

# Curriculum Vitae

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## Personal Data

Date of birth: June 10, 1965. Citizenship: Germany.

## Education

October 1984 – May 1990: Studies in Mathematics, University of Osnabrück. Degree: M.Sc. (Diplom-Mathematiker).

October 1990 – June 1993: Doctoral candidate in Computer Science, Saarland University, Saarbrücken, and Max Planck Institute for Computer Science, Saarbrücken. Degree: Ph.D. (Dr. rer. nat.), graduated *summa cum laude*. Thesis title: On the Influence of Lookahead in Competitive On-Line Algorithms. Completed June 1993. Thesis advisor: Prof. Dr. Kurt Mehlhorn.

## Venia Legendi

Venia legendi (Habilitation) in computer science, Saarland University, February 1999.

## Academic Positions

November 2013 – present: Professor of Computer Science, Technische Universität München, Germany. Chair of Theoretical Computer Science.

June 2009 – November 2013: Professor of Computer Science, Humboldt-Universität zu Berlin, Germany. Chair of Algorithms and Complexity.

August 2001 – May 2009: Professor of Computer Science, University of Freiburg, Germany. Chair of Information and Coding Theory.

October 1999 – July 2001: Associate Professor of Computer Science, University of Dortmund, Germany.

June 1993 – September 1999: Research Associate at the Max Planck Institute for Informatics, Saarbrücken, Germany.

October 1998 – March 1999: Visiting professor in the Department of Mathematics and Computer Science at the University of Paderborn, Germany.

April 1998 – September 1998: Visiting professor in the Department of Mathematics and Computer Science at the Free University of Berlin, Germany.

September 1994 – August 1995: Postdoctoral position at the International Computer Science Institute, Berkeley, California.

## **Fellowships**

October 1990 – June 1993: Graduate fellowship of the German Research Foundation. Member of the Research Training Center in Computer Science, Saarland University.

## **Honors and Awards**

Fellow of the EATCS, European Association for Theoretical Computer Science, since 2014.

Member of the Academy of Sciences and Literature in Mainz, since 2013.

Fellow of the GI (Gesellschaft für Informatik), German Association for Computer Science, since 2011.

Member of *Leopoldina*, German National Academy of Sciences, since 2010.

Gottfried Wilhelm Leibniz Prize, 2008. The prize represents the highest honour awarded in German research. It includes a research grant of 2.5 million Euros.

Otto Hahn Medal of the Max Planck Society, 1993. Prize is awarded for outstanding research presented in a dissertation.

## **Short-Term Positions and Visits Abroad**

Oktober – November 2012: Visiting professor in the Department of Computer Science, Cornell University, Ithaca, USA.

September – December 2006: Visiting professor in the School of Computer Science, Carnegie Mellon University, Pittsburgh, USA. Member of the ALADDIN Center.

August/September 1996: Visitor at BRICS, Århus University. Invited by Prof. Erik Schmid.

August 1996 and January 1998: Visitor at the Systems Research Center, Digital Equipment Corporation (DEC SRC), Palo Alto, USA. Invited by Prof. Monika R. Henzinger and Prof. Michael Mitzenmacher.

June 1995: Visitor in the Department of Computer Science, Cornell University, Ithaca, New York. Invited by Prof. Monika R. Henzinger.

August – September 1993: Visiting scientist in the Department of Information Sciences, The University of Tokyo, Japan. Invited and supported by Prof. Hiroshi Imai.

June – September 1988: Co-op position (Werkstudent) with Siemens Corporate Research in Princeton NJ, USA.

## **Journal and Book Editorial Boards**

Editor-in-Chief *ACM Transactions on Algorithms* (2008 – 2014).

Member of the editorial boards of

*ACM Transactions on Algorithms* (since 2014),

*Algorithmica* (since 2001),

*Informatik Spektrum* (since 2009),

*Journal of Discrete Algorithms* (since 1998),

*Journal of Graph Algorithms and Applications* (since 2005),

*Journal of Interconnection Networks* (2003 – 2008),

*Information Processing Letters* (2000 – 2004, I resigned to take up other responsibilities).

