Bibliography

[AALL11] H.M. Ali, S. Ashrafinia, Jiangchuan Liu, and D.C. Lee. Wireless mesh network planning using quantum inspired evolutionary algorithm. In *Vehicular Technology Conference (VTC Fall), 2011 IEEE*, pages 1 –5, sept. 2011.

[ABB+08] R. Allauddin, S. Boehmer, E. Behrman, K. Gaddam, and J. Steck. Quantum simulataneous recurrent networks for content addressable memory. *Quantum Inspired Intelligent Systems*, pages 57–76, 2008.

[AdOS10] Ricardo de A. Araújo, Adriano L. I. de Oliveira, and Sergio C. B. Soares. Hybrid evolutionary quantum inspired method to adjust time phase distortions in financial time series. In *SAC '10: Proceedings of the 2010 ACM Symposium on Applied Computing*, pages 1153–1154, New York, NY, USA, 2010. ACM.

[AE06] F.S. Alfares and I.I. Esat. Real-coded quantum inspired evolution algorithm applied to engineering optimization problems. In *ISOLA '06: Proceedings of the Second International Symposium on Leveraging Applications of Formal Methods, Verification and Validation*, pages 169–176, Washington, DC, USA, nov. 2006. IEEE Computer Society.

[AM10] C. Patvardhan Ashish Mani. An adaptive quantum evolutionary algorithm for engineering optimization problems. *International Journal of Computer Applications*, 1(22):43–48, February 2010. Published By Foundation of Computer Science.

[AMM11] P. Arpaia, D. Maisto, and C. Manna. A quantum-inspired evolutionary algorithm with a competitive variation operator for multiple-fault diagnosis. *Applied Soft Computing*, 11(8):4655 – 4666, 2011.

[AMRZ07] P. Arpaia, G. Meccariello, M. Rapone, and A. Zanesco. Quantum-Inspired Evolutionary Classification of Driving Sequences in Vehicle Emission Factor Measurement. 2007.

[ANDMM08] M.P.M. Araujo, N. Nedjah, and L. De Macedo Mourelle. Designing hardware for finite synchronous state machines using quantum inspired evolution. *International Journal of Innovative Computing and Applications*, 1(4):252–259, 2008.

[ANMM08a] Marcos Paulo Araujo, Nadia Nedjah, and Luiza Macedo Mourelle. Logic synthesis for fsms using quantum inspired evolution. In *IDEAL '08: Proceedings of the 9th International Conference on Intelligent Data Engineering and Automated Learning*, pages 32–39, Berlin, Heidelberg, 2008. Springer-Verlag.

[ANMM08b] M.P. Araujo, N. Nedjah, and L. Macedo Mourelle. Optimised State Assignment for FSMs Using Quantum Inspired Evolutionary Algorithm. In *Proceedings of the 8th international conference on Evolvable Systems: From Biology to Hardware*, page 341. Springer, 2008.

[AOAFEN07] AK Al-Othman, FS Al-Fares, and KM EL-Nagger. Power System Security Constrained Economic Dispatch Using Real Coded Quantum Inspired Evolution Algorithm. *International Journal of Electrical, Computer, and Systems Engineering*, 1:4, 2007.

[Ara04] J Arabas. *Wykłady z algorytmów ewolucyjnych*. Wydawnictwa Naukowo-Techniczne, 2004.

[B$\ddot{9}$6] Thomas Bäck. *Evolutionary algorithms in theory and practice: evolution strategies, evolutionary programming, genetic algorithms*. Oxford University Press, Oxford, UK, 1996.

[BAM11] A. Banerjee and I. Abu-Mahfouz. Evolutionary algorithm-based parameter identification for nonlinear dynamical systems. In *Evolutionary Computation (CEC), 2011 IEEE Congress on*, pages 1 –5, june 2011.

[BDC$^+$10] S. Bhattacharyya, P. Dutta, S. Chakraborty, R. Chakraborty, and S. Dey. Determination of optimal threshold of a gray-level image using a quantum inspired genetic algorithm with interference based on a random map model. In *Computational Intelligence and Computing Research (ICCIC), 2010 IEEE International Conference on*, pages 1 –4, dec. 2010.

[BEGN78] A.J. Buras, J. Ellis, M.K. Gaillard, and D.V. Nanopoulos. Aspects of the grand unification of strong, weak and electromagnetic interactions. *Nuclear Physics B*, 135(1):66–92, 1978.

[Bir09] M. Birattari. *Tuning metaheuristics: a machine learning perspective*. Springer Verlag, 2009.

[BJZ03] L. Bin, Y. Junan, and Z. Zhenquan. GAQPR and its application in discovering frequent structures in time series. In *Proceedings of the 2003 IEEE International Conference on Neural Networks & Signal Processing*, volume 1, pages 399–403. Citeseer, 2003.

[BXL+12] X.H. Bao, X.F. Xu, C.M. Li, Z.S. Yuan, C.Y. Lu, and J.W. Pan. Quantum teleportation between remote atomic-ensemble quantum memories. *Proceedings of the National Academy of Sciences*, 109(50):20347–20351, 2012.

[CD11] Ming Chen and Lixin Ding. Analysis on the convergence of quantum-inspired evolutionary algorithms. *IJACT : International Journal of Advancements in Computing Technology*, 3(4):202–212, 2011.

[CDM+91] A. Colorni, M. Dorigo, V. Maniezzo, et al. Distributed optimization by ant colonies. In *Proceedings of the first European conference on artificial life*, volume 142, pages 134–142, 1991.

[CH10] Chung-Yao Chuang and Wen-Lian Hsu. Multivariate multimodel approach for globally multimodal problems. In *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pages 311–318, New York, NY, USA, 2010. ACM.

[Che10] Jung-Chieh Chen. Application of quantum-inspired evolutionary algorithm to reduce papr of an ofdm signal using partial transmit sequences technique. *Broadcasting, IEEE Transactions on*, 56(1):110 –113, march 2010.

[CHL10] R.C. Chen, Y.H. Huang, and M.H. Lin. Solving Unbounded Knapsack Problem Based on Quantum Genetic Algorithms. *Intelligent Information and Database Systems*, pages 339–349, 2010.

[CKSG13] A. Charan Kumari, K. Srinivas, and M. P. Gupta. Software requirements optimization using multi-objective quantum-inspired hybrid differential evolution. In Oliver Schütze, Carlos A. Coello Coello, Alexandru-Adrian Tantar, Emilia Tantar, Pascal Bouvry, Pierre Del Moral, and Pierrick Legrand, editors, *EVOLVE - A Bridge between Probability, Set Oriented Numerics, and Evolutionary Computation II*, volume 175 of *Advances in Intelligent Systems and Computing*, pages 107–120. Springer Berlin Heidelberg, 2013.

[CLL11] Seung-Yoon Cho, Joon-Woo Lee, and Ju-Jang Lee. Type-2 fuzzy pd controller tuning using quantum-inspired evolutionary algorithm. In *Digital Ecosystems and Technologies Conference (DEST), 2011 Proceedings of the 5th IEEE International Conference on*, pages 292 –296, 31 2011-june 3 2011.

[CNM08] L. Coelho, N. Nedjah, and L. Mourelle. Gaussian quantum-behaved particle swarm optimization applied to fuzzy pid controller design. *Quantum Inspired Intelligent Systems*, pages 1–15, 2008.

[Com23] A.H. Compton. A quantum theory of the scattering of x-rays by light elements. *Physical Review*, 21(5):483, 1923.

[CS09] Maojun Cao and Fuhua Shang. Training of process neural networks based on improved quantum genetic algorithm. In *WCSE '09: Proceedings of the 2009 WRI World Congress on Software Engineering*, pages 160–165, Washington, DC, USA, 2009. IEEE Computer Society.

[CYW11] C.Y. Chung, Han Yu, and Kit Po Wong. An advanced quantum-inspired evolutionary algorithm for unit commitment. *Power Systems, IEEE Transactions on*, 26(2):847 –854, may 2011.

[CZ97] N. Chaiyaratana and AMS Zalzala. Recent developments in evolutionary and genetic algorithms: theory and applications. In *IEE conference publication*, pages 270–277. Institution of Electrical Engineers, 1997.

[CZ02] Zhi-Hua Cui and Jian-Chao Zeng. Schema theorem of real-coded nonlinear genetic algorithm. In *Machine Learning and Cybernetics, 2002. Proceedings. 2002 International Conference on*, volume 3, pages 1429 – 1431 vol.3, 2002.

[dCBPV04] André V. Abs da Cruz, Carlos R. Hall Barbosa, Marco Aurélio Cavalcanti Pacheco, and Marley B. R. Vellasco. Quantum-inspired evolutionary algorithms and its application to numerical optimization problems. In Nikhil R. Pal, Nikola Kasabov, Rajani K. Mudi, Srimanta Pal, and Swapan K. Parui, editors, *ICONIP*, volume 3316 of *Lecture Notes in Computer Science*, pages 212–217. Springer, 2004.

