y.-B. (2014), "A Data Mining Approach for Analyzing Semiconductor MES and FDC Data to Enhance Overall Usage Effectiveness (OUE)," *International Journal of Computational Intelligence Systems*, 7 (Supplement 2), 52-65, DOI: 10.1080/18756891.2014.947114. (NSC103-2622-E-007-002; NSC100-2628-E-007-017-MY3; 102A26; 102N2075E1; 103N2075E1; 96A0279J8) (SCI) (2020 Impact Factor: 1.736, Rank by JIF: 87/112, 100/139)

81. Lee, C.-Y. and **Chien, Chen-Fu** (2014), "Stochastic Programming for Vendor Portfolio Selection and Order Allocation Under Delivery Uncertainty," *OR Spectrum*, 36(3), 761-797, DOI: 10.1007/s00291-013-0342-7. (NSC 99-2221-E-007-047-MY3; NSC 102-2622-E-007-013; 101N2073E1; 101A53) (SCI) (2020 Impact Factor: 1.652, Rank by JIF: 60/84)

82. **Chien, Chen-Fu**, Lin, K.-Y., and Yu, A. P.-I. (2014), "User-experience of tablet operating system: An experimental investigation of Windows 8, iOS 6, and Android 4.2," *Computers & Industrial Engineering*, 73, 75-84, DOI: 10.1016/j.cie.2014.04.015. (NSC100-2628-E-007-017-MY3; NSC102-2622-E-007-013; 102N2075E1) (SCI) (2020 Impact Factor: 5.431, Rank by JIF: 14/49, 21/112)

83. **Chien, Chen-Fu** and Hsu, C.-Y. (2014), "Data Mining for Optimizing IC Feature Designs to Enhance Overall Wafer Effectiveness," *IEEE Transactions on Semiconductor Manufacturing*, 27(1), 71-82, DOI: 10.1109/TSM.2013.2291838. (NSC 100-2628-E-007-017-MY3; NSC101-2221-E-155-035; NSC 102-2622-E-007-013; 102A26) (SCI) (2020 Impact Factor: 2.874, Rank by JIF: 114/273, 30/50)

84. Chamnanlor, C., Sethanan, K., **Chien, Chen-Fu**, and Gen, M. (2014), "Re-Entrant Flow Shop Scheduling Problem with Time Windows Using Hybrid Genetic Algorithm Based on Auto-Tuning Strategy," *International Journal of Production Research*, 52(9), 2612-2629, DOI: 10.1080/00207543.2013.861949. (NSC 101-2811-E-007-004; NSC 101-2811-E-007-005; NSC100-2628-E-007-017-MY3; NTHU 101N2073E1) (SCI) (2020 Impact Factor: 8.568, Rank by JIF: 4/49, 2/84, 3/50)

85. Hsieh, L. Y., Chang, K.-H., and **Chien, Chen-Fu** (2014), "Efficient Development of Cycle Time Response Surfaces Using Progressive Simulation Metamodeling," *International Journal of Production Research,*

52(10), 3097-3109, DOI: 10.1080/00207543.2013.864055. (NSC 101-2628-E-007-010-MY3) (SCI) (2020 Impact Factor: 8.568, Rank by JIF: 4/49, 2/84, 3/50)

86. Lee, C.-Y., and Chen, C.-H., and **Chien, Chen-Fu** (2014), "A Simulation Analysis for Evaluating TFT-LCD Fab Capacity Expansion with a Distant Transportation Problem," *International Journal of Production Research*, 52(6), 1868-1885, DOI: 10.1080/00207543.2013.864055. (NSC 100-2628-E-007-017-MY3) (SCI) (2020 Impact Factor: 8.568, Rank by JIF: 4/49, 2/84, 3/50)

87. **Chien, Chen-Fu**, Chen, Y.-J., Hsu, C.-Y., and Wang, H.-K. (2014), "Overlay Error Compensation Using Advanced Process Control with Dynamically Adjusted Proportional-Integral R2R Controller," *IEEE Transactions on Automation Science and Engineering*, 11(2), 473-484, DOI: 10.1109/TASE.2013.2280618. (NSC 100-2628-E-007-017-MY3; NSC 100-2218-E-155-003) (SCI) (2020 Impact Factor: 5.083, Rank by JIF:16/63)

88. Li, X., **Chien, Chen-Fu**, Yang, L., and Gao, Z. (2014), "The Train Fueling Cost Minimization Problem with Fuzzy Fuel Prices," *Flexible Services and Manufacturing Journal*, 26(1-2), 249-267, DOI: 10.1007/s10696-012-9159-y. (NSC 100-2628-E-007-017-MY3; 101N2074E1) (SCI) (2020 Impact Factor: 2.603, Rank by JIF: 34/49, 33/50, 38/84)

89. Chamnanlor, C., Sethanan, K., **Chien, Chen-Fu**, and Gen, M. (2013), "Hybrid Genetic Algorithms for Solving Reentrant Flow-Shop Scheduling with Time Windows," *Industrial Engineering & Management Systems*, 12(4), 306-316, DOI: 10.7232/iems.2013.12.4.306. (NSC 101-2811-E-007-004; NSC 101-2811-E-007-005; NSC100-2628-E-007-017-MY3; NTHU 101N2073E1) (ESCI)

90. Chen, C.-P., **Chien, Chen-Fu**, and Lin, C.-T. (2013), "Cluster Policies and Industry Development in the Hsinchu Science Park: A Retrospective Review after 30 Years," *Innovation: Organization & Management*, 15(4), 416-436, DOI: 10.5172/impp.2013.15.4.416. (NSC99-3011-P007-001; 98e-012) (SSCI) (2020 Impact Factor: 2.372, Rank by JIF: 172/226)

91. Chen, Y.-J., Lin, T.-H., Chang, K.-H., and **Chien, Chen-Fu** (2013), "Feature Extraction for Defect Classification and Yield Enhancement in Color Filter and Micro-Lens Manufacturing and an Empirical Study," *Journal of Industrial and Production Engineering*, 30(8), 510-517, DOI: 10.1080/21681015.2013.869512. (101A51; NSC 100-2628-E-007-017-MY3; NSC 101-2811-E-007-004; NSC 102-2622-E-007-013; 102N2075E1) (EI/TSSCI)

92. 周明璇，陳文智，**簡禎富**（2013），「建構半導體廠跨廠績效評估以提昇資源分配決策品質之研究」，《品質學報》，20（4），427-444。(NSC 99-2221-E-007-047-MY3; 96A0279J8; 101N2073E1) (EI)

93. Xie, Y., **Chien, Chen-Fu**, and Tang, R.-Z. (2013), "A Method for Estimating the Cycle Time of Business Processes with Many-to-Many Relationships among the Resources and Activities Based on Individual Worklists," *Computers & Industrial Engineering*, 65(2), 194-206, DOI: 10.1016/j.cie.2013.02.015. (NSC 100-2628-E-007-017-MY3; 101N2074E1) (SCI) (2020 Impact Factor: 5.431, Rank by JIF: 14/49, 21/112)

94. **Chien, Chen-Fu**, Wu, J.-Z., and Wu, C.-C. (2013), "A Two-Stage Stochastic Programming Approach for New Tape-Out Allocation Decisions for Demand Fulfillment Planning in Semiconductor Manufacturing," *Flexible Services and Manufacturing Journal*, 25(3), 286-309, DOI: 10.1007/s10696-011-9109-0. (SCI) (NSC 97-2221-E-007-111-MY3; NSC 100-2410-H-031-011-MY2; NSC99RA13) (2020 Impact Factor: 2.603, Rank by JIF: 34/49, 33/50, 38/84)

95. **Chien, Chen-Fu** and Kuo, R.-T. (2013), "Beyond Make-or-Buy: Cross-Company Short-Term Capacity Backup in Semiconductor Industry Ecosystem," *Flexible Services and Manufacturing Journal*, 25(3), 310-342, DOI: 10.1007/s10696-011-9113-4. (NSC 97-2221-E-007-111-MY3) (SCI) (2020 Impact Factor: 2.603, Rank by JIF: 34/49, 33/50, 38/84)

96. **簡禎富**，郭仁村（2013），「服務型製造和台積電製造服務模式」，《工業工程》，16（1），1-8。

97. **簡禎富**，趙立忠，朱珮君（2013），「工業工程在台灣醫院管理之研究與應用」，《工業工程》，16（1），1-8。

98. **簡禎富**，陳勁甫，林國義（2013），「在新竹科學工業園區及週邊規劃研究園區之研究」，《管理與系統》，20（2），227-255。(NSC 99-3011-P007-001、98e-012) (TSSCI)

99. **Chien, Chen-Fu**, Hsu, C.-Y., and Chen, P.-L. (2013), "Semiconductor Fault Detection and Classification for Yield Enhancement and Manufacturing Intelligence," *Flexible Services and Manufacturing Journal*,

25(3), 367-388, DOI: 10.1007/s10696-012-9161-4. (NSC 99-2221-E-007-047-MY3; NSC 100-2410-H-155-048) (SCI) (2020 Impact Factor: 2.603, Rank by JIF: 34/49, 33/50, 38/84)

100. **Chien, Chen-Fu**, Hsu C.-Y., and Chang, K.-H. (2013), "Overall Wafer Effectiveness (OWE): A Novel Industry Standard for Semiconductor Ecosystem as a Whole," *Computers & Industrial Engineering*, 65(1), 117-127, DOI: 10.1016/j.cie.2011.11.024. (NSC 99-2221-E-007-047-MY3) (SCI) (2020 Impact Factor: 5.431, Rank by JIF: 14/49, 21/112)

101. 簡禎富，彭金堂，許嘉裕（2013），「產學合作模式之研究-以科學工業園區固本精進產學合作計畫為例」，《管理與系統》，20（1），27-54。(NSC 97-2221-E-007-111-MY3) (TSSCI)

102. Liu, C.-W. and **Chien, Chen-Fu** (2013), "An Intelligent System for Wafer Bin Map Defect Diagnosis: An Empirical Study for Semiconductor Manufacturing," *Engineering Applications of Artificial Intelligence*, 26(5-6), 1479-1486, DOI: 10.1016/j.engappai.2012.11.009. (NSC 100-2628-E-007-017-MY3) (SCI) (2020 Impact Factor: 6.212, Rank by JIF: 6/63, 7/91, 30/273)

103. **Chien, Chen-Fu**, Hsu, S.-C., and Chen, Y.-J. (2013), "A System for Online Detection and Classification of Wafer Bin Map Defect Patterns for Manufacturing Intelligence," *International Journal of Production Research*, 51(8), 2324-2338, DOI: 10.1080/00207543.2012.737943. (NSC 100-2628-E-007-017-MY3) (SCI) (2020 Impact Factor: 8.568, Rank by JIF: 4/49, 2/84, 3/50)

104. Jin, H., Wang, Z., and **Chien, Chen-Fu** (2012), "A Cut-to-Order Strategy for One-Dimensional Cable Cutting and a Case Study," *Journal of the Chinese Institute of Industrial Engineers*, 29(8), 572-586, DOI: 10.1080/10170669.2012.744362. (NSC 100-2628-E-007-017-MY3) (EI/TSSCI) (工業工程學刊)

105. Hsu, C.-Y., **Chien, Chen-Fu**, and Chen, P. (2012), "Manufacturing Intelligence for Early Warning of Key Equipment Excursion for Advanced Equipment Control in Semiconductor Manufacturing," *Journal of the Chinese Institute of Industrial Engineer*, 29(5), 303-313, DOI: 10.1080/10170669.2012.702135. (NSC 100-2628-E-007-017-MY3; NSC: 100-2218-E-155-003) (EI/TSSCI) (工業工程學刊)

106. Huang, Y.-C., Zheng, J.-N., and **Chien, Chen-Fu** (2012), "Decision Support System for Rehabilitation Scheduling to Enhance the Service Quality and Resource Effectiveness of Health Care," *Journal of the Chinese Institute of Industrial Engineer*, 29(5), 348-363, DOI: 10.1080/10170669.2012.703249. (NSC 100-2628-E-007-017-MY3; 101N2705E1) (EI/TSSCI) (工業工程學刊)

107. **Chien, Chen-Fu**, Wu C., and Chiang, Y. (2012), "Coordinated Capacity Migration and Expansion Planning for Semiconductor Manufacturing under Demand Uncertainties," *International Journal of Production Economics*, 135(2), 860-869, DOI: 10.1016/j.ijpe.2011.10.024. (NSC 97-2221-E-007-111-MY3) (SCI) (2020 Impact Factor: 7.885, Rank by JIF: 5/49, 3/84, 5/50)

108. **Chien, Chen-Fu** and Lin, K. (2012), "Manufacturing Intelligence for Hsinchu Science Park Semiconductor Sales Prediction," *Journal of the Chinese Institute of Industrial Engineers*, 29(2), 98-110, DOI: 10.1080/10170669.2012.660200. (NSC 97-2221-E-007-111-MY3, 99RA13, NSC 99-2911-I-007-033) (EI/TSSCI) (工業工程學刊)

109. Wu, J.-Z., **Chien, Chen-Fu**, and Gen, M. (2012), "Coordinating Strategic Outsourcing Decisions for Semiconductor Assembly Using a Bi-Objective Genetic Algorithm," *International Journal of Production Research*, 50(1), 235-260, DOI: 10.1080/00207543.2011.571457. (NSC 97-2221-E-007-111-MY3) (SCI) (2020 Impact Factor: 8.568, Rank by JIF: 4/49, 2/84, 3/50)

110. Li, X., **Chien, Chen-Fu**, Li, L., Gao, Z., and Yang, L. (2012), "Energy-Constraint Operation Strategy for High-Speed Railway," *International Journal of Innovative Computing, Information and Control*, 8(10A), 6569-6583 (EI).

111. Wu, J.-Z., Hao, X.-C., **Chien, Chen-Fu**, and Gen, M. (2012), "A Novel Bi-Vector Encoding Genetic Algorithm for the Simultaneous Multiple Resources Scheduling Problem," *Journal of Intelligent Manufacturing*, 23(6), 2255-2270, DOI: 10.1007/s10845-011-0570-0. (SCI) (NSC 97-2221-E-007-111-MY3; NSC: 99RA13; NSC 99-2410-H-031-002) (2020 Impact Factor: 6.485, Rank by JIF: 25/139, 10/50)

112. **Chien, Chen-Fu** and Zheng, J.-N. (2012), "Mini-Max Regret Strategy for Robust Capacity Expansion Decisions in Semiconductor Manufacturing," *Journal of Intelligent Manufacturing*, 23(6), 2151-2159, DOI: 10.1007/s10845-011-0561-1. (SCI) (NSC 97-2221-E- 007-111-MY3; NSC 99RA13) (2020 Impact Factor: 6.485, Rank by JIF: 25/139, 10/50)

113. 葛其永，彭金堂，**簡禎富**（2012），「網路通訊代工廠之競爭策略分析：以區域網路為例」，《中小企業發展季刊》，26，1-45。(NSC 99-2221-E-007 -047-MY3)

114. **Chien, Chen-Fu**, Hsu C.-Y., and Hsiao, C. (2012), "Manufacturing Intelligence to Forecast and Reduce Semiconductor Cycle Time," *Journal of Intelligent Manufacturing*, 23(6), 2281-2294, DOI: 10.1007/s10845-011-0572-y. (NSC 97-2221-E-007-111-MY3) (SCI) (2020 Impact Factor: 6.485, Rank by JIF: 25/139, 10/50)

115. 林雁雯，游智閔，**簡禎富**（2011），「台灣中小型高科技公司之產業發展趨勢預測分析—以 LED 為例」，《中小企業發展季刊》，22，127-152。(NSC 99-2221-E-007-047-MY3)

116. **簡禎富**，胡志翰（2011），「全面資源管理架構：以晶圓廠為實證」，《品質學報》，18（6），581-607。(NSC 97-2221-E-007-111-MY3) (EI)

117. **Chien, Chen-Fu** and Hsu, C.-Y. (2011), "UNISON Analysis to Model and Reduce Step-and-Scan Overlay Errors for Semiconductor Manufacturing," *Journal of Intelligent Manufacturing*, 22(3), 399-412, DOI: 10.1007/s10845-009-0298-2. (NSC 96-2628-E-007-035-MY3) (SCI) (2020 Impact Factor: 6.485, Rank by JIF: 25/139, 10/50)

118. Chen, W. and **Chien, Chen-Fu** (2011), "Measuring Relative Performance of Wafer Fabrication Operations: A Case Study," *Journal of Intelligent Manufacturing*, 22(3), 447-457, DOI: 10.1007/s10845-009-0302-x. (NSC 97-2221-E-007-111-MY3) (SCI) (2020 Impact Factor: 6.485, Rank by JIF: 25/139, 10/50)

119. Chen, L.-F. and **Chien, Chen-Fu** (2011), "Manufacturing Intelligence for Class Prediction and Rule Generation to Support Human Capital Decisions for High-Tech Industries," *Flexible Services and Manufacturing Journal*, 23(3), 263-289, DOI: 10.1007/s10696-010-9068-x. (NSC 97-2221-E-007-111-MY3) (SCI) (2020 Impact Factor: 2.603, Rank by JIF: 34/49, 33/50, 38/84)

120. **簡禎富**，郭仁村（2011），「工業工程在台灣產業界的典範移轉」，《工業工程》，14（4），1-10。

121. **Chien, Chen-Fu**, Dauzere-Peres, S., Ehm, H., Fowler, J. W., Jiang, Z., Krishnaswamy, S., Lee, T.-E., Moench, L., and Uzsoy, R. (2011), "Modeling and Analysis of Semiconductor Manufacturing in a Shrinking World: Challenges and Successes," *European Journal of Industrial Engineering*, 5(3), 254-271, DOI: 10.1504/EJIE.2011.041616. (SCI) (2020 Impact Factor: 1.371, Rank by JIF: 68/84, 41/49)

122. **簡禎富**，胡志翰（2011），「旺宏電子公司—製造策略決策」，《中山管理評論》，19（1），11-36。(NSC 97-2221-E-007-111-MY3) (TSSCI)

123. **Chien, Chen-Fu**, Chen, J., and Wei, C. (2011), "Constructing a Comprehensive Modular Fuzzy Ranking Framework and Illustrations," *Journal of Quality*, 18(4), 333-349. (NSC 99-2221-E-007-047-MY3) (EI) (品質學報)

124. Chen, W.-C. and **Chien, Chen-Fu** (2011), "Evaluating Capacity Pooling Strategy in Semiconductor Manufacturing: A Productivity Perspective Study," *International Journal of Production Research*, 49(12), 3635-3652, DOI: 10.1080/00207543.2010.492799. (NSC 97-2221-E-007-111-MY3) (SCI) (2020 Impact Factor: 8.568, Rank by JIF: 4/49, 2/84, 3/50)

125. Kuo, C.-J., **Chien, Chen-Fu,** and Chen, C.-D. (2011), "Manufacturing Intelligence to Exploit the Value of Production and Tool Data to Reduce Cycle Time," *IEEE Transactions on Automation Science and Engineering*, 8(1), 103-111, DOI: 10.1109/TASE.2010.2040999. (NSC 96-2628-E-007-035-MY3) (SCI) (2020 Impact Factor: 5.083, Rank by JIF:16/63) **(2011 IEEE TASE Best Paper Award)**

126. **Chien, Chen-Fu**, Wu, J.-Z., and Weng, Y.-D. (2010), "Modeling Order Assignment for Semiconductor Assembly Hierarchical Outsourcing and Developing the Decision Support System," *Flexible Services and Manufacturing Journal*, 22(1-2), 109-139, DOI: 10.1007/s10696-010-9073-0. (NSC97-2221-E-007-111-MY3; NSC99-2410-H-031-002) (2020 Impact Factor: 2.603, Rank by JIF: 34/49, 33/50, 38/84)

127. **Chien, Chen-Fu**, Chen, W., and Hsu, S. (2010), "Requirement Estimation for Indirect Workforce Allocation in Semiconductor Manufacturing," *International Journal of Production Research*, 48(23), 6959-6976, DOI: 10.1080/00207540903352678. (NSC 97-2221-E-007-111-MY3) (SCI) (2020 Impact Factor: 8.568, Rank by JIF: 4/49, 2/84, 3/50)

128. **Chien, Chen-Fu**, Chen, Y.-J., and Peng, J.-T. (2010), "Manufacturing Intelligence for Semiconductor Demand Forecast Based on Technology Diffusion and Product Life Cycle," *International Journal of Production Economics*, 128(2), 496-509, DOI: 10.1016/j.ijpe.2010.07.022. (NSC 96-2628-E-007-035-MY3)

(SCI) (2020 Impact Factor: 7.885, Rank by JIF: 5/49, 3/84, 5/50)

129. **簡禎富**，史欽泰，陳亭蓁（2010），「晶圓的專業健檢—欣銓晶圓測試服務」，《管理評論》，29（2），1-18。(98-EC-17-A-02-S2-0999) (TSSCI)

130. Hsu, C.-Y., **Chien, Chen-Fu**, Lin, K.-Y., and Chien, C. (2010), "Data Mining for Yield Enhancement in TFT-LCD Manufacturing and an Empirical Study," *Journal of the Chinese Institute of Industrial Engineers*, 27(2), 140-156, DOI: 10.1080/10170660903541856. (NSC 96-2221-E-007-048) (EI/TSSCI) (工業工程學刊)

131. **Chien, Chen-Fu**, Lee, C., Huang, Y., and Wu, W. (2009), "An Efficient Computational Procedure for Determining the Container Loading Pattern," *Computers & Industrial Engineering*, 56(3), 965-978, DOI: 10.1016/j.cie.2008.09.019. (NSC88-2213-E-007-045; NSC95-2221-E-007-126) (SCI) (2020 Impact Factor: 5.431, Rank by JIF: 14/49, 21/112)

132. **簡禎富**，游智閔，徐紹鐘（2009），「紫式決策分析以建構半導體晶圓廠人力規劃決策模型」，《管理與系統》，16（2），157-180。(NSC 96-2628-E-007-035-MY3) (TSSCI)

133. Chen, C.-P. and **Chien, Chen-Fu** (2009), "What Constitutes 'A Quality Decision'?," *Journal of Quality*, 16(2), 87-94. (EI) (品質學報)

134. **Chien, Chen-Fu**, Chen, C.-P., and Chen, C.-H. (2009), "Designing Performance Indices and a Novel Mechanism for Evaluating Government R&D Projects," *Journal of Quality*, 16(2), 119-135. (NSC90-3012-P-007-001; NSC96-2628-E-007-035-MY3) (EI) (品質學報)

135. Wang, K., Lin, Y.-S., **Chien, Chen-Fu,** and Chen, J.-C. (2009), "A Fuzzy-Knowledge Resource-Allocation Model of the Semiconductor Final Test Industry," *Robotics and Computer-Integrated Manufacturing*, 25(1), 32-41, DOI: 10.1016/j.rcim.2007.05.004. (NSC 96-2628-E-007-035-MY3) (SCI) (2020 Impact Factor: 5.666, Rank by JIF: 18/112, 12/50, 3/28)

136. Lin, K. and **Chien, Chen-Fu** (2009), "Cluster Analysis of Genome-Wide Expression Data for Feature Extraction," *Expert Systems with Applications*, 36(2), 3327-3335, DOI: 10.1016/j.eswa.2008.01.068. (NSC 94-2213-E-007-049; NSC 95-2221-E-007-126) (SCI) (2020 Impact Factor: 6.954, Rank by JIF: 23/139, 8/84, 24/273)

137. **Chien, Chen-Fu**, Huang, Y., and Hu, C. (2008), "A Hybrid Approach of Data Mining and Genetic Algorithm for Rehabilitation Scheduling," *International Journal of Manufacturing Technology and Management*, 16(1/2), 76-100, DOI: 10.1504/IJMTM.2009.021505. (NSC 93-2213-E-007-008)

138. **Chien, Chen-Fu**, Tseng, F., and Chen, C. (2008), "An Evolutionary Approach to Rehabilitation Patient Scheduling: a Case Study," *European Journal of Operational Research*, 189(3), 1234-1253, DOI: 10.1016/j.ejor.2007.01.062. (NSC92-2213-E-007-090; NSC93-2213-E-007-033) (SCI) (2020 Impact Factor: 5.334, Rank by JIF: 15/84)

