

## REFERENCES

- Aad, G., Abbott, B., Abdallah, J., Abdelalim, A., Abdesselam, A., Abdinov, O., . . . Abreu, H. (2013). Jet energy measurement with the ATLAS detector in proton-proton collisions at  $\sqrt{s} = 7$  TeV. *The European Physical Journal C*, 73(3), 2304.
- Aamer, A. A. E.-S. a. S. T. (2016). Particle Swarm Optimization Technique to Determine Class Location in Illiteracy Problem. *Research Journal of Applied Sciences*, 11(5).
- Affonso, C., Sassi, R. J., & Barreiros, R. M. (2015). Biological image classification using rough-fuzzy artificial neural network. *Expert Systems with Applications*, 42(24), 9482-9488.
- Afrand, M., Ahmadi Nadooshan, A., Hassani, M., Yarmand, H., & Dahari, M. (2016). Predicting the viscosity of multi-walled carbon nanotubes/water nanofluid by developing an optimal artificial neural network based on experimental data. *International Communications in Heat and Mass Transfer*, 77, 49-53.
- Agarwal, T. (2012). Review of pump as turbine (PAT) for micro-hydropower. *International Journal of Emerging Technology and Advanced Engineering*, 2(11), 163-168.
- Ahmad-Rashid, K. (2017). Present and Future for Hydropower Developments in Kurdistan. *Energy Procedia*, 112(Supplement C), 632-639.
- Ahmad, S. B. a. R. (2016). An Improved Artificial Bee Colony Algorithm for Constrained Optimization. *Research Journal of Applied Sciences*, 11(1).
- Alweshah, M., & Abdullah, S. (2015). Hybridizing firefly algorithms with a probabilistic neural network for solving classification problems. *Applied Soft Computing*, 35, 513-524.
- Ameli, A., Farrokhifard, M., Ahmadifar, A., Safari, A., & Shayanfar, H. A. (2013, 5-8 May 2013). *Optimal tuning of Power System Stabilizers in a multi-machine system using firefly algorithm*. Paper presented at the Environment and Electrical Engineering (EEEIC), 2013 12th International Conference on.
- Aminloei, R. T., & Ghaderi, S. (2010). Generation planning in Iranian power plants with fuzzy hierarchical production planning. *Energy Conversion and Management*, 51(6), 1230-1241.
- Amjady, N., & Soleymanpour, H. R. (2010). Daily hydrothermal generation scheduling by a new modified adaptive particle swarm optimization technique. *Electric power systems research*, 80(6), 723-732.
- Anagnostopoulos, J. S., & Papantonis, D. E. (2007a). Optimal sizing of a run-of-river small hydropower plant. *Energy Conversion and Management*, 48(10), 2663-2670.

- Anagnostopoulos, J. S., & Papantonis, D. E. (2007b). Pumping station design for a pumped-storage wind-hydro power plant. *Energy Conversion and Management*, 48(11), 3009-3017.
- Ashtiani, H. R. R., & Shahsavari, P. (2016). A comparative study on the phenomenological and artificial neural network models to predict hot deformation behavior of AlCuMgPb alloy. *Journal of Alloys and Compounds*, 687, 263-273.
- Aslan, Y., & Yağan, Y. E. (2017). Artificial neural-network-based fault location for power distribution lines using the frequency spectra of fault data. *Electrical Engineering*, 99(1), 301-311. doi:10.1007/s00202-016-0428-8
- Atieh, M., Gharabaghi, B., & Rudra, R. (2015). Entropy-based neural networks model for flow duration curves at ungauged sites. *Journal of Hydrology*, 529, 1007-1020.
- Ayancik, F., Acar, E., Celebioglu, K., & Aradag, S. (2017). Simulation-based design and optimization of Francis turbine runners by using multiple types of metamodels. *Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science*, 231(8), 1427-1444.
- Azizi, S., & Ahmadloo, E. (2016). Prediction of heat transfer coefficient during condensation of R134a in inclined tubes using artificial neural network. *Applied Thermal Engineering*, 106, 203-210.
- Balachennaiah, P., Suryakalavathi, M., & Nagendra, P. (2016). Optimizing real power loss and voltage stability limit of a large transmission network using firefly algorithm. *Engineering Science and Technology, an International Journal*, 19(2), 800-810.
- Banos, R., Manzano-Agugliaro, F., Montoya, F., Gil, C., Alcayde, A., & Gómez, J. (2011). Optimization methods applied to renewable and sustainable energy: A review. *Renewable and Sustainable Energy Reviews*, 15(4), 1753-1766.
- Barrow, D. K., & Crone, S. F. (2016). Cross-validation aggregation for combining autoregressive neural network forecasts. *International Journal of Forecasting*, 32(4), 1120-1137.
- Bashiri, S. A. Z. A. a. M. (2016). Modeling Police Patrol Routing and its Problem-Solving Technique Based on the Ant Colony Optimization Algorithm(case Study: Iran's Police). *Research Journal of Applied Sciences*, 11(7).
- Bazartseren, B., Hildebrandt, G., & Holz, K.-P. (2003). Short-term water level prediction using neural networks and neuro-fuzzy approach. *Neurocomputing*, 55(3), 439-450.
- Belsnes, M., Wolfgang, O., Follestad, T., & Aasgård, E. (2016). Applying successive linear programming for stochastic short-term hydropower optimization. *Electric Power Systems Research*, 130, 167-180.