[dCPVB05] André V. Abs da Cruz, Marco Aurélio Cavalcanti Pacheco, Marley B. R. Vellasco, and Carlos R. Hall Barbosa. Cultural operators for a quantum-inspired evolutionary algorithm

applied to numerical optimization problems. In José Mira and José R. Álvarez, editors, *IWINAC (2)*, volume 3562 of *Lecture Notes in Computer Science*, pages 1–10. Springer, 2005.

[dCVP06] A.V.A. da Cruz, M.M.B. Vellasco, and M.A.C. Pacheco. Quantum-inspired evolutionary algorithm for numerical optimization. pages 2630 –2637, 0-0 2006.

[dCVP10] A.V.A. da Cruz, M.M.B.R. Vellasco, and M.A.C. Pacheco. Quantum-inspired evolutionary algorithms applied to numerical optimization problems. In *Evolutionary Computation (CEC), 2010 IEEE Congress on*, pages 1 –6, july 2010.

[DJ75] Kenneth Alan De Jong. *An analysis of the behavior of a class of genetic adaptive systems.* PhD thesis, University of Michigan, Ann Arbor, MI, USA, 1975.

[DJ93] K.A. De Jong. Genetic algorithms are NOT function optimizers. *Foundations of Genetic Algorithms*, 2:5–17, 1993.

[DJ06] K.A. De Jong. *Evolutionary computation: a unified approach*. 2006.

[DL08] H. Dai and C. Li. Improved Quantum Interference Crossover-Based Genetic Algorithm and its Application. In *Intelligent Networks and Intelligent Systems, 2008. ICINIS'08. First International Workshop on*, pages 35–38, 2008.

[DMTB10] Amer Draa, Souham Meshoul, Hichem Talbi, and Mohamed Batouche. A Quantum-Inspired Differential Evolution Algorithm for Solving the N-Queens Problem. *Int. Arab J. Inf. Technol.*, 7(1):21–27, 2010.

[DP09] Douglas Mota Dias and Marco Aurélio C. Pacheco. Toward a quantum-inspired linear genetic programming model. In *CEC'09: Proceedings of the Eleventh conference on Congress on Evolutionary Computation*, pages 1691–1698. Institute of Electrical and Electronics Engineers Inc., The, 2009.

[DP12] Douglas Mota Dias and Marco AurĂŠlio C. Pacheco. Quantum-inspired linear genetic programming as a knowledge management system. *The Computer Journal*, 2012.

[DPSK07] M. Defoin-Platel, S. Schliebs, and N. Kasabov. A versatile quantum-inspired evolutionary algorithm. In *Proceedings of*

the International Conference on Evolutionary Computation (Singapore, September 25–28, 2007). CEC, volume 7, 2007.

[dPVdC09] A.G. de Pinho, M. Vellasco, and A.V.A. da Cruz. A new model for credit approval problems: A quantum-inspired neuro-evolutionary algorithm with binary-real representation. pages 445 –450, dec. 2009.

[dSNSdL12] Andressa dos Santos Nicolau, Roberto Schirru, and Alan Miranda Monteiro de Lima. Nuclear reactor reload using quantum inspired algorithm. *Progress in Nuclear Energy*, 55(0):40 – 48, 2012.

[DSP+11] D.M. Dias, A.P. Singulani, M.A.C. Pacheco, P.L. de Souza, M.P. Pires, and O.P.V. Neto. Self-assembly quantum dots growth prediction by quantum-inspired linear genetic programming. In *Evolutionary Computation (CEC), 2011 IEEE Congress on*, pages 2075 –2082, june 2011.

[Ebe05] Eugene Eberbach. Toward a theory of evolutionary computation. *Biosystems*, 82(1):1 – 19, 2005.

[Ein05] A. Einstein. *Über einen die Erzeugung und Verwandlung des Lichtes betreffenden heuristischen Gesichtspunkt.* JA Barth, 1905.

[ER99] A. E. Eiben and G. Rudolph. Theory of evolutionary algorithms: a bird's eye view. *Theor. Comput. Sci.*, 229(1-2):3–9, 1999.

[Ere00] A. Eremeev. Modeling and analysis of genetic algorithm with tournament selection. In *Artificial Evolution*, pages 84–95. Springer, 2000.

[ESK01] R.C. Eberhart, Y. Shi, and J. Kennedy. *Swarm intelligence.* Morgan Kaufmann, 2001.

[FBOO07] Kai Fan, Anthony Brabazon, Conall O'Sullivan, and Michael O'Neill. Option pricing model calibration using a real-valued quantum-inspired evolutionary algorithm. In *GECCO '07: Proceedings of the 9th annual conference on Genetic and evolutionary computation*, pages 1983–1990, New York, NY, USA, 2007. ACM.

[FBOO08] Kai Fan, Anthony Brabazon, Conall O'Sullivan, and Michael O'Neill. Quantum-Inspired Evolutionary Algorithms for Financial Data Analysis. In *EvoWorkshops*, pages 133–143, 2008.

[FDZS09] X. Fu, M. Ding, C. Zhou, and Y. Sun. Multi-threshold image segmentation with improved quantum-inspired genetic algorithm. In *Proceedings of SPIE*, volume 7495, page 749518, 2009.

[Fey82] R.P. Feynman. Simulating physics with computers. *International journal of theoretical physics*, 21(6):467–488, 1982.

[FOB+08] Kai Fan, Conall O'Sullivan, Anthony Brabazon, Michael O'Neill, and Sean McGarraghy. Calibration of the vgssd option pricing model using a quantum-inspired evolutionary algorithm, 2008.

[FSX09] Wei Fang, Jun Sun, and Wenbo Xu. A new mutated quantum-behaved particle swarm optimizer for digital iir filter design. 2009.

[FWG+06] X.Y. Feng, Y. Wang, H.W. Ge, C.G. Zhou, and Y.C. Liang. Quantum-inspired evolutionary algorithm for travelling salesman problem. In G.R. LIU, V.B.C. TAN, and X. HAN, editors, *Computational Methods*, pages 1363–1367. Springer Netherlands, 2006.

[GCJG09] Jinwei Gu, Cuiwen Cao, Bin Jiao, and Xingsheng Gu. An improved quantum genetic algorithm for stochastic flexible scheduling problem with breakdown. In *GEC '09: Proceedings of the first ACM/SIGEVO Summit on Genetic and Evolutionary Computation*, pages 163–170, New York, NY, USA, 2009. ACM.

[GGCG09] J. Gu, M. Gu, C. Cao, and X. Gu. A novel competitive co-evolutionary quantum genetic algorithm for stochastic job shop scheduling problem. *Computers and Operations Research*, 2009.

[GGG09] J. Gu, X. Gu, and M. Gu. A novel parallel quantum genetic algorithm for stochastic job shop scheduling. *Journal of Mathematical Analysis and Applications*, 355(1):63–81, 2009.

[GH09] W.P. Grygiel and M. Hohol. Rogera Penrose'a kwantowanie umysłu. *Filozofia nauki*, 3:67, 2009.

[GJS11] A. Gharipour, A.Y. Jazi, and M. Sameti. Forecast combination with optimized svm based on quantum-inspired hybrid evolutionary method for complex systems prediction. In *Computational Intelligence for Financial Engineering and*

Economics (CIFEr), 2011 IEEE Symposium on, pages 1 – 6, april 2011.

[GjScWgY09] Jian Guo, Li juan Sun, Ru chuan Wang, and Zhong gen Yu. An Improved Quantum Genetic Algorithm. In *Genetic and Evolutionary Computing, 2009. WGEC '09. 3rd International Conference on*, pages 14–18, Oct. 2009.

[GKMW10] P. Gawron, J. Klamka, J.A. Miszczak, and R. Winiarczyk. Extending scientific computing system with structural quantum programming capabilities. *BULLETIN OF THE POLISH ACADEMY OF SCIENCES TECHNICAL SCIENCES*, 58(1):1, 2010.

[GLZZ07] R. Guo, B. Li, Y. Zou, and Z. Zhuang. Hybrid quantum probabilistic coding genetic algorithm for large scale hardware-software co-synthesis of embedded systems. In *IEEE Congress on Evolutionary Computation, 2007. CEC 2007*, pages 3454–3458, 2007.

[Göd31] K. Gödel. Über formal unentscheidbare sätze der principia mathematica und verwandter systeme i. *Monatshefte für Mathematik*, 38(1):173–198, 1931.

[Gol89] D.E. Goldberg. Genetic algorithms in search, optimization, and machine learning. 1989.

[Gol98] D.E. Goldberg. *Algorytmy genetyczne i ich zastosowania*. Wydawnictwa Naukowo-Techniczne, 1998.

[GPT04] G.A. Giraldi, R. Portugal, and R.N. Thess. Genetic algorithms and quantum computation. *Arxiv preprint cs/0403003*, 2004.

