Список литературы

[1] Zhou Y, Tan Y. 2010 Particle swarm optimization with triggered mutation and its implementation based on gpu. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1–8. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830485).

[2] Chen Z, He Z, Zhang C. 2010 Particle swarm optimizer with self-adjusting neighborhoods. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 9–14. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830486).

[3] Vanneschi L, Codecasa D, Mauri G. 2010 An empirical comparison of parallel and distributed particle swarm optimization methods. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 15–22. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830487).

[4] Lin Y, min Hu X, Zhang J. 2010 An ant-colony-system-based activity scheduling method for the lifetime maximization of heterogeneous wireless sensor networks. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 23–30. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830488).

[5] jie Yu W, Zhang J. 2010 Pheromone-distribution-based adaptive ant colony system. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 31–38. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830489).

[6] Zhan ZH, Zhang J. 2010 Self-adaptive differential evolution based on pso learning strategy. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 39–46. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830490).

[7] Lemmens N, Tuyls K. 2010 Stigmergic landmark routing: a routing algorithm for wireless mobile ad-hoc networks. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 47–54. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830491).

[8] Deb K, Padhye N. 2010 Development of efficient particle swarm optimizers by using concepts from evolutionary algorithms. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 55–62. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830492).

[9] Neumann F, Sudholt D, Witt C. 2010 A few ants are enough: Aco with iteration-best update. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 63–70. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830493).

[10] Lopez-Ibanez M, Stuetzle T. 2010 The impact of design choices of multiobjective antcolony optimization algorithms on performance: an experimental study on the biobjective tsp. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 71–78. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830494).

[11] Salim S, Javed M, Akbar AH. 2010 Honey-bee dancing-inspired architecture for fault tolerance in wireless sensor networks. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 79–80. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830496).

[12] Mohemmed AW, Zhang M, Browne WN. 2010 Particle swarm optimisation for outlier detection. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 83–84. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830498).

[13] Brown JB, Huber M. 2010 Pseudo-hierarchical ant-based clustering using a heterogeneous agent hierarchy and automatic boundary formation. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 85–86. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830499).

[14] Ducatelle F, Di Caro GA, Gambardella LM. 2010 Cooperative self-organization in a heterogeneous swarm robotic system. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 87–94. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830501).

[15] Pilat ML, Jacob C. 2010 Evolution of vision capabilities in embodied virtual creatures. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 95–102. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830502).

[16] Lehman J, Stanley KO. 2010 Revising the evolutionary computation abstraction: minimal criteria novelty search. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 103–110. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830503).

[17] Bongard JC, Hornby GS. 2010 Guarding against premature convergence while accelerating evolutionary search. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 111–118. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830504).

[18] Koos S, Mouret JB, Doncieux S. 2010 Crossing the reality gap in evolutionary robotics by promoting transferable controllers. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 119–126. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830505).

[19] Knudson M, Tumer K. 2010 Coevolution of heterogeneous multi-robot teams. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 127–134. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830506).

[20] Goldsby HJ, Knoester DB, Ofria C. 2010 Evolution of division of labor in genetically homogenous groups. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 135–142. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830507).

[21] Connelly BD, Beckmann BE, McKinley PK. 2010 Resource abundance promotes the evolution of public goods cooperation. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 143–150. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830508).

[22] Hiller JD, Lipson H. 2010 Morphological evolution of freeform robots. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 151–152. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830510).

[23] Fernando C. 2010 Neuronal replicators solve the stability-plasticity dilemma. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 153–154. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830511).

[24] Wong KC, Leung KS, Wong MH. 2010 Protein structure prediction on a lattice model via multimodal optimization techniques. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 155–162. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830513).

[25] Farinaccio A, Vanneschi L, Giacobini M, Mauri G, Provero P. 2010 On the use of genetic programming for the prediction of survival in cancer. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 163–170. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830514).

[26] Lo LY, Chan TM, Lee KH, Leung KS. 2010 Challenges rising from learning motif evaluation functions using genetic programming. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 171–178. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830515).

[27] Kamath U, De Jong KA, Shehu A. 2010 Selecting predictive features for recognition of hypersensitive sites of regulatory genomic sequences with an evolutionary algorithm. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 179–186. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830516).

[28] García-Martínez C, Lima C, Twycross J, Krasnogor N, Lozano M. 2010 P system model optimisation by means of evolutionary based search algorithms. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 187–194. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830517).

[29] Urbanowicz RJ, Moore JH. 2010 The application of michigan-style learning classifiersystems to address genetic heterogeneity and epistasisin association studies. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 195–202. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830518).

[30] Holzinger ER, Buchanan CC, Dudek SM, Torstenson EC, Turner SD, Ritchie MD. 2010 Initialization parameter sweep in athena: optimizing neural networks for detecting gene-gene interactions in the presence of small main effects. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 203–210. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830519).