Guest editor for the journals

*Theoretical Computer Science*, coordination of the special issue dedicated to ICALP 2009,  
*Theory of Computing Systems*, coordination of the special issues dedicated to STACS 2008 and 2009.

Member of the editorial boards of the conference proceedings series

*Advanced Research in Computing and Software Science (ARCoSS)*, Springer LNCS (since 2009),  
*Leibniz International Proceedings in Informatics (LIPIcs)*, (since 2009).

Member of the advisory board of the book series

*Texts in Theoretical Computer Science*, Springer (since 2012).

### **Refereeing and Reviewing**

Conferences: Program committee chair or co-chair of the following conferences:

*36th International Colloquium on Automata, Languages and Programming (ICALP)*, Track A, 2009.

*26th International Symposium on Theoretical Aspects of Computer Science (STACS)*, 2009, co-chair with Jean-Yves Marion.

*25th International Symposium on Theoretical Aspects of Computer Science (STACS)*, 2008, co-chair with Pascal Weil.

*12th Annual European Symposium on Algorithms (ESA)*, Design and Analysis Track, Bergen, Norway, 2004.

Program committee member of the following conferences:

SPAA 2014, STOC 2013, FOCS 2012, STOC 2009, SODA 2004, FOCS 2001, FOCS 1999, SPAA 2014, SPAA 2011, SPAA 2008, SPAA 2005, SPAA 2002, ALLENEX 2009, ICALP 2016, ICALP 2012, ESA 2012, ICALP 2007, WADS 2007, WEA 2007, FSTTCS 2006, ISAAC 2003, WADS 2003, ESA 2002, STACS 1999, ICALP 1998, SWAT 1996.

Public research funding agencies: reviewer for the German Research Foundation, Swiss National Science Foundation, Swedish Research Council, University Grants Committee Hong Kong, US-Israel Binational Science Foundation.

Journals: *ACTA Informatica*, *Algorithmica*, *Computing*, *Discrete Applied Mathematics*, *Information Processing Letters*, *Journal of Algorithms*, *Journal of Graph Theory*, *Journal of the ACM*, *Journal of Parallel and Distributed Computing*, *Nordic Journal of Computing*, *Operations Research Letters*, *SIAM Journal on Computing*, *The Computer Journal*, *Theoretical Computer Science*, *Theory of Computing Systems*.

### **Keynote Addresses**

Invited talks at conferences and workshops:

*31st International Symposium on Computational Geometry (SOCG'15)*, Eindhoven, Netherlands, 2015.

*1st International Conference on Applied Algorithms (ICAA'14)*, Kolkata, India, 2014.

*40th International Colloquium on Automata, Languages and Programming (ICALP'13)*, Riga, Latvia, 2013.

*19th Annual International Computing and Combinatorics Conference (COCOON'13)*, Hangzhou, China, 2013.

*31st Annual Conference on Foundations of Software Technology and Theoretical Computer Science (FSTTCS'11)*, Mumbai, India, 2011.

*26th International Symposium on Theoretical Aspects of Computer Science (STACS'11)*, Dortmund, Germany, 2011.

*5th International Computer Science Symposium in Russia (CSR'10)*, Kazan, Russia, 2010.

*18th International Symposium on Mathematical Programming (ISMP'03)*, Copenhagen, Denmark. 2003.

*9th Annual European Symposium on Algorithms (ESA'01)*, Århus, Denmark, 2001.

*25th International Workshop on Graph-Theoretic Concepts in Computer Science (WG'99)*, Ascona, Switzerland, 1999.

*29th British Colloquium for Theoretical Computer Science (BCTCS'13)*, Bath, UK, 2013.

*6th Workshop on Graph Classes, Optimization, and Width Parameters (GROW'13)*, Greece, 2013.