[Gro96] Lov K. Grover. A fast quantum mechanical algorithm for database search. In *STOC '96: Proceedings of the twenty-eighth annual ACM symposium on Theory of computing*, pages 212–219, New York, NY, USA, 1996. ACM Press.

[GWC+09] X. Guo, T. Wang, Z. Chen, L. Wang, and W. Zhao. Fast FPGA placement algorithm using Quantum Genetic Algorithm with Simulated Annealing. In *IEEE 8th International Conference on ASIC, 2009. ASICON'09*, pages 730–733, 2009.

[Ham06] S. Hameroff. Consciousness, neurobiology and quantum mechanics: The case for a connection. *The emerging physics of consciousness*, pages 193–253, 2006.

[Han03] Kuk-Hyun Han. *Quantum-inspired Evolutionary Algorithm.* PhD thesis, Korea Advanced Institute of Science and Technology (KAIST), 2003.

[Haw07] S. Hawking. Public lectures: Does god play dice?, 2007.

[HBhSx10] Teng Hao, Zhao Bao-hua, and Wang Shi-xian. Chaos quantum genetic algorithm based on tent map. volume 4, pages V4–403 –V4–406, apr. 2010.

[HHH05] Md. Amjad Hossain, Md. Kowsar Hossain, and M. M. A Hashem. A generalized hybrid real-coded quantum evolutionary algorithm based on particle swarm theory with arithmetic crossover, 2005.

[Hig64] P.W. Higgs. Broken symmetries and the masses of gauge bosons. *Physical Review Letters*, 13(16):508, 1964.

[Hir04] Mika Hirvensalo. *Algorytmy kwantowe.* WSiP, Warszawa, 2004.

[HJC04] C. Hui, Z. Jiashu, and Z. Chao. Chaos updating rotated gates quantum-inspired genetic algorithm. In *Communications, Circuits and Systems, 2004. ICCCAS 2004. 2004 International Conference on*, volume 2, 2004.

[HK00] K.H. Han and J.H. Kim. Genetic quantum algorithm and its application to combinatorial optimization problem. In *Proceedings of the 2000 Congress on Evolutionary computation*, volume 2, pages 1354–1360. Citeseer, 2000.

[HK01] K.H. Han and J.H. Kim. Analysis of Quantum-Inspired Evolutionary Algorithm. In *Proceedings of the 2001 International Conference on Artificial Intelligence*, pages 727–730, 2001.

[HK02a] K.H. Han and J.H. Kim. Introduction of Quantum-Inspired Evolutionary Algorithm. In *Proc of the FIRA Robot World Congress. Seoul, Korea*, pages 101–106, 2002.

[HK02b] K.H. Han and J.H. Kim. Quantum-inspired evolutionary algorithm for a class of combinatorial optimization. *IEEE transactions on evolutionary computation*, 6(6):580–593, 2002.

[HK03a] K.H. Han and J.H. Kim. On setting the parameters of quantum-inspired evolutionary algorithm for practical applications. In *Proceedings of IEEE Congress on Evolutionary Computing*, pages 178–184. Citeseer, 2003.

[HK03b] Kuk-Hyun Han and Jong-Hwan Kim. On Setting the Parameters of QEA for Practical Applications: Some Guidelines Based on Empirical Evidence, 2003.

[HK04] K.H. Han and J.H. Kim. Quantum-inspired evolutionary algorithms with a new termination criterion, H_ϵ Gate, and two-phase scheme. *IEEE transactions on evolutionary computation*, 8(2):156–169, 2004.

[HK06] K.H. Han and J.H. Kim. On the analysis of the quantum-inspired evolutionary algorithm with a single individual. In *IEEE Congress on Evolutionary Computation*, pages 16–21, 2006.

[HMJ03] Yang Haijun, Li Minqiang, and Kou Jisong. Exact schema theorem based on the space of schema. In *Systems, Man and Cybernetics, 2003. IEEE International Conference on*, volume 1, pages 349 – 354 vol.1, oct. 2003.

[HNK+09] A. Hamed, H. Nuzly, N. Kasabov, Z. Michlovskỳ, and S.M. Shamsuddin. String Pattern Recognition Using Evolving Spiking Neural Networks and Quantum Inspired Particle Swarm Optimization. In *Proceedings of the 16th International Conference on Neural Information Processing: Part II*, pages 611–619. Springer, 2009.

[HO96] N. Hansen and A. Ostermeier. Adapting arbitrary normal mutation distributions in evolution strategies: The covariance matrix adaptation. In *Evolutionary Computation, 1996., Proceedings of IEEE International Conference on*, pages 312–317. IEEE, 1996.

[Hol75] J.H. Holland. Adaptation in natural and artificial system: an introduction with application to biology, control and artificial intelligence. *Ann Arbor, University of Michigan Press*, 1975.

[HPLK01] K.H. Han, K.H. Park, C.H. Lee, and J.H. Kim. Parallel quantum-inspired genetic algorithm for combinatorial optimization problem. In *Proceedings of the 2001 Congress on Evolutionary Computation*, volume 2, pages 1422–1429. Citeseer, 2001.

[HS12] Li Hao and Li Shiyong. Quantum particle swarm evolutionary algorithm with application to system identification. In

Measurement, Information and Control (MIC), 2012 International Conference on, volume 2, pages 1032 –1036, may 2012.

[Hu10] W. Hu. Cryptanalysis of TEA Using Quantum-Inspired Genetic Algorithms. 2010.

[HXSS08] H. Huo, Q. Xie, X. Shen, and V. Stojkovic. A Probabilistic Coding Based Quantum Genetic Algorithm for Multiple Sequence Alignment. In *Computational systems bioinformatics/Life Sciences Society. Computational Systems Bioinformatics Conference*, volume 7, page 15, 2008.

[IE09] H. Izadinia and M.M. Ebadzadeh. Quantum-inspired evolution strategy. pages 724 –727, dec. 2009.

[IE12] H. Izadinia and M.M. Ebadzadeh. Adaptive quantum-inspired evolution strategy. In *Evolutionary Computation (CEC), 2012 IEEE Congress on*, pages 1 –8, june 2012.

[IMSG11] A.A. Ibrahim, A. Mohamed, H. Shareef, and S.P. Ghoshal. An effective power quality monitor placement method utilizing quantum-inspired particle swarm optimization. In *Electrical Engineering and Informatics (ICEEI), 2011 International Conference on*, pages 1 –6, july 2011.

[INO08] T. Imabeppu, S. Nakayama, and S. Ono. A study on a quantum-inspired evolutionary algorithm based on pair swap. *Artificial Life and Robotics*, 12(1):148–152, 2008.

[IOM+09] T. Imabeppu, S. Ono, R. Morishige, M. Kurose, and S. Nakayama. A Comparative Study between Migration and Pair-Swap on Quantum-Inspired Evolutionary Algorithm. *Transactions of the Japanese Society for Artificial Intelligence*, 24:250–262, 2009.

[JHK03] J.S. Jang, K.H. Han, and J.H. Kim. Quantum-inspired evolutionary algorithm-based face verification. *Lecture Notes in Computer Science*, pages 2147–2156, 2003.

[JHK04] Jun-Su Jang, Kuk-Hyun Han, and Jong-Hwan Kim. Face detection using quantum-inspired evolutionary algorithm. In *Evolutionary Computation, 2004. CEC2004. Congress on*, volume 2, pages 2100–2106 o.2, June 2004.

[JLGZ08] L. Jiao, Y. Li, M. Gong, and X. Zhang. Quantum-inspired immune clonal algorithm for global optimization. *IEEE*

Transactions on Systems, Man, and Cybernetics, Part B, 38(5):1234–1253, 2008.

[JŁN10] S. Jeżewski, M. Łaski, and R. Nowotniak. Comparison of algorithms for simultaneous localization and mapping problem for mobile robot. *Sci. Bull. Ac. Sci. and Technology, Automatics*, 14:439–452, 2010.

[JNP+09] L. Jopek, R. Nowotniak, M. Postolski, L. Babout, and M. Janaszewski. Zastosowanie kwantowych algorytmow genetycznych do selekcji cech. *Automatyka*, 13(3/2):1219–1231, 2009.

[JPSL09] Y.U.N.W.O.N. JEONG, J.B.A.E. PARK, J.R.I.N. SHIN, and K.Y. LEE. A Thermal Unit Commitment Approach Using an Improved Quantum Evolutionary Algorithm. *Electric Power Components and Systems*, 37(7):770–786, 2009.

[KA09] M.H.A. Khan and S. Akter. Multiple-case outlier detection in least-squares regression model using quantum-inspired evolutionary algorithm. In *Computers and Information Technology, 2009. ICCIT '09. 12th International Conference on*, pages 7 –12, dec. 2009.

[KAT05] A.-R. Khorsand and M.-R. Akbarzadeh-T. Quantum gate optimization in a meta-level genetic quantum algorithm. In *Systems, Man and Cybernetics, 2005 IEEE International Conference on*, volume 4, pages 3055 – 3062 Vol. 4, oct. 2005.