139. **簡禎富**，林昀萱，鄭仁傑（2008），「建構模糊決策樹及其在有交互作用之半導體資料之資料挖礦以提昇良率之研究」，《品質學報》，15（3），193-210。(NSC 95-2221-E-007-125) (EI)

140. **Chien, Chen-Fu** and Chen, L. (2008), "Data Mining to Improve Personnel Selection and Enhance Human Capital: A Case Study in High-Technology Industry," *Expert Systems with Applications*, 34(1), 280-290, DOI: 10.1016/j.eswa.2006.09.003. (NSC94-2213-E-007-050) (SCI) (2020 Impact Factor: 6.954, Rank by JIF: 23/139, 8/84, 24/273) (Award of Expert Systems with Applications Most Cited Articles 2008)

141. **Chien, Chen-Fu**, Hu, C., and Lin, C. (2008), "Analysing Inspection Frequency for Wafer Bumping Process and an Empirical Study of UNISON Decision Framework," *International Journal of Manufacturing Technology and Management*, 14(1/2), 130-144, DOI: 10.1504/IJMTM.2008.017491. (NSC 91-2622-E-007-035-CC3)

142. Wu, J. and **Chien, Chen-Fu** (2008), "Modeling Semiconductor Testing Job Scheduling and Dynamic Testing Machine Configuration," *Expert Systems with Applications*, 35(1-2), 485-496, DOI: 10.1016/j.eswa.2007.07.026. (NSC95-2221-E-007-125; NSC 96-2213-E-007-002) (SCI) (2020 Impact Factor: 6.954, Rank by JIF: 23/139, 8/84, 24/273)

143. 林繼勇，**簡禎富**，胡志翰（2008），「紫式決策分析以建構液晶原料廠製程確效評估模式」，《品質學報》，15（5），385-398。(NSC94-2213-E-007-050; NSC 95-2221-E-007-125) (EI)

144. Wu, J. and **Chien, Chen-Fu** (2008), "Modeling Strategic Semiconductor Assembly Outsourcing Decisions Based on Empirical Settings," *OR Spectrum*, 30(3), 401-430, DOI: 10.1007/s00291-007-0120-5. (NSC 96-2628-E-007 -035 -MY3) (SCI) (2020 Impact Factor: 1.652, Rank by JIF: 60/84)

145. **Chien, Chen-Fu** and Chen, L. (2007), "Using Rough Set Theory to Recruit and Retain High-Potential Talents for Semiconductor Manufacturing," *IEEE Transactions on Semiconductor Manufacturing*, 20(4), 528-541, DOI: 10.1109/TSM.2007.907630. (NSC94-2213-E-007-050) (SCI) (2020 Impact Factor: 2.874, Rank by JIF: 114/273, 30/50)

146. **Chien, Chen-Fu**, Chen, W., Lo, F.-Y., and Lin, Y. (2007), "A Case Study to Evaluate the Productivity Changes of the Thermal Power Plants of the Taiwan Power Company," *IEEE Transactions on Energy Conversion*, 22(3), 680-688, DOI: 10.1109/TEC.2006.888026. (NSC91-2218- E-007-007) (SCI) (2020 Impact Factor: 4.312, Rank by JIF: 55/273, 49/114)

147. **Chien, Chen-Fu** (2007), "Made in Taiwan: Shifting Paradigms in High-Tech Industries," *Industrial Engineer Journal*, 39(2), 47-49. (SCI) (invited feature article based on my keynote speech in IEEM 2006, Weihai, China)

148. **Chien, Chen-Fu**, Wang, H., and Wang, M. (2007), "A UNISON Framework for Analyzing Alternative Strategies of IC Final Testing for Enhancing Overall Operational Effectiveness," *International Journal of Production Economics*, 107(1), 20-30, DOI: 10.1016/j.ijpe.2006.03.010. (NSC NSC87-2213-E-007-047; NSC94-2213-E-007-050) (SCI) (2020 Impact Factor: 7.885, Rank by JIF: 5/49, 3/84, 5/50)

149. **Chien, Chen-Fu** and Chen, C. (2007), "A Novel Timetabling Algorithm for a Furnace Process for Semiconductor Fabrication with Constrained Waiting and Frequency-based Setups," *OR Spectrum*, 29(3), 391-419, DOI: 10.1007/s00291-006-0062-3. (NSC93-2213-E-007-008) (SCI) (2020 Impact Factor: 1.652, Rank by JIF: 60/84)

150. **Chien, Chen-Fu** and Chen, C. (2007), "Using GA and CTPN for Modeling the Optimization-based Schedule Generator of a Generic Production Scheduling System," *International Journal of Production Research*, 45(8), 1763-1789, DOI: 10.1080/00207540500380981. (NSC93-2213-E-007-008) (SCI) (2020 Impact Factor: 8.568, Rank by JIF: 4/49, 2/84, 3/50)

151. **Chien, Chen-Fu**, Wang, W., and Cheng, J. (2007), "Data Mining for Yield Enhancement in Semiconductor Manufacturing and an Empirical Study," *Expert Systems with Applications*, 33(1), 192-198, DOI: 10.1016/j.eswa.2006.04.014. (NSC93-2213-E-007-008) (SCI) (2020 Impact Factor: 6.954, Rank by JIF: 23/139, 8/84, 24/273)

152. **Chien, Chen-Fu**, Chen, H., Wu, J., and Hu, C. (2007), "Construct the OGE for Promoting Tool Group Productivity in Semiconductor Manufacturing," *International Journal of Production Research*, 45(3), 509-524, DOI: 10.1080/00207540600792515. (NSC93-2213-E-007-008; NSC94-2213-E-007-050) (SCI) (2020 Impact Factor: 8.568, Rank by JIF: 4/49, 2/84, 3/50)

153. Leachman, R., Ding, S., and **Chien, Chen-Fu** (2007), "Economic Efficiency Analysis of Wafer Fabrication," *IEEE Transactions on Automation Science and Engineering*, 4(4), 501-512, DOI: 10.1109/TASE.2007.906142. (SCI) (2020 Impact Factor: 5.083, Rank by JIF:16/63)

154. Hsu, S. and **Chien, Chen-Fu** (2007), "Hybrid Data Mining Approach for Pattern Extraction from Wafer Bin Map to Improve Yield in Semiconductor Manufacturing," *International Journal of Production Economics*, 107(1), 88-103, DOI: 10.1016/j.ijpe.2006.05.015. (NSC93-2213-E-007-008) (SCI) (2020 Impact Factor: 7.885, Rank by JIF: 5/49, 3/84, 5/50)

155. **Chien, Chen-Fu**, Li, H.C., and Jiang, A. (2006), "Data Mining for Improving the Solder Bumping Process in the Semiconductor Packaging Industry," *International Journal of Intelligent Systems in Accounting, Finance and Management*, 14(1-2), 43-57, DOI: 10.1002/isaf.273. (NSC 91-2622-E-007-035-CC3)

156. **簡禎富**，林國勝（2006），「建構 cDNA 生物晶片之二元資料挖礦模式及其實證研究」，《資訊管理學報》，13（4），133-159。(NSC93-2213-E-007-033; NSC94-2213-E-007-049) (TSSCI)

157. **Chien, Chen-Fu** and Hsu, C.-Y. (2006), "A Novel Method for Determining Machine Subgroups and Backups with an Empirical Study for Semiconductor Manufacturing," *Journal of Intelligent Manufacturing*, 17(4), 429-439, DOI: 10.1007/s10845-005-0016-7. (NSC93-2213-E-007-008) (SCI) (2020 Impact Factor: 6.485, Rank by JIF: 25/139, 10/50)

158. **簡禎富**，彭金堂，黃冠彰，周冠穎（2006），「組合決策於顧客關係管理之應用-歌手發行精選專輯之歌曲組合為實證」，《品質學報》，13（2），175-190。(NSC 92-2213-E-007-090) (EI)

159. **Chien, Chen-Fu** (2005), "Modifying the Inconsistency of Bayesian Network and a Comparison Study for Fault Location on Electricity Distribution Feeder," *International Journal of Operational Research*, 1(1-2), 188-203, DOI: 10.1504/IJOR.2005.007441. (NSC93-2213-E-007-008)

160. **簡禎富**，王興仁，陳麗妃（2005），「利用資料挖礦提升半導體廠製造技術員人力資源管理品質」，《品質學報》，12（1），9-28。(NSC90-2218-E-007-050; NSC91-2213-E-007-019; NSC92-2213-E-007-090) (EI)

161. Wang, H., **Chien, Chen-Fu,** and Liu, C. (2005), "Demand Forecasting Using Bayesian Experiment with Non-Homogenous Poisson Process Model," *International Journal of Operations Research*, 2(1), 21-29. (NSC93-2213-E-007-008)

162. 彭金堂，張盛鴻，**簡禎富**，楊景晴（2005），「建構關聯規則資料挖礦架構及其在台電配電事故定位之研究」，《資訊管理學報》，12（4），121-141。(NSC 87-TPC-E-007-009；NSC91-2213-E-007-050) (TSSCI)

163. Wei, J.-C., **Chien, Chen-Fu**, and Wang, M.-J. (2005), "An AHP-based Approach to ERP System Selection," *International Journal of Production Economics*, 96(1), 47-62, DOI: 10.1016/j.ijpe.2004.03.004. (SCI) (2020 Impact Factor: 7.885, Rank by JIF: 5/49, 3/84, 5/50)

164. **簡禎富**，蕭禮明，王興仁（2005），「建構半導體製造管理目標層級架構與製造資料之資料挖礦」，《工業工程學刊》，21（4），313-327。(NSC90-2218-E-007-050; NSC91-2213-E-007-019; NSC92-2213-E-007-090) (EI/TSSCI)

165. **Chien, Chen-Fu** and Shi, Y. (2004), "Global Manufacturing Network and Supply Chain Management for the Electronics Industry," *International Journal of Business*, 9(4), 327-328. (NSC 92-2911-I-007-009; NSC 93-2911-I-007-002)

166. **Chien, Chen-Fu** and Deng, J. (2004), "A Container Packing Support System for Determining and Visualizing Container Packing Patterns," *Decision Support Systems*, 37(1), 23-34, DOI: 10.1016/S0167-9236(02)00192-6. (NSC89-2213-E-007-029) (SCI/SSCI) (2020 Impact Factor: 5.795, Rank by JIF: 27/162, 29/139, 13/84)

167. 黃怡詔，陳郁夫，**簡禎富**（2004），「新竹科學園區藥品網路訂購系統之建置與實證研究」，《醫療資訊期刊》，13（2），35-46。

168. Peng, J.-T., **Chien, Chen-Fu**, and Tseng, B. (2004), "Rough Set Theory for Data Mining for Fault Diagnosis on Distribution Feeder," *IEE Proceedings-Generation, Transmission, and Distribution*, 151(6), 689-697, DOI: 10.1049/ip-gtd:20040917. (NSC91-2213-E-007-050) (SCI) (2020 Impact Factor: 0.868, Rank by JIF: 131/229)

169. Chen, C.-T., **Chien, Chen-Fu**, Lin, M.-H. and Wang, J.-T.(2004), "Using DEA to Evaluate R&D Performance of the Computers and Peripherals Firms in Taiwan," *International Journal of Business*, 9(4), 347-359. (NSC 92-2911-I-007-009; NSC 93-2911-I-007-002)

170. 黃怡詔，**簡禎富**，劉志明，賴威齊，劉昕昶（2004），「建構網際網路環境下之醫院主管資訊系統及其實證研究」，《工業工程學刊》，21（2），101-112。(NSC90-2218-E-007-050; NSC91-2213-E-007-019; NSC92-2213-E-007-090) (EI/TSSCI)

171. **Chien, Chen-Fu** and Wu, J. (2003), "Analyzing Repair Decisions in the Site Imbalance Problem of Semiconductor Test Machines," *IEEE Transactions on Semiconductor Manufacturing*, 16(4), 704-711, DOI: 10.1109/TSM.2003.818955. (NSC89-2213-E-007-118) (SCI) (2020 Impact Factor: 2.874, Rank by JIF: 114/273, 30/50)

172. **簡禎富**，李培瑞，彭誠湧（2003），「半導體製程資料特徵萃取與資料挖礦之研究」，《資訊管理學報》，10（1），63-84。(NSC89-2213-E-007-118) (TSSCI)

173. **Chien, Chen-Fu**, Chang, K., and Chen, C. (2003), "Design of Sampling Strategy for Measuring and Compensating Overlay Errors in Semiconductor Manufacturing," *International Journal of Production Research*, 41(11), 2547-2561, DOI: 10.1080/0020754031000087256. (NSC89-2213-E-007-118) (SCI) (2020 Impact Factor: 8.568, Rank by JIF: 4/49, 2/84, 3/50)

174. **Chien, Chen-Fu**, Lo, F.-Y., and Lin, J.T. (2003), "Using DEA to Measure the Relative Efficiency of the Service Center and Improve Operation Efficiency through Reorganization," *IEEE Transactions on Power Systems*, 18(1), 366-373, DOI: 10.1109/TPWRS.2002.807081. (NSC89-2213-E-007-003) (SCI) (2020 Impact Factor: 6.663, Rank by JIF: 26/273)

175. Wang, K.-M. and **Chien, Chen-Fu** (2003), "A Retrospective Study of the Development of Theories of Industrial Engineering and its Application in Taiwan," *Industrial Engineering and Management*, 8(3), 1-23.

176. Peng, C. and **Chien, Chen-Fu** (2003), "Data Value Development to Enhance Yield and Maintain Competitive Advantage for Semiconductor Manufacturing," *International Journal of Service Technology and Management*, 4(4-6), 365-383. (NSC89-2213-E-007-118)

177. Chang, P. and **Chien, Chen-Fu** (2003), "Managing Technologies to Enhance and Enrich Services in High-Tech Industry," *International Journal of Service Technology and Management*, 4(4-6), 323-330, DOI: 10.1504/IJSTM.2003.003618.

178. Wang, K. and **Chien, Chen-Fu** (2003), "Designing an Internet-Based Group Decision Support System," *Robotics and Computer-Integrated Manufacturing*, 19(1-2), 65-77, DOI: 10.1016/S0736-5845(02)00063-7. (SCI) (2020 Impact Factor: 5.666, Rank by JIF: 18/112, 12/50, 3/28)

179. **Chien, Chen-Fu** (2002), "A Portfolio-Evaluation Framework for Selecting R&D Projects," *R&D Management*, 32 (4), 359-368, DOI: 10.1111/1467-9310.00266. (NSC90-3012-P-007-001) (SSCI/SCI) (2020 Impact Factor: 4.272, Rank by JIF: 78/153, 105/226)

180. **Chien, Chen-Fu**, Chen, S., and Lin, Y. (2002), "Using Bayesian Network for Fault Location on Distribution Feeder," *IEEE Transactions on Power Delivery*, 17(3), 785-793, DOI: 10.1109/TPWRD.2002.1022804. (NSC 87-TPC-E-007-009) (SCI) (2020 Impact Factor: 4.131, Rank by JIF: 58/273)

181. **簡禎富**，林鼎浩，劉巧雯，彭誠湧，徐紹鐘，黃佳琪（2002），「建構晶圓圖分類之資料挖礦方法及其實證研究」，《工業工程學刊》，19（2），23-38。(NSC89-2213-E-007-118) (EI/TSSCI)

182. Lin, J., **Chien, Chen-Fu,** Peng, J., Wu, T., Lee, C., and Lin, C. (2002), "Research on the Human Resource Supply for the Integrated Manufacturing Logistics and E-Commerce," *Management Research*, 2(1), 103-126. (in Chinese) (管理研究學報)

183. Wang, H., **Chien, Chen-Fu**, Hsu, S., and Lee, P. (2002), "A Data Mining Framework and an Empirical Study of Decision Tree Analysis in Semiconductor Manufacturing," *Journal of Technology Management*, 7(1), 137-160. (NSC89-2213-E-007-118) (in Chinese) (科技管理學刊)

184. **Chien, Chen-Fu** and Deng, J. (2001), "Optimization of Wafer Exposure Patterns Using a Two-Dimensional Cutting Algorithm," *International Transactions in Operational Research*, 8(5), 535-545, DOI: 10.1111/1475-3995.00331. (NSC89-2213-E-007-029) (SSCI) (2020 Impact Factor: 4.193, Rank by JIF: 107/226, 22/84)

185. **Chien, Chen-Fu,** Lu, Y., Chang, S., Kuo, C., and Chen, H. (2001), "Constructing the Indexes for Evaluating Radio Spectrum Use Efficiency," *Journal of Technology Management*, 6(1), 55-70. (NSC89-2213-E-007-003) (in Chinese) (科技管理學刊)

186. Lo, F.Y., **Chien, Chen-Fu**, and Lin, J.T. (2001), "A DEA Study to Evaluate the Relative Efficiency and Investigate the District Reorganization of the Taiwan Power Company," *IEEE Transactions on Power Systems*, 16(1), 170-178, DOI: 10.1109/59.910794. (NSC 88-2213-E-007-009) (SCI) (2020 Impact Factor: 6.663, Rank by JIF: 26/273)

187. **簡禎富**，林鼎浩，彭誠湧，徐紹鐘（2001），「建構半導體晶圓允收測試資料挖礦架構及其實證研究」，《工業工程學刊》，18（4），37-48。(NSC89-2213-E-007-118) (EI/TSSCI)

188. **Chien, Chen-Fu**, Chang, K., and Chen, C. (2001), "Modeling Overlay Errors and Sampling Strategies to Improve Yield," *Journal of the Chinese Institute of Industrial Engineers*, 18(3), 95-103, DOI: 10.1080/10170660109509462. (NSC 87-2213-E-007-047) (中國工業工程學會 90 年度「工業工程論文獎」，中國工程師學會 91 年度「工程論文獎」) (EI/TSSCI) (工業工程學刊)

189. **Chien, Chen-Fu** and Hsueh, C. (2001), "Grey Multiattribute Evaluation and an Empirical Study of Selecting Preventive Maintenance Operations for Electrical Multiple Unit (EMU)," *Rapid Transit Systems & Technology*, 24, 301-316. (NSC89-2213-E-007-003) (in Chinese) (捷運技術)

190. **Chien, Chen-Fu**, Huang, S., and Weng, D. (2001), "A Decision Analysis Framework for Determining the Optimal Power Contract Capacity and An Empirical Study in a Semiconductor Fab," *Management Research*, 1(1), 55-68. (NSC89-2213-E-007-118) (in Chinese) (管理研究學報)

191. **Chien, Chen-Fu**, Hsu, S., and Deng, J. (2001), "A Cutting Algorithm for Optimizing the Wafer Exposure Pattern," *IEEE Transactions on Semiconductor Manufacturing*, 14(2), 157-162, DOI: 10.1109/66.920727. (NSC88-2213-E-007-045) (SCI) (2020 Impact Factor: 2.874, Rank by JIF: 114/273, 30/50)

192. Wang, H and **Chien, Chen-Fu** (2000), "A Proposed Bayesian Inference Framework and the Property of the Likelihood Function," *Journal of Management and Systems*, 7(3), 305-326. (NSC87-2213-E-007-047) (TSSCI) (管理與系統)

193. **Chien, Chen-Fu**, Liu, C., Wen, U., and Hsueh, C. (2000), "Research on Constructing Maintenance Performance Evaluation Indexes for the Peitou Depot, TRTC," *Rapid Transit Systems & Technology*, 22, 71-78. (in Chinese) (捷運技術)

194. 方鈞，**簡禎富**，王鴻儒，徐紹鐘，黃啟東，陳志萍（2000），「建構半導體製程改善之失效模式與效應分析架構及其應用研究」，《工業工程學刊》， 17（2），133-146。(NSC87-2213-E-007-047) (EI/TSSCI)

195. **簡禎富**，林則孟，彭金堂（2000），「服務系統服務品質滿意度之研究--以某大學圖書館爲實證研究」，《工業工程學刊》，17（1），1-13。(NSC87-2213-E-007-021) (EI/TSSCI)

196. **Chien, Chen-Fu** and Wu, W. (1999), "A Framework of Modularized Heuristics for Determining the Container Loading Patterns," *Computers & Industrial Engineering*, 37(1-2), 339-342, DOI: 10.1016/S0360-8352(99)00088-1. (NSC88-2213-E-007-045) (SCI) (2020 Impact Factor: 5.431, Rank by JIF: 14/49, 21/112)

197. **Chien, Chen-Fu.**, Hsu, S., and Chen, C. (1999), "An Iterative Cutting Procedure for Determining the Optimal Wafer Exposure Pattern," *IEEE Transactions on Semiconductor Manufacturing*, 12(3), 375-377, DOI: 10.1109/66.778206. (NSC87-2213-E-007-047) (SCI) (2020 Impact Factor: 2.874, Rank by JIF: 114/273, 30/50)

198. **Chien, Chen-Fu** and Wu, W. (1998), "A Recursive Computational Procedure for Container Loading," *Computers & Industrial Engineering*, 35(1-2), 319-322, DOI: 10.1016/S0360-8352(98)00084-9. (NSC86-2221-E-007-059-T) (SCI) (2020 Impact Factor: 5.431, Rank by JIF: 14/49, 21/112)

199. Liu, C., **Chien, Chen-Fu** and Ho, I. (1998), "An Object-oriented Analysis and Design Method for Shop Floor Control Systems," *International Journal of Computer Integrated Manufacturing*, 11(5), 379-400, DOI: 10.1080/095119298130589. (SCI) (2020 Impact Factor: 3.205, Rank by JIF: 31/84, 54/112, 26/50)

200. **Chien, Chen-Fu** and Jan, B. (1998), "A Decision Analysis Framework and an Illustration of Strategic Decision Making in a Semiconductor Fab," *Journal of Technology Management*, 3(1), 137-156. (NSC86-2221-E-007-059-T) (in Chinese) (科技管理學刊)

201. **Chien, Chen-Fu** and Sainfort, F. (1998), "Evaluating the Desirability of Meals: An Illustrative Multiattribute Decision Analysis Procedure to Assess Portfolios with Interdependent Items," *Journal of Multi-Criteria Decision Analysis*, 7(4), 230-238, DOI: 10.1002/(SICI)1099-1360(199807)7:4<230::AID-MCDA194>3.0.CO;2-V.

202. **Chien, Chen-Fu** and Wu, W. (1997), "Medical Decision Making: An Illustration of Down Syndrome Diagnosis," *The Journal of China Association Medical Informatics*, 6, 39-53. (in Chinese) (醫療資訊雜誌)

203. Lin, J. T., **Chien, Chen-Fu.**, Peng, J., and Wu, S. (1997), "Comparing the Service Use of University Library and the Readers' Service Involvement: An Empirical Study of the NTHU Library," *Bulletin of the Library Association of China*, 59, 76-102. (in Chinese) (中華民國圖書館學會會報)

204. **Chien, Chen-Fu** (1997), "The Development and Impact of a Health Support System: Lessons from the CHESS Experience," *The Journal of China Association Medical Informatics*, 5, 1-11. (in Chinese) (醫療資訊雜誌)

Plenary Lecture and Keynote Speech

1. Keynote Speech, "Taiwan's Efforts for Transformation via Industry 3.5 as Hybrid Strategy empowered by AI & Big Data Analytics for Smart Manufacturing," Management Science and Industrial Engineering,

April 3, 2021.(on line)

2. Keynote Speech, "Industry 3.5 as Hybrid Strategy empowered by AI & Big Data Analytics and Collaborative Research with Micron Taiwan for Smart Manufacturing," Winter Simulation Conference, USA, December 16, 2020. (on line)

3. Keynote Speech, "Industry 3.5 to Empower Smart Semiconductor Manufacturing and Transformation of Other Industries in Taiwan," Dagstuhl Seminar, Germany, November 2, 2020. (on line)

4. APO Top Talk, "Industry 3.5 to Productivity 6.0: Forging ahead with Smart Manufacturing," Asian Productivity Organization, Tokyo, Japan, August 17, 2020. (on line)

5. Keynote Speech, "Humanizing Industrial Revolution via Industry 3.5 as a Hybrid Strategy to Optimize Human Capital as Force for Good in Business in Emergent Countries," 2019 The Department of Science and Technology – National Research Council of the Philippines Annual Scientific Conference, Philippines, March 11, 2019.