*Annual Meeting of the DMV (German Mathematical Society)*, Plenary talk in the Section on Discrete Mathematics, Saarbrücken, Germany, 2012.

*Workshop on Computational Sustainability*, Workshop held at STOC 2012, New York City, USA, 2012.

*NVTI Theory Day*, Dutch Association for Theoretical Computer Science, Utrecht, Netherlands, 2012.

*Colloquium on Combinatorics*, Magdeburg, Germany, 2007.

*Workshop on Scheduling, EU-Project AEOLUS*, Nice, France, 2007.

*Workshop on Models and Algorithms for Planning and Scheduling Problems (MAPSP)*, Siena, Italy. 2005.

*Workshop on New Horizons in Computing*, Kyoto, Japan, 2005.

*Workshop on On-Line Algorithms*. Udine, Italy, 1998.

*Workshop on Probabilistic Algorithms and Algorithmic Probability*, Utrecht University, Netherlands, 1996.

Mini-course on *Online-Scheduling*:

*French Spring School in Theoretical Computer Science (EPIT 2007)* with emphasis on scheduling algorithms, Fréjus, France, 2007.

Mini-courses on *Online Algorithms*:

*2nd Training School on Algorithmic Aspects of Dynamic Networks*, held as part of the EU-project COST Action 295: DYNAMO, Iceland, 2008.

*20th Lipari International School for Computer Science*, Italy, 2008.

*Fall School on Algorithms for Hard Problems*, Schwarzenberg, Switzerland, 2002.

*Advanced Course on the Foundations of Computer Science*, Max Planck Institute for Computer Science, Saarbrücken, Germany, 2000.

*Summer School on Probabilistic Methods and Algorithms*, Kiel, Germany, 1999.

Course held at BRICS, Århus University, Denmark, 1996.

More than 120 presentations given as conference talks, colloquia or invited seminar talks.

## Research Grants

*Energy-Efficient Scheduling*. Project funded by the German Research Foundation, project number Al 464/9-1 261,000 Euros.

*Research Training Center “Methods for Discrete Structures”*. Project at the Technical University Berlin, Humboldt University Berlin and Free University Berlin, funded by the German Research Foundation since 2006. Funds include support for 9 PhD students, scientific travel and guests for a period of nine years. Total grant for 2009–2013: 2,200,000 Euros shared among 10 PIs.

*Graduate School “SOAMED”*. Project on service-oriented architectures for the integration of software-based processes, exemplified by health care systems and medical technology, funded by the German Research Foundation since 2010. The project is hosted at Humboldt University Berlin with partners at the Technical University Berlin, the Charité and the Hasso Plattner Institute. Funds include support for 8 PhD students, scientific travel and guests for a period of four and a half years. Total grant: 3,300,000 Euros shared among 11 PIs.

*Algorithm Engineering for Networking Problems*. Project funded by the German Research Foundation, project numbers Al 464/5-1 and 5-2. 225,000 Euros.

*Efficient Algorithms for Resource Management Problems in Large Networks*. Project funded by the German Research Foundation, project numbers Al 464/4-1 and 4-2. 225,000 Euros.

*Research Training Center “Embedded Microsystems”*. Project at the University of Freiburg, funded by the German Research Foundation since April 2005. Funds include support for 14 PhD students, scientific travel and guests for a period of nine years. Total grant: 4,500,000 Euros shared among 10 PIs.

*Competitive Mechanism Design and the Price of Anarchy in Networks*. Project funded by the German Israeli Foundation for Scientific Research and Development (GIF) from January 2005 to December 2007. Project partners were Prof. Yossi Azar and Prof. Amos Fiat, Tel Aviv University, Israel. Total grant: 147,000 Euros shared among three PIs.

*Efficient Algorithms for Caching Problems of Current Interest*. Project funded by the German Research Foundation, project number Al 464/3-1 and 3-2. 180,000 Euros.