[KE95] J. Kennedy and R. Eberhart. Particle swarm optimization. In *Neural Networks, 1995. Proceedings., IEEE International Conference on*, volume 4, pages 1942–1948. IEEE, 1995.

[KH10] Sisir Koppaka and Ashish Ranjan Hota. Superior Exploration-Exploitation Balance with Quantum-Inspired Hadamard Walks. *Arxiv preprint cs/1004.0514v1*, 2010.

[KHH+03] K.H. Kim, J.Y. Hwang, K.H. Han, J.H. Kim, and K.H. Park. A quantum-inspired evolutionary computing algorithm for disk allocation method. *IEICE Transactions on Information and Systems*, 86:645–649, 2003.

[KKH06] Y. Kim, J.H. Kim, and K.H. Han. Quantum-inspired multiobjective evolutionary algorithm for multiobjective 0/1 knapsack problems. In *2006 IEEE Congress on Evolutionary Computation*. Citeseer, 2006.

[Kot08] Stefan Kotowski. *Analiza algorytmów genetycznych jako układów dynamicznych*. PhD thesis, 2008.

[KPME08] M. Khosraviani, S. Pour-Mozafari, and M.M. Ebadzadeh. Convergence analysis of quantum-inspired genetic algorithms with the population of a single individual. In *Proceedings of the 10th annual conference on Genetic and evolutionary computation*, pages 1115–1116. ACM, 2008.

[KRW04] G. Kusztelak, M. Rudnicki, and S. Wiak. Propagation of Building Blocks in SGA and MPGA. *Lecture notes in computer science*, pages 438–443, 2004.

[KSG12] A.C. Kumari, K. Srinivas, and M.P. Gupta. Software requirements selection using quantum-inspired elitist multiobjective evolutionary algorithm. In *Advances in Engineering, Science and Management (ICAESM), 2012 International Conference on*, pages 782 –787, march 2012.

[Kur12] R. Kurzweil. *How to Create a Mind: The Secret of Human Thought Revealed*. Viking Adult, 2012.

[Lap14] Pierre-Simon Laplace. *A Philosophical Essay on Probabilities*. 1814.

[LCY+10] Wenjie Liu, Hanwu Chen, Qiaoqiao Yan, Zhihao Liu, Juan Xu, and Yu Zheng. A novel quantum-inspired evolutionary algorithm based on variable angle-distance rotation. In *Evolutionary Computation (CEC), 2010 IEEE Congress on*, pages 1 –7, july 2010.

[Lem00] S. Lem. *Okamgnienie*. Wydawn. Literackie, 2000.

[Lin11] Gao Lin. A novel real-coded quantum-inspired genetic algorithm and its application in data reconciliation. In *Control and Decision Conference (CCDC), 2011 Chinese*, pages 1450 –1453, may 2011.

[LJ11] Tzyy-Chyang Lu and Jyh-Ching Juang. Quantum-inspired space search algorithm (qssa) for global numerical optimization. *Applied Mathematics and Computation*, 218(6):2516 – 2532, 2011.

[LL07] YJ Lv and NX Liu. Application of quantum genetic algorithm on finding minimal reduct. In *IEEE International Conference on Granular Computing, 2007. GRC 2007*, pages 728–728, 2007.

[LL08a] P. Li and S. Li. Quantum-inspired evolutionary algorithm for continuous space optimization based on Bloch coordinates of qubits. *Neurocomputing*, 72(1-3):581–591, 2008.

[LL08b] Y. Lv and D. Li. Improved Quantum Genetic Algorithm and Its Application in Nutritional Diet Optimization. In *Natural Computation, 2008. ICNC'08. Fourth International Conference on*, volume 1, 2008.

[LMB06] A. Layeb, S. Meshoul, and M. Batouhe. Multiple Sequence Alignment by Quantum Genetic Algorithm. In *The 7th International Workshop on Parallel and Distributed Scientific and Engineering Computing of the 20th International Parallel and Distributed Processing Symposium, Greece*, pages 1–8, 2006.

[LRL09] Z. Li, G. Rudolph, and K. Li. Convergence performance comparison of quantum-inspired multi-objective evolutionary algorithms. *Computers and Mathematics with Applications*, 57(11-12):1843–1854, 2009.

[LS07] A. Layeb and D.E. Saidouni. Quantum Genetic Algorithm forBinary Decision Diagram Ordering Problem. *IJCSNS*, 7(9):130, 2007.

[LS08a] Abdesslem Layeb and Djamel Eddine Saidouni. A quantum genetic algorithm with hill climbing algorithm for max 3-SAT problems. *Journal of Theoretical and Applied Information Technology*, 4(11), 2008.

[LS08b] Abdesslem Layeb and Djamel-Eddine Saidouni. A new quantum evolutionary local search algorithm for max 3-sat problem. In *HAIS '08: Proceedings of the 3rd international workshop on Hybrid Artificial Intelligence Systems*, pages 172–179, Berlin, Heidelberg, 2008. Springer-Verlag.

[LSS11] P.C. Li, K.P. Song, and F.H. Shang. Double chains quantum genetic algorithm with application to neuro-fuzzy controller design. *Advances in Engineering Software*, 42(10):875 – 886, 2011.

[Luc61] J.R. Lucas. Minds, machines and gödel. *Philosophy*, pages 112–127, 1961.

[Luk09] Sean Luke. *Essentials of Metaheuristics*. 2009. available at http://cs.gmu.edu/∼sean/book/metaheuristics/.

[LV10] B. Luitel and G.K. Venayagamoorthy. Quantum inspired PSO for the optimization of simultaneous recurrent neural networks as MIMO learning systems. *Neural Networks*, 2010.

[LW06] B. Li and L. Wang. A hybrid quantum-inspired genetic algorithm for multi-objective scheduling. *Lecture Notes in Computer Science*, 4113:511, 2006.

[LW09] D.Y. Lin and S.T. Waller. A quantum-inspired genetic algorithm for dynamic continuous network design problem. *Transportation Letters: The International Journal of Transportation Research*, 1(1):81–93, 2009.

[LWL+08] Z. Luo, P. Wang, Y. Li, W. Zhang, W. Tang, and M. Xiang. Quantum-inspired evolutionary tuning of SVM parameters. *Progress in Natural Science*, 18(4):475–480, 2008.

[LWL11] Y.Y. Li, N.N. Wu, and R.C. Liu. Improved quantum-inspired immune clonal clustering algorithm applied to sar image segmentation. In *Radar (Radar), 2011 IEEE CIE International Conference on*, volume 2, pages 1566 –1569, oct. 2011.

[LWQ10] Renjie Liao, Xueyao Wang, and Zengchang Qin. A novel quantum-inspired genetic algorithm with expanded solution space. In *Intelligent Human-Machine Systems and Cybernetics (IHMSC), 2010 2nd International Conference on*, volume 2, pages 192 –195, aug. 2010.

[LY09] S. Liu and X. You. Self-organizing Quantum Evolutionary Algorithm Based on Quantum Dynamic Mechanism. In *Proceedings of the International Conference on Artificial Intelligence and Computational Intelligence*, pages 69–77. Springer, 2009.

[LZJW09] Yangyang Li, Jingjing Zhao, Licheng Jiao, and Qiuyi Wu. Quantum-inspired evolutionary multicast algorithm. In *SMC'09: Proceedings of the 2009 IEEE international conference on Systems, Man and Cybernetics*, pages 1496–1501, Piscataway, NJ, USA, 2009. IEEE Press.

[LZL11] Fei Li, Min Zhou, and Haibo Li. A novel neural network optimized by quantum genetic algorithm for signal detection in mimo-ofdm systems. In *Computational Intelligence in Control and Automation (CICA), 2011 IEEE Symposium on*, pages 170 –177, april 2011.

[LZLF08] Hongwen Liu, Gexiang Zhang, Chunxiu Liu, and Chun Fang. A novel memetic algorithm based on real-observation quantum-inspired evolutionary algorithms. In *Intelligent System and Knowledge Engineering, 2008. ISKE 2008. 3rd International Conference on*, volume 1, pages 486 –490, nov. 2008.

[LZZ+09] CX Liu, GX Zhang, YH Zhu, C. Fang, and HW Liu. A quantum-inspired evolutionary algorithm based on P systems for radar emitter signals. In *Proc. Fourth International Conference on Bio-Inspired Computing: Theories and Applications*, pages 24–28, 2009.

[LZZJ04] Y. Li, Y. Zhang, R. Zhao, and L. Jiao. The immune quantum-inspired evolutionary algorithm. In *2004 IEEE International Conference on Systems, Man and Cybernetics*, volume 4, 2004.

[LZZL12] Bin Li, Zheng Zhou, Weixia Zou, and Dejian Li. Quantum memetic evolutionary algorithm-based low-complexity signal detection for underwater acoustic sensor networks. *Systems, Man, and Cybernetics, Part C: Applications and Reviews, IEEE Transactions on*, 42(5):626 –640, sept. 2012.

