張斐章 特聘教授

國立台灣大學生物環境系統工程學系

台北市10617大安區羅斯福路四段1號

Tel: +886-2-23639461 Fax: +886-2-23635854 E-mail: changfj@ntu.edu.tw

期刊論文：200餘篇論文刊登於國際及國內著名期刊，含100餘篇SCI傑出(Q1)期刊.

Journal	Ranking		Impact Factor	# of publications
Journal of Hydrology	6/132	5%	4.938	37
Science of the Total Environment	27/251	11%	5.727	10
Hydrology and Earth System Sciences	3/91	3%	5.615	7
Hydrological Processes	16/91	18%	3.465	22
IEEE Transactions on Neural Networks and Learning Systems	1/105	1%	10.445	1
Applied Energy	5/138	4%	8.558	2
Journal of Cleaner Production	18/251	7%	7.015	2
Journal of Hazardous Materials	12/251	5%	7.336	2
Energy	3/60	5%	5.747	1
Water Resources Research	8/91	9%	4.967	2

Journal category	# of publications
Q1	101
Q2	18
Q3	4

- Journal of Citation Reports- 2018

國際期刊論文

1. Chang, L. C., Chang, F. J., Yang, S. N., Tsai, F. H., Chang, T. H., & Herricks, E. E. (2020). Self-organizing maps of typhoon tracks allow for flood forecasts up to two days in advance. *Nature Communications*, *11*(1), 1-13.
2. Chang, F. J., Chang, L. C., Kang, C. C., Wang, Y. S., & Huang, A. (2020). Explore spatio-temporal PM2. 5 features in northern Taiwan using machine learning techniques. *Science of The Total Environment*, 139656.
3. Zhou, Y., Chang, F. J., Chen, H., & Li, H. (2020). Exploring copula-based Bayesian Model Averaging with multiple ANNs for PM2. 5 ensemble forecasts. *Journal of Cleaner Production*, 121528.
4. Kow, P. Y., Wang, Y. S., Zhou, Y., Kao, I. F., Issermann, M., Chang, L. C., & Chang, F. J. (2020). Seamless integration of convolutional and back-propagation neural networks for regional multi-step-ahead PM2. 5 forecasting. *Journal of Cleaner Production*, 261 ; 121285.
5. Hu, J. H., Tsai, W. P., Cheng, S. T., & Chang, F. J. (2020). Explore the relationship between fish community and environmental factors by machine learning techniques. *Environmental Research*, *184*, 109262.
6. Kao, I. F., Zhou, Y., Chang, L. C., & **Chang, F.J.*** (2020). Exploring a Long Short-Term Memory based Encoder-Decoder Framework for Multi-Step-Ahead Flood Forecasting. *Journal of Hydrology*, 124631.
7. Zhou, Y., Guo, S., Xu, C. Y., **Chang, F.J.***, Chen, H., Liu, P., & Ming, B. (2020). Stimulate hydropower output of mega cascade reservoirs using an improved Kidney Algorithm. *Journal of Cleaner Production*, *244*, 118613.
8. Issermann, M., & **Chang, F.J.*** (2020). Uncertainty Analysis of Spatiotemporal Models with Point Estimate Methods (PEMs)—The Case of the ANUGA Hydrodynamic Model. *Water*, *12*(1), 229.
9. Zhou, Y., Chang, L. C., & **Chang, F.J.*** (2020). Explore a Multivariate Bayesian Uncertainty Processor driven by artificial neural networks for probabilistic PM2. 5 forecasting. *Science of The Total Environment*, *711*, 134792.
10. Château, P. A., Wunderlich, R. F., Wang, T. W., Lai, H. T., Chen, C. C., & **Chang, F.J.*** (2019). Mathematical modeling suggests high potential for the deployment of floating photovoltaic on fish ponds. Science of the total environment, 687, 654-666.
11. Bai, T., Wei, J., **Chang, F.J.***, Yang, W., & Huang, Q. (2019). Optimize multi-objective transformation rules of water-sediment regulation for cascade reservoirs in the Upper Yellow River of China. Journal of Hydrology, 577, 123987.
12. Chen, G., Zhao, X., Zhou, Y., Guo, S., Xu, C. Y., & Chang, F. J. (2019).

Emergency Disposal Solution for Control of a Giant Landslide and Dammed Lake in Yangtze River, China. Water, 11(9), 1939.

13. Yang, S. N., Chang, L. C., & **Chang, F.J.*** (2019). AI-based Design of Urban Stormwater Detention Facilities Accounting for Carryover Storage. Journal of Hydrology.
14. Zhou, Y., Guo, S., & **Chang, F.J.***. (2019). Explore an evolutionary recurrent ANFIS for modelling multi-step-ahead flood forecasts. Journal of hydrology, 570, 343-355.
15. Zhou, Y., Chang, L. C., Uen, T. S., Guo, S., Xu, C. Y., & **Chang, F.J.*** (2019). Prospect for small-hydropower installation settled upon optimal water allocation: An action to stimulate synergies of water-food-energy nexus. Applied Energy, 238, 668-682.
16. Bai, T., Tsai, W. P., Chiang, Y. M., Chang, F. J., Chang, W. Y., Chang, L. C., & Chang, K. C. (2019). Modeling and Investigating the Mechanisms of Groundwater Level Variation in the Jhuoshui River Basin of Central Taiwan. Water, 11(8), 1554.
17. Chang, L. C., Chang, F. J., Yang, S. N., Kao, I., Ku, Y. Y., Kuo, C. L., & Amin, I. (2019). Building an Intelligent Hydroinformatics Integration Platform for Regional Flood Inundation Warning Systems. *Water* 2019, *11*(1), 9; https://doi.org/10.3390/w11010009
18. Zhou, Y., **Chang, F.J.***, Chang, L. C., Kao, I. F., & Wang, Y. S. (2019). Explore a deep learning multi-output neural network for regional multi-step-ahead air quality forecasts. Journal of Cleaner Production, *209*, 134-145.
19. Zhou, Y., **Chang, F.J.***, Chang, L. C., Kao, I. F., Wang, Y. S., & Kang, C. C. (2019). Multi-output support vector machine for regional multi-step-ahead PM2.5 forecasting. Science of The Total Environment, 651, 230-240.
20. Tsai, W. P., Cheng, C. L., Uen, T. S., Zhou, Y., & **Chang, F. J.*** (2019). Drought mitigation under urbanization through an intelligent water allocation system. *Agricultural water management*, *213*, 87-96.
21. Cheng, Su-Ting; Tsai, Wen-Ping; Yu, Tzu-Chun; Herricks, Edwin E.; **Chang, F.J.***, 2018, Signals of stream fish homogenization revealed by AI-based clusters. Scientific Reports, 8, Article number: 15960.
22. Shen, C., Laloy, E., Elshorbagy, A., Albert, A., Bales, J., Chang, F. J., ... & Fang, K. (2018). HESS Opinions: Incubating deep-learning-powered hydrologic science advances as a community. Hydrology and Earth System Sciences, 22(11), 5639-5656.
23. Chang, L. C., Amin, M., Yang, S. N., & **Chang, F.J. *** (2018). Building

ANN-Based Regional Multi-Step-Ahead Flood Inundation Forecast Models. Water, 10(9), 1283.

24. Xiong, F., Guo, S., Chen. L., **Chang, F.J.**, Zhong, Y., Liu. P., 2018, "Identification of flood seasonality using an entropy-based method". *Stochastic Environmental Research and Risk Assessment*,
25. Zhou, Y., Guo, S., **Chang, F. J.***, Xu, C. Y., 2018, "Boosting hydropower output of mega cascade reservoirs using an evolutionary algorithm with successive approximation". *Applied Energy*, 228, 1726-1739.
26. Uen, T.S., **Chang, F.J.***, Zhou, Y., Tsai, W.P., 2018, "Exploring synergistic benefits of Water-Food-Energy Nexus through multi-objective reservoir optimization schemes". *Science of The Total Environment.* 633, 341-351.
27. Zhou, Y., Guo, S., **Chang, F.J.***, Liu, P., & Chen, A. B., 2018, "Methodology that improves water utilization and hydropower generation without increasing flood risk in mega cascade reservoirs". *Energy*. 143, 785-796
28. Shen, C., Laloy, E., Elshorbagy, A., Albert, A., Bales, J., **Chang, F. J.**, ... & Fang, K. (2018). HESS Opinions: Incubating deep-learning-powered hydrologic science advances as a community. *Hydrology and Earth System Sciences*, *22*(11).
29. Chen, I. T., Chang, L. C., **Chang, F. J.**, 2018, "Exploring the Spatio-Temporal Interrelation between Groundwater and Surface Water by Using the Self-Organizing Maps". *Journal of Hydrology.* 556, 131-142
30. Zhong, Y., Guo, S., Ba, H., Xiong, F., **Chang, F. J**., & Lin, K., 2018, Evaluation of the BMA probabilistic inflow forecasts using TIGGE numeric precipitation predictions based on artificial neural network. Hydrology Research, nh2018177.
31. **Chang, F.J.*** (2018). Optimizing Water Resource Allocation for Food and Energy Linkages under Urbanization. Impact, 2018(6), 20-22.
32. Zhou,Y., Guo, S. Hong, X. **Chang, F.J.***, 2017, "Systematic impact assessment on inter-basin water transfer projects of the Hanjiang River Basin in China", *Journal of Hydrology*, 553, 584-595
33. Yin, J., Guo, S., Liu, Z., Chen, K., Chang, F. J., & Xiong, F., 2017, Bivariate Seasonal Design Flood Estimation Based on Copulas. Journal of Hydrologic Engineering, 22(12), 05017028.
34. **Chang, F.J.***, Huang, C.W., Cheng, S.T., Chang, L.C., 2017, "Conservation of groundwater from over-exploitation—Scientific analyses for groundwater resources management", *Science of the Total Environment*, 598,