- Belsnes, M. M., Wolfgang, O., Follestad, T., & Aasgård, E. K. (2016). Applying successive linear programming for stochastic short-term hydropower optimization. *Electric Power Systems Research*, 130, 167-180.
- Bengio, Y., & Grandvalet, Y. (2004). No unbiased estimator of the variance of k-fold cross-validation. *Journal of machine learning research*, 5(Sep), 1089-1105.
- Bhat, V. I., & Prakash, R. (2008). Life cycle analysis of run-of river small hydro power plants in India. *The Open Renewable Energy Journal*, 1(1).
- Bhushan, B., & Pillai, S. S. (2013, 22-23 Feb. 2013). *Particle Swarm Optimization and Firefly Algorithm: Performance analysis*. Paper presented at the Advance Computing Conference (IACC), 2013 IEEE 3rd International.
- Binama, M., Su, W.-T., Li, X.-B., Li, F.-C., Wei, X.-Z., & An, S. (2017). Investigation on pump as turbine (PAT) technical aspects for micro hydropower schemes: A state-of-the-art review. *Renewable and Sustainable Energy Reviews*, 79, 148-179.
- Bøckman, T., Fleten, S.-E., Juliussen, E., Langhammer, H. J., & Revdal, I. (2008). Investment timing and optimal capacity choice for small hydropower projects. *European Journal of Operational Research*, 190(1), 255-267.
- Borges, C. L., & Pinto, R. J. (2008). Small hydro power plants energy availability modeling for generation reliability evaluation. *IEEE Transactions on Power Systems*, 23(3), 1125-1135.
- Box, G. E. (1954a). Some theorems on quadratic forms applied in the study of analysis of variance problems, I. Effect of inequality of variance in the one-way classification. *The annals of mathematical statistics*, 25(2), 290-302.
- Box, G. E. (1954b). Some theorems on quadratic forms applied in the study of analysis of variance problems, II. Effects of inequality of variance and of correlation between errors in the two-way classification. *The annals of mathematical statistics*, 25(3), 484-498.
- Brezovec, M., Kuzle, I., & Tomisa, T. (2006). Nonlinear digital simulation model of hydroelectric power unit with Kaplan turbine. *IEEE Transactions on Energy Conversion*, 21(1), 235-241.
- Buyukada, M. (2016). Co-combustion of peanut hull and coal blends: Artificial neural networks modeling, particle swarm optimization and Monte Carlo simulation. *Bioresource Technology*, 216, 280-286.
- Çam, E. (2007). Application of fuzzy logic for load frequency control of hydroelectrical power plants. *Energy conversion and management*, 48(4), 1281-1288.
- Carapellucci, R., Giordano, L., & Pierguidi, F. (2015). Techno-economic evaluation of small-hydro power plants: Modelling and characterisation of the Abruzzo region in Italy. *Renewable Energy*, 75, 395-406.

- Castronuovo, E. D., & Lopes, J. P. (2004). On the optimization of the daily operation of a wind-hydro power plant. *IEEE Transactions on Power Systems*, 19(3), 1599-1606.
- Catalão, J. P. d. S., Pousinho, H. M. I., & Mendes, V. M. F. (2010). Scheduling of head-dependent cascaded hydro systems: Mixed-integer quadratic programming approach. *Energy conversion and management*, 51(3), 524-530.
- Chang, J., Li, Y., Yuan, M., & Wang, Y. (2017). Efficiency evaluation of hydropower station operation: A case study of Longyangxia station in the Yellow River, China. *Energy*, 135(Supplement C), 23-31.
- Chansareewittaya, S., & Jirapong, P. (2015). Power transfer capability enhancement with multitype FACTS controllers using hybrid particle swarm optimization. *Electrical Engineering*, 97(2), 119-127. doi:10.1007/s00202-014-0317-y
- Chiranjeevi, K., Jena, U. R., Murali Krishna, B., & Kumar, J. (2016). Modified Firefly Algorithm (MFA) Based Vector Quantization for Image Compression. In H. S. Behera & D. P. Mohapatra (Eds.), *Computational Intelligence in Data Mining—Volume 2: Proceedings of the International Conference on CIDM, 5-6 December 2015* (pp. 373-382). New Delhi: Springer India.
- Chiteka, K., & Enweremadu, C. C. (2016). Prediction of global horizontal solar irradiance in Zimbabwe using artificial neural networks. *Journal of Cleaner Production*, 135, 701-711.
- Chuanwen, J., & Bompard, E. (2005). A self-adaptive chaotic particle swarm algorithm for short term hydroelectric system scheduling in deregulated environment. *Energy Conversion and Management*, 46(17), 2689-2696.
- Cobaner, M., Haktanir, T., & Kisi, O. (2008). Prediction of hydropower energy using ANN for the feasibility of hydropower plant installation to an existing irrigation dam. *Water resources management*, 22(6), 757-774.
- Cobb, B. R., & Sharp, K. V. (2013). Impulse (Turgo and Pelton) turbine performance characteristics and their impact on pico-hydro installations. *Renewable Energy*, 50, 959-964.
- Cordova, M., Finardi, E., Ribas, F., de Matos, V., & Scuzziato, M. (2014). Performance evaluation and energy production optimization in the real-time operation of hydropower plants. *Electric Power Systems Research*, 116, 201-207.
- Cordova, M. M., Finardi, E. C., Ribas, F. A. C., de Matos, V. L., & Scuzziato, M. R. (2014). Performance evaluation and energy production optimization in the real-time operation of hydropower plants. *Electric Power Systems Research*, 116, 201-207.
- Costa, K., & McManus, J. (2017). Efficacy of <sup>230</sup>Th normalization in sediments from the Juan de Fuca Ridge, northeast Pacific Ocean. *Geochimica et Cosmochimica Acta*, 197(Supplement C), 215-225.

- Cozorici, F., Vadan, I., Munteanu, R. A., Cozorici, I., & Karaissas, P. (2011). *Design and simulation of a small wind-hydro power plant*. Paper presented at the Clean Electrical Power (ICCEP), 2011 International Conference on.
- Dechezleprêtre, A., Glachant, M., & Ménière, Y. (2008). The Clean Development Mechanism and the international diffusion of technologies: An empirical study. *Energy policy*, *36*(4), 1273-1283.
- DelSontro, T., McGinnis, D. F., Sobek, S., Ostrovsky, I., & Wehrli, B. (2010). Extreme methane emissions from a Swiss hydropower reservoir: contribution from bubbling sediments. *Environmental science & technology*, *44*(7), 2419-2425.
- Dil, E. A., Ghaedi, M., Asfaram, A., Mehrabi, F., Bazrafshan, A. A., & Ghaedi, A. M. (2016). Trace determination of safranin O dye using ultrasound assisted dispersive solid-phase micro extraction: Artificial neural network-genetic algorithm and response surface methodology. *Ultrasonics Sonochemistry*, *33*, 129-140.
- Donalek, P. J. (2008). *Update on small hydro technologies, and distributed generation including run-of-river plants*. Paper presented at the Power and Energy Society General Meeting—Conversion and Delivery of Electrical Energy in the 21st Century, 2008 IEEE.
- Dorn, F. B., Farahmand, H., Skjelbred, H. I., & Belsnes, M. M. (2016). Modelling minimum pressure height in short-term hydropower production planning. *Energy Procedia*, *87*, 69-76.
- El-Wakeel, A. S. (2014). Design optimization of PM couplings using hybrid particle swarm optimization-simplex method (PSO-SM) algorithm. *Electric Power Systems Research*, *116*, 29-35.
- Elbatran, A., Yaakob, O., Ahmed, Y. M., & Shabara, H. (2015). Operation, performance and economic analysis of low head micro-hydropower turbines for rural and remote areas: a review. *Renewable and Sustainable Energy Reviews*, *43*, 40-50.
- Elsafi, S. H. (2014). Artificial neural networks (ANNs) for flood forecasting at Dongola Station in the River Nile, Sudan. *Alexandria Engineering Journal*, *53*(3), 655-662.
- Estropez, N., & Nagasaka, K. (2005). *A month ahead micro-hydro power generation scheduling using artificial neural network*. Paper presented at the Power Engineering Society General Meeting, 2005. IEEE.
- Feng, Z.-k., Niu, W.-j., Cheng, C.-t., & Liao, S.-l. (2017). Hydropower system operation optimization by discrete differential dynamic programming based on orthogonal experiment design. *Energy*, *126*, 720-732.
- Feng, Z.-k., Niu, W.-j., Cheng, C.-t., & Wu, X.-y. (2017). Optimization of hydropower system operation by uniform dynamic programming for dimensionality reduction. *Energy*, *134*, 718-730.