[MAJ09] P. Mahdabi, M. Abadi, and S. Jalili. A novel quantum-inspired evolutionary algorithm for solving combinatorial optimization problems. In *Proceedings of the 11th Annual conference on Genetic and evolutionary computation*, pages 1807–1808. ACM, 2009.

[MBC04] A. Malossini, E. Blanzieri, and T. Calarco. QGA, A Quantum Genetic Algorithm. 2004.

[MBC08] A. Malossini, E. Blanzieri, and T. Calarco. Quantum Genetic Optimization. *IEEE Transactions on Evolutionary Computation*, 12(2):231–241, 2008.

[MCF+08] L. M. Melo, G. A. O. P. Costa, R. Q. Feitosa, A. da Cruz, and A. Vargas. Quantum-inspired Evolutionary Algorithm and Differential Evolution Used in The Adaptation of Segmentation Parameters. 2008.

[MF06] Z. Michalewicz and D.B. Fogel. *Jak to rozwiązać czyli nowoczesna heurystyka*. Wydawnictwa Naukowo-Techniczne, 2006.

[Mic03] Zbigniew Michalewicz. *Algorytmy genetyczne + struktury danych = programy ewolucyjne.* Wydawnictwa Naukowo-Techniczne WNT, Warszawa, 2003.

[Min67] Marvin Minsky. Computation: Finite and infinite machines, 1967.

[Min88] M. Minsky. *Society of mind.* Simon & Schuster, 1988.

[MJA08] P. Mahdabi, S. Jalili, and M. Abadi. A multi-start quantum-inspired evolutionary algorithm for solving combinatorial optimization problems. In *Proceedings of the 10th annual conference on Genetic and evolutionary computation*, pages 613–614. ACM, 2008.

[MMI12] Noriyuki Muramoto, Nobuyuki Matsui, and Teijiro Isokawa. Searching ability of qubit-inspired genetic algorithm. In *SICE Annual Conference (SICE), 2012 Proceedings of*, pages 443 –446, aug. 2012.

[MN95a] T. Menneer and A. Narayanan. Quantum-inspired neural networks. *Department of Computer Science, University of Exeter, Exeter, United Kingdom, Technical Report R*, 329:1995, 1995.

[MN95b] M. Moore and A. Narayanan. Quantum-inspired computing. *Dept. Comput. Sci., Univ. Exeter, Exeter, UK*, 1995.

[MN12] A. Manju and M. Nigam. Applications of quantum inspired computational intelligence: a survey. *Artificial Intelligence Review*, pages 1–78, 2012. 10.1007/s10462-012-9330-6.

[Mor88] H. Moravec. Mind children: The future of human and robot intelligence, 1988.

[MP10] Ashish Mani and C. Patvardhan. Solving Ceramic Grinding Optimization Problem by Adaptive Quantum Evolutionary Algorithm. *Intelligent Systems, Modelling and Simulation, International Conference on*, 0:43–48, 2010.

[MWD09] Hongxia Miao, Honghua Wang, and Zhixiang Deng. Quantum Genetic Algorithm and its Application in Power System Reactive Power Optimization. In *Computational Intelligence and Security, 2009. CIS '09. International Conference on*, volume 1, pages 107–111, Dec. 2009.

[MWmC04] Liang Ming, Yu-Ping Wang, and Yu ming Cheung. A new schema theorem for uniform crossover based on ternary representation. In *Intelligent Sensors, Sensor Networks and Information Processing Conference, 2004. Proceedings of the 2004*, pages 235 – 239, dec. 2004.

[NC00] Michael A. Nielsen and Isaac L. Chuang. *Quantum Computation and Quantum Information*. Cambridge University Press, October 2000.

[NdABdSC10] Julio Xavier Vianna Neto, Diego Luis de Andrade Bernert, and Leandro dos Santos Coelho. Improved quantum-inspired evolutionary algorithm with diversity information applied to economic dispatch problem with prohibited operating zones. *Energy Conversion and Management*, In Press, Corrected Proof:–, 2010.

[NdABdSC11] JĂşlio Xavier Vianna Neto, Diego Luis de Andrade Bernert, and Leandro dos Santos Coelho. Improved quantum-inspired evolutionary algorithm with diversity information applied to economic dispatch problem with prohibited operating zones. *Energy Conversion and Management*, 52(1):8 – 14, 2011.

[NdSCdMM08] Nadia Nedjah, Leandro dos Santos Coelho, and Luiza de Macedo Mourelle. *Quantum inspired intelligent systems*. Springer Verlag, 2008.

[Neu08] A. Neubauer. Intrinsic System Model of the Genetic Algorithm with α-Selection. *Parallel Problem Solving from Nature–PPSN X*, pages 940–949, 2008.

[NK10a] R. Nowotniak and J. Kucharski. Building blocks propagation in quantum-inspired genetic algorithm. *arXiv preprint arXiv:1007.4221*, 2010.

[NK10b] R. Nowotniak and J. Kucharski. Meta-optimization of quantum-inspired evolutionary algorithm. In *XVII International Conference on Information Technology Systems, 2010 Proceedings of*, 2010.

[NK11a] R. Nowotniak and J. Kucharski. Gpu-based massively parallel implementation of metaheuristic algorithms. *Automatyka*, 15(3):595–611, 2011.

[NK11b] R. Nowotniak and J. Kucharski. Gpu-based tuning of quantum-inspired genetic algorithm for a combinatorial

optimization problem. In *XIV International Conference SYSTEM MODELING and CONTROL, 2012 Proceedings of*, 2011.

[NK12a] R. Nowotniak and J. Kucharski. Convergence analysis of quantum-inspired evolutionary algorithms based on the banach fixed-point theorem. In *Materiały konferencyjne Forum Innowacji Młodych Badaczy*, 2012.

[NK12b] R. Nowotniak and J. Kucharski. Gpu-based tuning of quantum-inspired genetic algorithm for a combinatorial optimization problem. 60, March 2012.

[NM96] A. Narayanan and M. Moore. Quantum-inspired genetic algorithms. In *Evolutionary Computation, 1996., Proceedings of IEEE International Conference on*, pages 61–66, 1996.

[Nov00] S.F. Novaes. Standard model: An introduction. *arXiv preprint hep-ph/0001283*, 2000.

[Now08] R. Nowotniak. Wykorzystanie metod ewolucyjnych w projektowaniu algorytmów kwantowych. Master's thesis, Instytut Informatyki, Politechnika Łódzka, 2008.

[Now10] R. Nowotniak. Survey of quantum-inspired evolutionary algorithms. In *Materiały konferencyjne Forum Innowacji Młodych Badaczy*, 2010.

[Now11] R. Nowotniak. Kwantowo inspirowane algorytmy ewolucyjne w zadaniach przeszukiwania i optymalizacji. In *Materiały konferencyjne I Wyjazdowej Sesji Naukowej Doktorantów PŁ*, 2011.

[Now12] R. Nowotniak. Meta-optimization of quantum-inspired evolutionary algorithms in the polish grid infrastructure. In *Materiały konferencyjne II Wyjazdowej Sesji Naukowej Doktorantów PŁ*, 2012.

[NP09] Apurva Narayan and C. Patvardhan. A novel quantum evolutionary algorithm for quadratic knapsack problem. In *SMC'09: Proceedings of the 2009 IEEE international conference on Systems, Man and Cybernetics*, pages 1388–1392, Piscataway, NJ, USA, 2009. IEEE Press.

[NzZ10] Qun Niu, Fang zhou, and Taijin Zhou. Quantum genetic algorithm for hybrid flow shop scheduling problems to minimize total completion time. In Kang Li, Minrui Fei, Li Jia,

and George Irwin, editors, *Life System Modeling and Intelligent Computing*, volume 6329 of *Lecture Notes in Computer Science*, pages 21–29. Springer Berlin / Heidelberg, 2010.

[Pas05] A. Paszynska. An extension of vose's markov chain model for genetic algorithms. In *Proceedings of the 2005 conference on Genetic and evolutionary computation*, page 1554. ACM, 2005.

[PCHS97] R. Penrose, N. Cartwright, S.W. Hawking, and A. Shimony. The large, the small, and the human mind. 1997.

[Ped10] M.E.H. Pedersen. *Tuning & Simplifying Heuristical Optimization*. PhD thesis, University of Southampton, School of Engineering Sciences, 2010.

[Pen89] R. Penrose. The emperor's new mind: Concerning computers. *Minds, and the Laws of Physics*, 1989.

[Pen94] R. Penrose. Shadows of the mind: an approach to the missing science of consciousness, 1994.

[Per09] Christian S. Perone. Pyevolve: a python open-source framework for genetic algorithms. *SIGEVOlution*, 4(1):12–20, 2009.

[PH11] R. Penrose and S. Hameroff. Consciousness in the universe: Neuroscience, quantum space-time geometry and orch or theory. *Journal of Cosmology*, 14, 2011.

[Pla01] M. Planck. On the law of distribution of energy in the normal spectrum. *Annalen der Physik*, 4(553):1, 1901.