828-838

35. Bai, T., Kan, Y.B., Chang, J.X., Huang, Q., **Chang, F.J.***, 2017, "Fusing feasible search space into PSO for multi-objective cascade reservoir optimization", *Applied Soft Computing*, 51, 328-340
36. Tsai, W.P., Huang, S.P., Cheng, S.T., Shao, K.T., **Chang, F.J.***, 2016, "A data-mining framework for exploring the multi-relation between fish species and water quality through self-organizing map", *Science of the Total Environment*, 579, 474-483
37. **Chang, F.J.***, Chang, L.C., Huang, C.W., Kao, I.F., 2016, "Prediction of monthly regional groundwater levels through hybrid soft-computing techniques", *Journal of Hydrology*, 541, 965-976.
38. Cheng, S.T., Herricks, E., Tsai, W.P., **Chang, F.J.***, 2016, "Assessing the natural and anthropogenic influences on basin-wide fish species richness", *Science of the Total Environment*, 572, 825-836
39. Tsai, W.P., Chiang, Y.M., Huang, J.L., **Chang, F.J.***, 2016, "Exploring the Mechanism of Surface and Ground Water through Data-Driven Techniques with Sensitivity Analysis for Water Resources Management", *Water Resources Management*, 30, 4789-4806.
40. **Chang, F.J.***, Chen, P.A., Chang, L.C., Tsai, Y.H., 2016, "Estimating spatio-temporal dynamics of stream total phosphate concentration by soft computing techniques", *Science of the Total Environment*, 562, 228-236.
41. **Chang, F.J.***, Tsai, M.J., 2016, "A nonlinear spatio-temporal lumping of radar rainfall for modelling multi-step-ahead inflow forecasts by data-driven techniques", *Journal of Hydrology*, 535, 256-269
42. **Chang, F.J.***, Wang, Y.C., Tsai, W.P., 2016, "Modelling Intelligent Water Resources Allocation for Multi-users", *Water Resources Management,* 30(4), 1395-1413.
43. Tsai, W.B., **Chang, F.J.***, Herricks, E.E., 2015, "Exploring the ecological response of fish to flow regime by soft computing techniques", *Ecological Engineering*, 87, 9-19.
44. Mount, N.J.*, Maier, H.R., Toth, E., Elshorbagy, A., Solomatine, D., **Chang, F.J.**, Abrahart, R.J., 2016, "Data-driven modelling approaches for social-hydrology: Opportunities and challenges within the Panta Rhei Science Plan", *Hydrological Sciences Journal*, 61(7), 1192-1208.
45. Shih, Y.T, Lee, T.Y., Huang, J.C.*, Kao, S.J., **Chang, F.J.,** 2016, "Apportioning riverine DIN load to export coefficients of land uses in an urbanized watershed", *Science of the Total Environment*, 560-561, 1-11.
46. Tsai, W.B., **Chang, F.J.***, Chang, L.C., Herricks, E.E., 2015, "AI techniques

for optimizing multi-objective reservoir operation upon human and riverine ecosystem demands", *Journal of Hydrology*, 530, 634-644.

47. **Chang, F.J.***, Chiang, Y.M., Ho, Y.H., 2015, "Multi-step-ahead flood forecasts by neuro-fuzzy networks with effective rainfall-runoff patterns", *Journal of Flood Risk Management, 8(3): 224-236,* DOI: 10.1111/jfr3.12089.
48. Bai, T., Chang, J.X., **Chang, F.J.***, Huang, Q., Wang, Y.M., Chen, G.S., 2015, "Synergistic gains from the multi-objective optimal operation of cascade reservoirs in the Upper Yellow River basin", *Journal of Hydrology,* 523: 758–767.
49. **Chang, F.J.*,** Tsai, Y.H., Chen, P.A., Coynel, A., Vachaud, G., 2015, "Modeling water quality in an urban river using hydrological factors—data driven approaches", *Journal of Environmental Management*, 151: 87-96.
50. Chang, L.C., Shen, H.Y., **Chang, F.J.***, 2014, "Regional flood inundation nowcast using hybrid SOM and dynamic neural networks", *Journal of Hydrology,* 519: 476-489.
51. **Chang, F.J.***, Chung, C.H., Chen, P.A., Liu, C.W., Coynel, A., Vachaud, G., 2014, "Assessment of arsenic concentration in stream water using neuro fuzzy networks with factor analysis", *Science of the Total Environment*, 494-495: 202-210.
52. **Chang, F.J.***, Chen, P.A., Lu, Y.R., Huang E., Chang, K.Y., 2014, "Real-time multi-step-ahead water level forecasting by recurrent neural networks for urban flood control", *Journal of Hydrology*, 517: 836-846.
53. **Chang, F.J.***, Lai, H.C., 2014, "Adaptive neuro-fuzzy inference system for the prediction of monthly shoreline changes in northeastern Taiwan", *Ocean Engineering*, 84: 145-156.
54. Tsai, M.J., Abrahart, R.J., Mount, N.J., **Chang, F.J.***, 2014, "Including spatial distribution in a data-driven rainfall-runoff model to improve reservoir inflow forecasting in Taiwan", *Hydrological Processes*, 28: 1055–1070.
55. **Chang, F.J.***, Chiang, Y.M., Tsai, M.J, Shieh, M.C., Hsu, K.L., Sorooshian, S., 2014, "Watershed rainfall forecasting using neuro-fuzzy networks with the assimilation of multi-sensor information", *Journal of Hydrology*, 508: 374-384.
56. **Chang, F. J.***, Lin, C.H., Chang, K.C., Kao, Y.H., Chang, L.C., 2014, "Investigating the interactive mechanisms between surface water and groundwater over the Jhuoshuei River Basin in Central Taiwan", *Paddy and Water Environment,* 12(3): 365-377.
57. Chen, F.W., Liu, C.W.*, **Chang, F.J.**, 2014, "Improvement of the agricultural effective rainfall for irrigating rice using the optimal clustering model of

rainfall station network", *Paddy and Water Environment*, 12: 293-406.

58. **Chang, F. J.***, Wang, K.W., 2013, "A systematical water allocation scheme for drought mitigation", *Journal of Hydrology*, 507:124-133.
59. **Chang, F. J.***, Chen, P.A., Liu, C.W., Liao, V.H.C., Liao, C.M., 2013, "Regional Estimation of Groundwater Arsenic Concentrations through Systematical Dynamic-neural Modeling", *Journal of Hydrology*, 499: 265-274.
60. Chen, P.A., Chang, L.C., **Chang, F. J.***, 2013, "Reinforced Recurrent Neural Networks for Multi-Step-Ahead Flood Forecasts", *Journal of Hydrology*, 497: 71-79
61. Chung, C.H., **Chang, F. J.***, 2013, "A refined automated grain sizing method for estimating river-bed grain size distribution of digital images", *Journal of Hydrology*, 486: 224-233
62. **Chang, F.J.***, Sun, W., Chung, C.H., 2013, "Dynamic factor analysis and artificial neural network for estimating pan evaporations at multiple stations in northern Taiwan", *Hydrological Sciences Journal,* 58(4): 813-825, DOI:10.1080/02626667.2013.775447.
63. **Chang, F.J.***, Chiang, Y.M., Cheng, W.G., 2013, "Self-organizing radial basis neural network for predicting typhoon-induced losses to rice", *Paddy and Water Environment*, 11: 369-380
64. **Chang, F.J.*,** Tsai, W.B., Chen, H.K., Yam, R.S.W., Herricks*, E.E., 2013, "A Self-Organizing Radial Basis Network for estimating riverine fish diversity", *Journal of Hydrology,* 476: 280-289
65. **Chang, F.J.***, Sun, W., 2013. "Modeling regional evaporation through ANFIS incorporated solely with remote sensing data", Hydrology and Earth System Sciences Discussion, 10: 6153-6192.
66. Huang, J.C.*, Lee, T.Y., Lee, J.Y., Hsu, S.C., Kao, S.J., **Chang, F.J.**, 2013, "Assessing hydrological model behaviors by intercomparison of the simulated stream flow compositions: case study in a steep forest watershed in Taiwan", Hydrology and Earth System Sciences Discussion, 10(1): 855-893.
67. Kao, Y. H., Wang, S. W., Maji, S. K., Liu, C. W., Wang, P. L., **Chang, F. J.**, Liao, C. M., 2013, "Hydrochemical, mineralogical and isotopic investigation of arsenic distribution and mobilization in the Guandu wetland of Taiwan", *Journal of Hydrology*, 498: 274-286
68. Chang, L.C., Chen, P.A., **Chang, F.J.***, 2012, "Reinforced Two-Step-Ahead Weight Adjustment Technique for On-Line Training of Recurrent Neural Networks", *IEEE Transactions on Neural Networks and Learning Systems*, 23(8): 1269-1278

69. Chiang, Y.M., Cheng, W.G., **Chang, F.J.*,** 2012, "A hybrid artificial neural network-based agri-economic model for predicting typhoon-induced losses", *Natural Hazards,* 63(2): 769-787
70. **Chang, F.J.***, Chung, C.H., 2012, "Estimation of riverbed grain-size distribution using image-processing techniques", *Journal of Hydrology,* 440-441: 102-112
71. Chung, C.H., Chiang, Y.M., **Chang, F.J.***, 2012, "A spatial neural fuzzy network for estimating pan evaporation at ungauged sites", *Hydrology and Earth System Sciences*, 16: 255-266.
72. **Chang, F.J.***, Tsai, W.B., Wu, T.C., Chen, H.K, Herricks, E.E.*, 2011, "Identifying Natural Flow Regimes Using Fish Communities", *Journal of Hydrology,* 409: 328-336.
73. Wang, K.W., Chang, L.C., **Chang, F.J.***, 2011, "Multi-tier interactive genetic algorithms for the optimization of long-term reservoir operation", *Advances in Water Resources,* 34(10): 1343-1351.
74. Chiang, Y.M., Chang, L.C., Tsai, M.J., Wang, Y.F., **Chang, F.J.***, 2011, "Auto-control of pumping operations in sewerage systems by rule-based fuzzy neural networks", *Hydrology and Earth System Sciences*, 15: 185-196.
75. Liao, V.H.C.*, Chu, Y.J., Su, Y.C., Lin, P.C., Hwang, Y.H., Liu, C.W., Liao, C.M., **Chang, F.J.**, Yu, W.C., 2011, "Assessing the mechanisms controlling the mobilization of arsenic in the arsenic contaminated shallow alluvial aquifer in the blackfoot disease endemic area", *Journal of Hazardous Materials*, 197: 397-403.
76. Liao, V.H.C.*, Chu, Y.J., Su, Y.C., Hsiao, S.Y., Wei, C.C., Liu, C.W., Liao, C.M., Shen, W.C., **Chang, F.J.**, 2011, "Arsenite-oxidizing and arsenate-reducing bacteria associated with arsenic-rich groundwater in Taiwan", *Journal of Contaminant Hydrology,* 123(1-2): 20-9.
77. Lu, K.L., Liu, C.W.*, Wang, S.W., Jang, C.S., Lin, K.H., Liao, V. H.C., Liao, C.M., **Chang, F.J**., 2011, "Assessing the characteristics of groundwater quality of arsenic contaminated aquifers in the blackfoot disease endemic area", *Journal of Hazardous Materials,* 185(2-3):1458-66.
78. Wang, S.W., Kuo, Y.M.*, Kao, Y.H., Jang, C.S., Maji, S.K., **Chang, F.J.**, Liu, C.W., 2011, "Influence of hydrological and hydrogeochemical parameters on arsenic variation in shallow groundwater of southwestern Taiwan", *Journal of Hydrology*, 408: 286-295.
79. Chang, L.C., **Chang, F.J.***, Hsu, H.C., 2010, "Real-Time Reservoir Operation for Flood Control Using Artificial Intelligent Techniques", *International Journal of Nonlinear Sciences and Numerical Simulation*, 11(11): 887-902.

