

# Marcus Randall

## Publications List

### Book

1. Randall, M. (2004) *Algorithms: Machines of the Mind*, Bond University Press, ISBN 1 74097 035 7.

### Edited Book

1. Randall, M. Abbass, H and Wiles J. (2007). Advancements in Artificial Life – Proceedings of the Australian Conference on Artificial Life, *Lecture Notes in Artificial Intelligence*, Springer-Verlag, Volume 4828.

### Book Chapters

1. Randall, M. (2002) “A General Framework for Constructive Meta-heuristics”, *Operations Research/Management Science at Work*, Kluwer Academic Publishers, Boston, 427 pages.
2. Randall, M. (2005) “A Dynamic Optimisation Approach for Ant Colony Optimisation Using the Multidimensional Knapsack Problem”, *Recent Advances in Artificial Life*, in *Advances in Natural Computation*, 3, pp. 215-226.
3. Randall, M. (2005) “Maintaining Explicit Diversity Within Individual Ant Colonies”, *Recent Advances in Artificial Life*, in *Advances in Natural Computation*, 3, pp. 227-238.
4. Lewis, A., Mostaghim, S. and Randall, M. (2008) “Evolutionary Population Dynamics and Multi-Objective Optimisation Problems”, Accepted for *Multi-Objective Optimization in Computational Intelligence: Theory and Practice*, IGI Global.

### Journal

1. Abramson, D. and Randall, M. (1999) “A Simulated Annealing code for General Integer Linear Programs”, *Annals of Operations Research*, 86, pp 3-21.
2. Randall, M., McMahon, G. and Sugden, S. (2002) “A Simulated Annealing Approach to Communication Network Design”, *Journal of Combinatorial Optimization*, 6, pp. 55-66.

3. Randall, M. and Abramson D. (2001) "A General Purpose Meta-heuristic Based Solver for Combinatorial Optimisation Problems", *Journal of Computational Optimization and Applications*, 20, pp. 185-210.
4. Randall, M and Tonkes, E. (2002) "Intensification and Diversification Strategies in Ant Colony Optimisation", *Complexity International*, 9, <http://www.csu.edu.au/ci/>
5. Randall, M. and Lewis, A. (2002) "A Parallel Implementation of Ant Colony Optimisation", *Journal of Parallel and Distributed Computing*, 62, pp. 1421-1432.
6. Montgomery, J. and Randall, M. (2003) "The Accumulated Experience Ant Colony for the Travelling Salesman Problem", *International Journal of Computational Intelligence and Applications*, 3(2), pp. 189-198.
7. Montgomery, J., Randall, M. and Hendtlass, T. (2005) "Automated Selection of Appropriate Pheromone Representations in Ant Colony Optimization", *Journal of Artificial Life*, 11, pp. 269-291.
8. Randall, M. (2008) "Solution Approaches for the Capacitated Single Allocation Hub Location Problem using Ant Colony Optimisation", *Journal of Computational Optimization and Applications*, 29(2), pp. 239-261.
9. Montgomery, J. and Randall, M. and Hendtlass, T. (2008) "Solution Bias in Ant Colony Optimization: Lessons for Selecting Pheromone Models", *Computers and Operations Research*, 35(9), pp. 2728-2749. Available online January 2007 using doi:10.1016/j.cor.2006.12.014.

### **Fully Refereed Conference Proceedings**

1. Randall, M., Thorne, C. and Wild, C. (1994) "A Standard Comparison of Adaptive Controllers to Solve the Cart Pole Problem", *Proceedings of the Second IEEE Australian and New Zealand Conference on Intelligent Information Systems*, pp. 61 - 65. December, 1994, Brisbane.
2. Randall, M. (1995) "The Future and Applications of Genetic Algorithms", *Proceedings of the Electronic Directions to the Year 2000 Conference*, IEEE Computer Society Press, pp. 471 - 475, March, 1995, Adelaide.
3. Abramson, D., de Silva, A., Randall, M. and Postula, A. (1995) "Special Purpose Computer Architectures for High Speed Optimisation", *Parallel and Real Time Computing Conference (PART-95)*, pp. 13 - 20, September, 1995, Perth.