*Approximation and Online Algorithms, APPOL and APPOL II*. Projects funded by the European Commission from March 2000 to October 2004. Project partners included University of Kiel (Germany), Technical University of Berlin (Germany), University of Freiburg (Germany), University of Evry (France), University of Paris (France), Technical University of Athens (Greece), University of Rome (Italy), University of Szeged (Hungary), Maastricht University (Netherlands), Technion (Israel), University of Tel-Aviv (Israel), ETH Zurich (Switzerland). The European Commission funded scientific travel and workshops. Total grant: 350,000 Euros shared among 12 sites.

*Efficient Algorithms for Exploration Problems in Robotics*. Project funded by the German Research Foundation, project number Al 464/1-1. The German Research Foundation supported scientific travel between the Max Planck Institute for Computer Science and DEC SRC, Palo Alto. 5000 Euros.

## Conferences and Workshops Organized

*26th International Symposium on Theoretical Aspects of Computer Science (STACS)*, Freiburg, February 2009.

*ICERM Workshop on Stochastic Graph Models*.

March 2014, jointly with Ravi Kumar (Google), Michael Mitzenmacher (Harvard University) and Eli

Upfal (Brown University). Institute for Computational and Experimental Research in Mathematics (ICERM), Brown University, USA.

Dagstuhl seminar on *Scheduling*.

March 2013, jointly with Onno J. Boxma (Eindhoven) and Kirk Pruhs (Pittsburgh).

February 2010, jointly with Sanjoy Baruah (North Carolina), Rolf Möhring (Berlin) and Kirk Pruhs (Pittsburgh).

Dagstuhl seminar on *Optimization with Incomplete Information*.

January 2005, jointly with Rolf Möhring (Berlin), Georg Pflug (Vienna) and Rüdiger Schultz (Duisburg-Essen).

Dagstuhl seminar on *Data Structures*.

February 2004, jointly with Robert Sedgewick (Princeton) and Dorothea Wagner (Karlsruhe).

February 2002, jointly with Robert Sedgewick (Princeton) and Peter Widmayer (Zurich).

February 2000, jointly with Ian Munro (Waterloo) and Peter Widmayer (Zurich).

Dagstuhl seminar on *Online Algorithms*.

July 2002, jointly with Gerhard Woeginger (Twente and Eindhoven) and Amos Fiat (Tel-Aviv).

Oberwolfach seminar on *Efficient Algorithms*.

August 2003, jointly with Torben Hagerup (Augsburg), Kurt Mehlhorn (Saarbrücken) and David Williamson (San Jose, USA).

August 2000, jointly with Torben Hagerup (Augsburg), Guisepppe Italiano (Rome) und Kurt Mehlhorn (Saarbrücken).

Annual meeting of the German Research Foundation priority programme “Algorithmics of large and complex networks”, Freiburg, July 4–6, 2007.

## Professional Activities

### International

Member of the Scientific Advisory Board, Leibniz Minerva Center, Hebrew University, Jerusalem, Israel, since 2013.

Member of the Evaluation Committee of Basic Research in Information and Communication Technology, Research Council of Norway, 2011. Committee evaluated all computer science departments at Norwegian universities.

Member of the Computer Science Panel, Fonds National de la Recherche, Luxembourg, 2011 – 2013.

Member of the EATCS Council (European Association for Theoretical Computer Science), since 2009.

Member of the Computer Science Panel, Swedish Research Council, 2007 and 2008.

Steering committee chair of the conference *European Symposium on Algorithms (ESA)*, September 2004 – October 2007 (regular steering committee member since September 2003).

Steering committee member of the conferences: *International Workshop on Approximation Algorithms for Combinatorial Optimization (APPROX)*, since August 2002; *International Symposium on Theoretical Aspects of Computer Science (STACS)*, 2001 – 2009.

### National

Co-initiator of the Priority Programme 1736 “Algorithms for Big Data”, funded by the German Research Foundation, since 2013.

Member of the Computer Science Panel, German Research Foundation, 2008 – 2015.