80. Chiang, Y.M., Chang, L.C., Tsai, M.J., Wang, Y.F., **Chang, F.J.***, 2010. "Dynamic Neural Networks for Real-Time Water Level Predictions of Sewerage Systems-covering gauged and unguaged sites", *Hydrology and Earth System Sciences*, 14: 1309-1319.
81. Chang, L.C., **Chang, F.J.***, Wang, K.W., Dai, S.Y., 2010, "Constrained Genetic Algorithms for Optimizing Multi-use Reservoir Operation", *Journal of Hydrology*, 390: 66-74.
82. **Chang, F.J.***, Kao, L.S., Kuo, Y.M., Liu, C.W., 2010, "Artificial Neural Networks for Estimating Regional Arsenic Concentrations in a Blackfoot Disease Area in Taiwan", *Journal of Hydrology*, 388: 65-76.
83. Kuo, Y.M., **Chang, F.J.***, 2010,"Dynamic Factor Analysis for Estimating Groundwater Arsenic Trends", *Journal of Environmental Quality,* 39: 176-184.
84. **Chang, F.J.***, Chang, L.C., Kao, H.S., Wu, G.R., 2010. "Assessing the effort of meteorological variables for evaporation estimation by Self-Organizing Map Neural Network", *Journal of Hydrology,* 384: 118-129.
85. Lu, K.L., Liu, C.W.*, Wang, S.W., Jang, C.S., Lin, K.H., Liao, V.H.C., Liao, C.M., **Chang, F.J.**, 2010, "Primary sink and source of geogenic arsenic in sedimentary aquifers in the southern Choushui River alluvial fan, Taiwan", *Applied Geochemistry*, 25: 684-695.
86. Chang, L.C., **Chang, F.J.***, 2009 "Multi-objective evolutionary algorithm for operating parallel reservoir system", *Journal of Hydrology*, 377: 12-20.
87. Chen, Y.H., **Chang, F.J.***, 2009, "Evolutionary Artificial Neural Networks for Hydrological Systems Forecasting", *Journal of Hydrology*, 367: 125-137.
88. **Chang, F.J.***, Wu, T.C., Tsai, W.P., Herricks, E.E., 2009, "Defining the ecological hydrology of Taiwan Rivers using multivariate statistical methods", *Journal of Hydrology*, 376: 235-242.
89. Chiang, Y.M., **Chang, F.J.***, 2009, "Integrating hydrometeorological information for rainfall-runoff modeling by artificial neural networks", *Hydrological Processes*, 23(11): 1650-1659.
90. Chang, L.C., **Chang, F.J.***, Wang, Y.P., 2009, "Auto-Configuring RBF Networks for Chaotic Time Series and Flood Forecasting", *Hydrological Processes*, 23: 2450-2459.
91. **Chang, F.J.***, Chiang, Y.M., Lee, W.S., 2009, "Investigating the impact of the Chi-Chi earthquake on the occurrence of debris flows using artificial neural networks", *Hydrological Processes*, 23: 2728-2736.
92. Liao, C.M., Jau, S.F., Lin, C.M., Jou, L.J., Liu, C.W.*, Liao, V.H.C., **Chang, F.J.**, 2009, "Valve movement response of the freshwater clam Corbicula

fluminea following exposure to waterborne arsenic", *Ecotoxicology*, 18(5): 567-576.

93. Suen, J.P.*, Eheart, J.W., Herricks, E.E., **Chang, F.J.**, 2009 "Evaluating the Potential Impacts of Reservoir Operation on Fish Communities", *Journal of Water Resources Planning and Management*, 135 (6): 475-483.
94. Liao, C.M.*, Jau, S.F., Chen, W.Y., Lin, C.M., Jou, L.J., Liu, C.W., Liao, V.H.C., **Chang, F.J.**, 2009,"Acute Toxicity and Bioaccumulation of Arsenic in Freshwater Clam Corbicula fluminea", *Environmental Toxicology*, 23(6): 702-711.
95. Chen, Y.H.*, Chang C.Y., Shie, J.L., Chiou C.S., **Chang, F.J.**, Lin, R.H., Chiu, C.Y., 2009, "Enhanced dissolution of trichloroethylene-contaminated soil with sodium dodecyl sulfate-containing solution", *Journal of Environmental Engineering and Management*, 19(1): 39-48.
96. **Chang, F.J.***, Chang, K.Y., Chang, L.C., 2008, "Counterpropagation Fuzzy-Neural Network for City Flood Control System", *Journal of Hydrology*, 358: 24-34.
97. **Chang, F.J.***, Tsai, M.J., Tsai, W.P., Herricks, E.E., 2008, "Assessing the Ecological Hydrology of Natural Flow Conditions in Taiwan", *Journal of Hydrology*, 354:.75-89.
98. Chaves, P., **Chang, F.J.***, 2008, "Intelligent Reservoir Operation System Based on Evolving Artificial Neural Networks", *Advances in Water Resources*, 31: 926-936.
99. **Chang, F.J.***, Yang, H.C., Lu, J.Y., Hong, J.H., 2008, "Neural Network Modeling for Mean Velocity and Turbulence Intensities of Steep Channel Flows", *Hydrological Processes*, 22: 265-274.
100. Chiu, Y.C., Chang, L.C., **Chang, F.J.***, 2007, "Using a Hybrid GA-SA Algorithm for Fuzzy Programming of Reservoir Operation", *Hydrological Processes*, 21: 3162-3172.
101. Chiang, Y.M., Hsu, K.L., **Chang, F.J.***, Hong, Y., Sorooshian, S., 2007, "Merging multiple precipitation sources for flash flood forecasting", *Journal of Hydrology*, 340: 183-196.
102. Chiang, Y.M., **Chang, F.J.***, Jou, B.J.D., Lin, P.F., 2007, "Dynamic ANN for Precipitation Estimation and Forecasting from Radar Observations", *Journal of Hydrology*, 334: 250-261.
103. **Chang, F.J.***, Chiang, Y.M., Chang, L.C., 2007, "Multi-step-ahead neural networks for flood forecasting", *Hydrological Sciences Journal*, 52(1): 114-130.
104. Chen, L.*, **Chang, F. J.**, 2007, "Applying a real-coded multi-population

genetic algorithm to multi-reservoir operation", *Hydrological Processes*, 21: 688-698.

105. **Chang, F.J.***, Chang, L.C., Wang, Y.S., 2007, "Enforced Self-Organizing Map Neural Networks for River Flood Forecasting", *Hydrological Processes*, 21: 741-749.
106. **Chang, F.J.***, Tseng, K.Y., Chaves, P., 2007, "Shared Near Neighbors Neural Network Model: A debris flow warning system", *Hydrological Processe*s, 21: 1968-1976.
107. **Chang, F. J.***, Chang, Y.T., 2006, "Adaptive neuro-fuzzy inference system for prediction of water level in reservoir", *Advances in Water Resources*, 29: 1-10. (Highly Cited Paper)
108. Chen, S.H., Lin, Y.H., Chang, L.C., **Chang, F.J.***, 2006, "The Strategy of Building a Flood Forecast Model by Neuro-Fuzzy Network", *Hydrological Processes*, 20: 1525-1540.
109. Yang, H.C., **Chang, F.J.***, 2005, "Modelling the combined open channel flow by artificial neural network", *Hydrological Processes*, 19: 3747-3762.
110. Chang, Y.T., Chang, L.C., **Chang, F.J.***, 2005, "Intelligent control for modeling of real time reservoir operation: Part II ANN with operating curves", *Hydrological Processes*, 19: 1431-1444.
111. **Chang, F.J.***, Chang, L.C., Chiang, Y.M., 2005, "Reply to "Comment on 'Comparison of static-feedforward and dynamic feedback neural networks for rainfall-runoff modeling' by Chiang, Y.M., Chang, L.C., **Chang, F.J.**, 2004", *Journal of Hydrology*, 290: 297-311", *Journal of Hydrology*, 314: 204-206.
112. **Chang, F.J.***, Chen, L., Chang, L.C., 2005, "Optimising the reservoir operation rule curves by genetic algorithms", *Hydrological Processes*, 19: 2277-2289.
113. Chang, L.C., **Chang, F.J.***, Tsai, Y.H., 2005, "The Fuzzy Exemplar-Based Inference System for Flood Forecasting", *Water Resources Research*, 41: W02005.
114. Chiang, Y.M., Chang, L.C., **Chang, F.J.***, 2004, "Comparison of static-feedforward and dynamic-feedback neural networks for rainfall-runoff modeling", *Journal of Hydrology*, 290: 297-311.
115. Chang, L.C., **Chang, F.J.***, Chiang, Y.M., 2004, "A two-step ahead recurrent neural network for streamflow forecasting", *Hydrological Processes*, 18: 81-92.
116. **Chang, F.J.***, Lai, J.S., Kao, L.S., 2003, "Optimization of operation rule curves and flushing schedule in a reservoir", *Hydrological Processes*, 17: 1623-1640.

117. **Chang, F.J.***, Chen, Y.C., 2003, “Estuary water-stage forecasting by using Radial Basis Function neural network”, *Journal of Hydrology*, 270: 158-166.
118. Chang, L.C., **Chang, F.J.***, 2002, “An efficient parallel algorithm for LISSOM neural network”, *Parallel Computing*, 28: 1611-1633.
119. **Chang, F.J.***, Chang, L.C., Huang, H.L., 2002, “Real time recurrent learning neural network for streamflow forecasting”, *Hydrological Processes*, 16(13): 2577-2588.
120. **Chang, F.J.***, Liang, J.M., Chen, Y.C., 2002, “Fuzzy clustering neural network as flood forecasting model”, *Nordic Hydrology*, 33(4): 275-290.
121. **Chang, F.J.***, Hui, S.C., Chen, Y.C., 2002, “Reservoir operation using grey fuzzy stochastic dynamic programming”, *Hydrological Processes*, 16(12): 2395-2408.
122. **Chang, F.J.***, Chen, Y.C., 2001, “A counterpropagation fuzzy-neural network modeling approach to real-time streamflow prediction”, *Journal of Hydrology*, 245: 153-164.
123. **Chang, F.J.***, Liang, J.M., Chen, Y.C., 2001, “Flood forecasting using radial basis function neural network”, *IEEE Transactions on Systems, Man and Cybernetics Part C: Applications and Reviews*, 31(4): 530-535.
124. Lai, J.S., **Chang, F.J.***, 2001, “Physical modeling of hydraulic desiltation in Tapu reservoir”, *International Journal of Sediment Research*, 16(3): 363-379.
125. Chang, L.C., **Chang, F.J.***, 2001, “Intelligent control for modeling of real time reservoir operation”, *Hydrological Processes*, 15(9): 1621-1634.
126. **Chang, F.J.***, Hu, H.F., Chen, Y.C., 2001, “Counterpropagation fuzzy-neural network for streamflow reconstructing”, *Hydrological Processes*, 15(2): 219-232.
127. **Chang, F.J.***, Lin, H.F., 2000, "The exemplar-aided constructor of hyper-rectangles learning algorithm for stream flow estimation", *Hydrological Processes*, 14(1): 79-90.
128. **Chang, F.J.***, Huang, Y.Y., 1999, "A Self-organization algorithm for real-time flood forecast", *Hydrological Processes*, 13(2): 123-138.
129. **Chang, F.J.***, Chen, L., 1998, "Real-coded genetic algorithm for rule-based flood control reservoir management", *Water Resources Management*, 12(3): 185-198.
130. **Chang, F.J.***, Chen, L., 1995, "An examplar-based learning model for hydrosystems prediction and categorization", *Journal of Hydrology*, 169: 229-241.
131. **Chang, F.J.**, Delleur, J.W., 1992, "Systematic Parameter Estimation of watershed Acidification Model", *Hydrological Processes,* 6(1): 29-44.