4. Abramson, D., Logothetis, P., Postula, A. and Randall, M. (1997) "Application Specific Computers for Combinatorial Optimisation", *Computer Architecture*, Selected papers of the 2<sup>nd</sup> Australasian Conference, Springer-Verlag Singapore Pte. Ltd., Singapore, 29-43, 15pp.
5. Abramson, D. and Randall, M. (1996) "A Simulated Annealing Code for General Integer Linear Programs", Presented at *Combinatorial Optimisation 96*, London, March, 1996.
6. Abramson, D., Logothetis, P., Postula, A. and Randall, M. (1998) "FPGA Based Custom Computing Machines for Irregular Problems", *Fourth International Symposium on High-Performance Computer Architecture*, (HPCA98), February 1-4, 1998, Las Vegas, Nevada.
7. Abramson, D., Logothetis, P., Randall, M. and Postula, A. (1998) "A Tail Of 2<sup>n</sup> Cities: Performing Combinatorial Optimisation Using Linked Lists On Special Purpose Computers", *Proceedings of The International Conference On Computational Intelligence And Multimedia Applications - 1998 (ICCIMA98)*, Gippsland, Victoria, Australia, February 9-11, 1998.
8. Randall, M. and Abramson, D. (1999) "A General Parallel Tabu Search Algorithm for Combinatorial Optimisation Problems", PART'99: Proceedings of the 6<sup>th</sup> Australasian Conference on *Parallel and Real Time Systems*. Springer-Verlag, Singapore, Cheng, W and Sajeev, A. (eds), pp. 68-79.
9. Berry, L., Murtagh, B., McMahon, G., Randall, M. and Sugden, S. (2000) "Fast Network Design for Telecommunications", Proceedings of the *Asia Pacific Operations Research Society 2000 Conference*, CD ROM, Paper 17-02.
10. Randall, M., McMahon, G. and Sugden, S. (2000) "Using Simulated Annealing to Solve Telecommunication Design Problems", Proceedings of the *Asia Pacific Operations Research Society 2000 Conference*, CD ROM, Paper 14-01.
11. Randall, M. and Tonkes, E. (2001) "Solving Network Synthesis Problems with Ant Colony Optimisation", *Proceedings of the 14<sup>th</sup> International Conference on Industrial and Engineering Applications of Artificial Intelligence and Expert Systems 2001 (IEA/AIE-2001)*. Monostori, L., Vancza, J. and Ali, M. (eds), *Lecture Notes in Artificial Intelligence*, Springer-Verlag, 2001, pp. 1-10.
12. Hendtlass, T. and Randall, M. (2001) "A Survey of Ant Colony and Particle Swarm Meta-heuristics and their Application to Discrete Optimisation Problems", Proceedings of *The Inaugural Workshop on Artificial Life (AL'01)*, pp. 15-25.