[31] Atilgan E, Hu J. 2010 Efficient protein-ligand docking using sustainable evolutionary algorithm. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 211–212. Portland, Oregon, USA: ACM. (doi:doi: 10.1145/1830483.1830521).

[32] Kubalik J, Buryan P, Wagner L. 2010 Solving the dna fragment assembly problem efficiently using iterative optimization with evolved hypermutations. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 213–214. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830522).

[33] Sinnott-Armstrong NA, Greene CS, Moore JH. 2010 Fast genome-wide epistasis analysis using ant colony optimization for multifactor dimensionality reduction analysis on graphics processing units. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 215–216. Portland, Oregon, USA: ACM. (doi: doi:10.1145/1830483.1830523).

[34] Jiang H, Chen Y. 2010 An efficient algorithm for generalized minimum spanning tree problem. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 217–224. Portland, Oregon, USA: ACM. (doi:doi: 10.1145/1830483.1830525).

[35] Iordache S. 2010 Consultant-guided search: a new metaheuristic for combinatorial optimization problems. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 225–232. Portland, Oregon, USA: ACM. (doi: doi:10.1145/1830483.1830526).

[36] Wu SX, Banzhaf W. 2010 A hierarchical cooperative evolutionary algorithm. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 233–240. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830527).

[37] Bibai J, Saveant P, Schoenauer M, Vidal V. 2010 On the generality of parameter tuning in evolutionary planning. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 241–248. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830528).

[38] Hildebrandt T, Heger J, Scholz-Reiter B. 2010 Towards improved dispatching rules for complex shop floor scenarios: a genetic programming approach. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 257–264. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830530).

[39] Leung KM, Zhang X. 2010 Discrete versus continuous parametrization of bank credit rating systems optimization using differential evolution. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 265–272. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830531).

[40] Stonedahl F, Stonedahl SH. 2010 Heuristics for sampling repetitions in noisy landscapes with fitness caching. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 273–280. Portland, Oregon, USA: ACM. (doi: doi:10.1145/1830483.1830532).

[41] Ren Z, Feng Z. 2010 An ant colony optimization approach to the multiple-choice multidimensional knapsack problem. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 281–288. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830533).

[42] Doğan E, Erdal F, Saka MP. 2010 Optimum design of grillage systems under code provisions using particle swarm optimization. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 289–290. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830535).

[43] Merelo JJ, Mora AM, Runarsson TP. 2010 Beating exhaustive search at its own game: revisiting evolutionary mastermind. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 291–292. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830536).

[44] Tsai CW, Tseng SP, Chiang MC, Yang CS. 2010 A framework for accelerating metaheuristics via pattern reduction. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 293–294. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830537).

[45] Kimbrough SO, Kuo A, Lau HC. 2010 Effective heuristic methods for finding non-optimal solutions of interest in constrained optimization models. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 295–296. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830538).

[46] López-Camacho E, Terashima-Marín H, Ross P, Valenzuela-Rendón M. 2010 Problem-state representations in a hyper-heuristic approach for the 2d irregular bpp. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 297–298. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830539).

[47] Montero E, Riff MC, Neveu B. 2010 An evaluation of off-line calibration techniques for evolutionary algorithms. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 299–300. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830540).

[48] Steitz W, Rothlauf F. 2010 Solving ocst problems with problem-specific guided local search. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 301–302. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830541).

[49] Radetic E, Pelikan M. 2010 Spurious dependencies and eda scalability. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 303–310. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830543).

[50] Chuang CY, Hsu WL. 2010 Multivariate multi-model approach for globally multimodal problems. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 311–318. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830544).

[51] hui Zhong J, Zhang J. 2010 A robust estimation of distribution algorithm for power electronic circuits design. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 319–326. Portland, Oregon, USA: ACM. (doi: doi:10.1145/1830483.1830545).

[52] Yang J, Xu H, Cai Y, Jia P. 2010 Effective structure learning for eda via l1-regularizedbayesian networks. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 327–334. Portland, Oregon, USA: ACM. (doi: doi:10.1145/1830483.1830546).

[53] Luong HN, Nguyen HT, Ahn CW. 2010 Entropy-based substructural local search for the bayesian optimization algorithm. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 335–342. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830547).

[54] Nguyen HT, Luong HN, Ahn CW. 2010 Entropy measurement-based estimation model for bayesian optimization algorithm. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 343–350. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830548).

[55] Bosman PA. 2010 The anticipated mean shift and cluster registration in mixture-based edas for multi-objective optimization. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 351–358. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830549).

[56] Salinas-Gutiérrez R, Hernández-Aguirre A, Villa-Diharce ER. 2010 D-vine eda: a new estimation of distribution algorithm based on regular vines. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 359–366. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830550).