6. Keynote Speech, "Industry 3.5 as Hybrid Strategy to empower Disruptive Innovations for Smart Production for Emergent Countries," IEOM2017, Bangkok, Thailand, March 5-7, 2019.

7. Keynote Speech, "Industry 3.5 as Hybrid Strategy and Disruptive Innovation for Smart Production in Emerging Countries," Taiwan-Indonesia Higher Education Forum, Nov. 1, 2018.

8. Keynote Speech, "Industry 3.5 Disruptive Innovations via Artificial Intelligence and Big Data Analytics to Empower Intelligent Manufacturing," 2018 IEEE CIS Summer School on Computational Intelligence for Human and Machine Co-Learning, Kaohsiung, Aug. 21, 2018.

9. Keynote Speech, " Industry 3.5" as Disruptive Innovations via Big Data Analytics and Artificial Intelligence to Empower Intelligent Manufacturing," 2018 International Conference on intelligent Transportation and Logistics with Big Data, Shandong, China, July 13-15, 2018.

10. Keynote Speech, "Big Data Analytics and Artificial Intelligence to Empower "Industry 3.5" as Disruptive Innovations for Smart Production," IEEM2018, Hunan, China, May 18-21, 2018.

11. Keynote Speech, "Manufacturing big data analytics for smart production," FAIM2017, Modena, Italy, June 27-30, 2017.

12. Keynote Speech, "A Conceptual Framework for "Industry 3.5" and Empirical Studies," IEEM2016, Wuhan, China, Sep. 16-18, 2016.

13. Keynote Speech, "Big Data Analytics to Empower Manufacturing Intelligence and Smart Production for "Industry 3.5"," APIEMS 2015, Ho Chi Minh City, Vietnam, December 08-11, 2015.

14. Keynote Speech, "Big Data Analytics for Digital Decision and Smart Production to Empower "Industry 3.5"," the 45th International Conference on Computers & Industrial Engineering, Metz, France, October 28-30, 2015.

15. Keynote Speech, "Big Data Analytics and Decision Analysis for Manufacturing Intelligence to Empower Industry 3.5," the 2015 International Symposium on Semiconductor Manufacturing Intelligence (ISMI 2015), KAIST, Daejeon, South Korea, Oct. 16-18, 2015.

16. Keynote Speech, "Big Data Analytics and Internet of Things to Empower Digital Manufacturing: Semiconductor Case Studies," ICLS2015, Chiang Mai, Thailand, July 1-4, 2015.

17. Keynote Speech, "Big Data Informatics and Manufacturing Intelligence to Empower Digital Manufacturing," IEEM2014, Zhuhai, China, Nov. 1-2, 2014.

18. Keynote Speech, "Big Data Analytics and Manufacturing Intelligence to Empower SMART Manufacturing," IEEM2014, Zhuhai, China, Nov. 1-3, 2014.

19. Keynote Speech, "Manufacturing Intelligence and Data Mining: From Yield Enhancement, Production Management, to Manufacturing Strategy in Semiconductor Manufacturing," the KES International Symposium on Intelligent Decision Technologies (KES/IDT&IIMSS2012), Gifu, Japan, 23-25 May 2012.

20. Keynote Speech, "Modeling the Decisions Involved in High-Tech Manufacturing and Opportunities for Decision Sciences," the 2011 International Conference in Management Sciences and Decision Making, Taipei, May 21, 2011.

21. Keynote Speech, "Modeling and Analysis of the Decisions Involved in High-tech Manufacturing for

Manufacturing Intelligence," 2010 International Conference on Future Industrial Engineering and Application, Shenzhen, Dec. 17, 2010.

22. Plenary lecture, "Modeling and Analysis of the Decisions for Manufacturing Intelligence," the 2010 APIEMS, Melaka, Malaysia, Dec. 7-10, 2010.

23. Keynote Speech, "Economic Implications of Semiconductor Value Chain Evolution," IEEE PEITS 2010, Shenzhen, China, Nov 19-21, 2010.

24. Keynote Speech, "Conceptual Framework and Empirical Studies for Industrial Engineering to Address the Industry as a Whole," IEEM 2010, Xiamen, China, Oct 29-31, 2010.

25. Plenary lecture, "A Conceptual Methodology of 'Industrial Engineering' for 'the Industry as a Whole': Semiconductor Industry as Illustration," the 40th International Conference on Computers & Industrial Engineering, Awaji, Japan, July 26, 2010.

26. Keynote Speech, "Corporate Intelligence Management and Decision Quality," 2010 Digitimes DAF Forum, Taipei, July 15, 2010.

27. Plenary lecture, "Value Chain Evolution in Semiconductor Industry in Light of Moore's Law and Implementation," the 2009 APIEMS, Kitakyushu, Japan, Dec. 14-16, 2009.

28. Keynote Speech,「先進製造業基礎之創新服務業：以半導體產業價值創新為例」，昆山論壇,大陸昆山, Oct. 22-24, 2009.（專題演講稿被北京清華大學出版之清華管理評論全文刊登）

29. Keynote Speech, "Value Chain Evolution in Semiconductor Industry in Light of Moore's Law", the 13th Annual Cambridge International Manufacturing Symposium, Sep. 25-26, 2008.

30. Invited Panelist, "Paradigm Shifts in High-tech Industries", Asia Business Conference 2008, Harvard Business School, Mar. 8-9, 2008.

31. Keynote Speaker, "Manufacturing Strategic Decision Analysis: New Value Proposition of IE and Implications to IE Education" at the International Conference of Industrial Engineering and Engineering Management 2007, Tianjin, China, Oct. 22, 2007.

32. Lecture, "Economic Analysis of 450mm Wafer Migration", tsmc position lecture, International Symposium for Semiconductor Manufacturing, Santa Carla, CA, Oct. 15, 2007.

33. Plenary lecture, "Digital Decision Support for High-tech Manufacturing Strategies: New Paradigm of Automation", IEEE CASE 2007, Arizona, USA, Sep. 22-25, 2007.

34. Keynote Speaker, "Shifting Paradigms of the Roles of Industrial Engineering" at the IE&EM 2006 and the 1st International Conference on Asian Industrial Engineering & Engineering Management, Weihai City, Shandong, China, Aug. 13, 2006. (Industrial Engineer that is published by IIE invited me to have a special report on my insights for their 2007 Feb. Issue)

35. Keynote Speaker, "Form, Context, and Strategy: The Evolution of Decision and Strategy," in Macronix Semiconductor Manufacturing Technology Workshop, Hsinchu, Taiwan, Aug. 18, 2005.

36. Plenary Lecture on "New Roles of Industrial Engineering and Challenges for IE Education" at the 11th International Conference on Industrial Engineering and Engineering Management (IE&EM 2005), Shenyang, China, Apr. 24, 2005.

37. Keynote Speaker, "Modeling and Analysis for Semiconductor Manufacturing" at 2004 TSMC Manufacturing Symposium, Hsinchu, Taiwan, Sep. 9, 2004.

38. Keynote Speaker, "Methods and Case Studies for Semiconductor Manufacturing: Challenges and Opportunities", International Manufacturing Symposium of Shanghai Integrated Circuits Association, Shanghai, China, Aug. 8, 2004.

39. Plenary Lecture on "Modeling, Data Mining, & Decision Support for Semiconductor Manufacturing" at the International Manufacturing Symposium, Cambridge University, UK, Feb. 6, 2004.

40. 李國鼎科技講座：「台灣半導體產業發展與挑戰」（劉兆玄校長、吳泉源教授主持），Nov. 8, 2003.

41. Plenary Lecture on "Engineering Data Analysis, Data Mining, and Decision Support for Semiconductor Manufacturing", IBM Watson Research Center, New York, USA, Dec. 5, 2002.

42. Invited Speech, "Engineering Data Analysis and Data Mining to Enhance Yield for Semiconductor

Manufacturing", Department of Industrial Engineering, Arizona State University, AZ, Nov. 6, 2002.

43. Chair of Forum & Plenary Lecture on "Experiences and Directions for Digital Management in E-Century" at the 2002 Joint International Conference on Industrial Engineering and Engineering Management (IE&EM'2002) and International Conference on Electronic Commerce Engineering (IceCE'2002), Beijing, P.R. China, Sep. 20, 2002.

44. Invited Speech, "Data, Model, and Decision Support for Semiconductor Manufacturing", Department of Industrial Engineering & Operations Research, UC-Berkeley, CA, Sep. 6, 2002.

45. 威盛電子講座："Data Mining and Data Value Development for Semiconductor Manufacturing", VIA Tech. Distinguished Lectureship, Hsinchu, Taiwan, Mar. 28, 2002.

46. Keynote Speaker, "Modeling and Decision Analysis for High-tech Manufacturing" at 2001 International Conference on Modern Industrial Engineering and Engineering Management in New Century, Tianjin, P.R. China, Aug. 9, 2001.

Conference Papers

1. 陳欣妤，「台灣汽車產業塑膠射出成形排程問題之實證研究」，2021 第十七屆台灣作業研究學會年會暨學術研討會，12 月 17 日，台中，台灣。

2. 黃亦柔、朱正軒、曾柏誠、馬綱廷、**簡禎富**(2021)，"An Empirical Study for Machine Tool Assembly Scheduling to Empower Smart Production for Industry 3.5," 2021 第十七屆台灣作業研究學會年會暨學術研討會，12 月 17 日，台中，台灣。

3. 蔡佩珊、黃沛敏、馬綱廷、**簡禎富**(2021)，「以紫式決策分析架構建構航太製造業供應商選擇決策支援系統」，2021 中華民國科技管理學會年會暨論文研討會，11 月 26 日，台中，台灣。

4. 馬綱廷、曾冠程、鄭永誠、吳亭緯、**簡禎富**(2021)，「應用簡化群體演算法解決印刷電路板無等候線限制工站生產排程問題與實證研究」，2021 中國工業工程學會年會暨學術研討會，11 月 20 日，台南，台灣。

5. 陳光源、陳瑛仁、**簡禎富**(2021)，"Data-driven Decision Support Framework for Yield Enhancement and An Empirical Study in Injection Molding Industry," 2021 中國工業工程學會年會暨學術研討會，11 月 20 日，台南，台灣。

6. 張仲凱、黃沛敏、 **簡禎富**(2021)，"Digital Transformation for Rapid Cost Estimation Process and an empirical study in Aerospace Manufacturing," 2021 中國工業工程學會年會暨學術研討會，11 月 20 日，台南，台灣。

7. 林峇萱、林妘襄、**簡禎富**(2021)，「基於 DES 製程工程資料分析建立 PCB 線寬品質改善架構」，2021 中國工業工程學會年會暨學術研討會，11 月 20 日，台南，台灣。

8. Huang, P.-M., Shih, H.-W. and **Chien, Chen-Fu** (2021), "Digital transformation to empower the resource allocation and investment decision in semiconductor testing industry and an empirical study," *paper presented at the 2002 International Conference of Production Research*, Jul. 14-18, Online.

9. Hung, W.-T., Liao, T.-Y. and **Chien, Chen-Fu** (2021), "An Innovative Strategy to Simplify the Monitoring Rule Redefinition Process for Fault Detection and Classification using Convolution Neural Network," paper *presented at the 2002 International Conference of Production Research*, Jul. 14-18, Online.

10. 吳欣蓉、陳氏秋莊、**簡禎富**(2020)，"Fault Diagnosis Decision Support System Based on Rough Set Theory and an Empirical Study of IC Probe Card," 中華民國品質學會第 56 屆年會暨 2020 國際品質管理研討會(ISQM)，11 月 7 日，高雄，台灣。

11. 潘縉緯、**簡禎富**(2020)，"Integrated CNN-LSTM neural network model for virtual metrology and an empirical study for semiconductor manufacturing," 中華民國品質學會第 56 屆年會暨 2020 國際品質管理研討會(ISQM)，11 月 7 日，高雄，台灣。

12. 黃沛敏、施淮偉、陳瑛仁、**簡禎富**(2020)，「晶圓測試之探針卡採購數位決策架構與實證研究」，2020 第十六屆台灣作業研究學會年會暨學術研討會，11 月 13 日，新竹，台灣。

13. 洪瑋澤、陳瑛仁、**簡禎富**(2020)，「基於 CatBoost 技術建構設備異常診斷決策支援系統之實證研究」，2020 中國工業工程學會年會暨學術研討會，11 月 21 日，雲林，台灣。

14. 陳家安、馬綱廷、**簡禎富**(2020)，「應用混合式基因演算法於多重資源規畫之彈性零工式生產排程與實證研究」，2020 中國工業工程學會年會暨學術研討會，11 月 21 日，雲林，台灣。

15. 高聖翔、**簡禎富**(2020)，「紫式數據驅動預測性保養決策架構於離散型感測器資料之錯誤預警系統：臺灣 IC 封裝公司打線製程的實證研究」，2020 中國工業工程學會年會暨學術研討會，11 月 21 日，

雲林，台灣。

16. 辜建竣、**簡禎富** (2020)，"A maximum entropy approach for stochastic inventory problem in automotive industry,"，2020 中國工業工程學會年會暨學術研討會，11 月 21 日，雲林，台灣。

17. 施淮偉、黃沛敏、**簡禎富** (2020)，「半導體製造之產能擴充策略以實現數位轉型」，2020 中華民國科技管理學會年會暨論文研討會，12 月 11 日，新竹，台灣。

18. 陳昱錡、馬綱廷、**簡禎富** (2020)，「表面黏著接合技術先進規劃與排程系統—以台灣全球衛星定位系統及穿戴式裝置公司為例」，2020 中華民國科技管理學會年會暨論文研討會，12 月 11 日，新竹，台灣。

19. Liu, W.-R., Fu, W., Ma, K.-T. and **Chien, Chen-Fu** (2019), "Machine Learning for Electronic Design Automation Tool Forecast for IC Design Project Capacity Management," *The 20th Asia Pacific Industrial Engineering And Management Systems*, Dec. 2-5, Kanazawa city, Japan.

20. Liu, P.-H. and **Chien, Chen-Fu** (2019), "A hybrid genetic algorithm for production scheduling in steel making Industry: an empirical study," *The 20th Asia Pacific Industrial Engineering And Management Systems*, Dec. 2-5, Seattle, Kanazawa city, Japan.

21. Wang, C.-Y., **Chien, Chen-Fu** and Chen, Y.-J. (2019), "A Data-Driven Framework to Live Weight Estimation and Prediction in Commercial Broiler Industry," *The 20th Asia Pacific Industrial Engineering And Management Systems*, Dec. 2-5, Seattle, Kanazawa city, Japan.

22. **簡禎富**、辜建竣(2019)，「以規則式演算法應用於紡織業重新染色訂單之機台稼動率最大化」，中國工業工程學會 108 年度年會暨學術研討會論文集，11 月 23 日，台北，台灣。

23. **簡禎富**、林聖凱(2019)，「基於集成學習與感測器建構工具機銑削效率優化模式-以航太製造業為例」，中國工業工程學會 108 年度年會暨學術研討會論文集，11 月 23 日，台北，台灣。

24. 洪瑋澤、馬綱廷、蔡其展、**簡禎富**(2019)，「應用紫式決策分析法建構(乾)蝕刻機台適合度指派問題與實證研究-以觸控面板廠為例」，中國工業工程學會 108 年度年會暨學術研討會論文集，11 月 23 日，台北，台灣。

25. Chen, C.-A., Kuo, H.-A., Ma, K.-T., and **Chien, Chen-Fu** (2019), "A Human-experience Based Intelligent Scheduling Framework to Empower Industry 3.5: Implementation of Simulated Annealing Genetic Algorithm in Multi Auxiliary Resource Planning for Job Shop Scheduling in Multinational Technology Manufacturing," *Annual Meeting of the Operations Research Society of Taiwan*, Nov. 8, Taoyuan, Taiwan.

26. 盧臆云、陳紀航、馬綱廷、**簡禎富**(2019)，「應用工業 3.5 策略建構染色製程異常診斷之資料挖礦架構與實證研究」，中華民國品質學會第 55 屆年會暨 2019 國際品質管理研討會(ISQM)，11 月 2 日，桃園，台灣。

27. **簡禎富**、王俊堯、陳暎仁(2019)，「應用資料分析架構於改善雞隻規模飼養下的重量估計精準度」，中華民國品質學會第 55 屆年會暨 2019 國際品質管理研討會(ISQM)，11 月 2 日，桃園，台灣。

28. 劉柏漢、洪子晏、**簡禎富**(2019)，「應用混合式基因演算法之煉鋼排程最佳化及實證研究」，中華民國品質學會第 55 屆年會暨 2019 國際品質管理研討會(ISQM)，11 月 2 日，桃園，台灣。

29. Chen, Y.-C., **Chien, Chen-Fu**, and Wang, C.-Y. (2019), "Empirical Study of Multi-Objective Parameter Optimization in Wire Bonding Process," *International Microsystems, Packaging, Assembly and Circuits Technology Conference*, Oct. 23-25, Taipei, Taiwan.

30. Ma, K.-T. and **Chien, Chen-Fu** (2019), "A Two Phase Framework of Project Portfolio Selection and an Empirical Study in The Integrated Circuit Design Company," *INFORMS Annual Meeting*, Oct. 20-23, Seattle, USA.

31. Tran, T. Trang. and **Chien, Chen-Fu** (2019), "An Improved Combination Run-to-Run Control Based on Adaptive K Means Clustering and Generalized Extended State Observer for Industry 3.5," *The 49th International Conference on Computer & Industrial Engineering*, Oct. 18-21, Beijing, China.

32. Lin, S.-K., Fu, W., Lin, Y.-S. and **Chien, Chen-Fu** (2019), "Generative Adversarial Network with Autoencoder for Semiconductor Demand Forecast to Empower Industry 3.5," *The 49th International Conference on Computer & Industrial Engineering*, Oct. 18-21, Beijing, China.

33. Yang, Y.-H., Chen, Y.-J. and **Chien, Chen-Fu** (2019), "Constructing a Health Detection Mechanism of APC for Industry 3.5 and Semiconductor Manufacturing Intelligence," *The 49th International Conference on Computer & Industrial Engineering*, Oct. 18-21, Beijing, China.

34. Hsieh, J.-C., Ma, K.-T., **Chien, Chen-Fu** and Chiu, M.-C. (2019), "An Empirical Study of Constructing Decision Support for Dyeing Machine Groups Allocation Problem," *International Symposium on Industry3.5 and Intelligent Manufacturing*, Sep. 25-27, Hsinchu, Taiwan.

35. Hsu, K,-Z., Liao, E.,T.-Y., Chen, Y.-J., **Chien, Chen-Fu** (2019), "Fault Detect Classification Multi-Variate Analysis for Feature Selection and Window Screen Automation to Empower Industry 3.5," *International Symposium on Industry3.5 and Intelligent Manufacturing*, Sep. 25-27, Hsinchu, Taiwan.

36. Yang, Y.-H., Chen, Y.-J., **Chien, Chen-Fu** (2019), "Constructing a health detection mechanism of APC for industry 3.5 and semiconductor manufacturing intelligence," *International Symposium on Industry3.5 and Intelligent Manufacturing*, Sep. 25-27, Hsinchu, Taiwan.

37. Tran, T. Trang. And **Chien, Chen-Fu** (2019), "A Concept Framework for Run to Run Control Tool Health Monitoring Prediction Based on Artificial Intelligent Agent and GARCH Model in Industry 3.5", *International Symposium on Industry 3.5 and Intelligent Manufacturing*, Sep.25-27, Hsinchu, Taiwan.

38. Tran, T. Trang. And **Chien, Chen-Fu** (2019), "An comprehensive Application of IoT for Vietnam Tea Manufacturing", *International Symposium on Industry 3.5 and Intelligent Manufacturing*, Sep.25-27, Hsinchu, Taiwan.

39. Sackpraseuth, A., Chen, C.-C., and **Chien, Chen-Fu** (2019), "Big Data Analysis and Algorithm Investigation for YouTube Study," *International Symposium on Industry3.5 and Intelligent Manufacturing*, Sep. 25-27, Hsinchu, Taiwan.

40. Li, B., Ma, K.-T., Fu, W. and **Chien, Chen-Fu** (2019), "Intelligent Parameters Determination with Particle Swarm Optimization in Printed Circuit Board Hole Positioning for Smart Production," *International Symposium on Industry3.5 and Intelligent Manufacturing*, Sep. 25-27, Hsinchu, Taiwan.

41. Hsieh, J.-C., Ma, K.-T., **Chien, Chen-Fu** and Chiu, M.-C. (2019), "An Empirical Study of Constructing Decision Support for Dyeing Machine Groups Allocation Problem," *Annual International Conference for Chinese Scholars in Industrial Engineering*, Sept. 20-22, Dalian, China.

42. Fu, W., **Chien, Chen-Fu** (2019), "Data Analytics for Customer Behavior Extraction for Semiconductor Demand Planning to Empower Industry 3.5," *Annual International Conference for Chinese Scholars in Industrial Engineering (CSIE 2019)*, Sep. 20-22, Dalian, China.

43. Ling, Y.-M., Chen, Y.-J. and **Chien, Chen-Fu** (2019), "A Measurement System Analysis Research Framework For Measurement System and Empirical Study with Automation Time-domain Measurements of Probe Card in Semiconductor Manufacturing," *Joint Symposium of eMDC2019 and ISSM2019, Sep. 6, Hsinchu*, Taiwan.

44. Tsai, Y.-C., **Chien, Chen-Fu**, Chen, Y.-J. and Hsieh, M.-K. (2019), "Optimizing Chiller Switch-on Time Interval for Chiller Power Consumption Saving via Big Data Analytics and Machine Learning Framework," *Joint Symposium of eMDC2019 and ISSM2019*, Sep. 6, Hsinchu, Taiwan.

45. **Chien, Chen-Fu** and Lan, Y.-B. (2019), "A Deep Reinforcement Learning Agent for Minimizing Makespan for Dynamic Parallel Machine Scheduling and a Case Study," *International Conference on Automation Science and Engineering*, Aug. 22-26, Vancouver, Canada."

46. 唐禮真、**簡禎富**(2019),「應用貝葉斯網絡建構探針卡異常處理決策系統」,第十一屆粵港澳大灣區博士生南山學術論壇暨第九屆兩岸清華研究生學術論壇論文集,6 月 10 - 13 日,深圳,中國。

47. 傅文翰、簡如謙、林聖凱、**簡禎富**(2019),「數據驅動之電子供應商管理庫存需求風險分析」,第十一屆粵港澳大灣區博士生南山學術論壇暨第九屆兩岸清華研究生學術論壇論文集,6 月 10 - 13 日,深圳,中國。

48. Zheng, J.-N., **Chien, Chen-Fu** and Lin, T.-Y. (2019), "Real Time Electronic Design Automation (EDA) Scheduling System in IC Design Industry," *Proceedings of the 2019 International Conference on Management Science and Industrial Engineering*, May. 24-26, Phuket, Thailand.

49. Zheng, J.-N., **Chien, Chen-Fu**, Lin, T.-Y., Liu, S.-W. and Huang, W.-T. (2019), "Electronic Design Automation (EDA) Scheduling System in IC Design Industry," *International Conference on Smart Manufacturing, Industrial & Logistics Engineering and International Symposium on Semiconductor Manufacturing Intelligence*, Apr. 19-21, Hangzhou, China.

50. Ling, Y.-M., Chen, Y.-J. and **Chien, Chen-Fu** (2019), "Using statistical indicators to monitor and predict the Probe Card Measurement Machine abnormal behavior," *International Conference on Smart Manufacturing, Industrial & Logistics Engineering and International Symposium on Semiconductor Manufacturing Intelligence*, Apr. 19-21, Hangzhou, China.

51. Chen, C.-C., Ting, W.-J. and **Chien, Chen-Fu** (2019), "Big Data Analytics for Tool Health Monitoring in Panel Industry," *International Conference on Smart Manufacturing, Industrial & Logistics Engineering and International Symposium on Semiconductor Manufacturing Intelligence*, Apr. 19-21, Hangzhou, China.

52. Tang, L., Fu, W., Ma, K.-T., **Chien, Chen-Fu** and Chen, Y.-J. (2019), "Using Bayesian Network to Construct Probe Card Exception Handling Decision Support System for Semiconductor Testing with a Case Study," *International Conference on Smart Manufacturing, Industrial & Logistics Engineering and International Symposium on Semiconductor Manufacturing Intelligence*, Apr. 19-21, Hangzhou, China.