13. Randall, M. (2002) "Feasibility Restoration for Meta-heuristic Search Algorithms", Proceedings of the *15<sup>th</sup> International Conference on Industrial and Engineering Applications of Artificial Intelligence and Expert Systems*. Hendtlass, T. and Ali, M. (eds), *Lecture Notes in Artificial Intelligence*, Springer-Verlag, 2358, pp. 167-178.
14. Randall, M. and Montgomery, J. (2001) "The Accumulated Experience Ant Colony for the Travelling Salesman Problem", Proceedings of *The Inaugural Workshop on Artificial Life (AL'01)*, pp. 79-87.
15. Randall, M. (2002) "Scheduling Aircraft Landings with Ant Colony Optimisation", Proceedings of the *6<sup>th</sup> IASTED International Conference Artificial Intelligence and Soft Computing*, pp. 129-133.
16. Randall, M. and Montgomery, J. (2002) "Candidate Set Strategies for Ant Colony Optimisation", Proceedings of the *Third International Workshop, Ants`2002*, Dorigo, M., Di Caro, G. and Sampels, M. (eds), *Lecture Notes in Computer Science*, Springer-Verlag, 2463, pp. 100-110.
17. Montgomery, J. and Randall, M. (2002) "Anti-Pheromone as a Tool for Better Exploration of Search Space", Proceedings of the *Third International Workshop, Ants`2002*, Dorigo, M., Di Caro, G. and Sampels, M. (eds), *Lecture Notes in Computer Science*, Springer-Verlag, 2463, pp. 243-249.
18. Randall, M. (2003) "A Template Approach to Producing Incremental Objective Cost Functions for Local Search Meta-heuristics", Proceedings of *EvoCOP 2003*, *Lecture Notes in Computer Science*, 2611, pp. 291-299.
19. Randall M. (2003) "A Systematic Strategy to Incorporate Intensification and Diversification into Ant Colony Optimisation", Proceedings of the *Australian Conference on Artificial Life 2003*, pp. 199-208.
20. Montgomery, J., Randall, M. and Hendtlass, T. (2003) "Towards an Automated Selection of Appropriate Pheromone Representations for ACO" Proceedings of the *Australian Conference on Artificial Life 2003*, pp. 170-184.
21. Randall, M. (2004) "Heuristics for Ant Colony Optimisation and the Generalised Assignment Problem", Proceedings of the *Congress of Evolutionary Computing*, IEEE press, pp. 1916-1923.
22. Randall, M. (2004) "Near Parameter Free Ant Colony Optimisation", Proceedings of the *Fourth International Workshop, Ants 2004*, Dorigo, M., Birattari, M., Blum, C., Gambardella, L., Mondada, F. and Stützle, T. (eds), *Lecture Notes in Computer Science*, Springer-Verlag, 3172, pp. 374-381.
23. Montgomery, J., Randall, M., Hendtlass, T. (2004) "Search Bias in Constructive Metaheuristics and Implications for Ant Colony Optimisation", Proceedings of the *Fourth International Workshop, Ants`2004*, Dorigo, M., Birattari, M., Blum, C., Gambardella, L., Mondada, F. and Stützle, T. (eds), *Lecture Notes in Computer Science*, Springer-Verlag, 3172, pp. 390-397.

24. Randall, M. (2005) "The Probabilistic Heuristic In Local Search (PHIL) Meta-strategy", *18<sup>th</sup> International Conference on Industrial and Engineering Applications of Artificial Intelligence and Expert Systems, Lecture Notes in Artificial Intelligence*, Springer, 3533, pp. 648-656.
25. Montgomery, J., Randall, M. and Hendtlass, T. (2005) "Structural Advantages for Ant Colony Optimisation Inherent in Permutation Scheduling Problems", *18<sup>th</sup> International Conference on Industrial and Engineering Applications of Artificial Intelligence and Expert Systems, Lecture Notes in Artificial Intelligence*, Springer, 3533, pp. 218-228 .
26. Randall, M. (2006) "Search Space Reduction as a Tool for Achieving Intensification and Diversification in Ant Colony Optimisation", *Proceedings of the 19<sup>th</sup> International Conference on Industrial and Engineering Applications of Artificial Intelligence and Expert Systems, Lecture Notes in Artificial Intelligence*, 4031, Springer-Verlag, pp. 254-261.
27. Randall, M. and Lewis, A. (2006) "An Extended Extremal Optimisation Model for Parallel Architectures", *IEEE Proceedings of E-Science 2006*.
28. Hendtlass, T. Randall, M., and Moser, I. (2006) "Dynamic Problems and Nature Inspired Meta-heuristics", *IEEE Proceedings of E-Science 2006*.
29. Randall, M. (2007) "Competitive Ant Colony Optimisation", *Proceedings of the 20<sup>th</sup> International Conference on Industrial and Engineering Applications of Artificial Intelligence and Expert Systems, Lecture Notes in Artificial Intelligence*, 4570, Springer, pp. 974-983.
30. Randall, M., Lewis, A., Galehdar, A. and Thiel, D. (2007) "Using Ant Colony Optimisation to Improve the Efficiency of Small Meander Line RFID Antennas", *Proceedings of E-Science 2007*.
31. Randall, M. (2007) "Enhancements to Extremal Optimisation for Generalised Assignment", *Lecture Notes in Artificial Intelligence*, 4828, Springer, Randall, M., Abbass, M. and Wiles J. (Eds.), pp. 369 – 380.
32. Weis, G., Lewis, A., Randall, M., Galehdar, A. and Thiel, D. "Local Search for Ant Colony System to Improve the Efficiency of Small Meander Line RFID Antennas", *Proceedings of the Congress on Evolutionary Computation*, 2008.