[57] Nikanjam A, Sharifi H, Helmi BH, Rahmani A. 2010 A new dsm clustering algorithm for linkage groups identification. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 367–368. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830552).

[58] Melkozerov A, Beyer HG. 2010 On the analysis of self-adaptive evolution strategies on elliptic model: first results. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 369–376. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830554).

[59] Chwatal AM, Raidl GR, Zöch M. 2010 Fitting multi-planet transit models to photometric time-data series by evolution strategies. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 377–384. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830555).

[60] Arnold DV, Hansen N. 2010 Active covariance matrix adaptation for the (1+1)-cma-es. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 385–392. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830556).

[61] Glasmachers T, Schaul T, Yi S, Wierstra D, Schmidhuber J. 2010 Exponential natural evolution strategies. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 393–400. Portland, Oregon, USA: ACM. (doi: doi:10.1145/1830483.1830557).

[62] Preuss M, Rudolph G, Wessing S. 2010 Tuning optimization algorithms for real-world problems by means of surrogate modeling. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 401–408. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830558).

[63] Gong W, Álvaro Fialho, Cai Z. 2010 Adaptive strategy selection in differential evolution. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 409–416. Portland, Oregon, USA: ACM. (doi:doi:10.1145/ 1830483.1830559).

[64] Ma H, Simon D. 2010 Biogeography-based optimization with blended migration for constrained optimization problems. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 417–418. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830561).

[65] Gonzales E, Mabu S, Taboada K, Hirasawa K, Shimada K. 2010 Pruning association rules using statistics and genetic relation algoritm. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 419–420. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830562).

[66] Shir OM, Roslund J, Rabitz H. 2010 Forced optimal covariance adaptive learning: modified cma-es for efficient hessian determination. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 421–422. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830563).

[67] Liu R, Zhang W, Jiao L, Liu F, Ma J. 2010 A sphere-dominance based preference immune-inspired algorithm for dynamic multi-objective optimization. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 423–430. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830565).

[68] Lochtefeld DF, Ciarallo FW. 2010 Deterministic helper-objective sequences applied to job-shop scheduling. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 431–438. Portland, Oregon, USA: ACM. (doi: doi:10.1145/1830483.1830566).

[69] Schrum J, Miikkulainen R. 2010 Evolving agent behavior in multiobjective domains using fitness-based shaping. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 439–446. Portland, Oregon, USA: ACM. (doi: doi:10.1145/1830483.1830567).

[70] Ulrich T, Bader J, Zitzler E. 2010 Integrating decision space diversity into hypervolume-based multiobjective search. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 455–462. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830569).

[71] Li M, Zheng J, Shen R, Li K, Yuan Q. 2010 A grid-based fitness strategy for evolutionary many-objective optimization. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 463–470. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830570).

[72] Loshchilov I, Schoenauer M, Sebag M. 2010 A mono surrogate for multiobjective optimization. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 471–478. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830571).

[73] Sharma D, Collet P. 2010 An archived-based stochastic ranking evolutionary algorithm (asrea) for multi-objective optimization. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 479–486. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830572).

[74] VoßT, Hansen N, Igel C. 2010 Improved step size adaptation for the mo-cma-es. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 487–494. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830573).

[75] Berghammer R, Friedrich T, Neumann F. 2010 Set-based multi-objective optimization, indicators, and deteriorative cycles. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 495–502. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830574).

[76] Kramer O, Danielsiek H. 2010 Dbscan-based multi-objective niching to approximate equivalent pareto-subsets. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 503–510. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830575).

[77] Bringmann K, Friedrich T. 2010 The maximum hypervolume set yields near-optimal approximation. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 511–518. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830576).

[78] Ishibuchi H, Sakane Y, Tsukamoto N, Nojima Y. 2010 Simultaneous use of different scalarizing functions in moea/d. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 519–526. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830577).

[79] Folino F, Pizzuti C. 2010 Multiobjective evolutionary community detection for dynamic networks. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 535–536. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830580).

[80] Zapotecas Martínez S, Coello Coello CA. 2010 A multi-objective meta-model assisted memetic algorithm with non gradient-based local search. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 537–538. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830581).

[81] Dumitrescu D, Lung RI, Nagy R, Zaharie D, Bartha A. 2010 Exploring evolutionary detected fuzzy equilibria: a link between normative theory and real life. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 539–540. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830582).

[82] Hutzschenreuter AK, Bosman PA, La Poutré H. 2010 Enhanced hospital resource management using anticipatory policies in online dynamic multi-objective optimization. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 541–542. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830583).

[83] Schmidt MD, Lipson H. 2010 Age-fitness pareto optimization. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 543–544. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830584).