- Fenton, L. (1960). The sum of log-normal probability distributions in scatter transmission systems. *IRE Transactions on Communications Systems*, 8(1), 57-67.
- Gaiser, K., Erickson, P., Stroeve, P., & Delplanque, J.-P. (2016). An experimental investigation of design parameters for pico-hydro Turgo turbines using a response surface methodology. *Renewable Energy*, 85, 406-418.
- Ge, X.-l., Zhang, L.-z., Shu, J., & Xu, N.-f. (2014). Short-term hydropower optimal scheduling considering the optimization of water time delay. *Electric Power Systems Research*, 110, 188-197.
- Ge, X., Pan, L., Gao, Z., Tang, S., & Chu, D. (2011). *Hydro-generator units operating condition forecasting and fault diagnosis based on BP neural network*. Paper presented at the Computer Science and Service System (CSSS), 2011 International Conference on.
- Gholizadeh, S. (2015). Performance-based optimum seismic design of steel structures by a modified firefly algorithm and a new neural network. *Advances in Engineering Software*, 81, 50-65.
- Ghumman, A., Ghazaw, Y. M., Sohail, A., & Watanabe, K. (2011). Runoff forecasting by artificial neural network and conventional model. *Alexandria Engineering Journal*, 50(4), 345-350.
- Ghumman, A. R., Ghazaw, Y. M., Sohail, A. R., & Watanabe, K. (2011). Runoff forecasting by artificial neural network and conventional model. *Alexandria Engineering Journal*, 50(4), 345-350.
- Gope, S., Goswami, A. K., Tiwari, P. K., & Deb, S. (2016). Rescheduling of real power for congestion management with integration of pumped storage hydro unit using firefly algorithm. *International Journal of Electrical Power & Energy Systems*, 83, 434-442.
- Guerraiche, K. R., Mostefa; Zebalah, Abdelkader; Dekhici, Latifa. (2015). Series-Parallel Power System Optimization Using Firefly Algorithm. *International Journal on Electrical Engineering & Informatics*, Vol. 7(Issue 1), p89.
- Guisández, I., Pérez-Díaz, J. I., & Wilhelmi, J. R. (2013). Assessment of the economic impact of environmental constraints on annual hydropower plant operation. *Energy Policy*, 61, 1332-1343.
- Gutierrez-Corea, F.-V., Manso-Callejo, M.-A., Moreno-Regidor, M.-P., & Manrique-Sancho, M.-T. (2016). Forecasting short-term solar irradiance based on artificial neural networks and data from neighboring meteorological stations. *Solar Energy*, 134, 119-131.
- Hahn, B. H., & Valentine, D. T. (2017). Chapter 4 - MATLAB Functions and Data Import-Export Utilities. In B. H. Hahn & D. T. Valentine (Eds.), *Essential MATLAB for Engineers and Scientists (Sixth Edition)* (pp. 99-107): Academic Press.

- Haidar, A. M., Senan, M. F., Noman, A., & Radman, T. (2012). Utilization of pico hydro generation in domestic and commercial loads. *Renewable and Sustainable Energy Reviews*, 16(1), 518-524.
- Hammid, A. T., Hojabri, M., Sulaiman, M. H., Abdalla, A. N., & Kadhim, A. A. (2016). Load Frequency Control for Hydropower Plants using PID Controller. *Journal of Telecommunication, Electronic and Computer Engineering (JTEC)*, 8(10), 47-51.
- Hammid, A. T., Sulaiman, M. H. B., & Abdalla, A. N. (2017). Prediction of small hydropower plant power production in Himreen Lake dam (HLD) using artificial neural network. *Alexandria Engineering Journal*.
- Han, Y.-M., Geng, Z.-Q., & Zhu, Q.-X. (2016). Energy optimization and prediction of complex petrochemical industries using an improved artificial neural network approach integrating data envelopment analysis. *Energy Conversion and Management*, 124, 73-83.
- Harizi, F., Gessoum, A., & Ghanem, K. (2017). Partial aggregation of users for biometric scores normalization. *Digital Signal Processing*, 71(Supplement C), 144-163.
- Hayen, L. (1996). Method for constructing a histogram in digital image processing by statistical pixel sampling: Google Patents.
- He, L., & Huang, S. (2017). Modified firefly algorithm based multilevel thresholding for color image segmentation. *Neurocomputing*, 240(Supplement C), 152-174.
- He, X.-S. Y. X. (2013). Firefly Algorithm: Recent Advances and Applications. *Int. J. of Swarm Intelligence*, Vol.1(No.1), pp.36-50.
- Himreen Lake (iq053). (2009-2011.).
- Hondo, H. (2005). Life cycle GHG emission analysis of power generation systems: Japanese case. *Energy*, 30(11), 2042-2056.
- Hydraulic Turbines, Storage Pumps and Pump-turbines, in Model Acceptance tests. (1999). *International Electrotechnic Commission*, I.,.
- Ibrahim, I. A., & Khatib, T. (2017). A novel hybrid model for hourly global solar radiation prediction using random forests technique and firefly algorithm. *Energy Conversion and Management*, 138, 413-425.
- Ichiyanagi, K., Goto, Y., Mizuno, K., Yokomizu, Y., & Matsumura, T. (1995). *An artificial neural network to predict river flow rate into a dam for a hydro-power plant*. Paper presented at the Neural Networks, 1995. Proceedings., IEEE International Conference on.
- Illias, H. A., Chai, X. R., & Abu Bakar, A. H. (2016). Hybrid modified evolutionary particle swarm optimisation-time varying acceleration coefficient-artificial neural network for power transformer fault diagnosis. *Measurement*, 90, 94-102.