132. Rao, A.R., Jeong, G.D., **Chang, F.J.**, 1992, “Estimation of periodicities in Hydrologic Data", *Stochastic Hydrology and Hydraulics*, 6: 270-288.
133. **Chang, F.J.**, Delleur, J.W., Rao, A.R., 1991, "Sensitivity Analysis of the Surface Water Acidification Model ILWAS in the Saturated and Unsaturated Zones", *Hydrological Bases of Ecologically Sound Management of Soil and Groundwater, Ed. H.P. Nachtnebel & K. Kovar,* IAHS, 202: 23-32.
134. Delleur, J.W., **Chang, F.J.**, 1989, "Systematic Parameter Estimation Strategy for Refining the Birkenes Model", *Atmospheric Deposition, Ed. J.W. Delleur*, IAHS, 179: 163-171.

***C.* 中文期刊論文**

1. 蔡文柄、張麗秋、**張斐章***, 2016, “考慮生物多樣性及人類用水之水資源優化管理模式”, 水資源研究, 5(4), 379-390.
2. **張斐章***、蔡文柄、鄭仲廉, 2016, “因應都市化之智慧型水資源管理策略”, 水資源研究, 5(4), 314-325.
3. 羅英秦、**張斐章***、謝明昌, 2014, “以類神經網路建構多時刻水庫入流量預報模式”, 臺灣水利, 62(2), 26-34.
4. **張斐章***, 2013, “台灣地區智能型水資源經營管理 (Artificial Intelligence for Integrated Water Resources Management in Taiwan)”, 水资源研究 (Journal of Water Resources Research), 2, 316-322.
5. **張斐章***、蔡孟蓉、江衍銘、謝明昌, 2013, “整合遙測資訊於山區雨量推估”, 航測及遙測學刊, 17(1): 17-30.
6. 鍾昌翰、**張斐章***, 2012, “影像處理技術於監測溪魚數量之研究”, 臺灣水利, 60(4): 41-52.
7. 王國威、**張斐章***, 2012, “智慧型農業用水調配策略”, 臺灣水利, 60(2): 23-29.
8. 李豐佐、賴進松*、郭文達、黃振家、**張斐章**、譚義績, 2012, “石門水庫水庫排砂操作影響鴛山堰取水之研究”, 農業工程學報, 58(4): 80-94.
9. 賴鴻成、**張斐章***, 2011, “調適性網路模糊推論系統預測宜蘭海岸變遷模式”, 台灣水利, 59(3): 15-24.
10. 蔡孟蓉、江衍銘、張麗秋、王藝峰、**張斐章***, 2011, “抽水站智慧型防汛操作系統之研究”, 台灣水利, 59(2): 1-9.
11. 高力山、**張斐章***, 2011, “應用類神經網路推估區域地下水中砷污染之研究”, 農業工程學報, 57 (3): 88-102.
12. 賴鴻成、**張斐章***, 2011, “宜蘭海岸變遷探討”, 台灣水利, 59(1): 53-59.
13. 王國威、張麗秋、**張斐章***, 2011, “非優勢排列遺傳演算法推求水庫多目標調配策略”, 台灣水利, 59(1): 1-10.
14. 劉日順、簡文煥、**張斐章***、林國華、林尉濤, 2010, “農田水利會灌排系統及水閘門監控管理地理資訊系統建置研究”, 台灣水利, 58(2): 1-10.
15. 陳永祥、**張斐章***, 2010, “遺傳規劃法應用於水庫入流量預測之研究”, 台灣水利, 58(1): 1-9.
16. 陳永祥、程惟國、李國煜、**張斐章***, 2010, “演化式類神經網路應用於蒸發量推估之研究”, 台灣水利, 58(1): 55-67.
17. 蔡文柄、**張斐章***, 2009, “應用類神經網路推估溪流之生物多樣性”, 台灣水利, 57(4): 1-13.
18. 鍾昌翰、**張斐章***, 2009, “影像處理應用於河床粒徑奔分佈之研究”, 台灣水利, 57(2): 12-22.
19. 高力山、吳子青、劉振宇、**張斐章***, 2009, “類神經網路於區域地下水砷濃

度的推估”, 台灣水利, 57(1): 1-12.
20. 張麗秋*、王國威、**張斐章**, 2008, "逐時更新類神經網路於河川多階段洪水預測之探討", 台灣水利, 56(3): 12-21.
21. 吳國儒、高慧珊、鍾昌翰、何宜樺、**張斐章***, 2008, "以類神經網路推估蒸發量", 農業工程學報, 54(3): 1-13.
22. **張斐章***、蔡亞欣、王國威, 2007, "類神經網路於河川洪水預報系統之研究", 中興工程, 97: 121-125.
23. 高慧珊、何宜樺、黃振昌、**張斐章***, 2007, "以自組特徵映射網路推估日蒸發量",台灣水利, 55(3): 18-25.
24. 江衍銘、**張斐章***, 2007 , "以類神經網路建構定量降雨及多階段洪水預報模式", 台灣水利, 55(2): 25-33.
25. 蔡孟蓉、江衍銘、**張斐章***, 2007 , "類神經網路結合衛星影像於颱風降雨預報", 台灣水利, 55(1): 22-31.
26. 張凱堯、**張斐章***, 2007 , "反傳遞模糊類神經網路於抽水站操作之應用", 農業工程學報, 53(1): 82-91.
27. 張凱堯、張麗秋、**張斐章***, 2006, "結合空間推論與遺傳演算法校驗 SWMM 模式", 台灣水利, 54(2): 37-49.
28. 江衍銘、**張斐章***, 2006 , "以遙測資訊建立類神經網路雲分類系統於雨量推估及洪水預測", 農業工程學報, 52(4): 39-47.
29. 曾國源、**張斐章***, 2006, "以共用臨域類神經網路架構土石流預警系統之研究", 水保學報, 37(3): 259-270.
30. 張麗秋、林永堂、**張斐章***, 2005, "結合 OLS 與 SGA 建構輻狀基底類神經網路於洪水預測之研究", 台灣水利, 53(4): 25-38.
31. 蔡逸文、陳獻、**張斐章***, 2005, "灌排水路應用生態工法實施流程之擬議”, 農業工程學報, 51(4): 74-86.
32. 邱昱禎、張雅婷、**張斐章***, 2005, "模糊系統規劃理論於水資源經營之研究", 台灣水利, 53(1): 11-22.
33. **張斐章***、王元鵬, 2004, "以禁忌演算法優選輻狀基底類神經網路之參數", 台灣水利, 52(4): 43-52.
34. 蔡明華、**張斐章***、高力山、張景忠, 2004, "灌區水利設施綜合效益評估模式之應用", 農業工程學報, 50(2): 1-9.
35. 張麗秋、**張斐章***、張景忠, 2003, "水災防救資料庫擴充及供應系統建立", 台灣水利, 51(3): 47-57.
36. 惠士奇、**張斐章***、李英正、徐繼鵬, 2003, "桃園農田水利會南部灌區河水堰現況調查評估及資訊化介面建立", 台灣水利, 51(3): 69-76.
37. **張斐章***、楊翰宗、陳彥璋, 2002, "以類神經網路模擬光滑陡坡明渠水流最大流速發生位置", 台灣水利, 50(1): 34-43.
38. 張景忠、**張斐章***、張麗秋, 2002, "建立水文分析電腦化作業系統", 台灣水

利, 50(2): 46-58.
39. 陳彥璋、**張斐章***、楊翰宗, 2002, "大型流量計之校正", 台灣水利, 50(3): 20-26.
40. 陳彥璋、**張斐章***、楊翰宗, 2002, "高效率量測法應用於淨水場明渠流量之推估", 農業工程學報, 48(3): 1-9.
41. 陳彥璋、邱曉萍、**張斐章***, 2001, "以共用臨域法預測旬流量", 台灣水利, 49(4): 14-23.
42. 楊翰宗、盧昭堯、**張斐章***, 2001, "陡坡光滑渠流之試驗研究", 台灣水利, 49(4): 35-44.
43. **張斐章***、陳彥璋、梁晉銘, 2001, "以類神經網路預測淡水河感潮河段水位", 農業工程學報, 47(4): 29-37.
44. **張斐章***、黃浩倫、張麗秋, 2001, "回饋式類神經網路於河川流量推估之應用", 農業工程學報, 47(2): 32-39.
45. 李英正、**張斐章***、張雅婷, 2001, "檢視台灣地區農業用水之水權-以桃園水利會水權登記為例", 台灣水利, 49(2): 19-29.
46. 賴進松、**張斐章***、楊翰宗, 2001, "水庫黏性淤泥沖刷之動床模型試驗研究", 中國土木水利工程學刊, 13(1): 99-109.
47. 梁晉銘、**張斐章***、陳彥璋, 2000, “複合演算類神經－模糊推論模式應用於洪水預測”, 中華水土保持學報, 31(3): 183-191.
48. **張斐章***、陳彥璋、梁晉銘、孫建平、黃源義, 2000, ”以輻狀基底函數網路建立降雨－逕流模式”, 台灣水利, 48(3): 18-26.
49. 張麗秋、**張斐章***, 2000, "建立農田水利會應用資料庫-以桃園農田水利會為例", 台灣水利, 48(1): 26-33.
50. **張斐章***、胡湘帆、蕭錫清、張長圖, 2000, "模糊類神經網路於水庫即時入流量預測之應用", 台電工程月刊, 618: 7-19.
51. 賴進松、**張斐章***、楊翰宗, 2000, “水庫橫向沖蝕試驗之研究”, 中國農業工程學報, 46(3): 28-36.
52. 張麗秋、**張斐章***, 1999, "智慧型水庫即時操作控制系統", 中國農業工程學報, 45(4): 18-30.
53. **張斐章***、孫建平, 1999, "農田水利設施評估指標之研究", 台灣水利, 47(4): 1-16.
54. **張斐章***、李子倫, 1999, "颱風時期水庫操作風險分析之研究-以石門水庫為例", 台灣水利, 47(4): 32-40.
55. **張斐章***、梁晉銘, 1999, "類神經模糊推論模式在水文系統之研究", 台灣水利, 47(2): 1-12.
56. **張斐章***、胡湘帆, 1999, "類神經網路於水文系統之研究", 生命科學簡訊, 13(3): 12-14
57. 黃源義、**張斐章***, 1999, "大甲溪流域雨量站網評估之研究", 台電工程月刊,