[84] Martí L, García J, Berlanga A, Molina JM. 2010 Moving away from error-based learning in multi-objective estimation of distribution algorithms. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 545–546. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830585).

[85] Verbancsics P, Stanley KO. 2010 Transfer learning through indirect encoding. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 547–554. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830587).

[86] Downing KL. 2010 The baldwin effect in developing neural networks. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 555–562. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830588).

[87] Risi S, Lehman J, Stanley KO. 2010 Evolving the placement and density of neurons in the hyperneat substrate. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 563–570. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830589).

[88] Steiner T, Jin Y, Sendhoff B. 2010 Evolving heterochrony for cellular differentiation using vector field embryogeny. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 571–578. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830590).

[89] Harding S, Miller JF, Banzhaf W. 2010 Self modifying cartesian genetic programming: finding algorithms that calculate pi and e to arbitrary precision. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 579–586. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830591).

[90] Mouret JB, Doncieux S, Girard B. 2010 Importing the computational neuroscience toolbox into neuro-evolution-application to basal ganglia. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 587–594. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830592).

[91] Trefzer MA, Kuyucu T, Miller JF, Tyrrell AM. 2010 Image compression of natural images using artificial gene regulatory networks. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings*

of the 12th annual conference on Genetic and evolutionary computation, pp. 595–602. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830593).

[92] Knoester DB, Goldsby HJ, McKinley PK. 2010 Neuroevolution of mobile ad hoc networks. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 603–610. Portland, Oregon, USA: ACM. (doi:doi: 10.1145/1830483.1830594).

[93] Moriguchi H, Honiden S. 2010 Sustaining behavioral diversity in neat. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 611–618. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830595).

[94] Koutnik J, Gomez F, Schmidhuber J. 2010 Evolving neural networks in compressed weight space. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 619–626. Portland, Oregon, USA: ACM. (doi: doi:10.1145/1830483.1830596).

[95] Auerbach JE, Bongard JC. 2010 Evolving cppns to grow three-dimensional physical structures. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 627–634. Portland, Oregon, USA: ACM. (doi:doi: 10.1145/1830483.1830597).

[96] Clune J, Beckmann BE, McKinley PK, Ofria C. 2010 Investigating whether hyperneat produces modular neural networks. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 635–642. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830598).

[97] Inden B, Jin Y, Haschke R, Ritter H. 2010 Neatfields: evolution of neural fields. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 645–646. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830601).

[98] Soule T, Heckendorn RB. 2010 A developmental algorithm for multi-agent swarms with scalable hierarchies. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 647–648. Portland, Oregon, USA: ACM. (doi: doi:10.1145/1830483.1830602).

[99] Collier R, Wineberg M. 2010 Approaches to multidimensional scaling for adaptive landscape visualization. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 649–656. Portland, Oregon, USA: ACM. (doi: doi:10.1145/1830483.1830604).

[100] Benjamin J, Julstrom BA. 2010 Breaking ties with secondary fitness in a genetic algorithm for the bin packing problem. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 657–664. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830605).

[101] Pelikan M. 2010 Nk landscapes, problem difficulty, and hybrid evolutionary algorithms. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 665–672. Portland, Oregon, USA: ACM. (doi:doi:10.1145/ 1830483.1830606).

[102] Yehoshua R, Avigal M, Unger R. 2010 Analysis of the effects of lifetime learning on population fitness using vose model. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 681–688. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830608).

[103] Tulshyan R, Arora R, Deb K, Dutta J. 2010 Investigating ea solutions for approximate kkt conditions in smooth problems. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 689–696. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830609).

[104] Lien TC, Yu TL, You YS. 2010 Co-evolution of cooperative strategies under egoism. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 697–704. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830610).

[105] Jansen T, Zarges C. 2010 Aging beyond restarts. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 705–712. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830611).

[106] Hauschild MW, Pelikan M. 2010 Network crossover performance on nk landscapes and deceptive problems. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 713–720. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830612).

[107] Vafaee F, Turán G, Nelson PC. 2010 Optimizing genetic operator rates using a markov chain model of genetic algorithms. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 721–728. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830613).

[108] Wen Y, Xu H, Yang J. 2010 A heuristic-based hybrid genetic algorithm for heterogeneous multiprocessor scheduling. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 729–736. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830614).

[109] Unachak P, Goodman E. 2010 Solving multiobjective flexible job-shop scheduling using an adaptive representation. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 737–742. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830615).

[110] de Mendonca Neta BM, Araujo GHD, Guimaraes FG, Mesquita RC. 2010 A hybrid genetic algorithm for automatic graph drawing based on the topology-shape-metric approach. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 743–750. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830616).