53. Chen, Y.-C., **Chien, Chen-Fu**, Chen, Y.-Y. and Wang C.-Y. (2019), "A Data Mining Approach for Optimizing Manufacturing Parameters of Wire Bonding Process in IC Packaging Industry and Empirical Study," *International Conference on Smart Manufacturing, Industrial & Logistics Engineering and International Symposium on Semiconductor Manufacturing Intelligence*, Apr. 19-21, Hangzhou, China.

54. Ku, C.-C. Ma, K.-T. and **Chien, Chen-Fu** (2019), "A Semidefinite Programming Model for Dyeing Machines Scheduling of Textile Industry," *International Conference on Smart Manufacturing, Industrial & Logistics Engineering and International Symposium on Semiconductor Manufacturing Intelligence*, Apr. 19-21, Hangzhou, China.

55. Kuo, H.-A. Ponsignon, T., Ehm, H. and **Chien, Chen-Fu** (2019), "Overall Supply Chain Effectiveness (OSCE) for Demand and Capacity Incorporation in Semiconductor Supply Chain Industry," *International Conference on Smart Manufacturing, Industrial & Logistics Engineering and International Symposium on Semiconductor Manufacturing Intelligence*, Apr. 19-21, Hangzhou, China. (Best Student Paper Award)

56. Lin, Y.-S. Fu, W. and **Chien, Chen-Fu** (2019), "A rolling horizon supply chain management model under supply and demand uncertainty: A testbed in semiconductor component distributor," *International Conference on Smart Manufacturing, Industrial & Logistics Engineering and International Symposium on Semiconductor Manufacturing Intelligence*, Apr. 19-21, Hangzhou, China.

57. Fu, W., Ma, K.-T. and **Chien, Chen-Fu** (2019), "Data Mining for IC Design Project Revenue Management to Enhance R&D Effectiveness," *International Conference on Smart Manufacturing, Industrial & Logistics Engineering and International Symposium on Semiconductor Manufacturing Intelligence*, Apr. 19-21, Hangzhou, China.

58. Hsu, C., Kuo, H.-A., Chien, J.-C., Fu, W., Ma, K.-T. and **Chien, Chen-Fu** (2019), "A Machine Learning based Intelligent Agent for Human Resource Planning in IC Design Service Industry," *International Conference on Industrial Engineering and Operations Management*, Mar.5-7, Bangkok, Thailand.

59. Ku, C.-C. and **Chien, Chen-Fu** (2018), "Implementation of Business Process Reengineering for Operations in Textile Dyeing Scheduling," *International Conference on Computers and Industrial Engineering*, Dec. 2-5, Auckland, New Zealand.

60. Hong, T.-Y. and **Chien, Chen-Fu** (2018), "A Simulation-based Scheduling and Dispatching System for TFT-LCD Array Manufacturing to Reduce Total Tardiness and Cycle Time," *International Conference on Computers and Industrial Engineering*, Dec. 2-5, Auckland, New Zealand.

61. 丁韋如、陳家正、**簡禎富**(2018)，「利用偏最小平方迴歸與指數加權移動平均管制圖建構預測性維修策略—以化學氣相沉積機台為例」，2018 中華民國科技管理學會年會暨論文研討會論文集，11 月 30 日，高雄，台灣。

62. 唐禮真、陳暎仁、**簡禎富**(2018)，「應用貝氏網路建構半導體測試之探針卡異常處理決策支援模式與實證研究」，中華民國品質學會第 54 屆年會暨 2018 國際品質管理研討會論文集，11 月 3 日，台中，台灣。

63. 林妘襄、傅文翰、**簡禎富**(2018)，「需求預測決策支援系統應用於半導體零組件供應商之實證研究」，2018 海峽兩岸科管年會論文集，11 月 2 日，台北，台灣。

64. Chen, C.-A., Wang, C.-Y., **Chien, Chen-Fu** (2018), "A Wire Bond Equipment Maintenance Framework with Case Study," *Institute of Industrial and Systems Engineers Asian Conference & Chinese Institute of Industrial Engineers Annual Conference*, Oct.18-20, Taichung, Taiwan.

65. Khakifirooz, M., **Chien, Chen-Fu** and Fathi, M. (2018), "A System Dynamic Approach for Product Life-cycle Affected by Industry 4.0," *Institute of Industrial and Systems Engineers Asian Conference & Chinese Institute of Industrial Engineers Annual Conference*, Oct.18-20, Taichung, Taiwan.

66. Hsu, C., Ma, K.-T. and **Chien, Chen-Fu** (2018), "A Human Resource Assessment decision support system based on Machine Learning for standardization project management," *Institute of Industrial and Systems Engineers Asian Conference & Chinese Institute of Industrial Engineers Annual Conference*, Oct.18-20, Taichung, Taiwan.

67. Fu, W., Ma, K.-T., **Chien, Chen-Fu** (2018), "Project Revenue Forecasting with Support Vector Regression for IC Design Service and an Empirical Study," *Institute of Industrial and Systems Engineers Asian Conference & Chinese Institute of Industrial Engineers Annual Conference*, Oct.18-20, Taichung, Taiwan.

68. Wang, C.-Y. and **Chien, Chen-Fu** (2018), "a novel approach to body weight estimation in commercial broiler production," *the 3rd international agriculture innovation conference*, Oct. 12-13, Beijing, China.

69. **Chien, Chen-Fu**, Chen, Y.-J., Han, Y.-T., Hsieh, M.-K., Lee, C.-M., Shih, T., Wu, M.-Y., Yang, W.-W. (2018), "AI and Big Data Analytics for Wafer Fab Energy Saving and Chiller Optimization to Empower Intelligent Manufacturing," *2018 e-Manufacturing & Design Collaboration Symposium*, Sep. 7, Hsinchu, Taiwan.

70. Fu, W., **Chien, Chen-Fu** and Lin, Z.-H. (2018), "A Hybrid Forecasting Framework with Neural Network and Time-Series Method for Intermittent Demand in Semiconductor Supply Chain," *IFIP International Conference on Advances in Production Management Systems*, Aug. 26-30, Seoul, Korea.

71. **Chien, Chen-Fu**, Lin, Y.-S. and Tan, Y.-S. (2018), "Constructing a Metrology Sampling Framework for In-line Inspection in Semiconductor Fabrication," *IFIP International Conference on Advances in Production Management Systems*, Aug. 26-30, Seoul, Korea.

72. Kuo, H.-A. and **Chien, Chen-Fu** (2018), "Using Auxiliary Capacity Planning Strategy Genetic Algorithm for TFT-LCD Photolithography Scheduling to Empower Industry 3.5," *IEEE International Conference on Automation Science and Engineering*, Aug. 20-24, Munich, Germany.

73. Khakifirooz, M., Cayard, D., **Chien, Chen-Fu**, and Fathi, M. (2018), "A System Dynamic Model for Implementation of Industry 4.0," *International Conference on System Science and Engineering*, Jun. 28-30, Taipei, Taiwan.

74. Wang, C.-Y., Chuang Y.-Y., Chen, Y.-J., and **Chien, Chen-Fu** (2018), "Using Bayesian Network for Estimating Cycle Time Evolution to Empower Smart Production in Printed Circuit Board Manufacturing with an Empirical Study," *International Symposium on Semiconductor Manufacturing Intelligence*, Feb. 7-9, Hsinchu, Taiwan. (Best Paper Award)

75. 林子皓、馬綱廷、**簡禎富**(2017),「工業 3.5 策略應用於傳統紡織產業染整製程之實證研究」,2017 工業工程與管理年會暨學術研討會論文集,12 月 16 日,高雄,台灣。

76. 李騏名、馬綱廷、許凱璋、**簡禎富**(2017),「IC 設計服務公司之資源規劃決策支援系統與實證研究」,2017 工業工程與管理年會暨學術研討會論文集,12 月 16 日,高雄,台灣。(論文競賽優勝)

77. 陳紀航、陳暎仁、**簡禎富**(2017),「以實驗設計為基礎的精密製造製程參數優化持續改善架構與實證研究」,2017 工業工程與管理年會暨學術研討會論文集,12 月 16 日,高雄,台灣。

78. 陳韻佳、葛雨函、蔡奇芝、陳紀航、王俊堯、**簡禎富**(2017),「先進 IC 封裝製程參數優化資料挖礦架構與實證研究」,2017 工業工程與管理年會暨學術研討會論文集,12 月 16 日,高雄,台灣。

79. Lee, C., Chen, Y.-J., and **Chien, Chen-Fu** (2017), "Integrating data mining and signal processing to enhance open/short defect location identification in TFT-LCD array process and empirical study," *Proceedings of the 2017 Chinese Institute of Industrial Engineers Conference*, Dec. 16, Kaohsiung, Taiwan. (Best Paper Award)

80. 王俊堯、陳暎仁、**簡禎富**(2017),「探針卡印刷電路板電鍍銅製程關鍵參數搜尋之資料挖礦架構與實證研究」,2017 國際品質管理研討會論文集,11 月 25 日,桃園,台灣。

81. Han, Y.-T., Wu, Y.-C., Li, C.-M., Chen, Y.-J., **Chien, Chen-Fu** (2017), "An Empirical Study of Optimizing Multi-Chiller Operations via Big Data Analytics for High-Tech Industries," *Proceeding of The 18th Asia Pacific Industrial Engineering and Management Systems*, Dec. 3-6, Yogyakarta, Indonesia.

82. Chen, C.-C. and **Chien, Chen-Fu** (2017), "Data Ming for Cell Process Monitoring in TFT-LCD Manufacturing with An Empirical Study," *Proceedings of 18th Asia Pacific Industrial Engineering & Management Systems Conference*, Dec. 3-6, Yogyakarta, Indonesia.

83. Ma, K.-T., Chou, C.-W., **Chien, Chen-Fu** (2017), "Price Strategy and Capacity Allocation for Crystal Cycle of TFT-LCD Industry," *2017 INFORMS Annual Meeting 2017*, Oct. 22-25, Houston, Taxes, United State.

84. **Chien, Chen-Fu,** Hong, T.-Y., Guo, H.-Z. (2017), " A Conceptual Framework for "Industry 3.5" to Empower Intelligent Manufacturing and Case Studies," *27th International Conference on Flexible Automation and Intelligent Manufacturing*, Jun. 27-30, Modena, Italy.

85. 傅文翰,**簡禎富**(2017),「不確定環境下的戰略產能規劃決策模型」,2017 清華大學博士生學術論壇暨第七屆兩岸清華研究生學術論壇論文集,4 月 22 日至 4 月 23 日,中國,北京。

86. Chen, Y.-J., Wang, B.-C., Wu, J.-Z., Wu, Y.-C., and **Chien, Chen-Fu** (2017), "Big Data Analytic for Multivariate Fault Detection and Classification in Semiconductor Manufacturing," *Proceedings of 13th IEEE International Conference on Automation Science and Engineering*, Aug. 20-23, Xi'an, China.

87. **Chien, Chen-Fu**, Lee, P.-C., Dou, R., Chen, Y.-J., and Chen, C.-C. (2017), "Modeling Collinear WATs for Parametric Yield Enhancement in Semiconductor Manufacturing," *Proceedings of 13th IEEE International Conference on Automation Science and Engineering*, Aug. 20-23, Xi'an, China.

88. **Chien, Chen-Fu**, Chen, Y.-J., and Wu, J.-Z. (2016), "Big Data Analytics for Modeling WAT Parameter Variation Induced by Process Tool in Semiconductor Manufacturing and Empirical Study," *Proceedings of the 2016 Winter Simulation Conference*, Dec. 11-14, Arlington, Virginia, USA.

89. Fu, W.-H., **Chien, Chen-Fu** (2016), "Uncertain Regret Decision Model for Strategic Capacity Planning in Semiconductor Manufacturing Industry," *Proceedings of the 2016 International Conference on Computers and Industrial Engineering*, Oct. 29-31, Tianjin, China.

90. Zheng, J.-N., **Chien, Chen-Fu,** Wu, J.-Z. (2016), "Multi-Objective Demand Fulfillment Problem for Solar Cell Industry," *Proceedings of the 2016 International Conference on Computers and Industrial Engineering*, Oct. 29-31, Tianjin, China.

91. Jamrus, T., and **Chien, Chen-Fu** (2016), "Dynamic Coordinated Scheduling in The Supply Chain under Uncertain Processing Time," *Proceedings of 2016 International Symposium on Semiconductor Manufacturing Intelligence*, Aug. 7-10, Hsinchu, Taiwan.

92. Khakifirooz, M., **Chien**, **Chen Fu,** and Chen, Y.-J. (2016), "Data Mining Approach for Clean Room Trend Tracking and Conditional Monitoring," *Proceedings of 2016 International Symposium on Semiconductor Manufacturing Intelligence*, Aug. 7-10, Hsinchu, Taiwan.

93. Hu, Y.-F., **Chien, Chen-Fu,** and Hu, C.-H. (2016), "For Fab Layout Design to Enhance Overall Space Effectiveness, "*Proceedings of 2016 International Symposium on Semiconductor Manufacturing Intelligence*, Aug. 7-10, Hsinchu, Taiwan

94. Wang, H.-K., and **Chien, Chen-Fu** (2016), "Using Genetic algorithm to Optimize the Wafer Exposure Yield," *Proceedings of 2016 International Symposium on Semiconductor Manufacturing Intelligence*, Aug. 7-10, Hsinchu, Taiwan.

95. Wu, Y.-C., Wang, B.-C., Chen, Y.-J., and **Chien, Chen-Fu** (2016), "Multivariate Analysis Model of Fault Detection and Classification in Semiconductor Manufacturing," *Proceedings of 2016 International Symposium on Semiconductor Manufacturing Intelligence*, Aug. 7-10, Hsinchu, Taiwan.

96. Fu, W., and **Chien, Chen-Fu** (2016), "Uncertain Regret Decision Model for Capacity Planning in Semiconductor Manufacturing Industry," *Proceedings of 2016 International Symposium on Semiconductor Manufacturing Intelligence*, Aug. 7-10, Hsinchu, Taiwan.

97. **Chien, Chen-Fu,** and Huynh, N.-T. (2016), "R&D Portfolio Scheduling with Multi-objective under Uncertain Conditions," *Proceedings of 2016 International Symposium on Semiconductor Manufacturing Intelligence*, Aug. 7-10. Hsinchu, Taiwan.

98. Chamnanlor, C., Sethanan, K., and **Chien, Chen-Fu** (2016), "Multi-objective Non-identical Parallel Machines Scheduling by Adaptive Particle Swarm Optimization," *Proceedings of 2016 International Symposium on Semiconductor Manufacturing Intelligence*, Aug. 7-10, Hsinchu, Taiwan.

99. **Chien**, **Chen-Fu,** and Chen, Y.-J. (2016), "Manufacturing intelligence and smart production for industry 3.5 and empirical study of decision-based virtual metrology for controlling overlay errors , " *Proceedings of 2016 International Symposium on VLSI Design, Automation and Test*, Apr. 25-27, Hsinchu, Taiwan.

100. 黃彥鈞、陳暎仁、**簡禎富**(2015)，「發展職場加值能力之大數接分析架構與實證研究」，<u>2015 工業工程與管理年會暨學術研討會論文集</u>，12 月 12 日，台中，台灣。

101. 林資祐、鄭家年、**簡禎富**(2015)，「即時IC 設計 EDA 派主排程模型與架構」，<u>2015 工業工程與管理年會暨學術研討會論文集</u>，12 月 12 日，台中，台灣。(論文競賽優勝)。

102. 賴葦佳、蔡昆廷、賴怡呈、顏逸東、林國義、**簡禎富**(2015)，「建構物聯網遠端監控系統及其實證研究－以智慧家庭為例」，<u>2015 工業工程與管理年會暨學術研討會論文集</u>，12 月 12 日，台中，台灣。

103. 黃筱芬、張竣皓、王鶴凌、林國義、**簡禎富**(2015)，「人力銀行網站使用者經驗評估與關鍵因素探討」，<u>2015 工業工程與管理年會暨學術研討會論文集</u>，12 月 12 日，台中，台灣。

104. **Chien, Chen-Fu,** and H. N. To (2015), "Project Portfolio Selection and Scheduling: a Case of an IC Design Company in Taiwan," *Proceedings of the 16th Asia Pacific Industrial Engineering and Management Systems Conference*, Dec.08-11, Ho Chi Minh City, Vietnam.

105. Chen, Y.-J. and **Chien, Chen-Fu** (2015), "A Framework for Constructing Advanced Process Control in Semiconductor Manufacturing and an Empirical Study (Best Presentation Award)," *Proceedings of 2015 International Symposium on Semiconductor Manufacturing Intelligence*, Oct. 16-18, Daejeon, South Korea. (Best Presentation Award)

106. Khakifirooz, M., **Chien, Chen-Fu,** and Chen, Y.-J. (2015), "Bayesian Inference Technique for Data Mining for Yield Enhancement in Semiconductor Manufacturing Data," *International Symposium on Semiconductor Manufacturing Intelligence*, Oct. 16-18, Daejeon, South Korea.

107. Zheng, J.-N., **Chien, Chen-Fu,** and Wu, J.-Z. (2015), "Production Planning and Scheduling in the Electronic Chemicals Industry," *Proceedings of 2015 International Symposium on Semiconductor Manufacturing Intelligence*, Oct. 16-18, Daejeon, South Korea.

108. Chu, P.-C., **Chien**, **Chen-Fu,** Chen, C.-C., and Chung, C.-H. (2015), "Data mining to enhance the yield of TFT-LCD and an empirical of Taiwan's large-sized TFT-LCD panel manufacturing," *Proceedings of 2015 International Symposium on Semiconductor Manufacturing Intelligence*, Oct. 16-18, Daejeon, South Korea.

109. Wu, J.-Z., Yu, H.-C., and **Chien, Chen-Fu** (2014), "Inventory survival analysis for semiconductor memory

manufacturing," *Proceedings of the 2014 Winter Simulation Conference*, Dec. 7-10, Savannah, GA, USA.

110. 黃哲惘、鄭家年、吳吉政、**簡禎富**（2014），「電子化學品產業多站點生產規劃與排程」，2014 工業工程與管理年會暨學術研討會論文集，12 月 6 日，台北，台灣。（論文競賽優勝）

111. 范祖源、陳暎仁、張國浩、**簡禎富**（2014），「整合支持向量機與相似度排序功能之彩色濾光膜缺陷分類模式」，2014 工業工程與管理年會暨學術研討會論文集，12 月 6 日，台北，台灣。（論文競賽優勝）

112. 黃亭雅、陳世昌、劉柏漢、林國義、**簡禎富**（2014），「整體實驗效能：創新產品實驗衡量指標」，2014 工業工程與管理年會暨學術研討會論文集，12 月 6 日，台北，台灣。（論文競賽優勝）

113. 吳怡佳、郭泓志、詹凱婷、林國義、**簡禎富**（2014），「建構顧客體驗決策資訊系統及其實證研究」，2014 工業工程與管理年會暨學術研討會論文集，12 月 6 日，台北，台灣。（論文競賽優勝）

114. Zheng, J.-N., Wu, J.-Z., and **Chien, Chen-Fu** (2014), "Multi-objective Demand Fulfillment for Solar Cell Revenue Management," *Proceedings of 44th International Conference on Computers & Industrial Engineering*, Oct. 14-16, Istanbul, Turkey.

115. **Chien, Chen-Fu**, Chu, P.-C., and Kuo, M.-L. (2014), "Developing a Productivity Improving Framework by Overall Equipment Efficiency and An Empirical Study in a Hospital," *Proceedings of 15th Asia Pacific Industrial Engineering & Management Systems Conference*, Oct. 12-15, Jeju, Korea.

116. Chen, Y.-J., Rong, C.-A., Chang, K.-H., and **Chien, Chen-Fu** (2014), "Overall Automatic-optical-inspection efficiency (OAE) for Yield Enhancement in CMOS Image Sensor Manufacturing," *Proceedings of 15th Asia Pacific Industrial Engineering & Management Systems Conference*, Oct. 12-15, Jeju, Korea.

117. Fan, C.-Y., Chen, Y.-J., Chang, K.-H., **Chien, Chen-Fu** (2014), "A similarity ranking apporach to reduce false alarm of defect classification in CMOS Image Sensor Manufacturing," *Proceedings of 15th Asia Pacific Industrial Engineering & Management Systems Conference*, Oct. 12-15, Jeju, Korea.

118. Wu, J.-Z. and **Chien, Chen-Fu** (2014), "Multistage Semiconductor Memory Inventory Model Based on Survival Analysis," *Proceedings of the 10th annual IEEE International Conference on Automation Science and Engineering*, Aug. 18-22, Taipei, Taiwan.

119. Hao, X., Lin, L., Gen, M., and **Chien, Chen-Fu** (2014), "An Effective Markov Network Based EDA for Flexible Job Shop Scheduling Problems under Uncertainty," *Proceedings of the 10th annual IEEE International Conference on Automation Science and Engineering*, Aug. 18-22, Taipei, Taiwan.

120. Wang, H.-K., **Chien, Chen-Fu**, and Gen, M. (2014), "Hybrid Estimation of Distribution Algorithm with Multiple Subpopulations for Semiconductor Manufacturing Scheduling Problem with Limited Waiting-Time Constraint," *Proceedings of the 10th annual IEEE International Conference on Automation Science and Engineering*, Aug. 18-22, Taipei, Taiwan.

121. Chuang, S.-C., Lan, Y.-B., and **Chien, Chen-Fu** (2014), "A Novel Dynamic Policy for Shorting the Waiting Time of Big Jobs," *Proceedings of 2014 International Symposium on Semiconductor Manufacturing Intelligence*, Aug. 16-18, Taipei, Taiwan.

122. Lan, Y.-B., Chuang, S.-C., **Chien, Chen-Fu**, and Wu, J.-Z. (2014), "A New Priority to Computer Experimental System," *Proceedings of 2014 International Symposium on Semiconductor Manufacturing Intelligence*, Aug. 16-18, Taipei, Taiwan.

123. Jamrus, T., **Chien, Chen-Fu**, Gen, M., and Sethanan, K. (2014), "Genetic Algorithm for Multi-objective Flexible Job-shop Scheduling Problem under Uncertain Processing Time," *Proceedings of 2014 International Symposium on Semiconductor Manufacturing Intelligence*, Aug. 16-18, Taipei, Taiwan.

124. Hsieh, L., Chang, K.-H., and **Chien, Chen-Fu** (2014), "A Web-based Capacity Planning System for a Semiconductor Wafer Fabrication: Design and Implementation," *Proceedings of 2014 International Symposium on Semiconductor Manufacturing Intelligence*, Aug. 16-18, Taipei, Taiwan.

125. Fan, C.-Y., Chen, Y.-J., Chang, K.-H., and **Chien, Chen-Fu** (2014), "A Similarity Ranking Approach to Reduce False Alarm of Defect Classification in CMOS Image Sensor Manufacturing," *Proceedings of 2014 International Symposium on Semiconductor Manufacturing Intelligence*, Aug. 16-18, Taipei, Taiwan. (with Best Student Paper Award)

126. Kerh, R., **Chien, Chen-Fu**, and Lin, K.-Y. (2014), "Data Mining to Capture User-experience: A Case Study

in Notebook Product Appearance Design," *Proceedings of International Conference on Management Technology and Applications 2014*, April 14-15, Venice, Italy.

127. Jamrus, T., **Chien, Chen-Fu**, Gen, M., and Sethanan, K. (2013), "Particle Swarm Optimization combined with Genetic Operators for Flexible Job-shop Scheduling Problem under Uncertainty Processing Time," *Proceedings of the 9th International Conference on Optimization: Techniques and Applications*, Dec. 12-16, Taipei, Taiwan, R.O.C.

128. Liu, Y.-T., **Chien, Chen-Fu**, and Gen, M. (2013), "Hybrid Flow-shop Scheduling with Stochastic Processing Time Using Estimation of Distribution Algorithms," *Proceedings of the 9th International Conference on Optimization: Techniques and Applications*, Dec. 12-16, Taipei, Taiwan, R.O.C.