- Imran, M., Kumar, D., Kumar, N., Qayyum, A., Saeed, A., & Bhatti, M. S. (2014). Environmental concerns of underground coal gasification. *Renewable and Sustainable Energy Reviews*, 31, 600-610.
- Ioannidou, C., & O'Hanley, J. R. (2018). Eco-friendly location of small hydropower. *European Journal of Operational Research*, 264(3), 907-918.
- Iraqi Ministry of Water Resource. [www.mowr.gov.iq](http://www.mowr.gov.iq).
- Jaber, A. S., Ahmad, A., & Abdalla, A. N. (2013). An Investigation of Scaled-FLC Using PSO for Multi-area Power System Load Frequency Control. *Energy and Power Engineering*, 5(04), 458.
- Jagtap, J., & Kokare, M. (2016). Human age classification using facial skin aging features and artificial neural network. *Cognitive Systems Research*, 40, 116-128.
- Jawahar, C., & Michael, P. A. (2017). A review on turbines for micro hydro power plant. *Renewable and Sustainable Energy Reviews*, 72, 882-887.
- Jiekang, W., Zhuangzhi, G., & Fan, W. (2014). Short-term multi-objective optimization scheduling for cascaded hydroelectric plants with dynamic generation flow limit based on EMA and DEA. *International journal of electrical power & energy systems*, 57, 189-197.
- Kacprzyk, J., Krawczak, M., & Szkatuła, G. (2017). On bilateral matching between fuzzy sets. *Information Sciences*, 402(Supplement C), 244-266.
- Kadigi, R. M., Mdoe, N. S., Ashimogo, G. C., & Morardet, S. (2008). Water for irrigation or hydropower generation?—Complex questions regarding water allocation in Tanzania. *Agricultural water management*, 95(8), 984-992.
- Kahourzade, S., Mahmoudi, A., & Mokhlis, H. B. (2015). A comparative study of multi-objective optimal power flow based on particle swarm, evolutionary programming, and genetic algorithm. *Electrical Engineering*, 97(1), 1-12. doi:10.1007/s00202-014-0307-0
- Kamodkar, R., & Regulwar, D. (2014). Optimal multiobjective reservoir operation with fuzzy decision variables and resources: A compromise approach. *Journal of Hydro-Environment Research*, 8(4), 428-440.
- Kandil, N., Wamkeue, R., Saad, M., & Georges, S. (2006). An efficient approach for short term load forecasting using artificial neural networks. *International Journal of Electrical Power & Energy Systems*, 28(8), 525-530.
- Karier, T., & Fazio, J. (2017). How hydropower enhances the capacity value of renewables and energy efficiency. *The Electricity Journal*, 30(5), 1-5.
- Khadse, C. B., Chaudhari, M. A., & Borghate, V. B. (2016). Conjugate gradient back-propagation based artificial neural network for real time power quality assessment. *International Journal of Electrical Power & Energy Systems*, 82, 197-206.



- Khan, M. Y. A., & Koo, J.-Y. (2017). Neural network based diagnosis of partial discharge defects patterns at XLPE cable under DC stress. *Electrical Engineering*, 99(1), 119-132. doi:10.1007/s00202-016-0395-0
- Khan, R. (2015). Small Hydro Power in India: Is it a sustainable business? *Applied Energy*, 152, 207-216.
- Khan, Y. (2016). Partial discharge pattern analysis using PCA and back-propagation artificial neural network for the estimation of size and position of metallic particle adhering to spacer in GIS. *Electrical Engineering*, 98(1), 29-42. doi:10.1007/s00202-015-0343-4
- Kim, E.-H., Oh, S.-K., & Pedrycz, W. (2017). Reinforced rule-based fuzzy models: Design and analysis. *Knowledge-Based Systems*, 119(Supplement C), 44-58.
- Kishor, N. (2008). Zero-order TS fuzzy model to predict hydro turbine speed in closed loop operation. *Applied Soft Computing*, 8(2), 1074-1084.
- Kostić, S., Stojković, M., & Prohaska, S. (2016). Hydrological flow rate estimation using artificial neural networks: Model development and potential applications. *Applied Mathematics and Computation*, 291, 373-385.
- Kucukali, S. (2011). Risk assessment of river-type hydropower plants using fuzzy logic approach. *Energy Policy*, 39(10), 6683-6688.
- Kurtulus, B., & Razack, M. (2010). Modeling daily discharge responses of a large karstic aquifer using soft computing methods: artificial neural network and neuro-fuzzy. *Journal of Hydrology*, 381(1), 101-111.
- Kusakana, K., Munda, J., & Jimoh, A. (2008). *Economic and environmental analysis of micro hydropower system for rural power supply*. Paper presented at the Power and Energy Conference, 2008. PECon 2008. IEEE 2nd International.
- Laamari, Y., Chafaa, K., & Athamena, B. (2015). Particle swarm optimization of an extended Kalman filter for speed and rotor flux estimation of an induction motor drive. *Electrical Engineering*, 97(2), 129-138. doi:10.1007/s00202-014-0322-1
- Laghari, J., Mokhlis, H., Bakar, A., & Mohammad, H. (2013). A comprehensive overview of new designs in the hydraulic, electrical equipments and controllers of mini hydro power plants making it cost effective technology. *Renewable and Sustainable Energy Reviews*, 20, 279-293.
- Lal, D. K., Barisal, A., & Tripathy, M. (2016). Grey wolf optimizer algorithm based fuzzy PID controller for AGC of multi-area power system with TCPS. *Procedia Computer Science*, 92, 99-105.
- Larson, M. G. (2008). Analysis of variance. *Circulation*, 117(1), 115-121.
- Lashofer, A., Hawle, W., & Pelikan, B. (2012). *State of technology and design guidelines for the Archimedes screw turbine*. Paper presented at the meeting of Hydro.

- Lehner, B., Czisch, G., & Vassolo, S. (2005). The impact of global change on the hydropower potential of Europe: a model-based analysis. *Energy Policy*, 33(7), 839-855.
- Letia, T., Astilean, A., Cuibus, O., & Mircescu, D. (2013). Cooperative Control of Hydro-Power Systems. *IFAC Proceedings Volumes*, 46(6), 13-18.
- Li, G., Sun, Y., He, Y., Li, X., & Tu, Q. (2014). Short-term power generation energy forecasting model for small hydropower stations using GA-SVM. *Mathematical Problems in Engineering*, 2014.
- LI Miao, D. C. H., TAN Jin, YANG Wei, ZHENG Li. (2016). Research on Small Hydropower Generation Forecasting Method Based on Improved BP Neural Network. *Atlantis Press, 3rd International Conference on Materials Engineering, Manufacturing Technology and Control*.
- Li, Y., & Zhu, G. (2013). *Prediction on power energy mix of China based on neural network model*. Paper presented at the Power and Energy Society General Meeting (PES), 2013 IEEE.
- Liao, S.-l., Liu, B.-x., Cheng, C.-t., Li, Z.-f., & Wu, X.-y. (2017). Long-Term Generation Scheduling of Hydropower System Using Multi-Core Parallelization of Particle Swarm Optimization. *Water Resources Management*, 1-17.
- Liao, X., Zhou, J., Ouyang, S., Zhang, R., & Zhang, Y. (2014). Multi-objective artificial bee colony algorithm for long-term scheduling of hydropower system: A case study of china. *Water Util J*, 7, 13-23.
- Liao, X., Zhou, J., Zhang, R., & Zhang, Y. (2012). An adaptive artificial bee colony algorithm for long-term economic dispatch in cascaded hydropower systems. *International journal of electrical power & energy systems*, 43(1), 1340-1345.
- Lindfield, G., & Penny, J. (2017). Chapter 5 - The Firefly Algorithm. In G. Lindfield & J. Penny (Eds.), *Introduction to Nature-Inspired Optimization* (pp. 85-100). Boston: Academic Press.
- Liu, J., Chung, F.-l., & Wang, S. (2017). Bayesian zero-order TSK fuzzy system modeling. *Applied Soft Computing*, 55, 253-264.
- Liu, Z.-B., Shu, H.-C., Han, W., & Zhu, W.-T. (2007). Reliability evaluation of distribution system including small hydro power. *Relay*, 35(2), 55-59.
- Locke, A. E., Kahali, B., Berndt, S. I., Justice, A. E., Pers, T. H., Day, F. R., . . . Yang, J. (2015). Genetic studies of body mass index yield new insights for obesity biology. *Nature*, 518(7538), 197-206.
- Lu, B., Li, K., Zhang, H., Wang, W., & Gu, H. (2013). Study on the optimal hydropower generation of Zhelin reservoir. *Journal of hydro-environment research*, 7(4), 270-278.
- Lu, P., Zhou, J., Wang, C., Qiao, Q., & Mo, L. (2015). Short-term hydro generation scheduling of Xiluodu and Xiangjiaba cascade hydropower stations using

