

Publications Daniel Merkle (Sept 2017)

International Journals (peer reviewed)

- [1] Andersen, J. L., C. Flamm, D. Merkle and Peter F. Stadler: *An Intermediate Level of Abstraction for Computational Systems Chemistry*. Philosophical Transactions of the Royal Society of London A: Mathematical, Physical and Engineering Sciences, 2017. to be published.
- [2] Andersen, J. L., C. Flamm, D. Merkle and P. F. Stadler: *In silico Support for Eschenmoser's Glyoxylate Scenario*. Israel Journal of Chemistry, 55(8):919–933, 2015. preprint: <http://arxiv.org/abs/1502.07555>.
- [3] Merkle, D., M. Middendorf and A. Scheidler: *Task Allocation in Organic Computing Systems: Networks with Reconfigurable Helper Units*. International Journal of Autonomous and Adaptive Communications Systems, 8(1):60–80, 2015.
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- [14] Bernt, M., D. Merkle and M. Middendorf: *Solving the Preserving Reversal Median Problem*. IEEE/ACM Transactions on Computational Biology and Bioinformatics, 5(3): 332-347, 2008.
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- [17] Thalheim, T., D. Merkle and M. Middendorf: *Protein Folding in the HP-Model Solved With a Hybrid Population Based ACO Algorithm*. IAENG International Journal of Computer Science, 35(3): 291-300, 2008.
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- [20] Scheidler, A., D. Merkle and M. Middendorf: *Stability and Performance of Ant Queue Inspired Task Division Methods*. Theory in Biosciences, 127(2):149–161, 2008.
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- [26] Merkle, D. and C. Blum: *Swarm Intelligence – An Optimization-based Introduction*. Künstliche Intelligenz, 4:5–10, 2005.
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- [35] Merkle, D. and Th. Worsch *Formal Language Recognition by Stochastic Cellular Automata*. Fundamenta Informaticae, 52(1-3):183–201, 2002.
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Publications in Conference Proceedings (peer reviewed)

- [37] Andersen, J. L. and D. Merkle: *A Generic Framework for Engineering Graph Canonicalization Algorithms*. In *Proceedings of the Twentieth Workshop on Algorithm Engineering and Experiments, ALENEX 2018*. SIAM, 2018. accepted.
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- [40] Nøjgaard, N., M. Geiß, D. Merkle, P. F. Stadler, N. Wieseke and M. Hellmuth: *Forbidden Time Travel: Characterization of Time-Consistent Tree Reconciliation Maps*. In *17th International Workshop on Algorithms in Bioinformatics, WABI*, volume 88 of *LIPICs*, pages 17:1–17:12. Schloss Dagstuhl - Leibniz-Zentrum fuer Informatik, 2017.
- [41] Andersen, J. L., C. Flamm, D. Merkle and P. F. Stadler: *Chemical Graph Transformation with Stereo-Information*. In *Proceedings of the 10th International Conference on Graph Transformation, ICGT 2017*, volume 10373 of *Lecture Notes in Computer Science*, pages 54–69. Springer, 2017.
- [42] Andersen, J. L., C. Flamm, D. Merkle and P. F. Stadler: *A Software Package for Chemically Inspired Graph Transformation*. In *Graph Transformation - 9th International Conference (ICGT 2016)*, volume 9761 of *Lecture Notes in Computer Science*, pages 73–88. Springer, 2016. preprint: <http://arxiv.org/abs/1603.02481>.
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- [44] Andersen, J. L., C. Flamm, D. Merkle and P. F. Stadler: *50 Shades of Rule Composition - From Chemical Reactions to Higher Levels of Abstraction*. In *Proceedings of the 1st International Conference on Formal Methods in Macro-Biology (FMMB)*, volume 8738 of *Lecture Notes in Computer Science*, pages 117–135. Springer, 2014.
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- [46] Andersen, J. L., C. Flamm, Hanczyc M.M. and D. Merkle: *Towards an Optimal DNA-Templated Molecular Assembler*. In *Proceedings of 14th International Conference on Artificial Life (ALIFE)*, pages 557–564. MIT Press, 2014. Open access: <http://mitpress.mit.edu/sites/default/files/titles/content/alife14/ch090.html>.
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Editorials

- [89] Klemm, K., D. Merkle and E. Olbrich: *Editorial: Artificial Life*. *Advances in Complex Systems*, 12(3), 2009.
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Books (edited)

- [91] Banzhaf, W., C. Flamm, D. Merkle and P.F. Stadler (editors): *Report from Dagstuhl Seminar 14452: Algorithmic Cheminformatics*, 2015.
- [92] Blum, C. and D. Merkle (editors): 群智能：介与用 (Swarm Intelligence - Introduction and Application, Chinese Translation). Chinese publisher: National Defense Industry Press with permission from Springer, 2011.
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- [95] Blum, C. and D. Merkle (editors): *Swarm Intelligence - Introduction and Application*. Natural Computing Series, Springer, 2008.

Book Chapters (peer reviewed)

- [96] Bernt, M., D. Merkle, M. Middendorf, B. Schierwater, M. Schlegel and P. F. Stadler: *Computational Methods for the Analysis of Mitochondrial Genome Rearrangements*, *Deep Metazoan Phylogeny The Backbone of the Tree of Life*, pages 515–529. De Gruyter, 2014.
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Book Review

- [105] Merkle, D. and M. Middendorf: *Book Review on “Ant Colony Optimization” by M. Dorigo, T. Stützle*. *European Journal of Operations Research*, 168(1):269–271, 2005.