Member of the Scientific Directorate, Schloss Dagstuhl, Leibniz Center for Informatics, 2008 – 2014.

Member of the Evaluation Committee of Mathematics Research in Lower Saxony, 2011. Committee evaluated all mathematics departments at the universities of the state.

Member of the Senate and Grants Committee for Research Training Centers, German Research Foundation, November 2000 – October 2006.

Spokesperson of the GI Study Group 0.1.1 on “Algorithms and Data Structures” (German Association of Computer Science), November 2000 – June 2006.

Member of the Chemical-Physical-Technical Section of the Scientific Council of the Max Planck Society, June 1998 – September 1999.

#### University internal

Chair of the Department of Computer Science, University of Freiburg, October 2004 – September 2006.

Member of the Faculty Council for Applied Sciences, University of Freiburg, June 2002 – May 2009.

Co-chair of the Council for Examination Affairs, Department of Computer Science, University of Freiburg, June 2002 – September 2004.

Women’s representative, Faculty of Applied Sciences, University of Freiburg, April 2002 – September 2004.

Member of the convent, University of Dortmund, January – April 2000.

## List of Publications

### Book Chapters

- [1] S. Albers and J. Westbrook. Self-organizing data structures. In *Online-Algorithms: The State of the Art*, edited by A. Fiat and G.J. Woeginger. Springer LNCS 1442, pages 13–51, 1998.
- [2] S. Albers. Online algorithms. Invited contribution in *Interactive Computation: The New Paradigm*, edited by Dina Goldin, Scott Smolka and Peter Wegner, 143–164, 2006.
- [3] S. Albers. Online computation in large networks. Invited contribution in *Handbook of Parallel Computing: Models, Algorithms and Applications*, edited by Sanguthevar Rajasekaran and John Reif, CRC Press, 37:1–23, 2008.
- [4] S. Albers. Online list update. Invited contribution in *Encyclopedia of Algorithms*, edited by Ming-Yang Kao, Springer, 41:1–4, 2008.
- [5] S. Albers. Resource management in large networks. In *Algorithmics of Large and Complex Networks*, Springer LNCS, Volume 5515, 227–246, 2009.
- [6] S. Albers. Algorithms for energy saving. In *Efficient Algorithms, Essays Dedicated to Kurt Mehlhorn on the Occasion of His 60th Birthday*. Springer LNCS, Volume 5760, pages 173–186, 2009.
- [7] S. Albers. Online Scheduling. In *Introduction to Scheduling*, Chapman/CRC Press, pages 57–84, 2009.
- [8] S. Albers. Ronald Graham: Laying the foundations of online optimization. *Documenta Mathematica*, Book on *Optimization Stories*, edited by Martin Grötschel, pages 239–245, 2012.

### Journal Articles

- [9] S. Albers and P. Brucker. The complexity of one-machine batching problems. *Discrete Applied Mathematics*, 47:87–107, 1993.
- [10] S. Albers, B. von Stengel and R. Werchner. A combined BIT and TIMESTAMP algorithm for the list update problem. *Information Processing Letters*, 56:135–139, 1995.
- [11] S. Albers and T. Hagerup. Improved parallel integer sorting without concurrent writing. *Information and Computation*, 136:25–51, 1997.
- [12] S. Albers. On the influence of lookahead in competitive paging algorithms. *Algorithmica*, 18:283–305, 1997. Invited to the special issue dedicated to ESA93.
- [13] S. Albers and M. Mitzenmacher. Revisiting the COUNTER algorithms for list update. *Information Processing Letters*, 64:155–160, 1997.
- [14] S. Albers and H. Koga. New on-line algorithms for the page replication problem. *Journal of Algorithms*, 27:75–96, 1998.