- improved binary-real coded bee colony optimization algorithm. *Energy Conversion and Management*, 91, 19-31.
- Lubitz, W. D., Lyons, M., & Simmons, S. (2014). Performance model of Archimedes screw hydro turbines with variable fill level. *Journal of Hydraulic Engineering*, 140(10), 04014050.
- Ma, C., Lian, J., & Wang, J. (2013). Short-term optimal operation of Three-gorge and Gezhouba cascade hydropower stations in non-flood season with operation rules from data mining. *Energy conversion and management*, 65, 616-627.
- Macikowski, B. (2017). *Small Hydropower Plants in Pomerania: The Example of Evolution of Modern Industrial Brick Architecture*. Paper presented at the IOP Conference Series: Materials Science and Engineering.
- Maher, P., Smith, N., & Williams, A. (2003). Assessment of pico hydro as an option for off-grid electrification in Kenya. *Renewable Energy*, 28(9), 1357-1369.
- Mahmoud, M., Dutton, K., & Denman, M. (2005). Design and simulation of a nonlinear fuzzy controller for a hydropower plant. *Electric Power Systems Research*, 73(2), 87-99.
- Mandelli, S., Colombo, E., Redondi, A., Bernardi, F., Saanane, B. B., Mgaya, P., & Malisa, J. (2013). *A small-hydro plant model for feasibility analysis of electrification projects in Rural Tanzania*. Paper presented at the Global Humanitarian Technology Conference (GHTC), 2013 IEEE.
- Mantawy, A., Soliman, S., & El-Hawary, M. (2002). *A new tabu search algorithm for the long-term hydro scheduling problem*. Paper presented at the Power Engineering 2002 Large Engineering Systems Conference on, LESCOPE 02.
- Marin-Jimenez, J., Carvajal-Quintero, S., & Arango-Aramburo, S. (2014). *Transient stability of colombian national transmission system with Small Hydro plants*. Paper presented at the Central America and Panama Convention (CONCAPAN XXXIV), 2014 IEEE.
- Mattar, M., Alazba, A., & El-Abedin, T. Z. (2015). Forecasting furrow irrigation infiltration using artificial neural networks. *Agricultural Water Management*, 148, 63-71.
- Mattar, M. A., Alazba, A. A., & Zin El-Abedin, T. K. (2015). Forecasting furrow irrigation infiltration using artificial neural networks. *Agricultural Water Management*, 148, 63-71.
- Mbiu, R. (2014). DESIGN CONSIDERATIONS: SMALL HYDROPOWER GENERATION FOR RURAL ELECTRIFICATION. Paper presented at the Scientific Conference Proceedings.
- McGill, R., Tukey, J. W., & Larsen, W. A. (1978). Variations of box plots. *The American Statistician*, 32(1), 12-16.

- Mekki, H., Mellit, A., & Salhi, H. (2016). Artificial neural network-based modelling and fault detection of partial shaded photovoltaic modules. *Simulation Modelling Practice and Theory*, 67, 1-13.
- Mia, M., & Dhar, N. R. (2016). Prediction of surface roughness in hard turning under high pressure coolant using Artificial Neural Network. *Measurement*, 92, 464-474.
- Michaelowa, A., & Jotzo, F. (2005). Transaction costs, institutional rigidities and the size of the clean development mechanism. *Energy policy*, 33(4), 511-523.
- Mishra, M. K., Khare, N., & Agrawal, A. B. (2015). Small hydro power in India: Current status and future perspectives. *Renewable and Sustainable Energy Reviews*, 51, 101-115.
- Mishra, S., Singal, S., & Khatod, D. (2011). Optimal installation of small hydropower plant—A review. *Renewable and Sustainable Energy Reviews*, 15(8), 3862-3869.
- Mitchell, I. (2013). the Ministry of Business, Innovation, and Employment.
- Mo, L., Lu, P., Wang, C., & Zhou, J. (2013). Short-term hydro generation scheduling of Three Gorges–Gezhouba cascaded hydropower plants using hybrid MACS-ADE approach. *Energy conversion and management*, 76, 260-273.
- Moeini, R., Afshar, A., & Afshar, M. (2011). Fuzzy rule-based model for hydropower reservoirs operation. *International Journal of Electrical Power & Energy Systems*, 33(2), 171-178.
- Mohamed, H. I. (2013). Design of alluvial Egyptian irrigation canals using artificial neural networks method. *Ain Shams Engineering Journal*, 4(2), 163-171.
- Mohd Asrul Hery Ibrahim , Z. A. Z., Mustafa Mamat , Ummie Khalthum Mohd Yusof and Azfi Zaidi Mohammad Sofi. (2017). A New Search Direction for Broyden's Family Method with Coefficient of Conjugate Gradient in Solving Unconstrained Optimization Problems. *Research Journal of Applied Sciences*, 12(1).
- Monteiro, C., Ramirez-Rosado, I. J., & Fernandez-Jimenez, L. A. (2014). Short-term forecasting model for aggregated regional hydropower generation. *Energy Conversion and Management*, 88, 231-238.
- Moreno-Torres, J. G., Sáez, J. A., & Herrera, F. (2012). Study on the impact of partition-induced dataset shift on  $k$ -fold cross-validation. *IEEE Transactions on Neural Networks and Learning Systems*, 23(8), 1304-1312.
- Moreno, S. R., & Kaviski, E. (2015). DAILY SCHEDULING OF SMALL HYDRO POWER PLANTS DISPATCH WITH MODIFIED PARTICLES SWARM OPTIMIZATION. *Pesquisa Operacional*, 35(1), 25-37.
- Mu, J., Ma, C., Zhao, J., & Lian, J. (2015). Optimal operation rules of Three-gorge and Gezhouba cascade hydropower stations in flood season. *Energy conversion and management*, 96, 159-174.

