

# Publications of Burkhard Monien

## 2010

### **On the Power of Nodes of Degree Four in the Local Max-Cut Problem**

*Burkhard Monien, Tobias Tscheuschner*

Proc. of the 7<sup>th</sup> International Conference on Algorithms and Complexity (CIAC 2010), LNCS 6078, Seiten 264-275, 2010

### **Local Search: Simple, Successful, But Sometimes Sluggish**

*Burkhard Monien, Dominic Dumrauf, Tobias Tscheuschner*

Proc. of the 37<sup>th</sup> International Colloquium on Automata, Languages and Programming (ICALP 2010), LNCS 6198, Seiten 1-17, 2010

### **Preface**

*Burkhard Monien, Ulf-Peter Schroeder*

Theory Computing Systems (2010), 47(1), Seiten 1-2, 2010

### **Computing Nash Equilibria for Scheduling on Restricted Parallel Links**

*Martin Gairing, Thomas Lücking, Marios Mavronicolas, Burkhard Monien*

Theory Computing Systems (2010), 47(2), Seiten 405-432, 2010

## 2009

### **From State-of-the-Art Static Fleet Assignment to Flexible Stochastic Planning of the Future**

*Sven Grothklags, Ulf Lorenz, Burkhard Monien*

Algorithmics of Large and Complex Networks (2009), LNCS 5515, Seiten 140-165, 2009

### **Nash Equilibria for Voronoi Games on Transitive Graphs**

*Rainer Feldmann, Marios Mavronicolas, Burkhard Monien*

Proc. of the 5<sup>th</sup> International Workshop on Internet and Network Economics (WINE 2009), LNCS 5929, Seiten 280-291, 2009

### **Fair cost-sharing methods for scheduling jobs on parallel machines**

*Yvonne Bleischwitz, Burkhard Monien*

Journal on Discrete Algorithms (2009), 7(3), Seiten 280-290, 2009

### **Graph partitioning and disturbed diffusion.**

*Henning Meyerhenke, Burkhard Monien, Stefan Schamberger*

Parallel Computing (2009), 35 (10-11), Seiten 544-569, 2009

### **Multi-Processor Scheduling is PLS-Complete**

*Dominic Dumrauf, Burkhard Monien, Karsten Tiemann*

Proc. of: 42nd Hawaii International Conference on System Sciences, HICSS-42 2009), Proceedings (CD-ROM and online), 5-8 January 2009, Waikoloa, Big Island, HI, USA, (HICSS'09), Seite 269, IEEE Computer Society, 2009

## **2008**

### **On The Road to PLS-Completeness: 8 Agents in a Singleton Congestion Game**

*Dominic Dumrauf, Burkhard Monien*

Proc. Of the 4<sup>th</sup> International Workshop on Internet and Network Economics (WINE 2008), Seiten 94-108, LNCS 5385

### **A New Diffusion-based Multilevel Algorithm for Computing Graph Partitions of Very High Quality**

*Henning Meyerhenke, Burkhard Monien, Thomas Sauerwald*

Proc. Of the 22<sup>nd</sup> IEEE International Parallel and Distributed Processing Symposium (IPDPS 2008), Seiten 750-761, Journal of Parallel and Distributed Computing 69(9)

### **Algorithmic Game Theory**

*Burkhard Monien, Ulf-Peter Schroeder (Herausgeber)*

First International Symposium (SAGT'08), Paderborn, Germany, April 30-May 2, 2008, LNCS 4997, Springer, 2008

### **Nash Equilibria in Discrete Routing Games with Convex Latency Functions**

*Martin Gairing, Thomas Lücking, Marios Mavronicolas, Burkhard Monien, Manuel Rode*

Journal of Computer and System Science, 74, Seiten 1199-1225, 2008

### **On the Road to PLS-Completeness: 8 Agents in a Singleton Congestion Game.**

*Dominic Dumrauf, Burkhard Monien*

Proc. of: Internet and Network Economics, 4<sup>th</sup> International Workshop, (WINE'08), Shanghai, China, December 27-20, 2008, LNCS 5385, Seiten 94-108, Springer, 2008