[111] Barreto AM, Bernardino HS, Barbosa HJ. 2010 Probabilistic performance profiles for the experimental evaluation of stochastic algorithms. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 751–758. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830617).

[112] Doerr B, Johannsen D. 2010 Edge-based representation beats vertex-based representation in shortest path problems. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 759–766. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830618).

[113] Álvaro Fialho, Schoenauer M, Sebag M. 2010 Toward comparison-based adaptive operator selection. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 767–774. Portland, Oregon, USA: ACM. (doi: doi:10.1145/1830483.1830619).

[114] Galan SF, Mengshoel OJ. 2010 Generalized crowding for genetic algorithms. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 775–782. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830620).

[115] Avery P, Louis S. 2010 Coevolving influence maps for spatial team tactics in a rts game. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 783–790. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830621).

[116] Carlson BP, Hougen DF. 2010 Phenotype feedback genetic algorithm operators for heuristic encoding of snakes within hypercubes. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 791–798. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830622).

[117] Crofford J, Eskridge BE, Hougen DF. 2010 Applying the triple parameter hypothesis to maintenance scheduling. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 799–806. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830623).

[118] Cook JE, Tauritz DR. 2010 An exploration into dynamic population sizing. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 807–814. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830624).

[119] Ter-Sarkisov A, Marsland SR, Holland BR. 2010 The k-bit-swap: a new genetic algorithm operator. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 815–816. Portland, Oregon, USA: ACM. (doi: doi:10.1145/1830483.1830626).

[120] De Prisco R, Zaccagnino G, Zaccagnino R. 2010 Evobasscomposer: a multi-objective genetic algorithm for 4-voice compositions. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 817–818. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830627).

[121] Nadi F, Khader AT, Al-Betar MA. 2010 Adaptive genetic algorithm using harmony search. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 819–820. Portland, Oregon, USA: ACM. (doi:doi: 10.1145/1830483.1830628).

[122] Kureichik VM, Lebedev BK, Lebedev OB. 2010 Hybrid evolutionary algorithm of planning vlsi. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV,

Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 821–822. Portland, Oregon, USA: ACM. (doi:doi: 10.1145/1830483.1830629).

[123] Addicoat MA, Brain ZE. 2010 Using a meta-ga for parametric optimization of simple gas in the computational chemistry domain. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 823–824. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830630).

[124] Abbas HM. 2010 Mixed-coded evolutionary algorithm for gaussian mixture maximum likelihood clustering with model selection. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 825–826. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830631).

[125] Esparcia-Alcazár AI, Martínez-García A, Mora AM, Merelo JJ, García-Sánchez P. 2010 Genetic evolution of fuzzy finite state machines to control bots in a first-person shooter game. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 829–830. Portland, Oregon, USA: ACM. (doi:doi:10.1145/ 1830483.1830633).

[126] Ortegon-Cano P, Hartasanchez DA, Stephens CR. 2010 Why recombination should be adaptive. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 831–832. Portland, Oregon, USA: ACM. (doi:doi: 10.1145/1830483.1830634).

[127] Meekhof T, Soule T. 2010 Noise pressure: systematic overestimation of population fitness in genetic algorithms with noisy fitness functions. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 833– 834. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830635).

[128] Herrera-Ortiz JA, Oliver-Morales C, Rodríguez-Vázquez K. 2010 Amount and type of information: a ga-hardness taxonomy. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 835–836. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830636).

[129] Bhowan U, Zhang M, Johnston M. 2010 Auc analysis of the pareto-front using multi-objective gp for classification with unbalanced data. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 845–852. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830639).

[130] Lichodzijewski P, Heywood MI. 2010 Symbiosis, complexification and simplicity under gp. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 853–860. Portland, Oregon, USA: ACM. (doi:doi:10.1145/ 1830483.1830640).

[131] Trujillo L, Legrand P, Lévy-Véhel J. 2010 The estimation of hölderian regularity using genetic programming. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 861–868. Portland, Oregon, USA: ACM. (doi: doi:10.1145/1830483.1830641).

[132] Uy NQ, Hoai NX, O'Neill M, McKay B. 2010 Semantics based crossover for boolean problems. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 869–876. Portland, Oregon, USA: ACM. (doi:doi: 10.1145/1830483.1830642).

[133] Downey C, Zhang M, Browne WN. 2010 New crossover operators in linear genetic programming for multiclass object classification. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 885–892. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830644).

[134] Azad RMA, Ryan C. 2010 Abstract functions and lifetime learning in genetic programming for symbolic regression. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 893–900. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830645).

[135] Galván-López E, McDermott J, O'Neill M, Brabazon A. 2010 Towards an understanding of locality in genetic programming. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 901–908. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830646).

[136] Zafra A, Ventura S. 2010 Grammar guided genetic programming for multiple instance learning: an experimental study. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 909–916. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830647).