129. 柯柔安、**簡禎富**、林國義（2013），「發展消費性電子產品使用者經驗萃取架構以利新產品設計方案之選擇」，2013 工業工程與管理年會暨學術研討會論文集，12 月 7 日，屏東，台灣。

130. 范文濠、鄭家年、吳吉政、**簡禎富**（2013），「分級產品生產規劃之最佳化模式與決策支援系統－以太陽能電池為例」，2013 工業工程與管理年會暨學術研討會論文集，12 月 7 日，屏東，台灣。（論文競賽優勝）

131. 藍裕斌、吳吉政、游惠群、**簡禎富**（2013），「以存貨天數為基礎之倖存分析設定存貨水位」，2013 工業工程與管理年會暨學術研討會論文集，12 月 7 日，屏東，台灣。

132. 戎啟安、陳暎仁、張國浩、**簡禎富**（2013），「建構半導體自動光學檢測設備綜合效益指標」，2013 工業工程與管理年會暨學術研討會論文集，12 月 7 日，屏東，台灣。（論文競賽優勝）

133. 李怡萩、陳暎仁、**簡禎富**（2013），「半導體製造線上檢驗貨批選取決策模式與其實證研究」，2013 工業工程與管理年會暨學術研討會論文集，12 月 7 日，屏東，台灣。

134. Jamrus, T., **Chien, Chen-Fu**, and Gen, M. (2013), "Particle Swarm Optimization with Cauchy Distribution and Hybrid Genetic Algorithm for Solving Flexible Job-shop Scheduling Problem," *Proceedings of Chinese Institute of Industrial Engineers Annual Conference 2013*, Dec. 7, Pintung, Taiwan, R.O.C.

135. Neungmatcha, W., Sethanan, K., Gen, M., and **Chien, Chen-Fu** (2013), "Multi-time Period Location and Allocation Problem by Hybrid Genetic Algorithm," *Proceedings of 14th Asia Pacific Industrial Engineering & Management Systems Conference*, Dec. 3-6, Cebu, Philippines.

136. **Chien, Chen-Fu**, Chuang, S.-C., Hsu, C.-Y., and Liu, C.-W. (2013), "A Framework for Root Cause Detection in Batch Processing Manufacturing," *Proceedings of 14th Asia Pacific Industrial Engineering & Management Systems Conference*, Dec. 3-6, Cebu, Philippines.

137. **Chien, Chen-Fu** and Wu, J.-Z. (2013), "A Novel Multi-Objective Genetic Algorithm for Product-Mix Planning and Revenue Management for Semiconductor Fabrication Foundry Service," *Proceedings of 14th Asia Pacific Industrial Engineering & Management Systems Conference*, Dec. 3-6, Cebu, Philippines.

138. Jamrus, T., **Chien, Chen-Fu**, Gen, M., Sethanan, K. (2013), "Particle Swarm Optimization combined with Genetic Operators and Cauchy Distribution for Flexible Job-shop Scheduling Problem," *Proceedings of 14th Asia Pacific Industrial Engineering & Management Systems Conference*, Dec. 3-6, Cebu, Philippines.

139. Jamrus, T., **Chien, Chen-Fu**, Gen, M., Sethanan, K., Yusriski, R., Sukoyo, Samadhi, TMA A., Hakim, A. H. (2013), "Batch Scheduling for a Single Machine with Learning Effect to Minimize Total Actual Flow Time," *Proceedings of 14th Asia Pacific Industrial Engineering & Management Systems Conference*, Dec. 3-6, Cebu, Philippines.

140. Jamrus, T., **Chien, Chen-Fu**, Gen, M., Sethanan, K. (2013), "Hybrid Particle Swarm Optimization with Genetic Operators and Cauchy Distribution for Flexible Job-shop Scheduling Problem," *Proceedings of 14th Asia Pacific Industrial Engineering & Management Systems Conference*, Dec. 3-6, Cebu, Philippines.

141. **Chien, Chen-Fu** and Liu, C.-W. (2013), "A Knowledge-based Low Yield Detection Method for Semiconductor Manufacturing Intelligence," *Proceedings of the 43rd International Conference on Computers and Industrial Engineering*, Oct. 16-18, Hong Kong.

142. Chen, Y.-J., Lin, T.-H., Chang, K-H., **Chien, Chen-Fu**, Fun, B., Huang, GB, and Hung, R. (2013), "Automatic Defect Detection and Classification for Color Filter and Micro-Lens Manufacturing," *Proceedings of 21st International Symposium on Semiconductor Manufacturing*, Sep. 6, Hsinchu, Taiwan, R.O.C.

143. **Chien, Chen-Fu**, Hsu, C.-Y., and Chen, W.-J. (2013), "Intelligent Similarity Matching of Wafer Bin Maps," *Proceedings of the 9th annual IEEE International Conference on Automation Science and Engineering*, Aug. 17-21, Madison, WI, USA.

144. Zheng, J. and **Chien, Chen-Fu** (2013), "Master Production Schedule and System for Excelling Enterprise Resources (SEER) in the LED Industry," *Proceedings of the 9th annual IEEE International Conference on Automation Science and Engineering*, Aug. 17-21, Madison, WI, USA.

145. Wu, J.-Z., **Chien, Chen-Fu**, and Hsin, W.-M. (2013), "A Lexicographic Multiple Objective Genetic Algorithm for Dispatching Jobs in the Photolithography Process of Semiconductor Wafer Fabrication," *Proceedings of the 9th annual IEEE International Conference on Automation Science and Engineering*, Aug. 17-21, Madison, WI, USA.

146. Chen, Y.-J., Huang, H.-M., Chang, K.-H., **Chien, Chen-Fu**, Fun, B., Huang, GB, and Hung, R. (2013), "Data Mining for Yield Enhancement in Color Filter Manufacturing," *Proceedings of 9th International Conference on Intelligent Manufacturing and Logistics Systems & 2013 International Symposium on Semiconductor Manufacturing Intelligence*, Feb. 27-Mar. 2, Shanghai, China.

147. Li, Y.-C., Chen, Y.-J., **Chien, Chen-Fu**, Chung, JH, Hung, HF, Chiang, CJ, and Chien, C.-C. (2013), "Manufacturing Intelligence for Optimizing KLA Inspection Sampling Plan in Semiconductor Manufacturing," *Proceedings of 9th International Conference on Intelligent Manufacturing and Logistics Systems & 2013 International Symposium on Semiconductor Manufacturing Intelligence*, Feb. 27-Mar. 2, Shanghai, China.

148. Hsieh, Y-F L., Chang, K-H, **Chien, Chen-Fu** (2013), "Determining Optimal Hot Lot Percentage in Semiconductor Wafer Fabrication," *Proceedings of 9th International Conference on Intelligent Manufacturing and Logistics Systems & 2013 International Symposium on Semiconductor Manufacturing Intelligence*, Feb. 27-Mar. 2, Shanghai, China.

149. Tsou, Y.-C., Wu, J.-Z., **Chien, Chen-Fu** (2013), "An Inventory Days-based Multi-Stage Inventory Decision Model for Semiconductor Memory Manufacturing," *Proceedings of 9th International Conference on Intelligent Manufacturing and Logistics Systems & 2013 International Symposium on Semiconductor Manufacturing Intelligence*, Feb. 27-Mar. 2, Shanghai, China.

150. Zheng, J.-N., Gen, M., **Chien, Chen-Fu** (2013), "Multi-Objective Multi-Population Biased Random-Key Genetic Algorithm for the 3-D Container Loading Problem," *Proceedings of 9th International Conference on Intelligent Manufacturing and Logistics Systems & 2013 International Symposium on Semiconductor Manufacturing Intelligence*, Feb. 27-Mar. 2, Shanghai, China. (Best Paper Award)

151. Jamrus, T., **Chien, Chen-Fu**, Gen, M., Sethnan, K. (2013), "Multistage Production Distribution under Uncertainty Demands with Extended Priority-based GA Approach," *Proceedings of 9th International Conference on Intelligent Manufacturing and Logistics Systems & 2013 International Symposium on Semiconductor Manufacturing Intelligence*, Feb. 27-Mar. 2, Shanghai, China.

152. Neungmatcha, W., Sethanan, K., **Chien, Chen-Fu**, Gen, M. (2013), "Adaptive Genetic Algorithm for Location-Routing Problem within the Sugarcane Supply System in Thailand," *Proceedings of 9th International Conference on Intelligent Manufacturing and Logistics Systems & 2013 International Symposium on Semiconductor Manufacturing Intelligence*, Feb. 27-Mar. 2, Shanghai, China.

153. Chamnanlor, C., Sethanan, K., **Chien, Chen-Fu**, Gen, M. (2013), "Ant Colony Optimizations for Hybrid Flow Shop Scheduling Problem with Time Windows in Hard-Disk Manufacturing," *Proceedings of 9th International Conference on Intelligent Manufacturing and Logistics Systems & 2013 International Symposium on Semiconductor Manufacturing Intelligence*, Feb. 27-Mar. 2, Shanghai, China. (Best Paper Award)

154. Wu, J.-Z., **Chien, Chen-Fu**, Hsin, W.-M. (2013), "A Decision Framework for Dispatching Problem of Lithography Area in Semiconductor Manufacturing," *Proceedings of 9th International Conference on Intelligent Manufacturing and Logistics Systems & 2013 International Symposium on Semiconductor Manufacturing Intelligence*, Feb. 27-Mar. 2, Shanghai, China.

155. Chou, C.-W., Gen, M., **Chien, Chen-Fu** (2013), "A Multi-Objective Hybrid Genetic Algorithm for TFT-LCD Module Assembly Scheduling Problem," *Proceedings of 9th International Conference on Intelligent Manufacturing and Logistics Systems & 2013 International Symposium on Semiconductor Manufacturing Intelligence*, Feb. 27-Mar. 2, Shanghai, China. (Best Paper Award)

156. Xie, Y., Wu, H., Tang, R.-Z., **Chien, Chen-Fu** (2013), "Integration of Resource Allocation and Task Assignment for Minimizing the Cost of Business Processes with Many-to-Many Relationship between Resources and Activities," *Proceedings of 9th International Conference on Intelligent Manufacturing and Logistics Systems & 2013 International Symposium on Semiconductor Manufacturing Intelligence*, Feb. 27-Mar. 2, Shanghai, China.

157. 林子翔、陳暎仁、張國浩、**簡禎富**、方友平、黃貴保、洪琇珮（2012），「彩色濾光片瑕疵缺陷影像特徵萃取與分類」，<u>2012 工業工程與管理年會暨學術研討會論文集</u>，12 月 15 日，彰化，台灣。（論文競賽優勝）

158. 陳薇如、許嘉裕、**簡禎富**（2012），「應用資料挖礦與影像辨識於晶圓圖相似度比對」，<u>2012 工業工程與管理年會暨學術研討會論文集</u>，12 月 15 日，彰化，台灣。（論文競賽優勝）

159. **簡禎富**、周哲維（2012），「需求不確定之產能擴充決策分析 ─ 以 TFT-LCD 產業為例」，<u>2012 工業工程與管理年會暨學術研討會論文集</u>，12 月 15 日，彰化，台灣。

160. **Chien, Chen-Fu** and Chu, P.-C. (2012), "Customer-oriented Key Success Factors in New Product Development and an Empirical Research," *Proceedings of 2012 International Conference on Innovative Design and Manufacturing*, Dec. 12-14, Taipei, Taiwan.

161. 李怡萩、陳暎仁、翁武安、鍾久華、黃信富、姜智仁、**簡禎富**（2012），「半導體製造之最佳化 KLA 掃描選取模式」，<u>品質學會第四十八屆年會暨 2012 年國際品質管理研討會論文集</u>，11 月 17 日，台北，台灣。

162. 李佶玟、陳薇如、許嘉裕、**簡禎富**（2012），「應用空間相關圖於半導體晶圓圖樣型分類」，<u>品質學會第四十八屆年會暨 2012 年國際品質管理研討會論文集</u>，11 月 17 日，台北，台灣。

163. **Chien, Chen-Fu**, Chen, Y.-J., Chou, H.-H., Liao, Y.-M., Hung, C.-M., and Chien, C.-C. (2012), "A Dynamic Overlay Sampling Scheme for APC in High-Mix Fab," *Proceedings of 20th International Symposium on Semiconductor Manufacturing*, Oct. 15-17, Tokyo, Japan.

164. Hsu, C.-Y., **Chien, Chen-Fu**, and Chen, Y.-J. (2012), "Manufacturing Intelligence Approach for Advanced Equipment Control and Production Control for Yield Enhancement and Operational Effectiveness," *Proceedings of 2nd International Conference on the Interface between Statistics and Engineering*, June 23-25, Tainan, Taiwan, R.O.C.

165. 孫偉倫、簡禎富、彭金堂（2011），「售後服務公司之最終購置量決策」，<u>2011 工業工程與管理年會暨學術研討會論文集</u>，12 月 10 日，新竹，台灣。

166. 陳之慧、**簡禎富**、彭金堂、許嘉裕（2011），「建構網路購屋決策支援系統及其實證研究」，<u>2011 工業工程與管理年會暨學術研討會論文集</u>，12 月 10 日，新竹，台灣。

167. **簡禎富**、吳吉政、余政道（2011），「半導體製造業之多目標營收管理」，<u>2011 工業工程與管理年會暨學術研討會論文集</u>，12 月 10 日，新竹，台灣。（論文競賽優勝）

168. **簡禎富**、鄭家年、李佶玟（2011），「LED 晶片投片與採購決策及營運最佳化支援系統」，<u>2011 工業工程與管理年會暨學術研討會論文集</u>，12 月 10 日，新竹，台灣。

169. **Chien, Chen-Fu**, Hsu, C.-Y., Chen, Y.-J., and Yeh, Y.-H. (2011), "Manufacturing Intelligence for Determining Machine Subgroups to Enhance Yield in Semiconductor Manufacturing," *Proceedings of the 2011 Winter Simulation Conference*, Dec. 11-14, Phoenix, Arizona, USA.

170. Chen, Y.-J., Hsu, C.-Y., and **Chien, Chen-Fu** (2011), "Advanced Process Control for Semiconductor Yield Enhancement and Manufacturing Intelligence," *Proceedings of 12th Asia Pacific Industrial Engineering & Management Systems Conference*, Oct.14-17, Beijing, China.

171. Yen, W., Hsu, and C., **Chien, Chen-Fu** (2011), "Manufacturing Intelligence for Analyzing Wafer Start Decisions under Demand Uncertainty," *Proceedings of 12th Asia Pacific Industrial Engineering & Management Systems Conference*, Oct. 14-17, Beijing, China.

172. Chien, C., Hsu, C., Chiou, N., **Chien, Chen-Fu**, Hsin, W., Lee, C., Chien, J., and Wu, A. (2011), "Optimizing Information Value for Supporting Production Decisions for Semiconductor Manufacturing," *Proceedings of 2011 International Symposium on Semiconductor Manufacturing*, Sep. 5-6, Hsinchu, Taiwan.

173. **Chien, Chen-Fu**, Huang, H., Chang, K., Lin, Y., and Liu, T. (2011) "Semiconductor Manufacturing Intelligence and Key Factor Control Mechanism for Managing Production Cycle Time," *Proceedings of 2011 International Symposium on Semiconductor Manufacturing*, Sep. 5-6, Hsinchu, Taiwan.

174. **Chien, Chen-Fu,** Hsu, C.-Y., and Chen, P.-N. (2011), "A Fault Detection and Classification Framework for Yield Enhancement in Semiconductor Manufacturing," *Proceedings of 21st International Conference on Flexible Automation Intelligent Manufacturing*, Jun. 26-29, Taichung, Taiwan.

175. Hsu, C.-Y., **Chien, Chen-Fu**, Chen, Y., and Chou, G. (2011), "Manufacturing Intelligence and Feedback Control for Semiconductor Yield Enhancement," *The 21st International Conference on Flexible Automation and Intelligent Manufacturing*, Jun. 27-29, Taichung, Taiwan.

176. **Chien, Chen-Fu**, Hsu, C.-Y., and Chen, P.-N. (2011), "A Fault Detection and Classification Framework for Yield Enhancement in Semiconductor Manufacturing," *The 21st International Conference on Flexible Automation and Intelligent Manufacturing*, Jun. 27-29, Taichung, Taiwan.

177. Zheng, J.-N., Yu, J.-D., **Chien, Chen-Fu**, and Wu, J.-Z. (2011), "Multi-Objective and Multi-Market Demand Planning for Unbalanced Green Energy Supply Chain," *International Conference on Flexible Automation Intelligent Manufacturing*, Jun. 26-29, Taichung, Taiwan. (NSC 99-2221-E-007-047-MY3)

178. Wu, J.-Z. and **Chien, Chen-Fu** (2011), "A Multi-Period Inventory Write-Down Estimation Model with Real Settings in a Semiconductor Memory Manufacturer," *Proceedings of the 7th International Conference on Intelligent manufacturing and Logistics Systems*, Feb. 27-Mar. 1, Chungli, Taiwan. (NSC99-2410-H-031-002)

179. Zheng, J.-N., **Chien, Chen-Fu**, and Lin, Y.-J. (2011), "UNISON Framework for Optimizing Operator-Machine Assignment for People Productivity and an Empirical Study in Semiconductor Test Facility," *Proceedings of the 7th International Conference on Intelligent Manufacturing and Logistics Systems*, Feb. 27-Mar. 1, Chungli, Taiwan.

180. Chen, Y.-J. and **Chien, Chen-Fu** (2011), "UNISON Framework for Demand Forecast of Non-Volatile Memory Products for Semiconductor Manufacturing Intelligence," *Proceedings of the 7th International Conference on Intelligent Manufacturing and Logistics Systems*, Feb. 27-Mar. 1, Chungli, Taiwan.

181. Lin, K.-Y., Hsu, C.-Y., **Chien, Chen-Fu**, Yeh, Y.-H. and Wen, J.-L. (2011), "Manufacturing Intelligence for Effective Chemical Vapor Deposition Clean Effect Compensation for Advanced Process Control," *Proceedings of the 7th International Conference on Intelligent Manufacturing and Logistics Systems*, Feb. 27-Mar. 1, Chungli, Taiwan.

182. Wu, J.-Z., **Chien, Chen-Fu**, Huang, Y.-S., and Huang, H.-Y. (2010), "An Analytical Model of Obsolescent Inventory Cost: A Case Study in a Make-to-Stock Semiconductor Integrated Device Manufacturer," *Proceeding of the Chinese Institute of Industrial Engineers*, Dec. 25, Tainan, Taiwan. (NSC97-2221-E-007-111-MY3)

183. Hsu, C.-Y., **Chien, Chen-Fu**, Chen, Y.-J., Wang, H.-K., and Chou, G. (2010), "Constructing a Dynamic Adjusted Proportional-Integral Controller for Yield Enhancement of Overlay Errors," *Proceeding of 2010 Chinese Institute of Industrial Engineers*, Dec. 25, Tainan, Taiwan, R.O.C.

184. Lin, K.-Y., **Chien, Chen-Fu**, Chen, J.-H., Teng, T.-H., and Chuang, P.-Y. (2010), "Hsinchu Science Industry Park Semiconductor Sales Prediction and Capacity Decision Support," *Proceeding of the Chinese Institute of Industrial Engineers*, Dec. 25, Tainan, Taiwan.

185. **Chien, Chen-Fu**, Hsieh, S.-J., and Chang, Y.-H. (2010), "Evaluation and Managememt of R&D Performance in IC Design Company by Data Envelopment Analysis," *Proceeding of the Chinese Institute of Industrial Engineers*, Dec. 25, Tainan, Taiwan.

186. Chen, Y.-J. and **Chien, Chen-Fu** (2010), "Manufacturing Intelligence for Non-Volatile Memory Semiconductor Product Demand Forecasting," *Proceedings of 2010 International Conference on Future Industrial Engineering and Application*, Dec. 17-18, Shenzhen, China.

187. **Chien, Chen-Fu**, Hsu, C.-Y., and Tseng, H. (2010), "Manufacturing Intelligence for Long-Term Forecast of Semiconductor Mask Demand," *Proceedings of 11th Asia Pacific Industrial Engineering & Management Systems Conference*, Dec. 7-10, Melaka, Malaysia.

188. Wu, J.-Z., **Chien, Chen-Fu**, Huang, Y.-S., and Huang, H.-Y. (2010), "A Multi-Period Inventory Model to Incorporate with Inventory Age, Accounting Principle, and Product Structure: A Case Study in a Make-to-

Stock Semiconductor Integrated Device Manufacturer," *International Conference on Computers & Industrial Engineering*, Jul. 25-28, Awaji Island, Japan. (NSC97-2221-E-007-111-MY3)

189. Zheng, J.-N., Chang, K.-H., and **Chien, Chen-Fu** (2010), "A Simulation Optimization-based Framework for Capacity Planning under Uncertainty," *The 40th International Conference on Computers and Industrial Engineering*, Jul. 25-28, Awaji Yumebutai, Japan.

190. Wu, J.-Z. and **Chien, Chen-Fu** (2010), "A Genetic Algorithm Framework for Solving Nonlinear Cost and Multi-Objective Assignment Problems: A Numerical Study in Semiconductor Assembly Outsourcing," *Proceedings of 2010 International Conference on Intelligent Manufacturing & Logistics Systems*, Feb. 27-Mar. 1, Hsinchu, Taiwan.

191. Hsu, C. and **Chien, Chen-Fu**(2010), "Design of Chip Size for Wafer Productivity Improvement," *Proceedings of 6th International Conference on Intelligent Manufacturing & Logistics Systems*, Feb. 27-Mar. 1, Hsinchu, Taiwan.

192. Hsu, C.-Y., Wang, H.-K., Chen,Y.-J., **Chien**, **Chen-Fu,** Chou, T.-S., Chou, G., and Lee, G.-H. (2010), "A Proposed Framework of PI Controller of Overlay Error Reduction in Semiconductor Manufacturing," *Proceedings of 6th International Conference on Intelligent Manufacturing & Logistics Systems*, Feb. 27-Mar. 1, Hsinchu, Taiwan.

193. Zheng, J.-N., Chang, K.-H., and **Chien, Chen-Fu** (2010), "Simulation Optimization-based Framework for Capacity Planning under Uncertainty," *Proceedings of 6th International Conference on Intelligent Manufacturing & Logistics Systems*, Feb. 27-Mar. 1, Hsinchu, Taiwan.

194. Chen, Y.-J., **Chien**, **Chen-Fu,** Chen, H., Huang, T.-S., and Liu, Y.-Y. (2010), "A Novel Approach for Annual Demand Forecasting in Semiconductor Manufacturing," *Proceedings of 6th International Conference on Intelligent Manufacturing & Logistics Systems*, Feb. 27-Mar. 1, Hsinchu, Taiwan.

195. Hsu, C.-Y. and **Chien, Chen-Fu** (2009), "Manufacturing Intelligence for Optimizing Alternative Designs of Chip Sizes for Overall Wafer Effectiveness," *Proceedings of 10th Asia Pacific Industrial Engineering & Management Systems Conference*, Dec. 14-16, Kitakyushu, Japan.

196. Wu, C., **Chien, Chen-Fu,** and Wu, J.-Z. (2009), "Construct a Demand Fulfillment Model Considering NTO Allocation for Semiconductor Manufacturing," *Proceedings of Chinese Institute of Industrial Engineers Conference*, Dec. 12, Taichung, Taiwan.

197. Wu, J. and **Chien, Chen-Fu** (2009), "Managing Resources in Scheduling Problems with Genetic Algorithms," *Proceedings of Chinese Institute of Industrial Engineers Conference*, Dec. 12, Taichung, Taiwan.

198. Lin, K. and **Chien, Chen-Fu** (2009), "Construction of Semiconductor Overall Fab Performance Index Hierarchy Structure and Index Control," *Proceedings of Chinese Institute of Industrial Engineers Conference*, Dec. 12, Taichung, Taiwan.

199. Hsu, C., Chou, M. and **Chien, Chen-Fu** (2009), "Construct a Rolling Forecast Model for Semiconductor Inter-Fab Performance Evaluation," *Proceedings of 2nd International Symposium of Quality Management*, Nov. 6-7, Taipei, Taiwan.