### **Selfish Routing with Incomplete Information**

*Martin Gairing, Burkhard Monien, Karsten Tiemann*

Theory of Computing Systems, 42(1), Seiten 91-130, 2008

### **Der Alphabet-Algorithmus für Spielbäume: Wie bringe ich meinen Computer zum Schachspielen?**

*Burkhard Monien, Ulf Lorenz, Daniel Warner*

Taschenbuch der Algorithmen (2008), Seiten 285-294, 2008

### **A New Model for Selfish Routing**

*Thomas Lücking, Marios Mavronicolas, Burkhard Monien, Manuel Rode*

Theoretical Computer Science, 406(3), Seiten 187-206, 2008

### **How Many Attackers Can Selfish Defenders Catch?**

*Marios Mavronicolas, Burkhard Monien, Vicky Papadopoulou*

Proc. of: 41<sup>st</sup> Hawaii International Conference on System Sciences, (HICSS'08), Seite 233, 2008

### **Voronoi Games on Cycle Graphs**

*Marios Mavronicolas, Burkhard Monien, Vicky Papdopolou, Florian Schoppmann*

Proc. of: 33<sup>rd</sup> International Symposium of Mathematical Foundations of Computer Science (MFCS'08), Torun, Poland, August 25-29, 2008, LNCS 5162, Seiten 503-514, Springer, 2008

### **A new diffusion-based multilevel algorithm for computing graph partitions of very high quality**

*Henning Meyerhenke, Burkhard Monien, Thomas Sauerwald*

Proc. of: 22<sup>nd</sup> IEEE International Symposium on Parallel and Distributed Processing, (IPDPS'08), Miami, Florida, USA, April 14-18, 2008, Seiten 1-13, IEEE, 2008

## **2007**

### **Routing and Scheduling with Incomplete Information**

*Burkhard Monien, Karsten Tiemann*

Proc. of: Distributed Computing, 21<sup>st</sup> International Symposium (invited talk at DISC'07), Lemesos, Cyprus, September 24-26, 2007, LNCS 4731, Seiten 1-2, Springer, 2007

### **Weighted Boolean Formula Games**

*Marios Mavronicolas, Burkhard Monien, Klaus W. Wagner*

Proc. of the third International Workshop on Internet and Network Economics (WINE 2007), LNCS 4858, Seiten 469-481, 2007

### **To Be or Not to Be (Served)**

*Yvonne Bleischwitz, Burkhard Monien, Florian Schoppmann*

Proc. of: Internet and Network Economics, Third International Workshop (WINE'07), San Diego, CA, USA, December 12-14, 2007, LNCS 4858, Seiten 515-528, Springer, 2007

### **The Power of Two Prices: Beyond Cross-Monotonicity.**

*Yvonne Bleischwitz, Burkhard Monien, Florian Schoppmann, Karsten Tiemann*

Proc. of: Mathematical Foundations of Computer Science 2007, 32<sup>nd</sup> International Symposium (MFCS'07), Český Krumlov, Czech Republic, August 26-31, 2007, LNCS 4708, Seiten 657-668, Springer, 2007

### **A faster combinatorial approximation algorithm for scheduling unrelated parallel machines**

*Martin Gairing, Burkhard Monien, Andreas Woclaw*

Theoretical Computer Science, 380(1-2), Seiten 87-99, 2007

### **Congestion Games with Player-Specific Constants**

*Marios Mavronicolas, Igal Milchtaich, Burkhard Monien, Karsten Tiemann*

Proc. of: 32<sup>nd</sup> International Symposium (MFCS'07), Český Krumlov, Czech Republic, August 26-31, LNCS 4708, Seiten 633-644, Springer, 2007

### **Handbook of Approximation Algorithms and Metaheuristics**

*Burkhard Monien, Robert Preis, Stefan Schamberger*

Kapitel Approximation Algorithms for Multilevel Graph Partitioning, Seiten 60: 1-5 Chapman & Hall/CRC, Taylor & Francis Group, 2007

## 2006

### **Fair Cost-Sharing Methods for Scheduling Jobs on Parallel Machines**

*Yvonne Bleischwitz, Burkhard Monien*

Journal of Discrete Algorithms

Volume 7, Issue 3, Seiten 280-290

Special Issue on the 6<sup>th</sup> Italian Conference on Algorithms and Complexity CIAC 2006)