612: 1-11.
58. **張斐章***、許榮哲, 1999, "灰色模糊動態規劃於水庫即時操作之應用", 台灣水利, 47(1): 44-53.
59. 賴進松、**張斐章***、高力山, 1999, ”水庫排砂操作時機與週期之探討”, 台灣水利, 47(1): 32-43.
60. **張斐章***、賴進松、高力山, 1998, "應用遺傳演算法優選大埔水庫排砂操作規線", 台灣水利, 46(3): 24-34.
61. **張斐章***、胡湘帆、黃源義, 1998, "反傳遞模糊類神經網路於流量推估之應用", 中國農工學報, 44(2): 26-38.
62. **張斐章***、惠士奇, 1998, "灰色模糊序率動態規劃於水庫操作之應用", 中國農工學報, 44(1): 34-49.
63. **張斐章***、孫建平, 1997, "類神經網路及其應用於降雨—逕流過程之研究", 中國農工學報, 43(1): 9-25.
64. 林惠芬、**張斐章***, 1997, "巢狀超矩形學習模式於乾旱季節流量預測之應用", 中國農工學報,. 43(2): 20-28.
65. **張斐章***、吳正吉、王文清, 1997, "統計檢定法應用於區域頻率分析之研究", 台灣水利, 45(4): 45-56.
66. **張斐章***、黃金鐸、王文清, 1995, "運用模糊序率動態規劃於水庫操作之研究", 台灣水利, 44(4): 37-49.
67. **張斐章***、吳正吉, 1995, "台灣南部地區最大日雨量區域頻率分析之研究", 臺灣水利, 44(4): 19-27.
68. 陳莉、**張斐章***, 1995, "遺傳演算法優選水庫運用規線之研究", 中國農業工程學報, 41(4): 20-30.
69. **張斐章***、王文清, 1995, "模糊線性規劃於水資源規劃之應用", 臺灣水利, 43(1): 31-41.
70. **張斐章***、易任、林獻博、王文清, 1995, "運用線性動差於水文頻率分析之研究", 臺灣水利, 43(2): 24-36.
71. 李心平、**張斐章***, 1995, "模糊控制理論應用於土石流預警系統之研究", 中華水土保持學報, 26(2): 145-154.
72. 金恆鑣、**張斐章***、陳彥璋, 1994, "臺北市酸雨趨勢與特性分析", 臺灣水利, 42/(1): 7-15.
73. **張斐章***、易任、林惠芬, 1994, "臺灣地區河川流量推估之研究", 台電工程月刊, 553: 1-9.
74. **張斐章***、梁晉銘, 1993, "自組性演算法於河川流量預測之研究", 台灣水利, 41(4): 14-24.
75. **張斐章***、黃源義、梁晉銘, 1993, "模糊推論模式之建立及應用於水文系統之研究", 中國農業工程學報, 39(1): 71-83.
76. **張斐章***、陳莉, 1993, "遺傳演算法於專家系統中參數優選之研究", 中國農

業工程學報, 39(2): 1-12.
77. **張斐章***、陳永祥, 1992, "極端乾旱分析方法之檢測", 臺灣水利, 40(1): 52-67
78. **張斐章***、陳莉, 1992, "專家系統及其在水資源經營之應用", 臺灣水利, 40(3) 34-45.
79. 陳莉、**張斐章***, 1992, "巢狀超矩型學習模式於水資源系統之研究", 中國農業工程學報, 38(3): 27-37.
80. **張斐章***、黃源義、徐國麟, 1992, "自組性演算法及其應用於降雨--逕流模式建立之研究", 臺灣大學農學院研究報告, 32(4): 293-316.
81. **張斐章***、徐國麟, 1991, "利用模糊集理理論推估河川流量研究", 中國農業工程學報, 30(4): 1-12.
82. **張斐章***、陳永祥, 1991, "乾旱之統計分析--以高屏溪為例", 臺灣水利, 39(3): 33-44.
83. **張斐章***, 徐國麟, 1991, "自迴歸合成流量序列之特徵及其應用", 中國農業工程學報, 37(4): 25-34.
84. **張斐章***、金恆鑣、陳彥璋, 1991, "臺北市雨水 pH 值與離子關係", 臺灣大學農學院研究報告, 31(3): 88-98.
85. **張斐章***、官彥均, 1991, "新設站低流量推估方法之探討", 臺灣大學農學院研究報告, 31(3): 76-92.
86. **張斐章***, 1991, "An Investigation of Two High-Resolution Spectrum Analysis Methods", 台灣水利, 39(2): 32-49.
87. **張斐章***、徐國麟, 1990, "兩種推估低流量方法之探討", 臺灣水利, 38(1): 48- 57.
88. **張斐章***、陳莉, 1990, "目標函數對水庫即時操作之影響", 臺灣水利, 39(2): 50-58.
89. **張斐章***, 1989, "Streamflow Forecast During Drought Period", 臺灣水利, 37(4): 50-60.

D. ***研討會論文*** **：** 超過 170 篇研討會論文

1. **Chang, F.J.***, Zhou, Y., Lin, H.Y., Uen, T.S., 2018, “Exploring Synergetic Benefits of Water-Food-Energy Nexus through Intelligent Multi-objective Water Allocation”, EGU 2018. Vienna, Austria.
2. Lai, J.W., Chang, L.C., **Chang, F.J.***, 2018, “Exploring the Relationship between Groundwater Resources and Hydrogeology in Wet and Dry Seasons by using Self-Organizing Maps”, EGU 2018. Vienna, Austria.
3. **Chang, F.J.***, Chang, L.C., Amin, M.Z.M., 2017, “Building regional early flood warning systems by AI techniques”, 2017 AGU Fall Meeting, New Orleans, America.
4. Chang, L.C., **Chang, F.J.***, 2017, “Building an early flood warning system by soft-computing techniques for Kemaman River basin in Malaysia”, IAHS 2017. Port Elizabeth, South Africa.
5. Huang, A., Tsai, W.P., **Chang, F.J.***, 2017, “Using Artificial Neural Network Models to Address the Efficiency and Benefits at City-scaled Water – Food - Energy Nexus”, IAHS 2017. Port Elizabeth, South Africa.
6. Issermann, M., **Chang, F.J.***, 2017, “Uncertainty Quantification of Spatio-Temporal Models with Point Estimate Methods: The case of the hydrodynamic model ANUGA”, IAHS 2017. Port Elizabeth, South Africa.
7. Hu, J.H., Tsai, W.P., **Chang, F.J.***, 2017, "Relating Environmental Factors to Fish Diversity Index by Using Soft Computing Techniques and Sensitivity Analysis”, IAHS 2017. Port Elizabeth, South Africa.
8. Chou, P.K., **Chang, F.J.***, 2017, "Integrating a Storage Factor into R-NARX Neural Networks for Flood Forecasts", EGU 2017. Vienna, Austria.
9. Tsai, W.P., **Chang, F.J.***, Lur, H.S., Fan, C.H., Hu, M.C., Huang, T.L., 2016, “Developing Intelligent System Dynamic Management Instruments on Water-Food-Energy Nexus in Response to Urbanization”, 2016 AGU Fall Meeting. San Francisco, America.
10. Uen, T.S., Tsai, W.P., **Chang, F.J.***, 2016, “Multi-objective evolutionary optimization for the joint operation of reservoirs of water supply under water-food-energy nexus management”, 2016 AGU Fall Meeting. San Francisco, America.
11. Liao, Y.Y., Tsai, W.P., Huang, A.C., **Chang, F.J.***, 2016, “Explore the interrelationships of the WFE Nexus by relational topological mapping techniques - a case in northern Taiwan”, 2016 AGU Fall Meeting. San Francisco, America.
12. Lai, J.W., Huang, C.W., Cheng, S.T., Chang, L.C., **Chang, F.J.***, 2016, “Coupling Precipitation with Groundwater Level Using Two Self-Organizing”,

2016 AGU Fall Meeting. San Francisco, America.

13. Cheng, S.T., Yu, C.J., Tsai, W.P, **Chang, F.J.***, 2016, "Influences of Human-induced Habitat Modifications on Basin-wide Fish Species Richness in the Danshuei River Watershed of Taiwan", 2016 AGU Fall Meeting. San Francisco, America.
14. Tsai, W.P., **Chang, F.J.***, Cheng, C.L., "Explore the impacts of river flow and quality on biodiversity for water resources management by AI techniques", EGU 2016, Vienna, Austria.
15. Tsai, W.P., **Chang, F.J.**, "Application of AI on exploring the relationship between fish community and water quality", EGU 2016, Vienna, Austria.
16. **Chang, F.J.***, Chang, L.C., Tsai, F.H., Shen, H.Y., "Data-Driven Techniques for Regional Groundwater Level Forecasts", 2015 AGU Fall Meeting, San Francisco, USA.
17. Tsai, W.P., **Chang, F.J.**, Lin, C.Y., Hu, J.H., Yu, C.J., "Explore the impacts of river flow and water quality on fish communities", 2015 AGU Fall Meeting, San Francisco, USA.
18. Cheng, C.L., Tsai, W.P., **Chang, F.J.**, "Investigation on Reservoir Operation of Agricultural Water Resources Management for Drought Mitigation", 2015 AGU Fall Meeting, San Francisco, USA.
19. Tsai, W.P., **Chang, F.J.**, Chang, L.C., Lin, C.Y., Hu, J.H., Issermann, M., "Developing comprehensive strategy for sustainable water resources management", PAWEES-INWEPF Joint International Conference 2015, Kuala Lumpur, Malaysia.
20. Hu, J.H., Tsai, W.P., Yu, C.J., **Chang, F.J.***, "Constructing an Estimation Model on Fish Diversity based on Heterogeneous Data", PAWEES-INWEPF Joint International Conference 2015, Kuala Lumpur, Malaysia.
21. Yang, S.N., Cheng, C.L., Chen, P.A., Lu, Y.R., Chang, L.C., **Chang, F.J.***, "Construct Intelligent Optimal Pump Operation Rules for Urban Pumping Station During Typhoon Periods", PAWEES-INWEPF Joint International Conference 2015, Kuala Lumpur, Malaysia.
22. Tsai, F.H., Chang, L.C., **Chang, F.J.***, "Investigate typhoon paths by self-organizing maps and predict long-term flow during typhoon periods", PAWEES-INWEPF Joint International Conference 2015, Kuala Lumpur, Malaysia.
23. Huang, J.W., Tsai, F.H., Chang, L.C., **Chang, F.J.***, "Investigate the interactive mechanisms between groundwater and surface water by using data-driven techniques for Zhuoshui River basin in Taiwan", PAWEES-INWEPF Joint International Conference 2015, Kuala Lumpur,

Malaysia.