- Nabavi-Pelesaraei, A., Rafiee, S., Hosseinzadeh-Bandbafha, H., & Shamshirband, S. (2016). Modeling energy consumption and greenhouse gas emissions for kiwifruit production using artificial neural networks. *Journal of Cleaner Production*, *133*, 924-931.
- Naidu, K., Mokhlis, H., & Bakar, A. H. A. (2013, 3-5 Dec. 2013). Application of firefly algorithm (FA) based optimization in load frequency control for interconnected reheat thermal power system. Paper presented at the Applied Electrical Engineering and Computing Technologies (AEECT), 2013 IEEE Jordan Conference on.
- Naresh, R., & Sharma, J. (2002). Short term hydro scheduling using two-phase neural network. *International journal of electrical power & energy systems*, *24*(7), 583-590.
- Nasir, B. A. (2013). Design of micro-hydro-electric power station. *International Journal of Engineering and Advanced Technology*, *2*(5), 39-47.
- Nasir, B. A. (2014). Design considerations of micro-hydro-electric power plant. *Energy Procedia*, *50*, 19-29.
- Nasr, M. S., Moustafa, M. A. E., Seif, H. A. E., & El Kobrosy, G. (2012). Application of Artificial Neural Network (ANN) for the prediction of EL-AGAMY wastewater treatment plant performance-EGYPT. *Alexandria Engineering Journal*, *51*(1), 37-43.
- Năstase, G., Șerban, A., Năstase, A. F., Dragomir, G., Brezeanu, A. I., & Iordan, N. F. (2017). Hydropower development in Romania. A review from its beginnings to the present. *Renewable and Sustainable Energy Reviews*, *80*(Supplement C), 297-312.
- Nayak, J., Naik, B., & Behera, H. (2016). A novel nature inspired firefly algorithm with higher order neural network: performance analysis. *Engineering Science and Technology, an International Journal*, *19*(1), 197-211.
- Nezam, N., & Dumitrache, I. (2002). Mamdani, Sugeno Fuzzy Systems And Control The Output Flow Of An Equalization Basin. *Journal of Control Engineering and Applied Informatics*, *4*(1), 27-32.
- Ngaopitakkul, A., & Leelajindakrairerk, M. (2017). Application of probabilistic neural network with transmission and distribution protection schemes for classification of fault types on radial, loop, and underground structures. *Electrical Engineering*. doi:10.1007/s00202-017-0515-5
- Olawoyin, R. (2016). Application of backpropagation artificial neural network prediction model for the PAH bioremediation of polluted soil. *Chemosphere*, *161*, 145-150. doi:10.1016/j.chemosphere.2016.07.003
- Olofintoye, O., Otieno, F., & Adeyemo, J. (2016). Real-time optimal water allocation for daily hydropower generation from the Vanderkloof dam, South Africa. *Applied Soft Computing*, *47*, 119-129.

- Ong, H., Mahlia, T., & Masjuki, H. (2011). A review on energy scenario and sustainable energy in Malaysia. *Renewable and Sustainable Energy Reviews*, 15(1), 639-647.
- Özbay, E., & Gençoğlu, M. T. (2010). *Modeling of small hydro power plants*. Paper presented at the Electrical, Electronics and Computer Engineering (ELECO), 2010 National Conference on.
- Paish, O. (2002). Small hydro power: technology and current status. *Renewable and Sustainable Energy Reviews*, 6(6), 537-556.
- Pelletier, F., Masson, C., & Tahan, A. (2016). Wind turbine power curve modelling using artificial neural network. *Renewable Energy*, 89, 207-214. doi:
- Pérez-Díaz, J. I., & Wilhelmi, J. R. (2010). Assessment of the economic impact of environmental constraints on short-term hydropower plant operation. *Energy Policy*, 38(12), 7960-7970.
- Pirouzmand, A., & Kazem Dehdashti, M. (2015). Estimation of relative power distribution and power peaking factor in a VVER-1000 reactor core using artificial neural networks. *Progress in Nuclear Energy*, 85, 17-27.
- Pradhan, P. C., Sahu, R. K., & Panda, S. (2016). Firefly algorithm optimized fuzzy PID controller for AGC of multi-area multi-source power systems with UPFC and SMES. *Engineering Science and Technology, an International Journal*, 19(1), 338-354.
- Prakash, S., & Sinha, S. (2014). Simulation based neuro-fuzzy hybrid intelligent PI control approach in four-area load frequency control of interconnected power system. *Applied Soft Computing*, 23, 152-164.
- Priyadharson, A. S. M., Ganesan, R., & Surarapu, P. K. (2015). PLC–HMI Automation Based Cascaded Fuzzy PID for Efficient Energy Management and Storage in Real Time Performance of a Hydro Electric Pumped Storage Power Plant. *Procedia Technology*, 21, 248-255.
- Purohit, P. (2008). Small hydro power projects under clean development mechanism in India: A preliminary assessment. *Energy Policy*, 36(6), 2000-2015.
- Rafie, M., & Namin, F. S. (2015). Prediction of subsidence risk by FMEA using artificial neural network and fuzzy inference system. *International Journal of Mining Science and Technology*, 25(4), 655-663.
- Rezk, H., & Fathy, A. (2016). Simulation of global MPPT based on teaching–learning-based optimization technique for partially shaded PV system. *Electrical Engineering*, 1-13. doi:10.1007/s00202-016-0449-3
- Rodriguez, J. D., Perez, A., & Lozano, J. A. (2010). Sensitivity analysis of k-fold cross validation in prediction error estimation. *IEEE transactions on pattern analysis and machine intelligence*, 32(3), 569-575.