200. Hsu, C., **Chien, Chen-Fu**, Lin, K., and Chien, C. (2009), "Data Mining for Yield Enhancement in TFT-LCD Manufacturing and an Empirical Study," *Proceedings of 5th International Conference on Intelligent Manufacturing & Logistics Systems*, Feb. 16-18, Kitakyushu, Japan.

201. Zheng, J.-N. and **Chien, Chen-Fu** (2009), "Min-Max Regret Strategy for Robust Capacity Expand Planning in Semiconductor Manufacturing," *Proceedings of 5th International Conference on Intelligent Manufacturing & Logistics Systems*, Feb. 16-18, Kitakyushu, Japan.

202. Hsu, C., Lin, K., Chien, C., and **Chien, Chen-Fu** (2008), "Using Rough Set Theory to Diagnose TFT-LCD Manufacturing Defect and an Empirical Study," *Proceedings of the Chinese Institute of Industrial Engineers National Conference*, Dec. 13, Chung Li, Taiwan.

203. Hu, C.-H. and **Chien, Chen-Fu** (2008), "Applying UNISON Decision Analysis Framework for Analyzing Various Decision Problems," *Proceedings of the Chinese Institute of Industrial Engineers National Conference*, Dec. 13, Chung Li, Taiwan.

204. Chen, W.-C., **Chien, Chen-Fu,** and Chou, M.-H. (2008), "Economic Efficiency Analysis of Wafer Fabrication Facilities," *Proceedings of 4th Modeling and Analysis of Semiconductor Manufacturing*

Conference, Dec. 7-10, Miami, FL, USA.

205. **Chien, Chen-Fu**, Chen, Y.-J., and Peng, J.-T. (2008), "Demand Forecast of Semiconductor Products Based on Technology Diffusion," *Proceedings of 4th Modeling and Analysis of Semiconductor Manufacturing Conference*, Dec. 7-10, Miami, FL, USA.

206. **Chien, Chen-Fu**, Chen, W.-C., and Hsu, S.-C. (2008), "An Indirect Workforce (Re)allocation Model for Semiconductor Manufacturing," *Proceedings of 4th Modeling and Analysis of Semiconductor Manufacturing Conference*, Dec. 7-10, Miami, FL, USA.

207. Lin, W.-L., **Chien, Chen-Fu**, Chen, W.-C., Wang, H.-Y., Kuo, R.-T., Wu, W.-C., and Chou, M.-H. (2008), "Using DEA for Relative Efficiency Analysis of Wafer Fabrication Facilities," *Proceedings of 16th International Symposium on Semiconductor Manufacturing*, Oct. 27-29, Tokyo, Japan.

208. Wu, J.-Z., **Chien, Chen-Fu,** and Hsu, C.-Y. (2008), "Promoting Collaborative Design and Virtual Integration in the IC Supply Chain," *Proceedings of 4th International Conference on Intelligent Manufacturing & Logistics Systems*, Feb. 25-27, Kitakyushu, Japan, 243-248.

209. Chiang, Y.-S., **Chien, Chen-Fu,** and Wu, C.-H. (2008), "Capacity Expansion and Migration for Semiconductor Manufacturing under Demand Uncertainties," *Proceedings of 4th International Conference on Intelligent Manufacturing & Logistics Systems*, Feb. 25-27, Kitakyushu, Japan, 21-27.

210. Lin, K.-S. and **Chien, Chen-Fu** (2008), "A UNISON Framework for New Tool Selection and an Empirical Study in Semiconductor Industry," *Proceedings of 4th International Conference on Intelligent Manufacturing & Logistics Systems*, Feb. 25-27, Kitakyushu, 35-43.

211. **Chien, Chen-Fu**, Wang, J.-K., Chang, T.-C., and Wu, W.-C. (2007), "Economic Analysis of 450mm Wafer Migration," *Proceedings of 15th International Symposium on Semiconductor Manufacturing*, Santa Clara, CA, 283-286. (EI)

212. **Chien, Chen-Fu**, Liu, C.-C., Hsu, C.-Y., Chou, H.-S., and Lin, C.-W. (2007), "Optimize Die Size Design to Enhance OWE for Design for Manufacturing," *Proceedings of 15th International Symposium on Semiconductor Manufacturing*, Santa Clara, CA, 142-145. (EI)

213. Tseng, H., **Chien, Chen-Fu**, Hsu, S., Chang, C., and Lin, R. (2007), "Mask Demand Forecast with GIFTS Model and an Empirical Study for Semiconductor Foundry," *Proceedings of the First Industrial Engineering and Management Industry-University Collaboration Conference 2007*, Mar. 13, Taipei, Taiwan.

214. Wu, J., **Chien, Chen-Fu**, Weng, Y. , Whang, Y., and Huang, T. (2007), "Modeling Manufacturing Strategy and an Empirical Study of Assembly Outsourcing in Semiconductor Manufacturing," *Proceedings of the First Industrial Engineering and Management Industry-University Collaboration Conference 2007*, Mar.13, Taipei, Taiwan

215. **Chien, Chen-Fu**, Hsu, C., and Chen, P. (2007), "Data Mining for Real Time Decision Support for Intelligent Manufacturing and an Empirical Study for Early Warning System of Key Equipment Excursion," *Proceedings of 3rd International Conference on Intelligent Manufacturing & Logistics Systems 2007*, Feb. 26-28, Kitakyushu, Japan, 473-481.

216. **Chien, Chen-Fu**, Lee, C., and Wu, W. (2007), "An Efficient Computational Procedure for Determining the Container Loading Pattern," *Proceedings of 3rd International Conference on Intelligent Manufacturing & Logistics Systems (IML) 2007*, Feb. 26-28, Kitakyushu, Japan, 209-215.

217. Wu, J. and **Chien, Chen-Fu** (2007), "Strategic Semiconductor Assembly Outsourcing," *Proceedings of 3rd International Conference on Intelligent Manufacturing & Logistics Systems(IML) 2007*, Feb. 26-28, Kitakyushu, Japan, 46-57.

218. Lin, K., **Chien, Chen-Fu**, Wu, H., and Hsieh, G. (2006), "AHP-based Decision Framework for New Tool Selection in Semiconductor Manufacturing and an Empirical Study," *Proceedings of the Chinese Institute of Industrial Engineers National Conference (CIIE) 2006*, Dec. 23, Taichung, Taiwan (CD-ROM CIIE-484).

219. Tseng, H., **Chien, Chen-Fu**, Hsu, S., Yang, T., Chen, Y., Chang, C., and Hsu, W. (2006), "New Product Forecast with GIFTS Model and an Empirical Study for Semiconductor Foundry," *Proceedings of the Chinese Institute of Industrial Engineers National Conference (CIIE) 2006*, Dec. 23, Taichung, Taiwan (CD-ROM CIIE-481).

220. Weng, Y., **Chien, Chen-Fu**, Wu, J., Whang, Y., and Huang, T. (2006), "Modeling and DSS for Real Time Order Assignment in Semiconductor Assembly Outsourcing," *Proceedings of the Chinese Institute of*

Industrial Engineers National Conference (CIIE) 2006, Dec. 23, Taichung, Taiwan (CD-ROM CIIE-284).

221. Wang, J., **Chien, Chen-Fu**, Hsu, S., Yang, T., Chen, Y., Chang, C., and W. H (2006), "Neural Network Model for Semiconductor New Product Forecast and an Empirical Study for Foundry," *Proceedings of the Chinese Institute of Industrial Engineers National Conference,* Dec. 23, Taichung, Taiwan (CD-ROM CIIE-479).

222. **Chien, Chen-Fu** and Hu C. (2006), "Segmented WIP Control for Cycle Time Reduction," *Proceedings of International Symposium on Semiconductor Manufacturing 2006*, Sep. 25-27, Tokyo, Japan, 317-320. (EI)

223. **Chien, Chen-Fu**, Hsu, C., Chou, H., and Lin, C. (2006), "Overall Wafer Effectiveness (OWE): A Novel Standard for Wafer Productivity," *Proceedings of International Symposium on Semiconductor Manufacturing 2006*, Sep. 25-27, Tokyo, Japan, 317-320. (EI)

224. Hu, C., **Chien, Chen-Fu**, and Lin, C. (2006), "A Decision Framework for Analyzing Inspection Frequency for Wafer Bumping Process and an Empirical Study," *The 36th International Conference on Computer and Industrial Engineering*, June 20-23, Taipei, Taiwan, 382-393.

225. Hsu, C. and **Chien, Chen-Fu** (2006), "Using Wavelet-based Method and Multiway PCA for Fault Detection and Fault Diagnose via an Empirical Study in Semiconductor Manufacturing," *The 36th International Conference on Computer and Industrial Engineering*, June 20-23, Taipei, Taiwan, 258-267.

226. Lai, T., **Chien, Chen-Fu**, Meng, C., Lin, S., Lo, J., and Tseng, K. (2005), "Business Data Mining for Customer Order Forecast and an Empirical Study in Semiconductor Foundry," *Proceedings of the Chinese Institute of Industrial Engineers National Conference*, Dec. 17, Hsinchu, Taiwan (CD-ROM CIIE-763).

227. **Chien, Chen-Fu** and Lin, M. (2005), "Integrating Fabrication Production Control and Manufacturing Management," *Proceedings of the Chinese Institute of Industrial Engineers National Conference*, Dec. 17, Hsinchu, Taiwan (CD-ROM CIIE-761). (in Chinese)

228. Wu, J., **Chien, Chen-Fu**, Weng, Y., Whang, Y., and Huang, T. (2005), "An Optimization Model and a Decision Support System for Aggregate Vendor Selection, Production Allocation, and Material Requirement Planning in Semiconductor Assembly Operation and an Empirical Study," *Proceedings of the Chinese Institute of Industrial Engineers National Conference*, Dec. 17, Hsinchu, Taiwan (CD-ROM CIIE-760). (in Chinese)

229. Tan, Y., **Chien, Chen-Fu**, Hsu, C., Wu, C., and Kuo, C. (2005), "Constructing a Metrology Sampling Framework for In-Line Inspection in Semiconductor Fabrication and its Decision Analysis," *Proceedings of the Chinese Institute of Industrial Engineers National Conference*, Dec. 17, Hsinchu, Taiwan (CD-ROM CIIE-759). (in Chinese)

230. Lai, Y., **Chien, Chen-Fu**, Hsu, C., Wang, S., Chen, C., Dai, H., and Luo, H. (2005), "Develop a Yield Enhancement Framework Based on Main Branch Decision Tree Algorithm for Mining Semiconductor Data – An Empirical Study of a DRAM Fab," *Proceedings of the Chinese Institute of Industrial Engineers National Conference*, Dec. 17, Hsinchu, Taiwan (CD-ROM CIIE-758).

231. Lee, C., **Chien, Chen-Fu**, Chen, C., Chiang, E., Chien, C., Tseng, F., Lin, C., Chou, W., and Wang, S. (2005), "Modeling and Simulation Analysis for Capacity Planning Evaluation for TFT-LCD Fab Expansion and an Empirical Study," *Proceedings of the Chinese Institute of Industrial Engineers National Conference*, Dec. 17, Hsinchu, Taiwan (CD-ROM CIIE-757).

232. Hsu, C., **Chien, Chen-Fu**, Chen, P., Luo, H., Wang, S., Chen, C., and Dai, H. (2005), "Applying Multiscale PCA to Fault Detection and Classification in Semiconductor Manufacturing," *Proceedings of the 3rd AEC/APC Asia Symposium*, Dec. 1-2, Hsinchu, Taiwan (CD-ROM a48).

233. Hsu, S. and **Chien, Chen-Fu** (2005), "Diagnosing Abnormal WAT Problems by Applying an Effective Data Mining Framework," *Proceedings of 3rd Modeling and Analysis of Semiconductor Manufacturing Conference*, Oct. 6-7, Singapore, 365-372.

234. Chen, H. and **Chien, Chen-Fu** (2005), "Construct a GOEE Framework of Equipment Performance Management and a Study for Promoting Tool Productivity in Semiconductor Manufacturing," *Proceedings of 3rd Modeling and Analysis of Semiconductor Manufacturing Conference*, Oct. 6-7, Singapore, 5-12.

235. **Chien, Chen-Fu**, Hsiao, C., Meng, C., Hong, K., and Wang, S. (2005), "Cycle Time Prediction and Control Based on Production Line Status and Manufacturing Data Mining," *Proceedings of International Symposium on Semiconductor Manufacturing 2005*, Sep. 13-15, San Jose, California, USA, 327-330. (EI)

236. Hu, C. and **Chien, Chen-Fu** (2005), "A Hybrid Approach of Data Mining and Genetic Algorithm for

Rehabilitation Scheduling," *Workshop on Intelligent Manufacturing & Logistics Systems*, Aug. 2-4, Kitakyushu, Japan (CD-Rom IML05-39).

237. Lin, K. and **Chien, Chen-Fu** (2005), "Using Data Mining for Bio-Chip Data Analysis and Decision Support," *Workshop on Intelligent Manufacturing & Logistics Systems*, Aug. 2-4, Kitakyushu, Japan (CD-Rom IML05-32).

238. Hsu, C. and **Chien, Chen-Fu** (2005), "Construct a Framework for Machine Grouping and its Empirical Study for Semiconductor Manufacturing," *Workshop on Intelligent Manufacturing & Logistics Systems*, Aug.2-4, Kitakyushu, Japan (CD-Rom IML05-17).

239. **Chien, Chen-Fu** and Wu, H. (2005), "The Normal and Reverse Bullwhip Effect of the Supply Chain in Semiconductor Industry," *Workshop on Intelligent Manufacturing & Logistics Systems*, Aug. 2-4, Kitakyushu, Japan (CD-Rom IML05-13).

240. **Chien, Chen-Fu** (2005), "Data Mining and Real Time Decision Support for Intelligent Manufacturing for Semiconductor Manufacturing," Workshop on Intelligent Manufacturing & Logistics Systems, Aug. 2-4, Kitakyushu, Japan (CD-Rom IML05-05).

241. Chen, P., **Chien, Chen-Fu**, Luo, H., Dai, H., and Wang, S. (2005), "Constructing a FDC Framework with Statistical Embedded Models for Semiconductor Fabrications," *11th International Conference on Industrial Engineering and Engineering Management*, Apr. 23-25, Shenyang, China (CD-Rom IEEM 518).

242. Tan, Y., **Chien, Chen-Fu,** and Kuo, C. (2005), "Constructing a Metrology Sampling Framework for In-Line Inspection in Semiconductor Fabrication," *11th International Conference on Industrial Engineering and Engineering Management*, Apr. 23-25, Shenyang, China (CD-Rom IEEM 517).

243. **Chien, Chen-Fu**, Wu, J., Chen, H., Lu, C., Yang, W., and Lee, Y. (2004), "Analyzing and Validating Site Imbalance Problem for Final Testing," *Proceedings of the 2nd AEC/APC Symposium Asia*, Hsinchu, Taiwan, (CD-ROM 2nd AEC/APC Symposium Asia).

244. Wu, H., **Chien, Chen-Fu**, Huang, Y., Huang, D., Tsai, S., and Huang, M. (2004), "Decision Support System for Delivery Mode," *Proceedings of the 2nd AEC/APC Symposium Asia*, Hsinchu, Taiwan, (CD-ROM 2nd AEC/APC Symposium Asia).

245. Wu, H., **Chien, Chen-Fu**, Huang, Y., Huang, D., Tsai, S., and Huang, M. (2004, Dec.), "Decision Support System for Delivery Mode," *Proceedings of the 6th Electronics Packaging Technology Conference*, 81-86, Singapore.

246. **簡禎富**，黃怡詔，林秋紅，曾國仁，柯美油(2004)，「基因演算法在聯合醫療網醫師看診排程之實證研究」，中國工業工程學會九十三學年度年會及學術研討會論文集 (CD-ROM G01-9)。

247. 黃怡詔，林秋紅，**簡禎富**，彭一倍，雷啟芬(2004)，「知識管理在健康網站之應用研究」，中國工業工程學會九十三學年度年會及學術研討會論文集 (CD-ROM E02-3)。

248. Lai, Y. C., **Chien, Chen-Fu**, Wang, S. J., Chen, C. C., Yueh, C. L., and Dai, H. A. (2004), "Using Decision Tree for Mining Semiconductor Data for Yield Enhancement," *Proceedings of the International Symposium on Semiconductor Manufacturing 2004*, Tokyo, Japan, 494-497. (EI)

249. **Chien, Chen-Fu**, Hsu, C., Pan, W., Wu, Y., and Lin, S. (2004), "Modeling Step-and-Scan Overlay Error and Designing Sampling Strategies for Yield Improvement," *Proceedings of International Symposium on Semiconductor Manufacturing 2004*, Tokyo, Japan, 455-459. (EI)

250. 黃怡詔，林秋紅，**簡禎富**，廖本偉，林保華，黃大展(2004)，「醫院 SARS 追蹤警示系統之建置與實證研究」，TANET2004 台灣網際網路研討會論文集。

251. Hsu, C., **Chien, Chen-Fu**, Tsao, Y., and Li, C. (2004), "Machine Grouping Algorithm for Stepper Back-Up and an Empirical Study," *Proceedings of 2004 Semiconductor Manufacturing Technology Workshop*, Sep. 9-10, Hsinchu, Taiwan.

252. Chen, P.-N., **Chien, Chen-Fu**, Wang, S.-J., Chen, C.-C., and Luo, H.-J. (2004), "Developing Statistical Models in an Early Warning System and its Empirical Study," *Proceedings of 2004 Semiconductor Manufacturing Technology workshop*, Sep. 9-10, Hsinchu, Taiwan.

253. **Chien, Chen-Fu**, Huang, Y.-C., and Tseng, F.-P. (2004), "Constructing the Rehabilitation Scheduling System and an Empirical Study," *2004 China Decision Science Seminar.*

254. 黃怡詔、陳郁夫、**簡禎富**、蔣文娟（2004），「線上物流系統導入實證研究－以竹科園區廠商保健藥品線上訂購為例」，2004 中華決策科學研討會論文集。

255. **簡禎富**，黃怡詔、曾繁斌 （2004），「復健排程系統之建構及其實證研究」，2004 中華決策科學研討會論文集。

256. **Chien, Chen-Fu**, Wu, J., and Kuo, C. (2003), "Optimizing Dynamic Repair Decisions in the Site Imbalance Problem of Semiconductor Testing Machine," *OR Practice poster presented at the INFORMS Annual Meeting*, Oct.19-22, Atlanta, GA, USA. (Nominated for OR Practice Award)

257. **Chien, Chen-Fu**, Hsu, S., Peng, C., and Lin, D. (2003), "Constructing a System with Hybrid Data Mining Algorithm for Wafer Bin Map Clustering and Classification," *OR Practice poster presented at the INFORMS Annual Meeting*, Oct. 19-22, Atlanta, GA, USA. (Nominated for OR Practice Award)

258. **Chien, Chen-Fu** and Cheng, J. (2003), "A Hybrid Decision Tree Approach for Mining Semiconductor Data," *paper presented at the INFORMS Annual Meeting*, Oct. 19-22, Atlanta, GA, USA.

259. **Chien, Chen-Fu**, Lo, F., and Lin, Y. (2003), "A DEA Study to Evaluate the Relative Efficiency and Efficiency Change of the Thermal Power Plants of the Taiwan Power Company," *paper presented at the INFORMS Annual Meeting*, Oct. 19-22, Atlanta, GA, USA.

260. Wang, H. and **Chien, Chen-Fu** (2003), "The Bayesian Experiment in Demand Forecasting with Non-Homogenous Poisson Process Model," *paper presented at the 31st International Conference on Computers and Industrial Engineering*, Feb. 2-4, San Francisco, CA, USA.

261. He, S., Qi, E., **Chien, Chen-Fu**, and Liu, X. (2003), "A Study on Resource Constrained Project Scheduling Problems Based on Multi-Agent Systems," *paper presented at the 31st International Conference on Computers and Industrial Engineering*, Feb. 2-4, San Francisco, CA, USA.

262. Peng, J., **Chien, Chen-Fu**, and Tseng, T. (2003), "Using Rough Set Theory for Fault Location on Distribution Feeder," *paper presented at the 31st International Conference on Computers and Industrial Engineering*, Feb. 2-4, San Francisco, CA, USA.

263. Wang, W. and **Chien, Chen-Fu** (2002), "DOE-based Data Mining Approach to Solve Semiconductor Manufacturing Problems," *paper presented at the 2002 International Conference for Asia-Pacific Industrial Engineering and Management Sciences (APIEMS)*, Dec. 17-20, Taipei, Taiwan.

264. Chen, C. and **Chien, Chen-Fu** (2002), "Modeling a Generalized Schedule Generator by Using Colored Timed Petri Net and Three-Phase Simulation Logics," *paper presented at the 2002 International Conference for Asia-Pacific Industrial Engineering and Management Sciences (APIEMS)*, Dec. 17-20, Taipei, Taiwan.

265. Huang, Y., **Chien, Chen-Fu**, Lai, W., Liu, S., Yang, W., and Su, S. (2002), "Constructing the Hospital Executive Information System and an Empirical Study," *Proceedings of the 2002 National Conference on Management of Technology*.

266. **Chien, Chen-Fu**, Wu, J., and Kuo, C. (2002), "Decision Analysis for the Site Imbalance Problem of Semiconductor Final Testing Machine," *paper presented at the INFORMS Annual Meeting*, Nov. 17-20, San Jose, CA, USA.

267. Peng, C. and **Chien, Chen-Fu** (2002), "Data Value Development to Enhance Yield & Maintain Competitive Advantage for Semiconductor Manufacturing," *paper presented at the INFORMS Annual Meeting*, Nov. 17-20, San Jose, CA, USA.

268. **Chien, Chen-Fu**, Tseng, F., and Huang, Y. (2002), "Modeling and Assignment Algorithm for Rehabilitation Scheduling," *paper presented at the 2002 International Conference of Industrial Engineering and Enterprise Management*, Sep. 19-21, Beijing, P.R. China. (CD-ROM of the Proceedings of IE&EM'2002 & IceCE'2002)

269. Peng, J. and **Chien, Chen-Fu**(2002), "A Study of Congestion Cost and Variance of Locational Price in a Competitive Generation Market," *paper presented at the 2002 International Conference on Multiobjective Programming and Goal Programming*, Jun. 4-7, Nara, Japan. (accepted for publication in the edited book)

270. Wang, H., **Chien, Chen-Fu**, and Kuo, C. (2002), "Analyzing Alternative Strategies of Semiconductor Final Testing," *paper presented at the 2002 International Conference on Multiobjective Programming and Goal Programming*, Jun. 4-7, Nara, Japan. (accepted for publication in the edited book)

271. Hsiao, L., **Chien, Chen-Fu**, and Wang, H. (2001), "Constructing Semiconductor Manufacturing

Management Indexes and Applying Data Mining for Production Data Analysis," *Proceedings of the Chinese Institute of Industrial Engineers National Conference 2001 (CD-ROM CIIE2001-S016).*

272. Wu, J. and **Chien, Chen-Fu**(2001), "Modeling the Scheduling for Semiconductor Final Test and Algorithm for Solving the Empirical Problem," *Proceedings of the Chinese Institute of Industrial Engineers National Conference 2001 (CD-ROM CIIE2001-S010).*

273. Lo, F., **Chien, Chen-Fu**, and Lin, J.-T. (2001), "Using DEA in the Personnel Promotion Decision and an Illustrative Study," *Proceedings of the Chinese Institute of Industrial Engineers National Conference 2001 (CD-ROM CIIE2001-0199).*

274. Peng, C. and **Chien, Chen-Fu** (2001), "Build-up Engineering Data Analysis System: A Retrospective Study for a Semiconductor Fab," *Proceedings of the Chinese Institute of Industrial Engineers National Conference 2001 (CD-ROM No. CIIE2001-0380).*

275. **Chien, Chen-Fu**, Lee, P., and Peng, C. (2001), "A Data Mining Framework for Clustering and Feature Extraction for Semiconductor Manufacturing Data," *Proceedings of the 2001 National Conference on Management of Technology*, 396-401.