24. **Chang, F.J.***, Chang, L.C., “Regional flood inundation nowcast using hybrid SOM and dynamic neural networks”, Climate Change Vulnerability and Adaptation in Water Resources Planning & Management, 2015, KL, Malaysia.
25. **Chang, F.J.***, “Technology revolution in water management”, 7th World water forum 2015 (WWF7), Daegu, Korea.
26. **Chang, F.J.***, Chen, P.A., Lu Y.R., “Artificial intelligence techniques for urban flood control”, THA2015 International Conference, Bangkok, Thailand.
27. Hu, J.H., Tsai, W.P., Wang, Y.C., **Chang, F.J.***, “Explore the impacts of river flow, water quality and suspended sediment on fish communities”, PAWEES 2014 International Conference, Kaohsiung, Taiwan.
28. Yang, S.N., Lu, Y.R., Chen, P.A., Chang, L.C., **Chang, F.J.***, “Using ANFIS to Construct Real-Time Optimal Operation for Pumping Station”, PAWEES 2014 International Conference, Kaohsiung, Taiwan.
29. Tsai, F.H., Huang, J.L., Chang, L.C., **Chang, F.J.***, “Using Self-Organizing Map to Investigate the Spatial-Temporal Relationship Between Hydrological Factors And Groundwater Level Variations”, PAWEES 2014 International Conference, Kaohsiung, Taiwan.
30. Wang, Y.C., **Chang, F.J.***, “Intelligent Water Resources Allocation Strategy for Growing Water Demands”, PAWEES 2014 International Conference, Kaohsiung, Taiwan.
31. Tsai, W.P., **Chang, F.J.***, Chang, L.C., “Balancing ecosystem and human needs for water resources management”, PAWEES 2014 International Conference, Kaohsiung, Taiwan.
32. Bai, T., Wang, Y.M., **Chang, F.J.***, Hu, J.H., “FSSO-PSO on water and sediment regulation in Ningxia-Inner Mongolia reach”, PAWEES 2014 International Conference, Kaohsiung, Taiwan.
33. Yam, R.S.W., **Chang, F.J.**, Feng, Y.C., Lo, P.Y., Coynel, A., Feurtet-Mazel, A., Baudrumont, M., “Using filter-feeding bivalve metal bioaccumulation to monitor the metallic pollutions in urban rivers of Taiwan”, PAWEES 2014 International Conference, Kaohsiung, Taiwan.
34. **Chang, F.J.***, Chang, L.C., Wang, Y.C., Tsai, W.P., Chen, P.A., Coynel, A., Vachaud, G., “Optimal reservoir operation strategy for balancing ecosystem and human needs”, FRIEND-Water2014: 7th Global FRIEND-Water Conference, Montpellier, France.
35. **Chang, F.J.***, Chen, Y.H., Lu, Y.R., “Long-term Trends of Sediment Concentration in theShihmen Reservoir Catchment: Analysis and Estimation”, FRIEND-Water2014: 7th Global FRIEND-Water Conference, Montpellier,

France.

36. Tsai, W.P., Huang, J.L., Yam, R.S.W., Herricks, E.E., **Chang, F.J.***, "Investigating the eco-hydrosystems of watershed in Taiwan using flow regime and fish diversity", FRIEND-Water2014: 7th Global FRIEND-Water Conference, Montpellier, France.
37. **Chang, F.J.***, Chang, L.C., Wang, Y.C., "Artificial intelligence techniques for optimizing water allocation in a reservoir watershed", EGU 2014, Vienna, Austria.
38. **Chang, F.J.***, Wang, Y.C., "Impact of Climate Change on Intelligent Reservoir Decision-Making System", PAWEES 2013, Chungbuk, Korea.
39. Lu, Y.R., Chen, P.A., Chen, Y.H., Chang, K.Y., **Chang, F.J.***, "Intelligent Real-time Water Level Forecast Models for Drainage System", PAWEES 2013, Chungbuk, Korea.
40. Huang, J.L, Chen, Y.H., Tsai, W.P., Chang, K.C., **Chang, F.J.***, "Groundwater level prediction using artificial neural networks at the Zhuoshui River basin in Taiwan", PAWEES 2013, Chungbuk, Korea.
41. Tsai, W.P., Huang, J.L., Chang, K.C., **Chang, F.J.***, 2013, "Modeling long-term groundwater level to evaluate the influence of rainfall on groundwater recharge in central Taiwan by artificial neural networks", 2013 APEC Typhoon Symposium (APTS) , Taipei, Taiwan.
42. 王昱中, 蔡文柄, **張斐章***, 2013, "最佳水庫操作策略以平衡生態及人類用水需求 (Optimal reservoir operation strategy for balancing ecosystem and human needs)", 2013 農工研討會.
43. 呂英睿, 陳品安, 陳逸鴻, **張斐章***, 2013, "智慧型防洪抽水站之即時水位預報研究 (Intelligent Real-time Water Level Forecast Models for Pumping Stations)", 2013 農工研討會.
44. 黃俊霖, 蔡文柄, 陳逸鴻, **張斐章***, 2013, "應用類神經網路建立濁水溪水系長時距地下水位之預測模式 (Artificial Neural Networks for Groundwater Level long-term Prediction in the Zhuoshui River Basin)", 2013 農工研討會.
45. 楊舜年, **張斐章***, 張麗秋, 2013, "探討不同輸入因子對類神經網路預測石門水庫入流量精確度之影響 (Investigation of Different Input Factors Affecting the Accuracy of Artificial Neural Networks for Shimen Reservoir Inflow Forecast)", 2013 農工研討會.
46. 蔡豐合, 蕭閔鍾, **張斐章***, 張麗秋, 2013, "以自組特徵映射網路探討颱風路徑與石門水庫集水區降雨特徵之研究 (Using Self-Organizing Map to Investigate Typhoon Tracks and Temporal Rainfall Patterns over Shihmen Reservoir Watershed)", 2013 農工研討會.
47. Chen, P.A., **Chang, F.J.***, Tsai, Y.H., Chang, L.C., 2013, "Optimal Strategy

for Water Quality Control through Suitable Discharge of Urban River BasinUnder Imbalanced Hydro-Environmental Conditions", AOGS 10th Annual Meeting (AOGS2013), Brisbane, Australia.

48. Tsai, W.P., Lin, Y.F., Meyer, S.C., **Chang, F.J.***, 2013, "To improve the recharge and discharge estimation model of imbalanced flow in groundwaterby a hybrid framework", AOGS 10th Annual Meeting (AOGS2013), Brisbane, Australia.
49. Huang*, J.C., Lee, T.Y., Lee, J.Y., Hsu, S.C., Kao, S.J., **Chang, F.J.**, 2013 ,"Model- and EMMA-derived Stream Flow Compositions: Implication for Hydrological Model Behaviors", AOGS 10th Annual Meeting (AOGS2013), Brisbane, Australia.
50. **Chang, F.J.***, Chang, K.C., Lin, C.H., Kao, Y.H., Chang, L.C., 2012, "Investigating the interactive recharge mechanisms between surface water and groundwater over the Jhuoshuei River Basin in Central Taiwan", PAWEES 2012, Bangkok, Thailand.
51. Chen, P.A., Tsai, Y.H., **Chang, F.J.***, Tung, C.P., Yam, Rita S.W., Huang, J.C., Kao, S.J., Lin, Y.P., Chang, L.C.., Chang, T.W., Fang, W.T., 2012, "Estimating Regional Total Phosphate Concentration in a River Basin through the NARX network", PAWEES 2012, Bangkok, Thailand.
52. Wang, K.W., **Chang, F.J.***, 2012,"Intelligent water allocation strategy: a case study in northern Taiwan", Hydropredict 2012, Vienna, Austria.
53. Chen, P.A., Chang, L.C., **Chang, F.J.***, 2012, "A Reinforced Multi-Step-Ahead Online Learning Algorithm for Recurrent Neural Networks", Hydropredict 2012, Vienna, Austria.
54. Tsai, M.J., **Chang, F.J.***, 2012, "Multi-step-ahead inflow forecasting for reservoir operation and management in mountainous areas", Hydropredict 2012, Vienna, Austria.
55. Tsai, W.P., Chang, L.C., Herricks, E.E., **Chang, F.J.***, 2012, "A multi-objective evolutionary algorithm for optimizing reservoir management upon human and ecosystem needs", Hydropredict 2012, Vienna, Austria.
56. Wang, K.W., Chang, L.C., and **Chang, F.J.***, 2012, "Optimizing long-term reservoir operation through multi-tier interactive genetic algorithm", EGU 2012, Vienna, Austria.
57. **Chang, F.J.***, Yang, W.F., Shieh, M.C., Chen, Y.H., Tsai, M.J., Chang, L.C., Sorooshian, S., 2012, "Develop an early warning system and reduce disaster risk by integrating multiple information", 6th World Water Forum, Marseille, France.
58. Tsai, W.P., **Chang, F.J.***, 2012, "Estimating a variation of shallow

groundwater level model in Taiwan by artificial neural networks", Illinois Water Conference, USA.

59. 羅英泰、蔡孟蓉、**張斐章***, 2012, "以類神經網路建構即時水庫入庫流量系集預報模式", 農業工程研討會.
60. 張琬渝、王國威、**張斐章***、林承賢, 2012, "濁水溪流域地面水對地下水位影響機制之探討", 農業工程研討會.
61. 蔡宇軒、王國威、**張斐章***, 2012, "探討河川流量穩定水質之最佳化策略", 農業工程研討會.
62. **Chang, F.J.***, Chiang, Y.M., 2011, "Merging multiple rainfall information through a bias adjustment procedure using artificial neural networks", AGU Fall Meeting, San Francisco, USA.
63. Wang K.W., **Chang, F.J.***, 2011, "The decision making of fallow strategies for irrigation water management in northern Taiwan", PAWEES 2011 International Conference, Taipei, Taiwan.
64. Kao, L.S., Chen, P.A., Liu, C.W., Liao, H.C., Liao, C.M., **Chang, F.J.***, 2011, "Applying Genetic Algorithm to optimizing Artificial Neural Networks for estimating arsenic pollution in groundwater systems", PAWEES 2011 International Conference, Taipei, Taiwan.
65. 林振華、陳品安、江衍銘、**張斐章***, 2011, "以類神經網路建構區域地下水砷濃度推估模式", 水利工程研討會.
66. 林承賢、**張斐章***, 2011, "以類神經網路建構濁水溪流域地下水位推估模式", 水利工程研討會.
67. 林桂宏、**張斐章***, 2011, "以類神經網路整合多重資訊於雨量推估及預報", 水利工程研討會.
68. Chiang, Y.M., Tsai, M.J., **Chang, F.J.***, 2010, "Quantitative precipitation estimation by merging multiple precipitation products using artificial neural networks", AGU Fall Meeting, San Francisco, USA.
69. Chung, C.H., Chiang, Y.M., **Chang, F.J.***, 2010, "Estimation of evaporation at ungauged sites by combining ANFIS and Kriging methods", AGU Fall Meeting, San Francisco, USA.
70. Tsai, W.P., **Chang, F.J.***, Chiang, Y.M., 2010, "A study of artificial neural networks for estimating riverine biodiversity", AGU Fall Meeting, San Francisco, USA.
71. Chen, P.A., Chang, L.C., **Chang, F.J.***, 2010, "An enhanced two-step-ahead recurrent neural network for prediction of inflow in reservoir", AGU Fall Meeting, San Francisco, USA.
72. Sun, W., Chiang, Y.M., **Chang, F.J.***, 2010, "An investigation on the estimation of evaporation by combining artificial neural network and dynamic

factor analysis", AGU Fall Meeting, San Francisco, USA.