[PLK+10] In-Won Park, Bum-Joo Lee, Ye-Hoon Kim, Ji-Hyeong Han, and Jong-Hwan Kim. Multi-objective quantum-inspired evolutionary algorithm-based optimal control of two-link inverted pendulum. In *Evolutionary Computation (CEC), 2010 IEEE Congress on*, pages 1 –7, july 2010.

[PNE10] R. Popa, V. Nicolau, and S. Epure. A new quantum inspired genetic algorithm for evolvable hardware. In *Electrical and Electronics Engineering (ISEEE), 2010 3rd International Symposium on*, pages 64 –69, sept. 2010.

[PNL11] U. Pareek, M. Naeem, and D.C. Lee. Quantum inspired evolutionary algorithm for joint user selection and power allocation for uplink cognitive mimo systems. In *Computational Intelligence in Scheduling (SCIS), 2011 IEEE Symposium on*, pages 33 –38, april 2011.

[PNS07] C. Patvardhan, A. Narayan, and A. Srivastav. Enhanced Quantum Evolutionary Algorithms for Difficult Knapsack Problems. *Lecture Notes in Computer Science*, 4815:252, 2007.

[Pol00] R. Poli. Why the schema theorem is correct also in the presence of stochastic effects. In *Evolutionary Computation, 2000. Proceedings of the 2000 Congress on*, volume 1, pages 487 –492 vol.1, 2000.

[Pol01] R. Poli. Exact schema theory for genetic programming and variable-length genetic algorithms with one-point crossover. *Genetic Programming and Evolvable Machines*, 2(2):123–163, 2001.

[PSK09] M.D. Platel, S. Schliebs, and N. Kasabov. Quantum-Inspired Evolutionary Algorithm: A Multimodel EDA. *Evolutionary Computation, IEEE Transactions on*, 13(6):1218–1232, Dec. 2009.

[PTD+12] J.J. Pla, K.Y. Tan, J.P. Dehollain, W.H. Lim, J.J.L. Morton, D.N. Jamieson, A.S. Dzurak, and A. Morello. A single-atom electron spin qubit in silicon. *Nature*, 489(7417):541–545, 2012.

[qGZL09] Chang qing Gong, Bing Zhang, and Ying Li. Resources scheduling of tt&c network based on quantum genetic algorithm. pages 1 –4, sept. 2009.

[QLZ08] Chaoyong Qin, Yongjuan Liu, and Jianguo Zheng. A real-coded quantum-inspired evolutionary algorithm for global numerical optimization. In *Cybernetics and Intelligent Systems, 2008 IEEE Conference on*, pages 1160–1164, Sept. 2008.

[QZL07] C. Qin, J. Zheng, and J. Lai. A Multiagent Quantum Evolutionary Algorithm for Global Numerical Optimization. *LECTURE NOTES IN COMPUTER SCIENCE*, 4689:380, 2007.

[RLK12] Si-Jung Ryu, Ki-Baek Lee, and Jong-Hwan Kim. Improved version of a multiobjective quantum-inspired evolutionary algorithm with preference-based selection. In *Evolutionary Computation (CEC), 2012 IEEE Congress on*, pages 1 –7, june 2012.

[RMBK10] Chafika Ramdane, Souham Meshoul, Mohamed Batouche, and Mohamed-Khireddine Kholladi. A quantum evolutionary algorithm for data clustering. *International Journal of Data Mining, Modelling and Management*, 2:369–387(19), 2010.

[RND+10] S.J. Russell, P. Norvig, E. Davis, S.J. Russell, and S.J. Russell. *Artificial intelligence: a modern approach*. Prentice hall Upper Saddle River, NJ, 2010.

[RR03] C.R. Reeves and J.E. Rowe. *Genetic algorithms: principles and perspectives: a guide to GA theory*. Kluwer Academic Pub, 2003.

[RR10] B. Radha and H.C.S. Rughooputh. Optimal network reconfiguration of electrical distribution systems using real coded quantum inspired evolutionary algorithm. In *Networking, Sensing and Control (ICNSC), 2010 International Conference on*, pages 38 –43, april 2010.

[Rud94] G. Rudolph. Convergence analysis of canonical genetic algorithms. *IEEE transactions on Neural Networks*, 5(1):96–101, 1994.

[Rut06] L. Rutkowski. *Metody i techniki sztucznej inteligencji: inteligencja obliczeniowa*. Wydawnictwo Naukowe PWN, 2006.

[Sal80] A. Salam. Gauge unification of fundamental forces. *Reviews of Modern Physics*, 52:525–538, 1980.

[Sch01] Lothar M. Schmitt. Theory of genetic algorithms. *Theoretical Computer Science*, 259(1-2):1 – 61, 2001.

[Sch04] Lothar M. Schmitt. Theory of genetic algorithms ii: models for genetic operators over the string-tensor representation of populations and convergence to global optima for arbitrary fitness function under scaling. *Theoretical Computer Science*, 310(1-3):181 – 231, 2004.

[Sch10] Stefan Schliebs. *Heterogeneous probabilistic models for optimisation and modelling of evolving spiking neural networks*. PhD thesis, 2010.

[Sha06] S. Shannon. *Trends in quantum computing research*. Nova Science Pub Inc, 2006.

[SHAM11] P.C. Shill, M.A. Hossain, M.F. Amin, and K. Murase. An adaptive fuzzy logic controller based on real coded quantum-inspired evolutionary algorithm. In *Fuzzy Systems (FUZZ), 2011 IEEE International Conference on*, pages 614 –621, june 2011.

[Sho94] Peter W. Shor. Algorithms for quantum computation: Discrete log and factoring. In *Proceedings of the 35th Annual Symposium on Foundations of Computer Science*, pages 124–134. Institute of Electrical and Electronic Engineers Computer Society Press, 1994.

[Shu09] W. Shu. Quantum-Inspired Genetic Algorithm Based on Simulated Annealing for Combinatorial Optimization Problem. *International Journal of Distributed Sensor Networks*, 5(1):64–65, 2009.

[SK07] Jolanta Socała and Witold Kosiński. Zastosowanie metody funkcji dolnej do badania zbieżności algorytmów genetycznych. 2007.

[SKK05] J. Socała, W. Kosiński, and S. Kotowski. O asymptotycznym zachowaniu prostego algorytmu genetycznego. *Matematyka Stosowana: matematyka dla społeczeństwa Selected full texts*, 6:70–86, 2005.

[SL08] S. Shen and Y. Liu. Probability evolutionary algorithm for functional and combinatorial optimization. In *Intelligent Control and Automation, 2008. WCICA 2008. 7th World Congress on*, pages 7893–7897, 2008.

[SL13] Qiang Song and Xialing Liu. Hybrid quantum evolutionary algorithm and its application in multiuser detection of electronic communication system. In David Jin and Sally Lin, editors, *Advances in Mechanical and Electronic Engineering*, volume 178 of *Lecture Notes in Electrical Engineering*, pages 287–293. Springer Berlin Heidelberg, 2013.

[SMDO08] D. Shilane, J. Martikainen, S. Dudoit, and S.J. Ovaska. A general framework for statistical performance comparison of evolutionary computation algorithms. *Information Sciences*, 178(14):2870–2879, 2008.

[SNF98] Lothar M. Schmitt, Chrystopher L. Nehaniv, and Robert H. Fujii. Linear analysis of genetic algorithms. *Theoretical Computer Science*, 200(1-2):101 – 134, 1998.

[Sof06] D.A. Sofge. Toward a framework for quantum evolutionary computation. In *Cybernetics and Intelligent Systems, 2006 IEEE Conference on*, pages 1–6. IEEE, 2006.

[Sof08] D.A. Sofge. Prospective algorithms for quantum evolutionary computation. In *Proceedings of the Second Quantum Interaction Symposium (QI-2008)*, 2008.

[STV12] L.R. Silveira, R. Tanscheit, and M. Vellasco. Quantum-inspired genetic algorithms applied to ordering combinatorial optimization problems. In *Evolutionary Computation (CEC), 2012 IEEE Congress on*, pages 1 –7, june 2012.

[SW99] C. Stephens and H. Waelbroeck. Schemata evolution and building blocks. *Evolutionary computation*, 7(2):109–124, 1999.

[SY08] H. Su and Y. Yang. Quantum-Inspired Differential Evolution for Binary Optimization. In *Natural Computation, 2008. ICNC'08. Fourth International Conference on*, volume 1, 2008.

[TAT08] M.H. Tayarani and M.R. Akbarzadeh. T. A cellular structure and diversity preserving operator in quantum evolutionary algorithms. In *Evolutionary Computation, 2008. CEC 2008. (IEEE World Congress on Computational Intelligence). IEEE Congress on*, pages 2665 –2670, june 2008.

[TBD04] H. Talbi, M. Batouche, and A. Draa. A quantum-inspired genetic algorithm for multi-source affine image registration. *Lecture Notes in Computer Science*, pages 147–154, 2004.