- [15] S. Albers. A competitive analysis of the list update problem with lookahead. *Theoretical Computer Science*, 197:95–109, 1998.
- [16] S. Albers. Improved randomized on-line algorithms for the list update problem. *SIAM Journal on Computing*, 27:682–693, 1998.
- [17] S. Albers and M. Mitzenmacher. Average case analyses of list update algorithms, with applications to data compression. *Algorithmica*, 21:312–329, 1998.
- [18] S. Albers and S. Leonardi. Online algorithms: Trends and perspectives. *ACM Computing Surveys*, 31:3 (electronic edition), 1999.
- [19] S. Albers. Better bounds for online scheduling. *SIAM Journal on Computing*, 29:459–473, 1999.
- [20] S. Albers and M.R. Henzinger. Exploring unknown environments. *SIAM Journal on Computing*, 29:1164–1188, 2000.
- [21] S. Albers and M. Mitzenmacher. Average case analyses of First-Fit and Random-Fit bin packing. *Random Structures and Algorithms*, 16:240–259, 2000.
- [22] S. Albers, N. Garg and S. Leonardi. Minimizing stall time in single and parallel disk systems. *Journal of the ACM*, 47:969–986, 2000.
- [23] S. Albers, M. Charikar and M. Mitzenmacher. Delayed information and action in on-line algorithms. *Information and Computation*, 170:135–152, 2001.
- [24] S. Albers, K. Kursawe and S. Schuierer. Exploring unknown environments with obstacles. *Algorithmica*, 32:123–143, 2001.
- [25] S. Albers and G. Schmidt. Scheduling with unexpected machine breakdowns. *Discrete Applied Mathematics*, 110:85–99, 2001.
- [26] S. Albers and B. Schröder. An experimental study of online scheduling algorithms. *ACM Journal of Experimental Algorithmics*, 7, 2002. Invited to the special issue dedicated to WAE00.
- [27] S. Albers. On generalized connection caching. *Theory of Computing Systems*, 35:251–267, 2002. Invited to the special issue dedicated to SPAA00.
- [28] S. Albers and M. Karpinski. Randomized splay trees: Theoretical and experimental results. *Information Processing Letters*, 81:213–221, 2002.
- [29] S. Albers. Online algorithms: A survey. *Mathematical Programming*, 97:3–26, 2003. Contribution of an invited talk presented at the *18th International Symposium on Mathematical Programming (ISMP03)*.
- [30] S. Albers, L.M. Favrholt and O. Giel. On paging with locality of reference. *Journal of Computer and System Sciences*, 70:145–175, 2005.
- [31] S. Albers and M. Büttner. Integrated prefetching and caching in single and parallel disk systems. *Information and Computation*, 198:24–39, 2005.

- [32] S. Albers and M. Schmidt. On the performance of greedy algorithms in packet buffering. *SIAM Journal on Computing*, 35:278–304, 2005.
- [33] S. Albers and H. Bals. Dynamic TCP acknowledgement: Penalizing long delays. *SIAM Journal on Discrete Mathematics*, 19:938–951, 2005.
- [34] S. Albers and R. van Stee. A study of integrated document and connection caching. *Algorithmica*, 47:239–252, 2007.
- [35] S. Albers and Hiroshi Fujiwara. Energy-efficient algorithms for flow time minimization. *ACM Transactions on Algorithms*, 3(4), 2007.
- [36] S. Albers. On the value of coordination in network design. *SIAM Journal on Computing*, 6:2273–2302, 2009.
- [37] S. Albers and T. Jacobs. An experimental study of new and known online packet buffering algorithms. *Algorithmica*, 57:725–746, 2010.
- [38] S. Albers. New results on web caching with request reordering. *Algorithmica*, 58:461–477, 2010.
- [39] S. Albers. Energy-efficient algorithms. *Communications of the ACM*, 53:86–96, 2010.
- [40] S. Albers and M. Hellwig. Semi-online scheduling revisited. *Theoretical Computer Science*, 443:1–9, 2012.
- [41] S. Albers and P. Lenzner. On approximate Nash equilibria in network design. *Internet Mathematics*, 9:384–405, 2013.
- [42] S. Albers, F. Müller and S. Schmelzer. Speed scaling on parallel processors. *Algorithmica*, 68(2):404–425, 2014.
- [43] S. Albers and A. Antoniadis. Race to idle: New algorithms for speed scaling with a sleep state. *ACM Transactions on Algorithms*, 10(2):9, 2014.
- [44] S. Albers, S. Eilts, E. Even-Dar, Y. Mansour and L. Roditty. On Nash equilibria for a network creation game. *ACM Transactions on Economics and Computation*, 2(1):2, 2014.
- [45] S. Albers, A. Antoniadis and G. Greiner. On multi-processor speed scaling with migration. *Journal of Computer and System Sciences*, 2015. <http://dx.doi.org/10.1016/j.jcss.2015.03.001>
- [46] S. Albers and S. Lauer. On list update with locality of reference. Accepted for publication in *Journal of Computer and System Sciences*, 2015.

