

# Publications of Hans-Joachim Böckenhauer

## Textbooks

- [1] H.-J. Böckenhauer, J. Hromkovič: *Formale Sprachen – Endliche Automaten, Grammatiken, lexikalische und syntaktische Analyse*. Springer Vieweg, 2013.
- [2] H.-J. Böckenhauer, D. Bongartz: *Algorithmic Aspects of Bioinformatics*. Springer-Verlag 2007.
- [3] H.-J. Böckenhauer, D. Bongartz: *Algorithmische Grundlagen der Bioinformatik*. Teubner 2003.

## Book Chapters

- [4] H.-J. Böckenhauer, J. Hromkovič, D. Komm: Reoptimization of Hard Optimization Problems. In: T. F. Gonzalez (Ed.): *Handbook of Approximation Algorithms and Metaheuristics, Second Edition: Methodologies and Traditional Applications, Volume 1*, CRC Press, 2018, Chapter 25.
- [5] H.-J. Böckenhauer, J. Hromkovič, S. Seibert: Stability of Approximation. In: T. F. Gonzalez (Ed.): *Handbook of Approximation Algorithms and Metaheuristics, Second Edition: Methodologies and Traditional Applications, Volume 1*, CRC Press, 2018, Chapter 27.
- [6] H.-J. Böckenhauer, J. Hromkovič, S. Seibert: Stability of Approximation. In: T. F. Gonzalez (Ed.): *Handbook of Approximation Algorithms and Metaheuristics*, Chapman & Hall/CRC Press, 2007, Chapter 31.

## Editorial Work

- [7] H.-J. Böckenhauer, D. Komm, W. Unger (eds.): *Adventures Between Lower Bounds and Higher Altitudes – Essays Dedicated to Juraj Hromkovič on the Occasion of His 60th Birthday*, LNCS 11011, Springer-Verlag, 2018.
- [8] H.-J. Böckenhauer, J. Hromkovič, D. Komm (eds.): Approximation and Parameterization. Special issue of *MDPI Algorithms*, 2018.

## Invited Contributions in Books and Conference Proceedings

- [9] H.-J. Böckenhauer, L. Di Caro, W. Unger: Fully online matching with advice on general bipartite graphs and paths. In: H.-J. Böckenhauer, D. Komm, W. Unger (eds.): *Adventures Between Lower Bounds and Higher Altitudes – Essays Dedicated to Juraj Hromkovič on the Occasion of His 60th Birthday*, LNCS 11011, Springer-Verlag, 2018, pp. 172–190.
- [10] H.-J. Böckenhauer, J. Hromkovič, D. Komm: A technique to obtain hardness results for randomized online algorithms - A survey. In: C. S. Calude, R. Freivalds, I. Kazuo (eds.): *Computing with New Resources: Essays Dedicated to Jozef Gruska on the Occasion of His 80th Birthday*, LNCS 8808, Springer Verlag, 2014, pp. 264–276.

- [11] H.-J. Böckenhauer, J. Hromkovič, D. Komm, R. Královič, P. Rossmanith: On the power of randomness versus advice in online computation. In: H. Bordihn, M. Kutrib, B. Truthe (eds.): *Languages Alive – Essays Dedicated to Jürgen Dassow on the Occasion of His 65th Birthday*, LNCS 7300, Springer-Verlag 2012, pp. 30–43.
- [12] H.-J. Böckenhauer, J. Hromkovič, A. Srock: Knowing all optimal solutions does not help for TSP reoptimization. In: J. Kelemen, A. Kelemenová (eds.): *Computation, Cooperation and Life - Essays Dedicated to Gheorghe Păun on the Occasion of His 60th Birthday*, LNCS 6610, Springer-Verlag 2011, pp. 7–15.
- [13] H.-J. Böckenhauer, J. Hromkovič, T. Mömke: Improved approximations for hard optimization problems via problem instance classification. In: C. S. Calude, G. Rozenberg, A. Salomaa (eds.): *Rainbow of Computer Science – Essays Dedicated to Hermann Maurer on the Occasion of His 70th Birthday*, LNCS 6570, Springer-Verlag 2011, pp. 3–19.
- [14] H.-J. Böckenhauer, J. Hromkovič, T. Mömke, P. Widmayer: On the hardness of reoptimization. *Proceedings of the 34th International Conference on Current Trends in Theory and Practice of Computer Science (SOFSEM 2008)*, Lecture Notes in Computer Science 4910, Springer-Verlag 2008, pp. 50–65.
- [15] H.-J. Böckenhauer, J. Hromkovič: Stability of approximation algorithms or parameterization of the approximation ratio. *Proceedings of the 9th International Symposium on Operations Research in Slovenia (SOR 2007)*, Slovenian Society Informatika - Section for Operational Research 2007, pp. 23–28.