276. Wang, H., Hsiao, L., and **Chien, Chen-Fu**(2001), "Using Data Mining to Improve Human Resource Management of Operators of Semiconductor Manufacturing," *Proceedings of the 2001 National Conference on Management of Technology*, 187-191. (in Chinese)

277. **Chien, Chen-Fu**, Lin, Y., and Lo, F.-Y. (2001), "Using DEA Models to Examine the Relative Efficiency of Power Plants," *paper presented at the 2001 Conference on Productivity and Efficiency*, Nov. 24, Taipei. (in Chinese)

278. **Chien, Chen-Fu**, and Liu, Q.-W. (2001), "Developing Data Mining Methods for Wafer Bin Map Clustering and the Empirical Study in a Semiconductor Manufacturing Fab," *Proceedings of the International Conference on Modern Industrial Engineering and Engineering Management in New Century*, Aug. 10-12, Tianjin, China, 581-587.

279. **Chien, Chen-Fu**, Wu, J. and Deng, J. (2001), "Analyzing the Repair Decisions in the Site Unbalance Roblem of Semiconductor Test Machine," *Semiconductor Manufacturing Operational Modeling and Simulation Symposium2001*, Apr. 22-26, Seattle, Washington, USA, 149-154.

280. **Chien, Chen-Fu**, Chang, K., and Chen, C. (2001), "Sampling Strategy and Model to Measure and Compensate the Overlay Errors," *paper presented at the SPIE's 26th International Symposium on Microlithography2001*, Feb.25-Mar. 2, Santa Clara, CA, USA.

281. **Chien, Chen-Fu.**, Huang, S., and Chiang, C. (2001), "A Group Information System for Strategic Information Sharing, Evaluation, and Knowledge Management," *R&D Management Conference 2001*, Feb. 7-9, Wellington, New Zealand.

282. **Chien, Chen-Fu.**, Chen, C., and Lin, M. (2001), "Using DEA to Evaluate the R&D Performance of the Computers and Peripherals Firms in Taiwan," *R&D Management Conference 2001*, Feb. 7-9, Wellington, New Zealand.

283. Wang, H. and **Chien, Chen-Fu.** (2000), "The Bayesian Experiment in Demand Forecasting with Non-Homogenous Poisson Process Model", *5th Annual International Conference on Industrial Engineering-Theory, Applications, and Practice 2000*, Dec, 13-15, Hsinchu, Taiwan.

284. **Chien, Chen-Fu**, Wang, K. J., Chiang, K. S., Lin, S. H., Hu, C. C., Huang, S. B., and Xie, T. S. (2000), "A Group Decision Support System for Telecommunication Network Planning", *5th Annual International Conference on Industrial Engineering - Theory, Applications, and Practice 2000,* Dec. 13-15, Hsinchu, Taiwan.

285. 王鴻儒、**簡禎富**、徐紹鐘、李培瑞（2000），「決策樹資料挖礦架構及其於半導體製程之實證研究」，科技管理研討會論文集，頁 671-690。

286. **簡禎富**、盧裕溢、張盛鴻、郭金錩、陳惠鄉（2000），「建構頻譜使用效益評估指標」，科技管理研討會論文集，頁 173-184。

287. **Chien, Chen-Fu** (2000, July), "Using DEA to Select a Portfolio of Journals: An Empirical Study," *MCDM2000*, July 10-14, Ankara, Turkey.

288. **Chien, Chen-Fu.,** and Deng, J. (2000), "Development of a Container Loading Support System," *APORS2000*, July 5-7, 2000, Singapore.

289. **Chien, Chen-Fu.,** Hsu, S., Peng S., and Wu C. (2000), "A Cost-Based Heuristic for Statistically Determining Sampling Frequency in a Wafer Fab," *Proceedings of the 2000 Semiconductor Manufacturing Technology Workshop*, 217-229.

290. Lin, J.T., **Chien, Chen-Fu.,** Wu, Z., Lee, C., Lin, C., and Peng, J. (1999), "Research on the Human Resource Supply for the Integrated Manufacturing Logistics and E-Commerce," *Proceedings of the Chinese Institute of Industrial Engineers National Conference 1999*.

291. **Chien, Chen-Fu**, Hsu, Peng, S., and Lin, D. (1999, Dec.), "Developing Defect Diagnosis Methods for Semiconductor Manufacturing and Their Empirical Studies in a Wafer Fab," *Proceedings of the Chinese Institute of Industrial Engineers National Conference 1999.*

292. 簡禎富、翁得誠、李仲明、黃三倍（1999），「台電契約容量決策分析及某半導體廠之實證研究」，科技管理研討會論文集，第三集，頁 183-194。

293. **Chien, Chen-Fu,** Chen, C., and Lin, M. (1999), "Using DEA to Evaluate the R&D Performance in HSIP,"*15th Triennial Conference of IFORS*, Beijing, China.

294. **Chien, Chen-Fu,** Deng, J., and Shyu, A. (1999), "A Two-dimensional Cutting Procedure for Optimizing the Wafer Exposure Pattern," *15th Triennial Conference of IFORS*, Beijing, China.

295. **Chien, Chen-Fu**, Liu, C., Wen, U., Hsueh,   C., and Wang, S. (1999), "An Empirical Study of Constructing Performance Evaluation Index for the Peitou Depot, TRTC," *Proceedings of 1999 Annual Conference of the National Defense Integrated Logistics Support*, 207-213. (in Chinese)

296. **Chien, Chen-Fu**, Chang, K., and Chen, C. (1999), "Research on Modeling Overlay Error & Sampling Strategy to Improve Yield," *Proceedings of the Chinese Institute of Industrial Engineers National Conference 1999*.

297. **Chien, Chen-Fu**, Chen, S., Lai, H., and Lin, Y. (1998), "Using Bayesian Network for Fault Location on Distribution Feeder," *Proceedings of the Chinese Institute of Industrial Engineers National Conference 1998*, 1028-1033.

298. **Chien, Chen-Fu.,** Liu, C., Wen, U., Hsueh, C., and Wang, S. (1998), "Grey Multiattribute Evaluation and an Empirical Study of Selecting Preventive Maintenance Operations for Electrical Multiple Unit (EMU)," *Proceedings of the Chinese Institute of Industrial Engineers National Conference 1998*, 488-493. (in Chinese)

299. **Chien, Chen-Fu**, Chen, C., and Lin, M. (1998), "Evaluation of R&D Performance in HSIP: Case of Computers and Peripherals," *Proceedings of the Chinese Institute of Industrial Engineers National Conference 1998*, 482-487.

300. Fang, G., **Chien, Chen-Fu**, Wang, H., Shyu, A., Huang, C., and Huang, C. (1998, Nov.), "Using FMEA to Improve Semiconductor Manufacturing Technology." *Proceedings of the 1998 National Conference on Management of Technology*, 173-182. (in Chinese)

301. **Chien, Chen-Fu**, Chan, C., Gustafson, D.H., and Boberg, E.W. (1998), "The Use of Computer Systems for Managing Health Information for People Coping with Health or Life Crises," *The Proceeding of the 14th International Conference on Advanced Science and Technology*, Chicago, U.S.A., 236-247.

302. **Chien, Chen-Fu** and Wu, W. (1997), "A Study on Container Loading Models and Methods," Proceedings of *the Chinese Institute of Industrial Engineers National Conference 1997*, 119-124.

303. **Chien, Chen-Fu.,** Tsai, C., Chien, C., and J. Chen (1997), "Developing a Multiattribute Evaluation Method to Evaluate Equipment and its Application on Equipment Purchase Decision," *Proceedings of the Chinese Institute of Industrial Engineers National Conference 1997*, 916-921. (in Chinese)

304. **Chien, Chen-Fu.,** Lin, J.T., Peng, J., and Wu, S. (1997), "A Study on Service System and Service Satisfaction Measurement: An Empirical Study of the NTHU Library," *Proceedings of the Chinese Institute of Industrial Engineers National Conference 1997*, 446-471.

305. **Chien, Chen-Fu** and Jan, B. (1997). "A Decision Analysis Framework and an Illustration of Strategic Decision Making in a Semiconductor Fab," *Proceedings of the 1997 National Conference on Management of Technology*, 345-354. (in Chinese)

306. **Chien, Chen-Fu** and Sainfort, F. (1997), "Constructing Complex Scales for Evaluating Alternative Combinations of Multiattribute Items," *INFORMS Spring Meeting*, San Diego, CA, U.S.A.

307. **Chien, Chen-Fu**, Chan, C., and Wang, H. (1997), "The Property of the Likelihood Function in a Bayesian Model for a Poisson Experiment," *Proceeding of the 26th Annual Meeting of the Western Decision Sciences Institute*, Hawaii, U.S.A.

308. **Chien, Chen-Fu** (1996), "A Case Study of a Mechanism for Transferring University and Research Institute Technology," *Proceeding of the Chinese Institute of Industrial Engineers National Conference 1996*, 1057-1064. (in Chinese)

309. **Chien, Chen-Fu** and Sainfort, F. (1996), "Modeling Portfolio Selection Problems: A Framework and an Illustration," *INFORMS Spring Meeting*, Washington D.C., U.S.A.

310. **Chien, Chen-Fu**, Gustafson, D.H., Bricker, D.E., and Chan, C. (1996), "Development and Pilot Evaluation of a Health Support System on Web," *The Proceeding of the 12th International Conference on Advanced Science and Technology*, Chicago, U.S.A., 248-253.

311. **Chien, Chen-Fu** and Sainfort, F. (1995), "A Portfolio Selection Framework for Choice under Conflict," *Society for Judgment and Decision Making*, Los Angeles, U.S.A.

Books and Book Chapters

1. **Chien, Chen-Fu** (2022), Blue Lakes Strategy, CommonWealth Magazine, Taipei, Taiwan. (in Chinese, 352 pages) 《藍湖策略：發展智慧化管理科技與數位決策，超越藍海紅海循環宿命》

2. **Chien, Chen-Fu**, Tang, R., Dou, R. and Wu, J.-Z. (Editors) (2019), 2019 IEEE International Conference on Smart Manufacturing, Industrial & Logistics Engineering, China.

3. Huang, G., **Chien, Chen-Fu** and Dou, R. (Editors) (2019), Proceeding of the 24th International Conference on Industrial Engineering and Engineering Management 2018, Springer, Singapore.

4. Khakifirooz, M., Fathi, M., **Chien, Chen-Fu** and Pardalos, P. (2019), "Management Suggestions for Process Control of Semiconductor Manufacturing: An Operations Research and Data Science Perspective," *Computational Intelligence and Optimization Methods for Control Engineering*, Springer, Cham, 245-274.

5. **Chien, Chen-Fu** (2019), *Industry 3.5*, CommonWealth Magazine, Taipei, Taiwan. (in Chinese, 312 pages) 《工業 3.5：台灣企業邁向智慧製造與數位決策的戰略》

6. **Chien, Chen-Fu** (2019), *Decision-making Tool Book*, Tsinghua University Press, Taipei, Taiwan. (textbook in Chinese, 384 pages) 《紫式決策工具全書》

7. **Chien, Chen-Fu** and Hsu, C.-Y. (2019), *Data Mining & Big Data Analytics (Second edition)*, Future Career Publishing Corporation, Taipei, Taiwan. (textbook in Chinese, 576 pages) 《大數據分析與資料挖礦（第二版）》

8. **Chien, Chen-Fu**, Hsu, C.-Y., Morrison, J. R, and Dou, R. (2016), *Computers & Industrial Engineering*, Special Issue on *Semiconductor Manufacturing Intelligence and Automation*, Pergamon Press, USA.

9. Jamrus, T., **Chien, Chen-Fu**, Gen, M., Sethanan, K. (2015), "Flexible Multistage Forward/Reverse Logistics Network Under Uncertain Demands with Hybrid Genetic Algorithm ," in V. Kachitvichyanukul, K. Sethanan, P. Golinska- Dawson (Eds.), *Toward Sustainable Operations of Supply Chain and Logistics Systems*, Part V, 377-390. (NSC 102-2221-E-007-057-MY3; NSC 103-2622-E-007-002; MOST 103-2218-E-007-023; 102N2075E1; 102A26)

10. **Chien, Chen-Fu** (2014), "Using Big Data Analytics to Enhance Manufacturing Intelligence—the TSMC case," in: T.H. Davenport etc., *Big Data*, Harvard Business Review (Chinese version) , Taipei, Taiwan.

11. **Chien, Chen-Fu** (2014), *Decision Analysis and Management* (2nd edition), Yeh-Yeh Book Gallery, Taipei, Taiwan. (textbook in Chinese, 538 pages; Simple Chinese version published by Tsinghua University Press, Beijing, China in 2019)

12. **Chien, Chen-Fu** and Hsu, C.-Y. (2014), *Data Mining & Big Data Analytics*, Future Career Publishing Corporation, Taipei, Taiwan. (textbook in Chinese, 529 pages; Simple Chinese version published by Tsinghua University Press, Beijing, China in 2016)

13. **Chien, Chen-Fu** and Li, M. (Guest Editors) (2014), *International Journal of Computational Intelligence*

Systems, Special Issue on Artificial Intelligence & Industrial Engineering, Taylor & Francis, UK. (EI)

14. **Chien, Chen-Fu** and Wu, J.-Z. (Eds.) (2014), *Industrial Engineering & Management Cases*, Future Career Publishing Corporation, Taipei, Taiwan. 《產業工程與管理個案》

15. **Chien, Chen-Fu**, Gen, M., Shi, Y., and Hsu, C.-Y. (Guest Editors) (2014), *Journal of Intelligent Manufacturing*, special issue on Manufacturing intelligence and innovation for digital manufacturing and operational excellence, Springer-Verlag Publishing, Germany. (SCI)

16. Chen, F.F., **Chien, Chen-Fu** and Wang, Y.-C. (Guest Editors) (2013), *Flexible Services and Manufacturing Journal*, special issue on Semiconductor Manufacturing, Springer-Verlag Publishing, Germany. (SCI)

17. Seki, H., Nose, T., Lee, Y.H., **Chien, Chen-Fu** and Gen, M. (Guest Editors) (2013), *Computers and Industrial Engineering*, special issue on Recent Advance in Intelligent Manufacturing Systems, Elsevier Science, Netherlands. (SCI)

18. Zhang, W., Lin, L., Gen, M., and **Chien, Chen-Fu** (2012), "Hybrid Sampling Strategy-based Multiobjective Evolutionary Algorithm," in CH Dagli (Eds.), *Procedia Computer Science*, 12, 96-101. (NSC 101-2811-E-007-004; NSC100-2628-E-007-017-MY3; 101N2073E1)

19. **Chien, Chen-Fu**, Hsu, C.-Y. and Lin, S.-C. (2012), "Manufacturing Intelligence to Forecast the Customer Order Behavior for Vendor Managed Inventory," in J. Watada, T. Watanabe, G. PhillipsWren; R.J. Howlett, L.C. Jain(Eds.), *Intelligent Decision Technologies*, 2(16), 51-60. (NSC99-2221-E-007-047-MY3; NSC 100-2410-H-155-048)

20. Hsu, C.-Y., **Chien, Chen-Fu** and Lai, Y.-C. (2012), "Main Branch Decision Tree Algorithm for Yield Enhancement with Class Imbalance," in J. Watada, T. Watanabe, G. PhillipsWren; R.J. Howlett, L.C. Jain (Eds.), *Intelligent Decision Technologies*, 1(15), 235-244. (NSC99-2221-E-007-047-MY3; NSC 100-2410-H-155-048)

21. **Chien, Chen-Fu**, K.H. Kim, B. Liu, and M. Gen (Guest Editors) (2012), *Journal of Intelligent Manufacturing*, special issue on Advanced Decision and Intelligence Technologies for Manufacturing and Logistics, Springer-Verlag Publishing, Germany. (SCI)

22. Morrison, J.R., **Chien, Chen-Fu**, Dauzere-Peres, S., Dawande, M., Ding, H., Pettinato, J.S. and Yi, J.G. (Guest Editors) (2011), *IEEE Transactions on Automation Science and Engineering*, special issue on Equipment and Operations Automation in the Semiconductor Industry, IEEE, USA. (SCI)

23. Mitsuo Gen and **Chien, Chen-Fu** (Guest Editors) (2009), *Computers and Industrial Engineering*, special issue on Intelligent Manufacturing and Logistics, Elsevier Science, Netherlands. (SCI)

24. **Chien, Chen-Fu** and H. Gruenther (Guest Editors) (2008), *OR Spectrum*, special issue on OR in the Electronics Industry, Springer-Verlag Publishing, Germany. (SCI)

25. Zhang, M. T., Fowler, J., Chen, T.W., Shanthikumar, J.G. and **Chien, Chen-Fu** (Guest Editors) (2007), *IEEE Transactions on Automation Science and Engineering,* special issue on e-Manufacturing in the Semiconductor Industry, IEEE, USA. (SCI)

26. **Chien, Chen-Fu** and S. Wu (Guest Editors) (2007), *International Journal of Production Economics*, special issue on Building Core-competence through Operational Excellence, vol. 107, issue 1, Elsevier Science, Netherlands. (SCI)

27. **Chien, Chen-Fu** (2005), *Decision Analysis and Management*, Yeh-Yeh Book Gallery, Taipei, Taiwan. (textbook in Chinese, 630 pages; Simple Chinese version published by Tsinghua University Press, Beijing, China in 2007) 《決策分析與管理：全面決策品質提升之架構與方法》

28. Li, Z., Peterson, R., **Chien, Chen-Fu** and Xing, R. (2005), "Factor Analysis in Data Mining," in: John Wang (Eds.), *Encyclopedia of Data Warehousing and Mining* (2 volumes), Idea Group Reference, New York.

29. **Chien, Chen-Fu**, Y. Shih, C. Lin and J. Chen (2005), *Handbook for Semiconductor Manufacturing Technologies and Management* (Eds.), National Tsing Hua University Press, Hsinchu, Taiwan. (in Chinese, 700 pages) 《半導體製造技術與管理》

30. **Chien, Chen-Fu** and Y. Shi (Guest Editors) (2004), *International Journal of Business*, special issue on *Global Manufacturing Network and Supply Chain Management for the Electronics Industry*, 9(4), Premier Publishing, USA.

31. Chang, P. and **Chien, Chen-Fu** (Guest Editors) (2003), *International Journal of Service Technology and Management*, special issue on *Managing technologies to enhance and enrich services in high-tech industry*, 4(4-6), Inderscience Publishers, UK.

32. Wang, H., **Chien, Chen-Fu** and Kuo, C. (2003), "Analyzing Alternative Strategies of Semiconductor Final Testing," in: Tetsuzo Tanino, Tamaki Tanaka, and Masahiro Insuiguchi (Eds.), *Multi-objective Programming and Goal Programming*, Springer-Verlag, Berlin, Germany, 409-414.

33. Peng, J. and **Chien, Chen-Fu** (2003), "A Study of Congestion Cost and Variance of Locational Price in a Competitive Generation Market," in: Tetsuzo Tanino, Tamaki Tanaka, and Masahiro Insuiguchi (Eds.), *Multi-objective Programming and Goal Programming*, Springer-Verlag, Berlin, Germany, 381-386.

34. **Chien, Chen-Fu** (1996, May), *Modeling Portfolio Selection Problems: A Framework and An Implementation Study*. Ph.D. dissertation, University of Wisconsin-Madison, Wisconsin, U.S.A.

Project Reports and Other Publications

1. Chien, C. (1996, May), "Modeling Portfolio Selection Problems: A Framework and an Implementation Study," Ph.D. dissertation, University of Wisconsin-Madison.

2. Chien, C. (1997), "Research on Theory and Techniques for Portfolio Evaluation and Selection (I): The Construction of an Integration Modeling Framework," NSC Project Report (NSC-86- 2221-E- 007-059-T).

3. Chien, C. (1998), "Research on Theory and Techniques for Portfolio Evaluation and Selection (I): System for Assessing the Quality of Combined Production Processes," NSC Project Report (NSC-87-2213-E-007-047).

4. Chien, C. and H. Wang (1998), "Research on the Theories of Service Industry Performance Evaluation and their Applications: subproject (2) – Research on Service Industry Performance Evaluation: Measurement Theories and Applications," NSC Project Report (NSC-87-2213-E- 007-021).

5. Li, C. and C. Chien (1998), "Research on the Organization of Service Assurance and Management Organization within the Responsibility Center System," Chung-Shan Institute of Science & Technology Research Project Report (CS 87-0210-D-007-016).

6. Liu, C., U. Wen and C. Chien (1998), "Research on Optimizing the Depot Layout of Rapid Transit System," Taipei Rapid Transit Systems Project Report.

7. Chen, S. and C. Chien (1998), "Model Development for Fault Location on Main Feeders of Distribution System," NSC-Taipower Research Project Report (NSC-87-TPC-E-007-009).

8. Chien, C. and H. Wang (1999), "Research on the Theories of service Industry Performance Evaluation and their Applications: subproject (2) – Research on Service Industry Performance Evaluation: Measurement Theories and Applications (2/3)," NSC Project Report (NSC-88-2213- E-007-009).

9. Chien, C. (1999), "Research on Models and Methods for Container Loading," NSC Project Report (NSC-88-2213-E-007-045).

10. Chien, C. and H. Wang (1999), "Research on the Theories of Service Industry Performance Evaluation and their Applications: Subproject (3) – Research on Service Industry Performance Evaluation: Measurement Theories and Applications (3/3)," NSC Project Report (NSC-89-2213- E-007-003).

11. 林則孟，吳宗成，李慶恩，林君維，簡禎富（2000），「製商整合科技人才培育先期規劃」，教育部委託研究計畫報告。

12. 簡禎富（2000），「貨櫃裝櫃支援系統之研究」，國家科學委員會專題研究計畫報告（NSC- 88-2213- E-007-029）。

13. Chien, C. (2000), "Research on Applying Decision Analysis Methodologies in Semiconductor Manufacturing," Macronix (旺宏電子) Project Report.

14. Chien, C. and K. Wang, (2000), "Research on Decision Support system for Telecommunication Network Planning," Chunghwa Telecom (中華電信研究所) Project Report.

15. 簡禎富，張盛鴻，盧裕溢（2000），「頻譜或頻率使用效益評估方法」，中山科學研究院委託研究

計畫報告（XC89X02P）。

16. Chien, C. (2001), "Model and Method for Determining Container Loading Patterns," Engineering Science and Technology Bulletin, 55, 1-3. (NSC-88-2213-E-007-045) (in Chinese) (NSC Project selected by NSC).

17. Chien, C. (2001), "Research on Service Industry Performance Evaluation: Measurement Theories and Applications," Engineering Science and Technology Bulletin, 55, 113-115. (NSC-88-2213- E-007-009) (in Chinese) (NSC Project selected by NSC).

18. Chien, C. (2001), "Research on Applying Decision Analysis Methodologies in Semiconductor Manufacturing (II)," Macronix (旺宏電子) Project Report.

19. Chien, C. (2001), "Research on Wafer Binmap Clustering and Classification," Macronix(旺宏電子) Project Report.

20. D. Hong, S. Chen, A. Fletcher, G. Thomas, C. Harvey, Y. Hong, H. Yang, W. Chang, C. Chien, F. Lu and C. Lin (2001), "A Research of Competition Institution for Generation Market under Liberation of Taiwan Electricity," Taiwan Power (Taipower) Research Project.

21. 簡禎富（2001），「建構半導體製程資料挖礦架構及其實證研究」，國家科學委員會專題研究計畫報告（NSC-89-2213-E-007-118）。

22. Chien, C. (2001), "Studies for Cost Management & Final Test Scheduling in a Semiconductor Testing Facility," Macronix (旺宏電子) International Ltd. Project (Final Testing).

23. Chien, C. (2002), "Constructing A Framework for Wafer Bin Map Clustering and Data Mining," National Science Council (NSC-90-2218-E-007-012).

24. Chien, C. (2002), "Prototype of Final Test Scheduling System in a Semiconductor Testing Facility," Macronix (旺宏電子) International Ltd.

25. Chien, C. (2003), "Research on Prototype for Semiconductor Manufacturing Management Information System and Knowledge Management," Macronix (旺宏電子) International Ltd.

26. Chien, C. (PI), "Constructing A Framework for Semiconductor Manufacturing Data Mining and Operation Efficiency Enhancement," National Science Council, 8/02-7/05 (NSC-91-2218- E-007-004).

27. Chien, C. (PI) and J. Jiang, "Research on Design of Experiment and Statistical Quality Control for Semiconductor Bumping Process," NSC-Unitive Industrial Collaborative Research Project, 12/02-11/03.