### **Scheduling Unrelated Parallel Machines Computational Results**

*Burkhard Monien, Andreas Woclaw*

Proc. of: 5<sup>th</sup> International Workshop on Experimental Algorithms, (WEA'06), Cala Caldana, Menorca, Spain, May 24-27, 2006, LNCS 4007, Seiten 195-206, Springer, 2006

### **Exact Price of Anarchy for Polynomial Congestion Games**

*Sebastian Aland, Dominic Dumrauf, Martin Gairing, Burkhard Monien, Florian Schoppmann*

Proc. of: 23<sup>rd</sup> Annual Symposium on Theoretical Aspects of Computer Science, (STACS'06), Marseille, France, February 23-25, 2006, LNCS 3884, Seiten 218-229, Springer, 2006

### **Fair Cost-Sharing Methods for Scheduling Jobs on Parallel Machines**

*Yvonne Bleischwitz, Burkhard Monien*

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### **Distributed Unit Size Workload Packages in Heterogeneous Networks**

*Robert Elsässer, Burkhard Monien, Stefan Schamberger*

Graph Algorithms and Applications, 10(1), Seiten 51-68, 2006

### **The price of anarchy for polynomial social cost**

*Martin Gairing, Thomas Lücking, Marios Mavronicolas, Burkhard Monien*

Theoretical Computer Science, 369(1-3), Seiten 116-135, 2006

### **The price of anarchy for restricted parallel links**

*Martin Gairing, Thomas Lücking, Marios Mavronicolas, Burkhard Monien*

Parallel Processing Letters, 16(1), Seiten 117-132, 2006

### **Routing (Un-) Splittable Flow in Games with Player-Specific Linear Latency Functions**

*Martin Gairing, Burkhard Monien, Karsten Tiemann*

Proc. of: Automata, Languages and Programming, 33<sup>rd</sup> International Colloquium, (ICALP'06), Venice, Italy, July 10-14, 2006, LNCS 4051, Seiten 501-512, Springer, 2006

### **New Trends in Parallel and Distributed Computing**

*Friedhelm Meyer auf der Heide, Burkhard Monien*

Band 181 der Reihe HNI-Verlagsschriftenreihe, 6<sup>th</sup> International Heinz Nixdorf Symposium, 2006

### **Accelerating shape optimizing load balancing for parallel FEM simulations by algebraic multigrid**

*Henning Meyerhenke, Burkhard Monien, Stefan Schamberger*

Proc. of: 20<sup>th</sup> International Parallel and Distributed Processing Symposium, (IPDPS'06), 25-29 April 2006, Rhodes Island, Greece. IEEE, 2006

### **On Balancing of Dynamic Networks**

*Henning Meyerhenke, Burkhard Monien, Stefan Schamberger, Ulf-Peter Schroeder*  
Proc. in: 6<sup>th</sup> International Heinz-Nixdorf-Symposium, Band 181, Seiten 171-181, HNI-Verlagsschriftenreihe, 2006

### **Wardrop Equilibria and Price of Stability for Bottleneck Games with Splittable Traffic**

*Vladimir Mazalov, Burkhard Monien, Florian Schoppmann, Karsten Tiemann*  
Proc. of: Second International Workshop of Internet and Network Economics (WINE'06), Patras, Greece, December 15-17, LNCS 4286, Seiten 331-342, Springer, 2006

### **Selfish Routing in Networks**

*Burkhard Monien*  
Proc. of: 32<sup>nd</sup> Conference on Current Trends in Theory and Practice of Computer Science (SOFSEM'06), Merin, Czech Republic, January 21-27, 2006, LNCS 3831, Seiten 61-62, Springer, 2006

### **Upper bounds on the bisection width of 3- and 4-regular graphs**

*Burkhard Monien, Robert Preis*  
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### **Structure and Complexity of extreme Nash Equilibria**

*Martin Gairing, Thomas Lücking, Marios Mavronicolas, Burkhard Monien, Paul G. Spirakis*  
Theoretical Computer Science, 343(1-2), Seiten 133-157, 2005