## Publications in Refereed Journals

- [16] H.-J. Böckenhauer, T. Kohn, D. Komm, G. Serafini: An elementary approach towards teaching dynamic programming. *Bulletin of the EATCS* 128, 2019.
- [17] M. P. Bianchi, H.-J. Böckenhauer, T. Brülisauer, D. Komm, B. Palano: Online minimum spanning tree with advice. *International Journal of Foundations of Computer Science* 29(4), 2018, pp. 505–527.
- [18] H.-J. Böckenhauer, D. Komm, R. Královič, R. Královič, T. Mömke: Online algorithms with advice: The tape model. *Information and Computation* 254, 2017, pp. 59–83.
- [19] H.-J. Böckenhauer, D. Komm, R. Královič, R. Královič: On the advice complexity of the  $k$ -server problem. *Journal of Computer and System Sciences* 86, 2017, pp. 159–170.
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- [23] H.-J. Böckenhauer, M. Steinová: Improved approximations for ordered TSP on near-metric graphs. *RAIRO Theoretical Informatics and Applications* 48(5), 2014, pp. 479–494.
- [24] H.-J. Böckenhauer, D. Komm, R. Královič, P. Rossmanith: The online knapsack problem: advice and randomization. *Theoretical Computer Science* 527, 2014, pp. 61–72.
- [25] H.-J. Böckenhauer, T. Mömke, M. Steinová: Improved approximations for TSP with simple precedence constraints. *Journal of Discrete Algorithms* 21, 2013, pp. 31–40.
- [26] H.-J. Böckenhauer, K. Freiermuth, J. Hromkovič, T. Mömke, A. Sprock, B. Steffen: Steiner tree reoptimization in graphs with sharpened triangle inequality. *Journal of Discrete Algorithms* 11, 2012, pp. 73–86.
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- [28] H.-J. Böckenhauer, J. Hromkovič, A. Sprock: On the hardness of reoptimization with multiple given solutions. *Fundamenta Informaticae* 110, 2011, pp. 59–76.
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- [44] H.-J. Böckenhauer, N. Corvelo Benz, D. Komm: Call admission problems on trees with advice (extended abstract). *Proc. of the 30th International Workshop on Combinatorial Algorithms (IWOCA 2019)*, LNCS 11638, Springer-Verlag, 2019, pp. 108–121.
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- [49] K. Barhum, H.-J. Böckenhauer, M. Forišek, H. Gebauer, J. Hromkovič, S. Krug, J. Smula, B. Steffen: On the power of advice and randomization for the disjoint path allocation problem. *Proc. of the 40th International Conference on Current Trends in Theory and Practice of Computer Science (SOFSEM 2014)*, LNCS 8327, Springer-Verlag 2014, pp. 89–101.

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## Doctoral Thesis

- [74] H.-J. Böckenhauer: *On the Inapproximability of the Metric Traveling Salesman Problem*. RWTH Aachen 2000, published electronically by the library of RWTH Aachen, <http://www.bth.rwth-aachen.de/job/disslist.pl>.

## Technical Reports

- [75] H.-J. Böckenhauer, E. Burjons, J. Hromkovič, H. Lotze, P. Rossmanith: Online simple knapsack with reservation costs. *CoRR abs/2009.14043*, 2020.
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## Teaching Material

- [91] H.-J. Böckenhauer, V. Dagienė, J. Hromkovič, V. Kinčius, D. Komm, R. Lacher, G. Stupurienė, L. Vinikienė: *Biber — Spielkarten zur Entwicklung algorithmischen Denkens*. Creative Commons License, 2016.
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