[137] Pennachin CL, Looks M, de Vasconcelos JA. 2010 Robust symbolic regression with affine arithmetic. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 917–924. Portland, Oregon, USA: ACM. (doi: doi:10.1145/1830483.1830648).

[138] Augusto DA, Barbosa HJC, Ebecken NFF. 2010 Coevolutionary multi-population genetic programming for data classification. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 933–940. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830650).

[139] Vladislavleva K, Veeramachaneni K, Burland M, Parcon J, O'Reilly UM. 2010 Knowledge mining with genetic programming methods for variable selection in flavor design. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 941–948. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830651).

[140] Foster B, Somayaji A. 2010 Object-level recombination of commodity applications. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 957–964. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830653).

[141] Fast E, Le Gouse C, Forrest S, Weimer W. 2010 Designing better fitness functions for automated program repair. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 965–972. Portland, Oregon, USA: ACM. (doi: doi:10.1145/1830483.1830654).

[142] Momm HG, Easson G. 2010 Population restarting: a study case of feature extraction from remotely sensed imagery using textural information. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 973–974. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830656).

[143] Barrero DF, Camacho D, R-Moreno MD. 2010 Confidence intervals of success rates in evolutionary computation. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 975–976. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830657).

[144] Ahalpara DP. 2010 Improved forecasting of time series data of real system using genetic programming. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 977–978. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830658).

[145] Wang J, Tan Y. 2010 A novel genetic programming based morphological image analysis algorithm. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 979–980. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830659).

[146] Curran D, Freuder E, Jansen T. 2010 Incremental evolution of local search heuristics. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 981–982. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830660).

[147] Gajda Z, Sekanina L. 2010 When does cartesian genetic programming minimize the phenotype size implicitly? In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 983–984. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830661).

[148] Borges CE, Alonso CL, Montana JL. 2010 Model selection in genetic programming. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 985–986. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830662).

[149] McMullin M, Soule T. 2010 Constant versus variable arity operators in genetic programming. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 987–988. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830663).

[150] Alonso F, Martínez L, Santamaría A, Pérez A, Valente JP. 2010 Gggp-based method for modeling time series: operator selection, parameter optimization and expert evaluation. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 989–990. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830664).

[151] Toledo-Suárez CD. 2010 A first assessment of the use of extended relational alphabets in accuracy classifier systems. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 991–998. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830666).

[152] Manning EP. 2010 Coevolution in a large search space using resource-limited nash memory. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 999–1006. Portland, Oregon, USA: ACM. (doi:doi: 10.1145/1830483.1830667).

[153] Johansson U, König R, Niklasson L. 2010 Genetic rule extraction optimizing brier score. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1007–1014. Portland, Oregon, USA: ACM. (doi:doi:10.1145/ 1830483.1830668).

[154] Lode C, Richter U, Schmeck H. 2010 Adaption of xcs to multi-learner predator/prey scenarios. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1015–1022. Portland, Oregon, USA: ACM. (doi: doi:10.1145/1830483.1830669).

[155] Orriols-Puig A, Llorà X, Goldberg DE. 2010 How xcs deals with rarities in domains with continuous attributes. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1023–1030. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830670).

[156] Snel M, Whiteson S. 2010 Multi-task evolutionary shaping without pre-specified representations. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1031–1038. Portland, Oregon, USA: ACM. (doi: doi:10.1145/1830483.1830671).

[157] Franco MA, Krasnogor N, Bacardit J. 2010 Speeding up the evaluation of evolutionary learning systems using gpgpus. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1039–1046. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830672).

[158] Liśkiewicz M, Textor J. 2010 Negative selection algorithms without generating detectors. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1047–1054. Portland, Oregon, USA: ACM. (doi:doi:10.1145/ 1830483.1830673).

[159] Macià N, Orriols-Puig A, Bernadó-Mansilla E. 2010 In search of targeted-complexity problems. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1055–1062. Portland, Oregon, USA: ACM. (doi: doi:10.1145/1830483.1830674).

[160] Su C, Gao Y, Cao C. 2010 Learning classifier system using both labeled and unlabeled data. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1065–1066. Portland, Oregon, USA: ACM. (doi: doi:10.1145/1830483.1830677).

[161] Behdad M, French T, Barone L, Bennamoun M. 2010 On the problems of using learning classifier systems for fraud detection. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1067–1068. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830678).

[162] Meiguins AS, Freitas AA, Limao RC, Junior SF, Meiguins BS. 2010 An estimation of distribution algorithm for the automatic generation of clustering algorithms. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1069–1070. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830679).

[163] Buryan P, Kubalik J. 2010 Context-sensitive refinements for stochasticoptimization algorithms in inductive logic programming. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1071–1072. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830680).