- Rohani, A., Taki, M., & Abdollahpour, M. (2017). A novel soft computing model (Gaussian process regression with K-fold cross validation) for daily and monthly solar radiation forecasting. *Renewable Energy*.
- Sachdev, H. S., Akella, A. K., & Kumar, N. (2015). Analysis and evaluation of small hydropower plants: A bibliographical survey. *Renewable and Sustainable Energy Reviews*, 51, 1013-1022.
- Salhi, I., Belattar, A., & Doubabi, S. (2017). Takagi–Sugeno fuzzy modeling for three-phase micro hydropower plant prototype. *International Journal of Hydrogen Energy*.
- Sarasua, J. I., Fraile-Ardanuy, J., Perez, J. I., Wilhelmi, J. R., & Sanchez, J. A. (2007). *Control of a run of river small hydro power plant*. Paper presented at the Power Engineering, Energy and Electrical Drives, 2007. POWERENG 2007. International Conference on.
- Scarcelli, R., Zambelli, M., Soares, S., & Carneiro, A. (2017). Ensemble of Markovian stochastic dynamic programming models in different time scales for long term hydropower scheduling. *Electric Power Systems Research*, 150, 129-136.
- Scarcelli, R. O., Zambelli, M. S., S Filho, S., & Carneiro, A. A. (2014). *Aggregated inflows on stochastic dynamic programming for long term hydropower scheduling*. Paper presented at the North American Power Symposium (NAPS), 2014.
- Scarcelli, R. O. C., Zambelli, M. S., Soares, S., & Carneiro, A. A. F. M. (2017). Ensemble of Markovian stochastic dynamic programming models in different time scales for long term hydropower scheduling. *Electric Power Systems Research*, 150, 129-136.
- Schiermeier, Q., Tollefson, J., Scully, T., Witze, A., & Morton, O. (2008). Energy alternatives: Electricity without carbon. *Nature News*, 454(7206), 816-823.
- Sharma, A. K., & Thakur, N. (2015). Resource potential and development of small hydro power projects in Jammu and Kashmir in the western Himalayan region: India. *Renewable and Sustainable Energy Reviews*, 52, 1354-1368.
- Shinde, S., & Kulkarni, U. (2017). Extended fuzzy hyperline-segment neural network with classification rule extraction. *Neurocomputing*.
- Shiri, J., & Kisi, O. (2010). Short-term and long-term streamflow forecasting using a wavelet and neuro-fuzzy conjunction model. *Journal of Hydrology*, 394(3), 486-493.
- Shree, S. B., & Kamaraj, N. (2016). Hybrid neuro fuzzy approach for automatic generation control in restructured power system. *International Journal of Electrical Power & Energy Systems*, 74, 274-285.
- Singal, S., Saini, R., & Raghuvanshi, C. (2010). Analysis for cost estimation of low head run-of-river small hydropower schemes. *Energy for sustainable Development*, 14(2), 117-126.

- Singh, S., & Upadhyay, M. P. (2014). *Study of different issues and challenges of small hydro power plants operation*. Paper presented at the Advances in Energy Conversion Technologies (ICAECT), 2014 International Conference on.
- Spitalny, L., Unger, D., & Myrzik, J. (2012). *Potential of small hydro power plants for delivering control energy in Germany*. Paper presented at the Energytech, 2012 IEEE.
- Stergiopoulou, A., Stergiopoulos, V., Kalkani, E., Chronopoulos, C., & Papadopoulou, D. (2011). *Back to the future: Rediscovering the Archimedean screws as modern turbines for harnessing Greek small hydropower potential*. Paper presented at the Proceedings of the "Third International Conference on Environmental Management, Engineering, Planning and Economics (CEMEPE 2011) & SECOTOX Conference", Skiathos.
- Stojanovic, B., Milivojevic, M., Milivojevic, N., & Antonijevic, D. (2016). A self-tuning system for dam behavior modeling based on evolving artificial neural networks. *Advances in Engineering Software*, 97, 85-95.
- Stokelj, T., Paravan, D., & Golob, R. (2000). *Short and mid term hydro power plant reservoir inflow forecasting*. Paper presented at the Power System Technology, 2000. Proceedings. PowerCon 2000. International Conference on.
- Sunday, R., Masih, I., Werner, M., & van der Zaag, P. (2014). Streamflow forecasting for operational water management in the Incomati River Basin, Southern Africa. *Physics and Chemistry of the Earth, Parts A/B/C*, 72, 1-12.
- Sutter, C., & Parreño, J. C. (2007). Does the current Clean Development Mechanism (CDM) deliver its sustainable development claim? An analysis of officially registered CDM projects. *Climatic change*, 84(1), 75-90.
- Timalsina, N., Beckers, F., & Alfredsen, K. (2016). Modelling winter operational strategies of a hydropower system. *Cold Regions Science and Technology*, 122, 1-9.
- Tukey, J. W. (1949). Comparing individual means in the analysis of variance. *Biometrics*, 99-114.
- Uysal, G., Şorman, A. A., & Şensoy, A. (2016). Streamflow Forecasting Using Different Neural Network Models with Satellite Data for a Snow Dominated Region in Turkey. *Procedia Engineering*, 154, 1185-1192.
- Uzlu, E., Akpınar, A., Öztürk, H. T., Nacar, S., & Kankal, M. (2014). Estimates of hydroelectric generation using neural networks with the artificial bee colony algorithm for Turkey. *Energy*, 69, 638-647.
- Vaisakh, K., Srinivas, L. R., & Meah, K. (2013). Genetic evolving ant direction PSODV hybrid algorithm for OPF with non-smooth cost functions. *Electrical Engineering*, 95(3), 185-199. doi:10.1007/s00202-012-0251-9
- van Vliet, M. T. H., van Beek, L. P. H., Eisner, S., Flörke, M., Wada, Y., & Bierkens, M. F. P. (2016). Multi-model assessment of global hydropower and cooling water



- discharge potential under climate change. *Global Environmental Change*, 40(Supplement C), 156-170.
- Vaz, A. G. R., Elsinga, B., van Sark, W. G. J. H. M., & Brito, M. C. (2016). An artificial neural network to assess the impact of neighbouring photovoltaic systems in power forecasting in Utrecht, the Netherlands. *Renewable Energy*, 85, 631-641.
- Verma, S., & Mukherjee, V. (2016). Firefly algorithm for congestion management in deregulated environment. *Engineering Science and Technology, an International Journal*, 19(3), 1254-1265.
- Wamalwa, F., Sichilalu, S., & Xia, X. (2017). Optimal control of conventional hydropower plant retrofitted with a cascaded pumpback system powered by an on-site hydrokinetic system. *Energy Conversion and Management*, 132, 438-451.
- Wang, B., Hu, X., & Li, H. (2017). Rolling bearing performance degradation condition recognition based on mathematical morphological fractal dimension and fuzzy C-means. *Measurement*, 109(Supplement C), 1-8.
- Wang, B., Xue, J., Wu, F., & Zhu, D. (2016). Robust Takagi-Sugeno fuzzy control for fractional order hydro-turbine governing system. *ISA transactions*, 65, 72-80.
- Wang, C., Zhou, J., Lu, P., & Yuan, L. (2015). Long-term scheduling of large cascade hydropower stations in Jinsha River, China. *Energy conversion and management*, 90, 476-487.
- Wang, D., Luo, H., Grunder, O., Lin, Y., & Guo, H. (2017). Multi-step ahead electricity price forecasting using a hybrid model based on two-layer decomposition technique and BP neural network optimized by firefly algorithm. *Applied Energy*, 190, 390-407.
- Wang, H., Wang, W., Zhou, X., Sun, H., Zhao, J., Yu, X., & Cui, Z. (2017). Firefly algorithm with neighborhood attraction. *Information Sciences*, 382(Supplement C), 374-387.
- Wang, L., Lee, D.-J., Liu, J.-H., Chen, Z.-Z., Kuo, Z.-Y., Lee, W.-J., . . . Tsai, M.-H. (2009). *A small hydro power (SHP) system in Taiwan using outlet-water energy of a reservoir: System introduction and measured results*. Paper presented at the Power & Energy Society General Meeting, 2009. PES'09. IEEE.
- Wijesinghe, A., & Lai, L. L. (2011). *Small hydro power plant analysis and development*. Paper presented at the Electric Utility Deregulation and Restructuring and Power Technologies (DRPT), 2011 4th International Conference on.
- Williams, A., & Porter, S. (2006). Comparison of hydropower options for developing countries with regard to the environmental, social and economic aspects. *Small*, 1, 10MW.
- Williams, A., & Simpson, R. (2009). Pico hydro—Reducing technical risks for rural electrification. *Renewable Energy*, 34(8), 1986-1991.