### **A Simple Graph-Theoretic Model for Selfish Restricted Scheduling**

*Robert Elsässer, Martin Gairing, Thomas Lücking, Marios Mavronicolas, Burkhard Monien*  
Proc. of: Internet and Network Economics, First International Workshop, (WINE'05), Hong Kong, China, December 15-17, 2005, LNCS 3828, Seiten 195-209. Springer, 2005

### **Nash Equilibria, the Price of Anarchy and the Fully Mixed Nash Equilibrium Conjecture**

*Martin Gairing, Thomas Lücking, Burkhard Monien, Karsten Tiemann*  
Proc. of: 32<sup>nd</sup> International Colloquium, (invited talk at ICALP'05), Lisbon, Portugal, July 11-15, 2005, LNCS 3580, Seiten 51-65, Springer, 2005

### **Selfish routing with incomplete information**

*Martin Gairing, Burkhard Monien, Karsten Tiemann*  
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## 2004

### **Improved Bounds on Cutwidths of Shuffle-Exchange and De Bruijn Graphs**

*Burkhard Monien, Imrich Vrto*

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### **The Price of Anarchy for Polynomial Social Cost**

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### **Computing Nash equilibria for scheduling on restricted parallel links**

*Martin Gairing, Thomas Lücking, Marios Mavronicolas, Burkhard Monien*

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*Robert Elsässer, Burkhard Monien, Robert Preis, Andreas Frommer*

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### **Load Balancing in Dynamic Networks**

*Robert Elsässer, Burkhard Monien, Stefan Schamberger*

Proc. of: 7<sup>th</sup> International Symposium on Parallel Architectures, Algorithms, and Networks, (I-SPAN'04),

10-12 May 2004, Hong Kong, SAR, China, Seiten 193-200, IEEE Computer Society, 2004

### **Load Balancing of Indivisible Unit Size Tokens in Dynamic and Heterogeneous Networks**

*Robert Elsässer, Burkhard Monien, Stefan Schamberger*

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### **A New Model for Selfish Routing**

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### **A 5/4-approximation algorithm for scheduling identical malleable tasks**

*Thomas Decker, Thomas Lücking, Burkhard Monien*

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### **Extreme nash equilibria**

*Martin Gairing, Thomas Lücking, Marios Mavronicolas, Burkhard Monien, Paul Spirakis*

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### **On Spectral Bounds for the k-Partitioning of Graphs**

*Robert Elsässer, Thomas Lücking, Burkhard Monien*

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### **Sparse Topologies with Small Spectrum Size**

*Robert Elsässer, Rastislav Kralovic, Burkhard Monien*

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### **Selfish Routing in Non-Cooperative Networks: A Survey**

*Rainer Feldmann, Martin Gairing, Thomas Lücking, Burkhard Monien, Manuel Rode*

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### **Which is the Worst-case Nash Equilibrium?**

*Thomas Lücking, Marios Mavronicolas, Burkhard Monien, Manuel Rode, Paul Spirakis, Imrich Vrto*

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### **Nashification and the Coordination Ratio for a Selfish Routing Game**

*Rainer Feldmann, Martin Gairing, Thomas Lücking, Burkhard Monien, Manuel Rode*

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### **The Secret of Selective Game Tree Search, When Using Random-Error Evaluations**

*Ulf Lorenz, Burkhard Monien*

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### **Toward Optimal Diffusion Matrices**

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*Robert Elsässer, Thomas Lücking, Burkhard Monien*

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*Burkhard Monien, Robert Preis*

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### **Flugplanung mit Informatik Methoden (in german)**

*Burkhard Monien, Torsten Fahle, Silvia Götz, S. Grothklops, Georg Kliewer, Meinolf Sellmann*  
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*Sergei L. Bezrukov, Robert Elsässer, Burkhard Monien, Robert Preis, J.-P. Tillich*  
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*Robert Elsässer, Burkhard Monien, Robert Preis*  
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### **A Distributed Algorithm to Evaluate Quantified Boolean Formulae**

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*Robert Elsässer, Andreas Frommer, Burkhard Monien, Robert Preis*  
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*Burkhard Monien, Ian Hal Sudborough*

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*Sergei L. Bezrukov, Burkhard Monien, Walter Unger, Gerd Wechsung*

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