[164] Rajagopalan P, Rawal A, Miikkulainen R. 2010 Emergence of competitive and cooperative behavior using coevolution. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1073–1074. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830681).

[165] Walton M, Grewal G, Darlington G. 2010 Parallel fpga-based implementation of scatter search. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1075–1082. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830683).

[166] Luque G, Alba E. 2010 Selection pressure and takeover time of distributed evolutionary algorithms. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1083–1088. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830684).

[167] Vrajitoru D. 2010 Shared memory genetic algorithms in a multi-agent context. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1097–1104. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830686).

[168] Lässig J, Sudholt D. 2010 The benefit of migration in parallel evolutionary algorithms. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1105–1112. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830687).

[169] Shimada K, Hirasawa K. 2010 A method of association rule analysis for incomplete database using genetic network programming. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1115–1122. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830691).

[170] Salichon M, Tumer K. 2010 A neuro-evolutionary approach to micro aerial vehicle control. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1123–1130. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830692).

[171] II JFS, Tumer K. 2010 Robust neuro-control for a micro quadrotor. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1131–1138. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830693).

[172] Wilson G, Banzhaf W. 2010 Interday foreign exchange trading using linear genetic programming. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV,

Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1139–1146. Portland, Oregon, USA: ACM. (doi: doi:10.1145/1830483.1830694).

[173] Myburgh C, Deb K. 2010 Evolutionary algorithms in large-scale open pit mine scheduling. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1155–1162. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830696).

[174] Garrett A, Chen Z, Smith DE. 2010 Constructing numerically stable real number codes using evolutionary computation. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1163–1170. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830697).

[175] Jaros J, Dvorak V. 2010 Evolutionary-based conflict-free scheduling of collective communications on spidergon nocs. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1171–1178. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830698).

[176] Kim K, McKay RB, Moon BR. 2010 Multiobjective evolutionary algorithms for dynamic social network clustering. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1179–1186. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830699).

[177] Reehuis E, Bäck T. 2010 Mixed-integer evolution strategy using multiobjective selection applied to warehouse design optimization. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1187–1194. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830700).

[178] Al-Betar MA, Khader AT, Nadi F. 2010 Selection mechanisms in memory consideration for examination timetabling with harmony search. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1203–1210. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830702).

[179] Lee SK, Moon BR. 2010 A new modular genetic programming for finding attractive technical patterns in stock markets. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1219–1226. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830704).

[180] Colmenar JM, Risco-Martín JL, Atienza D, Garnica O, Hidalgo JI, Lanchares J. 2010 Improving reliability of embedded systems through dynamic memory manager optimization using grammatical evolution. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1227–1234. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830705).

[181] Ovreiu M, Simon D. 2010 Biogeography-based optimization of neuro-fuzzy system parameters for diagnosis of cardiac disease. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1235–1242. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830706).

[182] Stracquadanio G, Drago C, Romano V, Nicosia G. 2010 Multi-objective optimization of doping profile in semiconductor design. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1243–1250. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830707).

[183] Pedersen GK, Butz MV. 2010 Evolving robust controller parameters using covariance matrix adaptation. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1251–1258. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830708).

[184] Padhye N, Deb K. 2010 Evolutionary multi-objective optimization and decision making for selective laser sintering. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1259–1266. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830709).

[185] Ceriani M, Ferrandi F, Lanzi PL, Sciuto D, Tumeo A. 2010 Multiprocessor systems-on-chip synthesis using multi-objective evolutionary computation. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1267–1274. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830710).

[186] Tanji M, Iba H. 2010 Conbreo: a music performance rendering system using hybrid approach of iec and automated evolution. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1275–1282. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830711).

[187] Veeramachaneni K, Vladislavleva K, Burland M, Parcon J, O'Reilly UM. 2010 Evolutionary optimization of flavors. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1291–1298. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830713).

[188] Mayfield E, Penstein-Rosé C. 2010 Using feature construction to avoid large feature spaces in text classification. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1299–1306. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830714).

[189] Sierra A, Ponsoda V. 2010 Shorter, more reliable and valid tests by means of a genetic algorithm. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1307–1308. Portland, Oregon, USA: ACM. (doi: doi:10.1145/1830483.1830716).

[190] Choi YS, Koo BK, Moon BR. 2010 Optimization of an image set by genetic feature selection for real-time photomosaics. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1309–1310. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830717).

[191] Sugawara T, Fukuda K, Hirotsu T, Kurihara S. 2010 Adaptive probabilistic task allocation in large-scale multi-agent systems and its evaluation. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1311–1312. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830718).

[192] de A Araújo R, de Oliveira AL, Soares SC. 2010 A covariance matrix adaptation based evolutionary methodology for phase adjustment in financial time series forecasting. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1315–1316. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830720).