- Williamson, S., Stark, B., & Booker, J. (2013). Performance of a low-head pico-hydro Turgo turbine. *Applied Energy*, *102*, 1114-1126.
- Williamson, S., Stark, B., & Booker, J. (2014). Low head pico hydro turbine selection using a multi-criteria analysis. *Renewable Energy*, *61*, 43-50.
- Wu, X.-Y., Cheng, C.-T., Shen, J.-J., Luo, B., Liao, S.-L., & Li, G. (2015). A multi-objective short term hydropower scheduling model for peak shaving. *International journal of electrical power & energy systems*, *68*, 278-293.
- Xiaoqiu, A., & Jie, L. (2005). Research on seismic response of underground pipelines in solid-liquid media. *Earthquake Engineering and Engineering Vibration*, *25*(2), 136-140.
- Xie, F.-w., Hou, Y.-f., Xu, Z.-p., & Rui, Z. (2009). Fuzzy-immune control strategy of a hydro-viscous soft start device of a belt conveyor. *Mining Science and Technology (China)*, *19*(4), 544-548.
- Xie, M., Zhou, J., Li, C., & Lu, P. (2015). Daily generation scheduling of cascade hydro plants considering peak shaving constraints. *Journal of Water Resources Planning and Management*, *142*(4), 04015072.
- Xie, M., Zhou, J., Li, C., & Zhu, S. (2015). Long-term generation scheduling of Xiluodu and Xiangjiaba cascade hydro plants considering monthly streamflow forecasting error. *Energy conversion and management*, *105*, 368-376.
- Xinfeng, G., Luoping, P., Zhongxin, G., Shu, T., & Dongdong, C. (2011). *Hydro-generator units operating condition forecasting and fault diagnosis based on GANN*. Paper presented at the 2011 International Conference on Consumer Electronics, Communications and Networks (CECNet).
- Xiomara, B., & Soares, S. (2017). *Accuracy assessment of the long-term hydro simulation model used in Brazil based on post-operation data*. Paper presented at the Clean Electrical Power (ICCEP), 2017 6th International Conference on.
- Xu, Y., Zhou, J., Xue, X., Fu, W., Zhu, W., & Li, C. (2016). An adaptively fast fuzzy fractional order PID control for pumped storage hydro unit using improved gravitational search algorithm. *Energy Conversion and Management*, *111*, 67-78.
- Yu, X., Ye, C., & Xiang, L. Application of artificial neural network in the diagnostic system of osteoporosis. *Neurocomputing*.
- Yuan, X., Chen, Z., Yuan, Y., & Huang, Y. (2015). Design of fuzzy sliding mode controller for hydraulic turbine regulating system via input state feedback linearization method. *Energy*, *93*, 173-187.
- Yuan, X., Wang, L., & Yuan, Y. (2008). Application of enhanced PSO approach to optimal scheduling of hydro system. *Energy Conversion and Management*, *49*(11), 2966-2972.

- Yuan, X., Yuan, Y., & Zhang, Y. (2002). A hybrid chaotic genetic algorithm for short-term hydro system scheduling. *Mathematics and Computers in Simulation*, 59(4), 319-327.
- Yuan, X., Zhang, Y., Wang, L., & Yuan, Y. (2008). An enhanced differential evolution algorithm for daily optimal hydro generation scheduling. *Computers & Mathematics with Applications*, 55(11), 2458-2468.
- Zambelli, M. S., Luna, I., & Soares, S. (2009). Predictive Control Approach for Long-Term Hydropower Scheduling Using Annual Inflow Forecasting Model. *IFAC Proceedings Volumes*, 42(9), 191-196.
- Zhang, H., Zhou, J., Fang, N., Zhang, R., & Zhang, Y. (2013). An efficient multi-objective adaptive differential evolution with chaotic neuron network and its application on long-term hydropower operation with considering ecological environment problem. *International journal of electrical power & energy systems*, 45(1), 60-70.
- Zhang, J., Xu, L., Yu, B., & Li, X. (2014). Environmentally feasible potential for hydropower development regarding environmental constraints. *Energy Policy*, 73, 552-562.
- Zhang, K., Zhang, B., Chen, B., Jing, L., Zhu, Z., & Kazemi, K. (2016). Modeling and optimization of Newfoundland shrimp waste hydrolysis for microbial growth using response surface methodology and artificial neural networks. *Marine Pollution Bulletin*, 109(1), 245-252.
- Zhang, L., Srisukkhom, W., Neoh, S. C., Lim, C. P., & Pandit, D. (2017). Classifier Ensemble Reduction Using a Modified Firefly Algorithm: An Empirical Evaluation. *Expert Systems with Applications*.
- Zhang, Y., Song, X.-f., & Gong, D.-w. (2017). A return-cost-based binary firefly algorithm for feature selection. *Information Sciences*, 418(Supplement C), 561-574.
- Zhang, Y., Xu, J., Yuan, Z., Xu, H., & Yu, Q. (2010). Artificial neural network-genetic algorithm based optimization for the immobilization of cellulase on the smart polymer Eudragit L-100. *Bioresource Technology*, 101(9), 3153-3158.
- Zhao, T., Zhao, J., Liu, P., & Lei, X. (2015). Evaluating the marginal utility principle for long-term hydropower scheduling. *Energy conversion and management*, 106, 213-223.
- Zomer, R. J., Trabucco, A., Bossio, D. A., & Verchot, L. V. (2008). Climate change mitigation: A spatial analysis of global land suitability for clean development mechanism afforestation and reforestation. *Agriculture, ecosystems & environment*, 126(1), 67-80.