[TBD07] H. Talbi, M. Batouche, and A. Draa. A Quantum-Inspired Evolutionary Algorithm for Multiobjective Image Segmentation. *International Journal of Mathematical, Physical and Engineering Sciences*, 1(2):109–114, 2007.

[TDB+04] H. Talbi, A. Draa, M. Batouche, U.S.I.E. Abdelkader, and A. Constantine. A new quantum-inspired genetic algorithm for solving the travelling salesman problem. In *2004 IEEE International Conference on Industrial Technology, 2004. IEEE ICIT'04*, volume 3, 2004.

[TM05] T.K. Toosi and H.R. Mashhadi. A Modified Genetic Algorithm Comparable to Quantum GA. 2005.

[TZC10] Hao Teng, Baohua Zhao, and Aizeng Cao. Chaos quantum genetic algorithm based on henon map. In *Intelligent Computation Technology and Automation (ICICTA), 2010 International Conference on*, volume 1, pages 922 –925, 11-12 2010.

[TZY08] H. Teng, B. Zhao, and B. Yang. An Improved Mutative Scale Chaos Optimization Quantum Genetic Algorithm. In *Natural Computation, 2008. ICNC'08. Fourth International Conference on*, volume 6, 2008.

[TZZN10] F. Tao, L. Zhang, Z.H. Zhang, and A.Y.C. Nee. A quantum multi-agent evolutionary algorithm for selection of partners in a virtual enterprise. *CIRP Annals - Manufacturing Technology*, In Press, Corrected Proof:–, 2010.

[UPV06] Mihai Udrescu, Lucian Prodan, and Mircea Vlăduţiu. Implementing quantum genetic algorithms: a solution based on grover's algorithm. In *CF '06: Proceedings of the 3rd conference on Computing frontiers*, pages 71–82, New York, NY, USA, 2006. ACM.

[VHV98] H. Van Hove and A. Verschoren. A fuzzy schema theorem. *Fuzzy sets and systems*, 94(1):93–99, 1998.

[VL08] J.G. Vlachogiannis and K.Y. Lee. Quantum-Inspired Evolutionary Algorithm for Real and Reactive Power Dispatch. *IEEE Transactions on Power Systems*, 23(4):1627–1636, 2008.

[VØ09] J.G. Vlachogiannis and J. Østergaard. Reactive power and voltage control based on general quantum genetic algorithms. *Expert Systems with Applications*, 36(3P2):6118–6126, 2009.

[Vos99] M.D. Vose. *The simple genetic algorithm: foundations and theory*. The MIT Press, 1999.

[VW98a] Michael D. Vose and Alden H. Wright. The simple genetic algorithm and the walsh transform: Part I, theory. *Evol. Comput.*, 6(3):253–273, 1998.

[VW98b] Michael D. Vose and Alden H. Wright. The simple genetic algorithm and the walsh transform: Part II, the inverse. *Evol. Comput.*, 6(3):275–289, 1998.

[Wei08] T. Weise. Global Optimization Algorithms–Theory and Application. *URL: http://www. it-weise. de, Abrufdatum*, 1, 2008.

[WFH+07] Y. Wang, X.Y. Feng, Y.X. Huang, D.B. Pu, W.G. Zhou, Y.C. Liang, and C.G. Zhou. A novel quantum swarm evolutionary algorithm and its applications. *Neurocomputing*, 70(4-6):633–640, 2007.

[WGXM12] Rui Wang, Ning Guo, Fenghong Xiang, and Jianlin Mao. An improved quantum genetic algorithm with mutation and its application to 0-1 knapsack problem. In *Measurement, Information and Control (MIC), 2012 International Conference on*, volume 1, pages 484 –488, may 2012.

[WHD10] Hongliang Wang, Yangwen Huang, and Haifei Ding. Application of support vector machine and quantum genetic algorithm in infrared target recognition. volume 7820, page 78201O. SPIE, 2010.

[Whi94] Darrell Whitley. A genetic algorithm tutorial. *Statistics and Computing*, 4(2):65–85, 06/01 1994. M3: 10.1007/BF00175354.

[WL09] L. Wang and L. Li. An effective hybrid quantum-inspired evolutionary algorithm for parameter estimation of chaotic systems. *Expert Systems With Applications*, 2009.

[WL11] XiuLi Wu and SuJian Li. A quantum inspired algorithm for the job shop scheduling problem. In *Computing, Control and Industrial Engineering (CCIE), 2011 IEEE 2nd International Conference on*, volume 2, pages 212 –215, aug. 2011.

[WLZ+08] W. Wei, B. Li, Y. Zou, W. Zhang, and Z. Zhuang. A multi-objective HW-SW co-synthesis algorithm based on quantum-inspired evolutionary algorithm. *International Journal of Computational Intelligence and Applications*, 7(2):129–148, 2008.

[WM97] D.H. Wolpert and W.G. Macready. No free lunch theorems for optimization. *Evolutionary Computation, IEEE Transactions on*, 1(1):67–82, Apr 1997.

[WS10] Yuyu Wang and Yu Shi. The application of quantum-inspired evolutionary algorithm in analog evolvable hardware. In *Environmental Science and Information Application*

Technology (ESIAT), 2010 International Conference on, volume 2, pages 330 –334, july 2010.

[WTW05] L. Wang, F. Tang, and H. Wu. Hybrid genetic algorithm based on quantum computing for numerical optimization and parameter estimation. *Applied Mathematics and Computation*, 171(2):1141–1156, 2005.

[WWF09] L. Wang, X. Wang, and M. Fei. A novel quantum-inspired pseudorandom proportional evolutionary algorithm for the multidimensional knapsack problem. *Proceedings of the first ACM/SIGEVO Summit on Genetic and Evolutionary Computation*, pages 545–552, 2009.

[WWTZ05] L. Wang, H. Wu, F. Tang, and D. Zheng. A hybrid quantum-inspired genetic algorithm for flow shop scheduling. *Lecture Notes in Computer Science*, 3645:636, 2005.

[WWZ05] L. Wang, H. Wu, and D. Zheng. A quantum-inspired genetic algorithm for scheduling problems. *Lecture Notes in Computer Science*, 3612:417, 2005.

[WxXXp06] Xiao Wang-xin, Zhang Xue, and Yan Xin-ping. Qga based bandwidth adaptation scheme for wireless/mobile networks. pages 1323 –1326, june 2006.

[WZ10] Jindong Wang and Rigui Zhou. A novel quantum genetic algorithm for pid controller. In De-Shuang Huang, Zhongming Zhao, Vitoantonio Bevilacqua, and Juan Figueroa, editors, *Advanced Intelligent Computing Theories and Applications*, volume 6215 of *Lecture Notes in Computer Science*, pages 72–77. Springer Berlin / Heidelberg, 2010.

[WZM+12a] Yongqiang Wang, Jianzhong Zhou, Li Mo, Shuo Ouyang, and Yongchuan Zhang. A clonal real-coded quantum-inspired evolutionary algorithm with cauchy mutation for short-term hydrothermal generation scheduling. *International Journal of Electrical Power and Energy Systems*, 43(1):1228 – 1240, 2012.

[WZM+12b] Yongqiang Wang, Jianzhong Zhou, Li Mo, Rui Zhang, and Yongchuan Zhang. Short-term hydrothermal generation scheduling using differential real-coded quantum-inspired evolutionary algorithm. *Energy*, 44(1):657 – 671, 2012. ¡ce:title¿Integration and Energy System Engineering, European Symposium on Computer-Aided Process Engineering 2011¡/ce:title¿.

[XJB+09] H. Xing, Y. Ji, L. Bai, X. Liu, Z. Qu, and X. Wang. An adaptive-evolution-based quantum-inspired evolutionary algorithm for QoS multicasting in IP/DWDM networks. *Computer Communications*, 32(6):1086–1094, 2009.

[XJBS09] Huanlai Xing, Yuefeng Ji, Lin Bai, and Yongmei Sun. An improved quantum-inspired evolutionary algorithm for coding resource optimization based network coding multicast scheme. *AEU - International Journal of Electronics and Communications*, In Press, Corrected Proof:–, 2009.

[XJBS10] Huanlai Xing, Yuefeng Ji, Lin Bai, and Yongmei Sun. An improved quantum-inspired evolutionary algorithm for coding resource optimization based network coding multicast scheme. *AEU - International Journal of Electronics and Communications*, 64(12):1105 – 1113, 2010.

[XL09] Jianhua Xiao and Binglian Liu. Quantum swarm evolutionary algorithm with time-varying acceleration coefficients for partner selection in virtual enterprise, 2009.

[XLJ+09] H. Xing, X. Liu, X. Jin, L. Bai, and Y. Ji. A multi-granularity evolution based Quantum Genetic Algorithm for QoS multicast routing problem in WDM networks. *Computer Communications*, 32(2):386–393, 2009.