73. Chen, Y.H., Chiang, Y.M., **Chang, F.J.***, 2010, "An investigation on the estimation of sediment concentration by artificial neural networks", AGU Fall Meeting, San Francisco, USA.
74. **Chang, F.J.***, 2010, "Artificial neural networks for regional evaporation estimation", Hydrology Conference 2010, San Diego, USA.
75. Wang, K.W., **Chang, F.J.***, 2010, "A decision-making model for best timing and area allocation of fallow-restricted water", 2010 Western Pacific Geophysics Meeting, Taipei, Taiwan.
76. Chiang, Y.M., **Chang, F.J.***, 2010, "Estimation of agricultural losses using artificial neural networks", 2010 Western Pacific Geophysics Meeting, Taipei, Taiwan.
77. Chung, C.H., **Chang, F.J.***, 2010, "Assessment of arsenic rich water quality through neuro-fuzzy-based intelligent theories", The third international congress on arsenic in the environment: Arsenic in geosphere and human diseases, Tainan, Taiwan.
78. **Chang, F.J.***, Chiang, Y.M., Tsai, M.J., Wang, Y.F., 2009, "Investigating the intelligent operations for urban drainage systems using artificial neural networks", AGU Fall Meeting, San Francisco, USA.
79. Chiang, Y.M., Tsai, W.P., **Chang, F.J.***, 2009, "Flood forecasting from radar and numerical weather prediction information using artificial neural networks", 2nd International Summit on Hurricanes and Climate Change, Corfu , Greece.
80. Chiang, Y.M., Cheng, W.G., **Chang, F.J.***, 2009, "An application of artificial neural networks to the prediction of agricultural losses during typhoon periods", AGU Fall Meeting, San Francisco. USA.
81. **Chang, F.J.***, 2009, "Perspective on Professional Accreditation of Engineering Education", 8 th International Conference on Educational Accreditation System and APEC Engineers Project for Agricultural Engineering in Paddy Farming Regions, Bogor, Indonesia.
82. **Chang, F.J.***, Chiang, Y.M., Chiu, Y.C., Ho, Y.H., Chang, L.C., Wang, Y.F., 2008, "An Investigation of Water Level Prediction in Urban Drainage System Using Artificial Neural Networks", AGU Fall Meeting, San Francisco. USA.
83. **Chang, F.J.***, Chiang, Y.M., 2008, "Artificial Intelligence for Hydrological Modeling and Hydrosystems Management", AGU Fall Meeting, San Francisco. USA.
84. Wang, K.W., Chang, L.C., **Chang, F.J.***, 2008, "NSGA-II for optimizing water supply and hydroelectric power generation of Two-Reservoir System", AGU Fall Meeting, San Francisco, USA.

85. Wu, T.C., **Chang, F.J.***, Chiang, Y.M., 2008, "Identification of Ecological Flow Regime Related to Fish Community: A Quantitative Ecology Approach", AGU Fall Meeting, San Francisco, USA.
86. Chiang, Y.M., **Chang, F.J.***, 2008, "Integrating Hydrometeorological Information for Precipitation and Streamflow Forecasting Using Artificial Neural Networks ", AGU Fall Meeting, San Francisco, USA.
87. **Chang, F.J.***, 2008, "Intelligent control for modeling multipurpose reservoir operation in Taiwan", ICID 20th International Congress on Irrigation and Drainage, Lahore, Pakistan.
88. 高力山、孫維、**張斐章***, 2008, "應用類神經網路結合遺傳演算法優選區域地下水中砷濃度最佳化推估模式", 農業工程研討會.
89. 林遠見、江衍銘、**張斐章***, 2008, "颱風對台灣物價指數關係之研究", 農業工程研討會.
90. 鍾昌翰、江衍銘、**張斐章***, 2008, "影像處理應用於河床粒徑分佈之研究", 農業工程研討會.
91. 吳子青、吳衍諭、江衍銘、**張斐章***, 2008, "以自組織輻狀基底函數網路推估河川之生物多樣性", 農業工程研討會.
92. 江衍銘、陳品安、**張斐章***, 2008, "遞迴式類神經網路於降雨-逕流之探討", 農業工程研討會.
93. 吳子青、江衍銘、陳弘凷、**張斐章***, 2008, "結合河川流態與環境梯度概念於水資源最佳化管理之研究", 農業工程研討會.
94. **Chang, F.J.***, Chen, Y.H., 2007, “Construction of Evolutionary Artificial Neural Netoworks and its Application to Hydrological Systems Forecasting”, 2007 AGU Fall Meeting, San Francisco, USA.
95. 江衍銘、**張斐章***, 2006, "類神經網路建構定量降雨及流量預報模式", 農業工程研討會.
96. 李翁碩、**張斐章***, 2006, "以倒傳遞類神經網路架構土石流預警系統", 農業工程研討會.
97. 高慧珊、何宜樺、黃振昌、**張斐章***, 2006, "以自組特徵映射網路推估日蒸發量", 農業工程研討會.
98. **張斐章***, 2006, "缺水時期水庫配合休耕之營運策略", 農業水利.
99. 張凱堯、張麗秋、**張斐章***, 2005, "反傳遞類神經網路於抽水站操作之應用", 水資源管理研討會.
100. 蔡孟蓉、張麗秋、**張斐章***, 2005, "應用類神經網路及 GMS-5 衛星影像預測颱風降雨量", 水資源管理研討會.
101. 邱昱禎、**張斐章***, 2005, "水庫配合休耕之營運策略", 水資源管理研討會.
102. **張斐章***、張雅婷、張麗秋, 2005, "結合人工智慧與專家知識之智慧型水庫操作系統", 農業工程研討會.

103. 陳永祥、**張斐章***, 2005, "基因規劃法應用於週期性流量預測之研究", 農業工程研討會
104. 蔡亞欣、邱昱禎、張麗秋、**張斐章***, 2005, "蘭陽溪—水文防洪預測模式之建置", 農業工程研討會
105. **張斐章***、孫建平, 2004, "流量變化於生態河川流態及水資源管理之研究", 第一屆生態工程學術研討會.
106. **張斐章***, 2004, "智慧型水庫操作系統", 大壩安全管理與技術發展暨小水電開發研討會.
107. **張斐章***、張景忠, 2004, "農業用水之經營管理策略", 缺水時期之水資源利用與管理策略研討會.
108. **張斐章***、李英正、張雅婷, 2004, "檢視台灣地區農業用水之水權—以桃園農田水利會水權登記例",桃園大圳水資源暨營運管理學術研討會.
109. **張斐章***、惠士奇, 2004, "桃園農田水利會河水堰水理分析及資料庫建立", 桃園大圳水資源暨營運管理學術研討會.
110. 張雅婷、**張斐章***, 2004, "智慧型控制理論於水庫操作之應用", 水資源管理 2003 研討會.
111. **Chang, F.J.***, Chiu, Y.C., Chang, L.C., 2003, "A Hybrid Genetic Algorithm-Simulated Annealing For Optimizing Reservoir Operation", AGU Fall Meeting, San Francisco, USA.
112. 惠士奇、**張斐章***、張麗秋, 2003, "濁水溪流域暴雨時期流量預測之研究", 農業工程研討會.
113. 楊翰宗、**張斐章***, 2003, "倒傳遞類神經網路應用於接合明渠流之研究", 農業工程研討會.
114. 張麗秋、江衍銘、黃浩倫、**張斐章***, 2003, "智慧型水文防洪分析系統之研究", 水資源管理研討會.
115. 張麗秋、江衍銘、黃浩倫、**張斐章***, 2003, "智慧型水文防洪分析系統之研究", 水資源管理研討會.
116. **Chang, F.J.***, Chen, Y.C., 2002, "Flood forecasting using the radial basis function neural network with fuzzy min-max clustering", Proceedings of the Second International Symposium on Flood Defense, 2: 861-866.
117. 楊翰宗、**張斐章***、陳彥璋, 2002, "倒傳遞網路應用於試驗量測資料模擬之研究", 第十三屆水利工程研討會.
118. 邱昱禎、**張斐章***, 2002, "應用模擬退火法於水庫操作之研究", 水資源管理 2002 研討會.
119. **張斐章***、高力山, 2002, "應用假設市場法評估農田水利工程之環境效益", 水資源管理 2002 研討會.
120. 邱建堯、張景忠、**張斐章***, 2002, "台灣地區農業用水之水資源及水權補償轉移與經營展望之研究", 水資源管理 2002 研討會.

121. 阮忠信、**張斐章***, 2002, "人工水生態環境枝生態工程設計—以美國佛羅里達州 Kanapaha 植物園之水花園與台灣大學溪頭實驗林區大學池為例", 水資源管理 2002 研討會.
122. 王元鵬、張景忠、**張斐章***, 2002, "等雨量線法推估平均雨量—以高屏溪流域為例", 水資源管理 2002 研討會.
123. 丁裕峰、張麗秋、**張斐章***, 2001, "以即時回饋式類神經網路建構大甲溪流域之颱洪事件預報模式", 九十年度農業工程研討會.
124. 蔡亞欣、張麗秋、**張斐章***, 2001, "大甲溪洪峰流量之特性分析-以德基水庫入流量為例", 九十年度農業工程研討會.
125. 邱曉萍、陳彥璋、**張斐章***, 2001, "以共用臨域網路推求降雨-逕流模式",九十年度農業工程研討會.
126. **張斐章***、高力山, 2001, "灌區水利設施綜合效應評估模式之應用", 九十年度農業工程研討會.
127. **張斐章***、張景忠、高力山, 2001, "地面水管理-談水文資訊系統之建立",中台灣水資源問題與對策.
128. 郭中天、惠士奇、**張斐章***, 2001, "模糊理論與類神經網路於流量推估之研究", 第十二屆水利工程研討會.
129. 張景忠、張麗秋、**張斐章***, 2001, "建立主從式水文分析模式", 第十二屆水利工程研討會.
130. **張斐章***、向子菁、惠士奇、張麗秋, 2001, "智慧型控制理論於水庫操作決策之研究", 農業水資源經營技術八十八年度研究計畫成果發表討論會.
131. **Chang, F.J.***, Chang, L.C., 2000, "Intelligent Control System for Real Time Reservoir Operation", 3rd International Hydrology and Water Resources Symposium of the Institution of Engineers, Australia, Hydro 2000.
132. 高力山、**張斐章***, 2000, "應用模糊理論於農田水利設施效益評估之決策支援系統", 水資源管理 2000 研討會.
133. 李英正、**張斐章***、張雅婷, 2000, "農業用水之水權芻議--以桃園水利會水權登記為例", 水資源管理 2000 研討會.
134. 張景忠、**張斐章***, 2000, "水文分析電腦化作業環境", 八十九年度農業工程研討會.
135. 梁晉銘、**張斐章***、陳彥璋, 2000, "預分類型類神經－模糊推論模式於水文系統之研究", 第十一屆水利工程研討會.
136. **張斐章***、向子菁、張麗秋, 2000, "模糊系統規劃模式於農業水資源經營之研究(I) ", 農業水資源經營技術八十八年度研究計畫成果發表討論會.
137. 李子倫、**張斐章***, 2000, "模糊失誤樹分析於水庫溢流風險之研究", 跨世紀水資源經營管理研討會.
138. 孫建平、**張斐章***, 2000,"農業水利工程建設綜合評判架構之研究－以台東地區噴灌設施為例", 跨世紀水資源經營管理研討會.