[193] Mosnier D, Gillot F, Ducloux A, Ichchou M. 2010 Integrated pre-design step methodology based onmulti-objective evolutionary optimization. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1317–1318. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830721).

[194] You YS, Yu TL, Lien TC. 2010 Psychological preference-based optimization framework on the nurse scheduling problem. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1319–1320. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830722).

[195] Sato M, Sato Y, Namiki M. 2010 Proposal of a multi-core processor architecture for effective evolutionary computation. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1321–1322. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830723).

[196] Tutum CC, Hattel JH. 2010 Multi-objective optimization of process parameters in friction stir welding. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1323–1324. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830724).

[197] Roychoudhury S, Das S, Scoglio C, Das S, Panigrahi BK, Pattnaik SS. 2010 Mitigation strategies in epidemics: evolutionary optimization using a hierarchy of objective functions. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1325–1326. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830725).

[198] Evins R, Pointer P, Vaidyanathan R. 2010 Configuration of a genetic algorithm for multi-objective optimisation of solar gain to buildings. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1327–1328. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830726).

[199] Di Carlo S, Sanchez E, Scionti A, Squillero G, Tonda AP, Falasconi M. 2010 Towards drift correction in chemical sensors using an evolutionary strategy. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1329–1330. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830727).

[200] Afridi MJ, Manzoor S, Rasheed U, Ahmed M, Faraz K. 2010 Performance evaluation of evolutionary algorithms for road detection. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1331–1332. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830728).

[201] Jensen AC, Cheng BH. 2010 On the use of genetic programming for automated refactoring and the introduction of design patterns. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1341–1348. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830731).

[202] Windisch A. 2010 Search-based test data generation from stateflow statecharts. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1349–1356. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830732).

[203] Zhang Y, Alba E, Durillo JJ, Eldh S, Harman M. 2010 Today/future importance analysis. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1357–1364. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830733).

[204] Xu Z, Cohen MB, Rothermel G. 2010 Factors affecting the use of genetic algorithms in test suite augmentation. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1365–1372. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830734).

[205] Conrad AP, Roos RS, Kapfhammer GM. 2010 Empirically studying the role of selection operators duringsearch-based test suite prioritization. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1373–1380. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830735).

[206] Hall M, McMinn P, Walkinshaw N. 2010 Superstate identification for state machines using search-based clustering. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1381–1388. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830736).

[207] Kremmel T, Kubalik J, Biffl S. 2010 Multiobjective evolutionary algorithm for software project portfolio optimization. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1389–1390. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830738).

[208] Wilkerson JL, Tauritz D. 2010 Coevolutionary automated software correction. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1391–1392. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830739).

[209] Kötzing T, Lehre PK, Neumann F, Oliveto PS. 2010 Ant colony optimization and the minimum cut problem. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1393–1400. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830741).

[210] Akimoto Y, Nagata Y, Ono I, Kobayashi S. 2010 Theoretical analysis of evolutionary computation on continuously differentiable functions. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1401–1408. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830742).

[211] Whitley LD, Chicano F, Alba E, Luna F. 2010 Elementary landscapes of frequency assignment problems. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1409–1416. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830743).

[212] Sanyal S, S R, Biswas S. 2010 Necessary and sufficient conditions for success of the metropolis algorithm for optimization. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon

A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1417–1424. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830744).

[213] Chicano F, Luque G, Alba E. 2010 Elementary landscape decomposition of the quadratic assignment problem. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1425–1432. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830745).

[214] Johannsen D, Kurur PP, Lengler J. 2010 Can quantum search accelerate evolutionary algorithms? In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1433–1440. Portland, Oregon, USA: ACM. (doi: doi:10.1145/1830483.1830746).

[215] Lehre PK, Witt C. 2010 Black-box search by unbiased variation. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1441–1448. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830747).

[216] Horoba C, Sudholt D. 2010 Ant colony optimization for stochastic shortest path problems. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1465–1472. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830750).

[217] Manzoni L, Vanneschi L, Mauri G. 2010 Definition of a crossover based distance for genetic algorithms. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1473–1474. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830752).

[218] Valsecchi A, Vanneschi L, Mauri G. 2010 Optimization speed and fair sets of functions. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1475–1476. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830753).

[219] de Mattos Neto PS, Lima Junior AR, Ferreira TA. 2010 Time series forecasting using a perturbative intelligent system. In: Branke J, Pelikan M, Alba E, Arnold DV, Bongard J, Brabazon A, Branke J, Butz MV, Clune J, Cohen M, *et al.* (eds.), *GECCO '10: Proceedings of the 12th annual conference on Genetic and evolutionary computation*, pp. 1477–1478. Portland, Oregon, USA: ACM. (doi:doi:10.1145/1830483.1830755).