[XLM10] Han Xue, Xun Li, and Hong-Xu Ma. Random fuzzy chance-constrained programming based on adaptive chaos quantum honey bee algorithm and robustness analysis. *International Journal of Automation and Computing*, 7(1):115–122, 02/01 2010. M3: 10.1007/s11633-010-0115-6.

[XXT09] Hegen Xiong, Kai Xiong, and Qiuhua Tang. A novel variable-boundary-coded quantum genetic algorithm for function optimization. In *DASC '09: Proceedings of the 2009 Eighth IEEE International Conference on Dependable, Autonomic and Secure Computing*, pages 279–285, Washington, DC, USA, 2009. IEEE Computer Society.

[XYL+08] J. Xiao, Y.P. Yan, Y. Lin, L. Yuan, and J. Zhang. A Quantum-inspired Genetic Algorithm for Data Clustering. In *Proceedings of the IEEE Congress on Evolutionary Computation, Hong Kong*, pages 1513–1518. Citeseer, 2008.

[XYZT09] J. Xiao, Y.P. Yan, J. Zhang, and Y. Tang. A quantum-inspired genetic algorithm for k-means clustering. *Expert Systems with Applications*, 2009.

[XZL+11] N. Xu, J. Zhu, D. Lu, X. Zhou, X. Peng, and J. Du. Quantum factorization of 143 on a dipolar-coupling nmr system. *arXiv preprint arXiv:1111.3726*, 2011.

[Yan08] X.S. Yang. *Nature-inspired metaheuristic algorithms*. Luniver Pr, 2008. book describing a variety of modern metaheuristic algorithms (GA, ACO, Bee, SA, HS, Firefly, TS).

[YCJ+09] Lili Yan, Henian Chen, Wentian Ji, Yu Lu, and Junqing Li. Optimal vsm model and multi-object quantum-inspired genetic algorithm for web information retrieval. pages 1 –4, jan. 2009.

[YCSZ09] Y. Yu, LI Cunhua, GAO Shangce, and T. Zheng. Quantum interference crossover-based clonal selection algorithm and its application to traveling salesman problem. *IEICE TRANSACTIONS on Information and Systems*, 92(1):78–85, 2009.

[YCZ11] Shengqiu Yi, Ming Chen, and Zhigao Zeng. Convergence analysis on a class of quantum-inspired evolutionary algorithms. In *Natural Computation (ICNC), 2011 Seventh International Conference on*, volume 2, pages 1072 –1076, july 2011.

[YD07] Q. Yang and S. Ding. Methodology and Case Study of Hybrid Quantum-Inspired Evolutionary Algorithm for Numerical Optimization. In *Natural Computation, 2007. ICNC 2007. Third International Conference on*, volume 5, 2007.

[YF08] Hai-Yan Yu and Jiu-Lun Fan. Three-level image segmentation based on maximum fuzzy partition entropy of 2-d histogram and quantum genetic algorithm. In *ICIC '08: Proceedings of the 4th international conference on Intelligent Computing*, pages 484–493, Berlin, Heidelberg, 2008. Springer-Verlag.

[YJ03] Shuyuan Yang and Licheng Jiao. The quantum evolutionary programming. In *Computational Intelligence and Multimedia Applications, 2003. ICCIMA 2003. Proceedings. Fifth International Conference on*, pages 362–367, Sept. 2003.

[YK11] X.F. Yin and L.P. Khoo. An exact schema theorem for adaptive genetic algorithm and its application to machine cell formation. *Expert Systems with Applications*, 38(7):8538–8552, 2011.

[YL03] H. Yang and M. Li. Form invariance of schema and exact schema theorem. *Science in China Series F: Information Sciences*, 46(6):475–484, 2003.

[YLDW12] Guisheng Yin, Jia Li, Hongbin Dong, and Jijie Wei. Quantum genetic algorithm using a mixed update strategy. In Rongbo Zhu and Yan Ma, editors, *Information Engineering and Applications*, volume 154 of *Lecture Notes in Electrical Engineering*, pages 412–419. Springer London, 2012.

[YRZ12] Z.M. Yasin, T.K.A. Rahman, and Z. Zakaria. Multiobjective quantum-inspired evolutionary programming for optimal load shedding. In *Control and System Graduate Research Colloquium (ICSGRC), 2012 IEEE*, pages 160 –165, july 2012.

[Zak11] M. Zak. *From Quantum Computing to Intelligence*. Nova Science Publishers, Inc., 2011.

[ZGW08] G.X. Zhang, M. Gheorghe, and C.Z. Wu. A Quantum-Inspired Evolutionary Algorithm Based on P systems for Knapsack Problem. *Fundamenta informaticae*, 87(1):93–116, 2008.

[Zha10a] Gexiang Zhang. Quantum-inspired evolutionary algorithms: a survey and empirical study. *Journal of Heuristics*, pages 1–49, 2010. 10.1007/s10732-010-9136-0.

[Zha10b] G.X. Zhang. Time-Frequency Atom Decomposition with Quantum-Inspired Evolutionary Algorithms. *Circuits, Systems, and Signal Processing*, pages 1–25, 2010.

[ZJL03] G. Zhang, W. Jin, and N. Li. An improved quantum genetic algorithm and its application. *Lecture notes in computer science*, pages 449–452, 2003.

[ZL11] Yu Zheng and Jingfa Liu. A novel quantum-inspired genetic algorithm for a weekly university scheduling optimization. In *Information Science and Technology (ICIST), 2011 International Conference on*, pages 373 –376, march 2011.

[ZLJH06] G. Zhang, N. Li, W. Jin, and L. Hu. Novel quantum genetic algorithm and its applications. *Frontiers of Electrical and Electronic Engineering in China*, 1(1):31–36, 2006.

[ZLSS12] Xiu Jie Zhang, Shi Yong Li, Yi Shen, and Shen Min Song. Evaluation of several quantum genetic algorithms in medical

image registration applications. In *Computer Science and Automation Engineering (CSAE), 2012 IEEE International Conference on*, volume 2, pages 710 –713, may 2012.

[ZPZS09] Zhijin Zhao, Zhen Peng, Shilian Zheng, and Junna Shang. Cognitive radio spectrum allocation using evolutionary algorithms. *Trans. Wireless. Comm.*, 8(9):4421–4425, 2009.

[ZR07a] Gexiang Zhang and Haina Rong. Parameter Setting of Quantum-Inspired Genetic Algorithm Based on Real Observation. In *RSKT'07*, pages 492–499, 2007.

[ZR07b] Gexiang Zhang and Haina Rong. Real-observation quantum-inspired evolutionary algorithm for a class of numerical optimization problems. In Yong Shi, Geert van Albada, Jack Dongarra, and Peter Sloot, editors, *Computational Science ICCS 2007*, volume 4490 of *Lecture Notes in Computer Science*, pages 989–996. Springer Berlin / Heidelberg, 2007.

[ZSL08] Wenfeng Zhang, Zhongke Shi, and Zhiyong Luo. Prediction of urban passenger transport based-on wavelet SVM with quantum-inspired evolutionary algorithm. In *Neural Networks, 2008. IJCNN 2008. (IEEE World Congress on Computational Intelligence). IEEE International Joint Conference on*, pages 1509–1514, June 2008.

[ZXTL09] S. Zhao, G. Xu, T. Tao, and L. Liang. Real-coded chaotic quantum-inspired genetic algorithm for training of fuzzy neural networks. *Computers and Mathematics with Applications*, 57(11-12):2009–2015, 2009.

[ZY10a] T. Zheng and M. Yamashiro. A novel quantum differential evolutionary algorithm for non-permutation flow shop scheduling problems. In *Electrical Engineering Computing Science and Automatic Control (CCE), 2010 7th International Conference on*, pages 357 –362, sept. 2010.

[ZY10b] T. Zheng and M. Yamashiro. Solving flow shop scheduling problems by quantum differential evolutionary algorithm. *The International Journal of Advanced Manufacturing Technology*, pages 1–20, 2010.

[ZZ11] He Zongyao and Liang Zhou. A new real-coded quantum-inspired evolutionary algorithm. *IJACT : International Journal of Advancements in Computing Technology*, 3(7):108 – 106, 2011.

[ZZL+06] W. G. Zhou, C. G. Zhou, G. X. Liu, H. Y. Lv, and Y. C. Liang. An Improved Quantum-Inspired Evolutionary Algorithm for Clustering Gene Expression Data, 2006.

[ZZPW08] Jing-Ling Zhang, Yan-Wei Zhao, Dian-Jun Peng, and Wan-Liang Wang. A hybrid quantum-inspired evolutionary algorithm for capacitated vehicle routing problem. In *ICIC '08: Proceedings of the 4th international conference on Intelligent Computing*, pages 31–38, Berlin, Heidelberg, 2008. Springer-Verlag.

[ZZRC10] Hua Zhang, Gexiang Zhang, Haina Rong, and Jixiang Cheng. Comparisons of quantum rotation gates in quantum-inspired evolutionary algorithms. In *Natural Computation (ICNC), 2010 Sixth International Conference on*, volume 5, pages 2306 –2310, aug. 2010.