28. Chien, C. (PI), "Research on Semiconductor Final Testing Outsourcing Allocation and Material Preparation Decision Support System," Macronix International Ltd, 8/03-7/04.

29. Chien, C. (PI), "Decision Support System for Rehabilitation Scheduling," National Science Council, 8/03-7/05 (NSC-92-2213-E-007-090).

30. Chien, C. (PI), Yongjiang Shi (PI), Mike Gregory and P Chang, "Evolutionary Development of Taiwan Electronics Industry," Royal Society and National Science Council, 5/03-4/05 (NSC-92- 2911-I-007-009; NSC-93-2911-I-007-002).

31. Chien, C. (PI), "Research on Single Wafer Transfer and Process Manufacturing for Semiconductor Manufacturing," Taiwan Semiconductor Manufacturing Company (TSMC-NTHU Faculty Research Grant Award), 1/04-12/04.

32. Chien, C. (PI), "Research and Development of the Optimization Algorithm and Program Embedded in GDS," Taiwan Semiconductor Manufacturing Company, 10/04-7/05.

33. Chien, C. (PI), "Research on Manufacturing Data Mining for WIP Forecast and Process Segment for Lean Production," Macronix International Ltd, 3/05-10/05.

34. Chien, C. (PI), "Using Data Mining to Improve the Effectiveness of Personnel Selection," Taiwan Semiconductor Manufacturing Company, 1/05-3/05.

35. Chien, C. (PI), "Using Data Mining for NTO Forecast," Taiwan Semiconductor Manufacturing Company, 3/06-3/07.

36. Chien, C. (PI), "Methodology and Technology Development for Microarray Data Mining and its Statistical Decision of Medical Diagnosis," National Science Council, 8/05-7/07 (NSC94-2213- E-007-049; NSC95-2213-E-007-020).

37. Chien, C. (PI), "Construct a Framework Integrating Data Mining/APC/FDC for Enhancing TFT-LCD Yield," National Science Council, 8/05-7/08 (NSC94-2213-E-007-050; NSC95-2213- E-007-021; NSC96-2213-E-007-002).

38. 簡禎富（2006-2007），「NTO 資料挖礦方法之研究」，台積電產學合作計畫報告。

39. 簡禎富（2006-2007），「NTO 資料處理與預測方法之研究」，台積電產學合作計畫報告。

40. 簡禎富（2006-2007），「生物晶片資料挖礦方法及技術發展」，國科會專題計畫研究報告（2/2）(95-2221-E-007-126)。

41. 簡禎富（2006-2007），「整合資料挖礦、先進製程管制、事故診斷與分類以提昇 TFT-LCD 良率之前瞻研究」，國科會專題計畫研究報告(2/3) (95-2221-E-007-125)。

42. 簡禎富（2007），「工廠相對效益評估與產能建置策略之研究」，台積電產學合作計畫報告。

43. 簡禎富（2007），「半導體產業經濟分析與技術評估之研究」，台積電產學合作計畫報告。

44. 簡禎富（2007-2008），「創意的典範移轉：智慧財產的設計代工模式」，教育部專題計畫研究報告。

45. 簡禎富（2007-2008），「工廠相對效益評估與產能建置策略之研究」，台積電產學合作計畫報告。

46. 簡禎富（2007-2008），「整合資料挖礦、先進製程管制、事故診斷與分類以提昇 TFT-LCD 良率之前瞻研究」，國科會專題計畫研究報告(3/3) (96-2221-E-007-048)。

47. 簡禎富（2007-2009），「營運決策與製造策略之整合研究」，國立清華大學增能計畫報告。

48. 簡禎富、吳文桂、陳勁甫（2009），「新竹科學工業園區試辦研究園區規劃計畫」，國科會委託研究計畫報告。

49. 簡禎富（2007-2010），「建構高科技產業供應鏈之策略性營運決策分析模式及其決策支援平台」，國科會專題計畫研究報告（NSC 96-2628-E-007-035-MY3）。

50. 簡禎富（2008-2009），「晶圓的專業健檢—欣銓的晶圓測試服務」，教育部專題計畫研究報告。

51. 簡禎富（2008-2011），「建構製造策略決策分析架構、產業動態模式及其效益評估之研究」，國科會專題計畫研究報告（NSC 97-2221-E-007-111-MY3）。

52. 簡禎富（2009-2010），「建構與推廣中小型 IC 設計產業之成本整合營運決策分析模式及其決策支援系統」，經濟部專題計畫研究報告。

53. 簡禎富（2010），「管理機制與績效指標探討類科技發展計畫規劃及審議研究」，國科會專題計畫研究報告(99-3011-P-007-001)。

54. 簡禎富（2010），「99 年度高科技產業決策分析與管理人培計畫」，科學園區管理局委託研究計畫報告。

55. 簡禎富（2010-2011），「茂迪太陽能電池多市場產能分配策略及營運決策支援系統」，茂迪產學合作計畫報告。

56. 簡禎富（2010-2011），「最佳化資訊價值之生產管理決策模式」，台積電產學合作計畫報告。

57. 簡禎富（2010-2011），「深圳通訊產業供應鏈整體發展策略」，聯發科產學合作計畫報告。

58. 簡禎富（2010)，「99 年度產業競爭力與永續發展論壇」，科學園區管理局委託研究計畫報告。

59. 簡禎富（2010-2013），「建構矽晶太陽能電池之整合製造策略與產品組合決策模式」，國科會專題計畫研究報告(99-2221-E-007-047-MY3)。

60. 簡禎富（2010-2011），「科學工業園區固本精進研究計畫之規劃推動研究計畫(第二期)」，國科會專題計畫研究報告(99-2217-E-007-003)。

61. 簡禎富（2010-2011），「營運決策分析模式及決策支援系統」，科學園區管理局委託研究計畫報告。

62. 簡禎富（2010-2011），「建構房屋評選與購買之決策模式及其決策支援系」，國科會、長冠不動產產學合作計畫報告(99-2622-E-007-015-CC3)。

63. 簡禎富（2010-2011），「新竹科學園區三十週年慶暨科技管理學會二十週年慶專題演講」，科學園區管理局委託研究計畫報告。

64. 簡禎富（2010-2011），「全球虛擬製造網路與破壞式創新模式之製造策略」，國科會專題計畫研究報告(99-2911-I-007-033)。

65. 簡禎富（2010-2011），「晶元光電產能規劃與生產調度診斷計畫書」，晶元光電產學合作計畫報告。

66. 簡禎富（2010-2011），「最佳化之產品抽樣決策模式分析」，台積電產學合作計畫報告。

67. 簡禎富（2011），「建構產業架構演進與技術經濟分析技術以協助台資高科技公司之大陸製造策略」，研發處專題計畫研究報告。

68. 簡禎富（2011-2012），「提升台灣半導體製造管理國際影響力」，國科會專題計畫研究報告。

69. 簡禎富（2011-2012），「建構矽晶太陽能電池之整合製造策略與產品組合決策模式(2)」，國科會專題計畫研究報告。

70. 簡禎富（2011-2012），「未來產業工程之整合分析方法論及其數位決策系統(1)」，國科會專題計畫研究報告(100-2628-E-007-017-MY3)。

71. 簡禎富（2011），「製造策略與先進製造系統之研究與發展(1)」，先進製造與服務管理研究中心產學合作計畫報告。

Case Study

1. **簡禎富**、史欽泰、陳亭蓁（2008），創意的典範移轉－智慧財產的設計服務模式，光華管理個案收錄庫 1-08045-11（教育部補助大專校院推動我國產業個案撰寫計畫報告）。

2. **簡禎富**、史欽泰、陳亭蓁（2009），晶圓的專業健檢－欣銓晶圓測試服務，光華管理個案收錄庫 1-10003-11（教育部補助大專校院推動我國產業個案撰寫計畫報告）。

3. **簡禎富**、蒯彥良、吳吉政（2009），瑞晶電子—虛擬整合的 DRAM 策略聯盟，光華管理個案收錄庫 1-10003-11。

4. **簡禎富**、林雁雯（2009），世界先進—盧志遠的抉擇和 DRAM 廠轉型，光華管理個案收錄庫 1-09042-11。

5. **簡禎富**、胡志翰（2011），旺宏電子公司－製造策略決策，光華管理個案收錄庫（1-111011-11）。

6. 溫于平、**簡禎富**、周哲維（2014），線性規劃與產能配置策略—以友達光電為例，產業工程與管理個案。

7. 吳吉政、**簡禎富**（2014），半導體封裝外包決策分析—以旺宏電子為例，產業工程與管理個案。

8. **簡禎富**、史欽泰、陳亭蓁（2015），Dedicated Wafer Sorting: Ardentec Wafer Testing Service, 光華管理個案收錄庫 1-10041-21。

9. Shih, W., Shih, C., **Chien, Chen-Fu**, and Chang, Y. (2008), System on a Chip 2008: Global Unichip Corp., Harvard Business School Case Study (9-608-159).

10. Shih, W., Shih, C., **Chien, Chen-Fu**, Yu, H., and Chiang, Y. (2008), Tong Lung Metal Industry Co., Ltd., Harvard Business School Case Study (9-608-158).

11. Shih, W., Shih, C., and **Chien, Chen-Fu** (2008), Horizontal Specialization and Modularity in the Semiconductor Industry, Harvard Business School Case Study (9-609-001).

12. Shih, W., **Chien, Chen-Fu**, Shih, C., and Chen, T. (2008), System on a Chip 2008: Ardentec Corporation, Harvard Business School Case Study (9-609-026).

13. Shih, W., **Chien, Chen-Fu**, Shih, C., and Chang, J. (2009), The TSMC Way: Meeting Customer Needs at Taiwan Semiconductor Manufacturing Co., Harvard Business School Case Study (9-610-003).

14. Shih, W., **Chien, Chen-Fu**, Kuppuswamy, V., and Koai, Y. (2009), Powerchip Semiconductor Corporation, Harvard Business School Case Study (9-609-063).

15. Shih, W., **Chien, Chen-Fu**, and Wang, J. (2010), Shanzhai! MediaTek and the "White Box" Handset Market, Harvard Business School Case Study (9-610-081).

16. Shih, W. and **Chien, Chen-Fu** (2012). Global Unichip Corporation (A). Harvard Business School Case Study (613-048).

17. Shih, W. and **Chien, Chen-Fu** (2012). Global Unichip Corporation (B). Harvard Business School Supplement 613-049.

18. Shih, W., and **Chien, Chen-Fu**, and Wang, H.K. (2015). Epistar and the Global LED Market. Harvard Business School Case Study (615-053).

Patents and Intellectual Properties

1. 簡禎富、林國義（2019），媒合產品體驗活動與參與者之優化方法及其系統，中華民國發明專利第 I676908 號

2. **簡禎富**、胡志翰（2017），因子分析系統及其分析方法，中華民國發明專利第 I571808 號。

3. **簡禎富**、吳吉政（2016），黃光製程產能規劃系統及其規劃方法，中華民國發明專利第 I529633 號。

4. 張國浩、**簡禎富**、陳暎仁（2016），整合影像分析與資料挖礦之自動光學檢測缺陷影像分類方法，中華民國發明專利第 I525317 號。

5. **簡禎富**、許嘉裕、陳暎仁（2016），半導體批次生產派工方法，中華民國發明專利第 I523129 號。

6. **簡禎富**、莊世鐘（2016），動態實驗設計方法，中華民國發明專利第 I519986 號。

7. **簡禎富**、鄭家年（2015），分級產品資源規劃系統及其方法，中華民國發明專利第 I506570 號。

8. **簡禎富**、吳吉政、鄭家年（2015），半導體產品多目標產能規劃系統及其方法，中華民國發明專利第 I502523 號。

9. **簡禎富**、許嘉裕、陳薇如（2015），晶圓圖之分析系統及其分析方法，中華民國發明專利第 I483216 號。

10. 林志偉、周宏昕、汪業傑、**簡禎富**、王人星、蕭之維（2008），晶片佈局之最佳化方法，中華民國發明專利第 I302334 號。

11. 林順利、**簡禎富**、鄧景豐（2006），用於半導體罩幕孔洞之邊緣補值的樣型補值法，中華民國發明專利第 I251867 號。

12. **簡禎富**、張國浩、陳志萍、林順利（2003），覆蓋誤差模式及其取樣策略程序以及使用該模式與策略程序之裝置，中華民國發明專利第 190932 號。

13. 郭仲仁、薛國強、**簡禎富**、吳吉政（2003），維修決策方法與使用其之半導體元件測試系統，中華民國發明專利第 182169 號。

14. 徐紹鐘、陳志萍、**簡禎富**（2000），提高晶圓產出之方法，中華民國發明專利第 128800 號。

15. **Chien, Chen-Fu** and Lin, K.-Y. (2019), *Optimization method and system of matching product experiencing activity with participants*, USA Invention Patent (US20190197569A1).

16. **Chien, Chen-Fu,** Wu, J.-Z. and Zheng, J.-N. (2017), *Multi-objective semiconductor product capacity planning system and method thereof*, USA Invention Patent (US9563857B2).

17. **Chien, Chen-Fu,** Hsu, C.-Y. and Chen, Y.-J. (2016), *Method of dispatching semiconductor batch production*, USA Invention Patent (US9513626B2).

18. Chang, K.-H. , **Chien, Chen-Fu** and Chen, Y.-J. (2015), *Method of defect image classification through*

integrating image analysis and data mining, USA Invention Patent (US9082009B2).

19. **Chien, Chen-Fu** and Wu, J.-Z. (2014), *Photolithography capacity planning system and non-transitory computer readable media thereof*, USA Invention Patent (US8863047B1).

20. **Chien, Chen-Fu** and Hsu, C.-Y. (2013), *Method for enhancing wafer exposure effectiveness and efficiency*, USA Invention Patent (US8407631B2).

21. **Chien, Chen-Fu** and Hu, C.-H. (2012), *Factor analysis system and analysis method thereof,* USA Invention Patent (US8200528B2).

22. Lin, S.-L., **Chien, Chen-Fu**, Hsu, C.-Y. and Wu, I.-P. (2009), *Method for analyzing overlay errors*, USA Invention Patent (US7586609B2).

23. Lin, C.-W., Chou, H.-H., Wang, Y.-J., **Chien, Chen-Fu**, Wang, J.-H. and Hsiao, C.-W. (2008), *Methods for optimizing die placement*, USA Invention Patent (US7353077B2).

24. **Chien, Chen-Fu**, Chang, K.-H., Chen, C.-P. and Lin, S.-L. (2005), *Overlay error model, sampling strategy and associated equipment for implementation*, USA Invention Patent (US6975974B2).

25. **Chien, Chen-Fu**, Hsu, S.-C. and Chen, C.-P. (2002), *Procedure of alignment for optimal wafer exposure pattern*, USA Invention Patent (US6368761B1).

Technique Transfer

1. 簡禎富（2003），「實驗計畫與資料挖礦以改善半導體凸塊製程良率之研究」，授權單位：清華大學；被授權單位：悠立半導體股份有限公司（Unitive Semiconductor Co., Ltd.）。(NSC 91-2622-E-007-035-CC3)

2. 簡禎富（2004），「生物晶片資料挖礦方法研究與技術發展」，授權單位：清華大學；被授權單位：洹藝科技股份有限公司。

3. 簡禎富、吳吉政、許嘉裕、陳暎仁（2010），「產品生命週期、多世代技術擴散模式和資料挖礦的需求估計模式產生技術」，授權單位：清華大學；被授權單位：旺宏電子股份有限公司。

4. 簡禎富、許嘉裕（2010），「產品生命週期、多世代技術擴散模式和資料挖礦的需求估計模式產生技術」，授權單位：清華大學；被授權單位：采鈺科技股份有限公司。

5. 簡禎富、吳吉政、鄭家年（2010），「太陽能電池多市場產能分配策略及營運決策」，授權單位：清華大學；被授權單位：茂迪股份有限公司。（NSC99-2221-E-007 -047 -MY3）

6. 簡禎富（2011），「最佳化多目標產能分配決策之求解技術」、「考量光罩特性之黃光產能規劃技術」及「瓶頸資源邊際貢獻與多因子龍捲風分析技術」，授權單位：清華大學；被授權單位：世界先進股份有限公司。

7. 簡禎富（2011），「黃光機台最適整合批量與光罩派工決策之解決方案」，授權單位：清華大學；被授權單位：台灣積體電路製造股份有限公司。

8. 簡禎富（2011），「最佳化 KLA 選取決策模式」，授權單位：清華大學；被授權單位：台灣積體電路製造股份有限公司。

9. 簡禎富（2011），「晶元光電產能規劃與生產調度診斷契約書」，授權單位：清華大學；被授權單位：晶元光電股份有限公司。

10. 簡禎富（2011），「建構房屋評選與購買之決策模式及其決策支援系統」，授權單位：清華大學；被授權單位：長冠不動產仲介經紀有限公司。

11. 簡禎富（2012），「使用者經驗分析計畫-使用者經驗萃取消費者決策以協助 3C 產品設計規劃之研究」，授權單位：清華大學；被授權單位：廣達電腦股份有限公司。

12. 簡禎富（2012），「最適安全存貨與可允諾之決策分析模式與求解方案」，授權單位：清華大學；被授權單位：旺宏電子股份有限公司。

13. **簡禎富**（2012），「晶圓圖相似度智能比對技術」，授權單位：清華大學；被授權單位：創意電子。

14. **簡禎富**（2012），「應用基因演算法改善派工與排成問題」，授權單位：清華大學；被授權單位：台灣積體電路製造股份有限公司。

15. **簡禎富**（2012），「FDC 資料挖礦預測模式與監控設備效能之研究」，授權單位：清華大學；被授權單位：台灣積體電路製造股份有限公司。

16. **簡禎富**（2013），「半導體先進製程良率診斷與故障排除技術」，授權單位：清華大學；被授權單位：台灣積體電路製造股份有限公司。

17. **簡禎富**（2013），「晶元光電直接人力規劃之決策模型之研究」，授權單位：清華大學；被授權單位：晶元光電股份有限公司。

18. **簡禎富**（2013），「生物晶片生產排程系統」，授權單位：清華大學；被授權單位：普生股份有限公司。

19. **簡禎富**（2013），「資料挖礦分析與良率提升之技術」，授權單位：清華大學；被授權單位：創意電子股份有限公司。

20. **簡禎富**（2013），「提升自動光學檢測設備使用率之研究」，授權單位：清華大學；被授權單位：采鈺科技股份有限公司。

21. **簡禎富**（2013），「WAT 自我相關參數預測模式」，授權單位：清華大學；被授權單位：台灣積體電路製造股份有限公司。

22. **簡禎富**（2014），「高科技產業化學品多站點生產規劃與排程及其決策支援系統」，授權單位：清華大學；被授權單位：關東鑫林科技股份有限公司。

23. **簡禎富**（2014），「執行使用者經驗萃取以協助 3C 產品設計規劃之研究計畫(III)」，授權單位：清華大學；被授權單位：廣達電腦股份有限公司。

24. **簡禎富**（2015），「Big Data Model Building For Yield Improvement」，授權單位：清華大學；被授權單位：台灣積體電路製造股份有限公司。

25. **簡禎富**（2015），「IC 設計 EDA 派工排程技術」，授權單位：清華大學；被授權單位：創意電子股份有限公司。

26. **簡禎富**（2015），「IC 設計 EDA 工作量預測技術」，授權單位：清華大學；被授權單位：創意電子股份有限公司。

27. **簡禎富**（2015），「大數據分析與最佳化技術」，授權單位：清華大學；被授權單位：紫式大數據決策股份有限公司。

28. **簡禎富**（2016），「Innovate collinear multi-variable modeling to support tsmc product grade enhancement for advanced technology nodes」，授權單位：清華大學；被授權單位：台灣積體電路製造股份有限公司。

29. **簡禎富**（2016），「精密成型製程大數據分析 I」，授權單位：清華大學；被授權單位：旺矽科技股份有限公司。

30. **簡禎富**（2016），「虛擬量測與大數據分析提升良率之技術研發」，授權單位：清華大學；被授權單位：友達光電股份有限公司。

31. **簡禎富**（2017），「自動化光學檢測瑕疵辨識與分類之資料挖礦技術研發」，授權單位：清華大學；被授權單位：友達光電股份有限公司。

32. **簡禎富**（2017），「精密成型製程大數據分析 II」，授權單位：清華大學；被授權單位：旺矽科技股份有限公司。

33. **簡禎富**（2017），「半導體零組件供應鏈需求預測、庫存管理決策模型及其決策支援系統雛形」，授權單位：清華大學；被授權單位：大聯大投資控股股份有限公司。

34. **簡禎富**（2017），「CVD 機台設備參數大數據分析與設備健康狀況監控模型之研發」，授權單位：清華大學；被授權單位：友達光電股份有限公司。

35. **簡禎富**（2018），「先進 IC 封裝製程機台差異監控模組」，授權單位：清華大學；被授權單位：日月光半導體製造股份有限公司。

36. **簡禎富**（2018），「大數據與多變量分析以提昇 DRAM 製程良率」，授權單位：清華大學；被授權單位：紫式大數據決策股份有限公司。

37. **簡禎富**（2018），「精密成型製程大數據分析合作專案(III):AOI 影像分類」，授權單位：清華大學；被授權單位：旺矽科技股份有限公司。

38. **簡禎富**（2018），「先進 IC 封裝製程第二焊點參數優化模型」，授權單位：清華大學；被授權單位：日月光半導體製造股份有限公司中壢分公司。

39. **簡禎富**（2018），「先進 IC 封裝製程機台差異監控模組」，授權單位：清華大學；被授權單位：日月光半導體製造股份有限公司中壢分公司。

40. **簡禎富**（2018），「IC 設計專案組合選擇最佳化技術」，授權單位：清華大學；被授權單位：創意電子股份有限公司。

41. **簡禎富**（2018），「應用機器學習技術標準化設計服務專案人力評估」，授權單位：清華大學；被授權單位：創意電子股份有限公司。

42. **簡禎富**（2019），「銑削工具機智慧參數優化研究」，授權單位：清華大學；被授權單位：漢翔航空工業股份有限公司。

43. **簡禎富**（2019），「煉鋼作業規畫之流程診斷與最佳化可行性評估」，授權單位：清華大學；被授權單位：中國鋼鐵股份有限公司。

44. **簡禎富**（2019），「黃光與蝕刻製程生產效能優化與降低在製品安全庫存」，授權單位：清華大學；被授權單位：和鑫光電股份有限公司。

45. **簡禎富**（2019），「先進 IC 封裝製程第二焊點參數優化模型產學合作計畫-第三期」，授權單位：清華大學；被授權單位：日月光半導體製造股份有限公司中壢分公司。

46. **簡禎富**（2020），「發展智慧製造關鍵能力評量之問卷設計與分析」，授權單位：清華大學；被授權單位：勤業眾信聯合會計師事務所。

47. **簡禎富**（2020），「台灣聰明生產之智能解決方案(AI Solutions for Taiwan Smart Production)應用於航太產業」，授權單位：清華大學；被授權單位：漢翔航空工業股份有限公司。

48. **簡禎富**（2020），「VMI-HUB 網站拉貨存貨明細自動擷取系統」，授權單位：清華大學；被授權單位：臻鼎科技股份有限公司。

49. **簡禎富**（2021），「智能 MSAP 先進規劃與排程系統雛形」，授權單位：清華大學；被授權單位：臻鼎科技股份有限公司。

50. **簡禎富**（2021），「臻鼎智慧工廠先期規劃與參考架構」，授權單位：清華大學；被授權單位：臻鼎科技股份有限公司。

51. **簡禎富**（2021），「工程資料分析以優化製程參數及線寬 Cpk 改善」，授權單位：清華大學；被授權單位：臻鼎科技股份有限公司。

52. **簡禎富**（2021），「台灣聰明生產之智能解決方案(AI Solutions for Taiwan Smart Production)應用於航太產業」，授權單位：清華大學；被授權單位：漢翔航空工業股份有限公司。

53. **簡禎富**（2022），「工程資料分析以建構防焊開口尺寸改善模組」，授權單位：清華大學；被授權單位：漢翔航空工業股份有限公司。

54. **簡禎富**（2022），「SMT 製程模組專線共線生產決策評估模型」，授權單位：清華大學；被授權單位：漢翔航空工業股份有限公司。