139.孫建平、**張斐章***、黃源義, 1999,"幅狀基底函數網路於流量推估之研究", 八十八年度農業工程研討會.
140.梁晉銘、**張斐章***, 1999, "預分類型類神經-模糊推論模式於流量推估之研究", 八十八年度農業工程研討會.
141.金紹興、**張斐章***、馬家麟、簡振和, 1999, ”台灣地區水文觀測現代化方案之規劃”, 第十屆水利工程研討會.
142.**張斐章***、許榮哲、李子倫, 1999, "多目標決策分析在水庫操作之風險研究(II)", 八十七年度農業水資源經營技術研究計畫成果發表討論會.
143.**張斐章***、李子倫、黃源義, 1998, "模糊失誤樹於風險分析之應用-以水庫溢流風險為例", 八十七年度農業工程研討會.
144.**張斐章***、黃浩倫、張麗秋, 1998, "即時回饋式類神經網路於流量推估之應用", 八十七年度農業工程研討會.
145.**張斐章***、向子菁 ,1998, "應用模糊線性規劃理論與遺傳演算法於水庫即時操作之研究", 八十七年度農業工程研討會.
146.施兆瑄、**張斐章***、蕭慶章, 1998, "桃園水利會灌區河水堰現況調查評估及基本資料建檔", 八十七年度農業工程研討會.
147.**張斐章***、胡湘帆, 1998, "水文推估模式的回顧與展望", 水資源管理研討會.
148.梁晉銘、**張斐章***, 1998, "倒傳遞神經網路參數訓練演算法於水文系統之研究", 第九屆水利工程研討會.
149.賴進松、**張斐章***、柳文成、謝文凱, 1998, "水庫排砂對下游河道河床之影響", 第九屆水利工程研討會.
150.張麗秋、**張斐章***, 1997, "農田水利會網路管理整合系統", 八十六年度農業工程研討會.
151.**張斐章***、胡湘帆、黃源義, 1997, "應用模糊類神經網路於流量推估之研究", 八十六年度農業工程研討會.
152.**張斐章***、姜任飛、張麗秋, 1997, "GIS 於 WWW 線上查詢之研議-JAVA 之角色", 八十六年度中華地理資訊學會學術研討會.
153.**張斐章***、李子倫, 1996, "由賀伯颱風之災情檢討社子島防洪排水問題", 水資源經營管理研討會(三)-淡水河流域管理.
154.**張斐章***、周世峰、王文清, 1996, "專家系統應用於農業水資源經營之研究（II）", 農業水資源經營技術研究成果發表研討會.
155.**張斐章***、謝明志、陳明仁、張瑞祥, 1996, "建立全國農田水利資訊系統之研究", 八十五年度農業工程研討會.
156.賴進松、柳文成、**張斐章***、張凱堯, 1996, "建壩後下游河道沖淤變化之探討", 八十五年度農業工程研討會.
157.**張斐章***、賴進松、柳文成、謝惠紅, 1996, "大埔壩上游河床沖淤模擬之研究", 八十五年度農業工程研討會.

158. **張斐章***、黃源義、藍新珽、梁晉銘, 1996, "降雨在空間變異之研究", 第八屆水利工程研討會.
159. 張文綺、**張斐章***, 1996, "下水道系統溢流風險分析之研究"第八屆水利工程研討會.
160. **張斐章***、黃源義、梁晉銘、孫建平, 1996, "類神經網路在水文歷程之研析", 第二屆海峽兩岸水利科技交流研討會.
161. 孫建平、**張斐章***, 1995, "倒傳遞類神經網路演算法於時雨量預測之研究", 農業工程研討會.
162. 黃源義、**張斐章***, 1994, "自組性演算法及其在降雨--逕流模式之應用", 農業工程研討會.
163. **張斐章***、陳莉, 1994, "水庫操作及營運模式之研究", 農田水利科技研八十二年度計畫成果發表討論會.
164. **Chang, F.J.***, Lin, H.F., 1994, "A study of nested hyper-rectangles learning model for streamflow estimation", Republic of China -- South Africa Symposium on Water Resource, Taiwan.
165. 王文清、**張斐章***、易任, 1994, "河川流量延伸法之研究", 第七屆水利工程研討會.
166. 王文清、林惠芬、**張斐章***、易任, 1993, "河川流量延伸法之研究─理論探討", 農業工程研討會.
167. 林惠芬、王文清、**張斐章***、易任, 1993, "河川流量延伸法之研究─應用實例", 農業工程研討會.
168. 陳莉、**張斐章***, 1993, "模糊推論結合遺傳演算法於建立水庫即時操作專家系統之研究", 八十二年度農業工程研討會.
169. **Chang, F.J.***, Chen, Y.H., 1993, "Statistical Analysis of Extreme Hydrological Droughts", Engineering Hydrology, ASCE, USA.
170. **Chang, F.J.***, Chen, L., 1993, "An Exemplar-Based Learning Model to Hydrosystems Predicaton and Categorization", Stochastic and Statistical Medthods in Hydrology and Environmental Engineering, Canada.
171. **張斐章***, 1991, "評估集水區酸雨模式對降雨強度之反應", 農工學會,流域降雨逕流經理研討會.
172. **Chang, F.J.***, 1991, "Test of Watershed Acidification Model Responses to Rainfall Intensity", 15th International Conference on Rain Water Cisten Systems.
173. **張斐章***、易任, 1990, "序率線性規劃模式研擬水庫之最佳運轉策略",中國土木水利工程研討會.
174. **張斐章***, 1989, "利用基流量推估低流量頻率", 農工學會, 灌溉技術與管理研討會.

E. 專書

1. Chang, F. J., Hsu, K., & Chang, L. C. (Eds.). (2019). *Flood Forecasting Using Machine Learning Methods*. MDPI. ISBN 978-3-03897-549-6
2. **張斐章**、張麗秋, 類神經網路導論-原理與應用, 第二版, 滄海書局, 2015年
3. **張斐章**、張麗秋, 類神經網路導論-原理與應用, 滄海書局, 2010年
4. **張斐章**、張麗秋, 類神經網路, 東華書局, 2005年
5. **張斐章**、張麗秋、黃浩倫, 類神經網路理論與實務, 東華書局, 2003年

F. Book Chapters

1. **Chang, F.J.***, Lo, Y.J., Chen, P.A., Chang, L.C., Shieh, M.C., "Multi-step-ahead reservoir inflow forecasting by artificial neural networks", Knowledge-based Information Systems in Practice, Springer, pp. 235-249, 2015.
2. **Chang, F.J.***, Tsai, W.P., Wang, Y.C., Chen, P.A., Chang, L.C., Coynel, A., Vachaud, G., "Optimal reservoir operation strategy for balancing ecosystem and human needs", Hydrology in a Changing World: Environmental and Human Dimensions, IAHS Publ. 363, pp. 126-131, 2014.

G. 技術報告及其他

1. **張斐章,** 1991, "甘露成酸雨", 防災科技通訊, 9卷5期
2. **張斐章,** 1989, "酸雨問題之探討", 中國環保雜誌創刊號
3. **張斐章,** 1989, "酸雨的成因與禍害", 科學月刊, 20卷5期

H. 學術研究計畫

主持 50 個以上國科會、水利及農業等部會支持的學術研究計畫.

- **洪水預報、降雨—逕流量預測、土石流預警系統**
  1. 整合多重觀測資訊於山區雨量推估及洪水預報風險管理評估（水利署）
     - 與美國國家工程院士 Distinguished Professor Soroosh Sorooshian, University of California, Irvine 合作)
  2. 人工智慧於洪水時期水庫入流量預測與即時操作策略（國科會）
  3. 流域水文防洪預測模式整合應用（水利署）
  4. 曾文溪-水文防洪預測模式之建置（水利署）
  5. 國土撫育決策支援系統（農委會）

- **智慧型抽水站系統、智慧型水庫操作系統**
  1. 防洪抽水站智慧型防汛操作系統（水利署）
  2. 石門水庫運轉規線下限及嚴重下限提升改善可行性評估（北水局）
  3. 氣候變遷下智慧型農業配水因應策略（農委會）
  4. 農業水資源經營技術之研究-智慧型水庫決策系統（農委會）
  5. 農業水資源經營技術之研究-智慧型水庫操作於枯水期農業用水之調配策略（農委會）
  6. 農業水資源經營技術之研究-智慧型水庫營運策略於區域用水之調配（農委會）
  7. 加強農業水利科技研究發展-細部計畫 4：缺水時期水庫配合休耕之營運策略（農委會）

- **智慧型蒸發量推估模式**
  1. 智慧型類神經網路於蒸發量推估(國科會)

- **生態水文**
  2. 中部山區水資源與地下水補注交互機制之探討（水利署）
  3. 河川流態管理於生物多樣性之研究（水利署）
  4. 水資源最佳化管理於生態復育之研究（水利署）
  5. 生態水文於多目標水資源管理研究與應用（水利署）

  (2-4 項: 與美國 Professor Edwin E. Herricks, University of Illinois at Urbana-Champaign 合作)

- **含砷水質對生態之影響**
  1. 智慧模糊類神經網路評估含砷之水質及潮汐對濕地及河口生態之影響 (國科會)
  2. 人工智慧推估及管理生態水文地質系統中砷之變化 (國科會)
  3. 動態因子分析與類神經網路於砷污染地下水域中分析砷濃度之變化

(國科會)

- **複合式材料 FRP 水閘門應用及推廣** (新竹農田水利會)