## Conference Articles

- [47] S. Albers and T. Hagerup. Improved parallel integer sorting without concurrent writing. In *Proc. 3rd Annual ACM-SIAM Symposium on Discrete Algorithms (SODA92)*, pages 463–472, 1992.
- [48] S. Albers. On the influence of lookahead in competitive paging algorithms. In *Proc. 1st Annual European Symposium on Algorithms (ESA93)*, Springer LNCS, Volume 726, pages 1–12, 1993.
- [49] S. Albers and H. Koga. New on-line algorithms for the page replication problem. In *Proc. 4th Scandinavian Workshop on Algorithm Theory (SWAT94)*, Springer LNCS, Volume 824, pages 25–36, 1994.
- [50] S. Albers. A competitive analysis of the list update problem with lookahead. In *Proc. 19th International Symposium on Mathematical Foundations of Computer Science (MFCS94)*, Springer LNCS, Volume 841, pages 201–210, 1994.
- [51] S. Albers. Improved randomized on-line algorithms for the list update problem. In *Proc. 6th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA95)*, pages 412–419, 1995.
- [52] S. Albers and H. Koga. Page migration with limited local memory capacity. In *Proc. 4th International Workshop on Algorithms and Data Structures (WADS95)*, Springer LNCS, Volume 955, pages 147–158, 1995.
- [53] S. Albers and M. Mitzenmacher. Average case analyses of list update algorithms, with applications to data compression. In *Proc. 23rd International Colloquium on Automata, Languages, and Programming (ICALP96)*, Springer LNCS, Volume 1099, pages 514–525, 1996.
- [54] S. Albers. Better bounds for online scheduling. In *Proc. 29th Annual ACM Symposium on Theory of Computing (STOC97)*, pages 130–139, 1997.
- [55] S. Albers and M.R. Henzinger. Exploring unknown environments. In *Proc. 29th Annual ACM Symposium on Theory of Computing (STOC97)*, pages 416–425, 1997.
- [56] S. Albers and M. Mitzenmacher. Average case analyses of First-Fit and Random-Fit bin packing. In *Proc. 9th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA98)*, pages 290–299, 1998.
- [57] S. Albers, N. Garg and S. Leonardi. Minimizing stall time in single and parallel disk systems. In *Proc. 30th Annual ACM Symposium on Theory of Computing (STOC98)*, pages 454–462, 1998.
- [58] S. Albers, M. Charikar and M. Mitzenmacher. On delayed information and action in on-line algorithms. In *Proc. 39th Annual IEEE Symposium on Foundations of Computer Science (FOCS98)*, pages 71–80, 1998.
- [59] S. Albers and K. Kursawe. Exploring unknown environments with obstacles. In *Proc. 10th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA99)*, pages 842–843, 1999.
- [60] S. Albers, S. Arora and S. Khanna. Page replacement for general caching problems. In *Proc. 10th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA99)*, pages 31–40, 1999.

- [61] S. Albers and G. Schmidt. Scheduling with unexpected machine breakdowns. Invited contribution in *Proc. 2nd International Workshop on Approximation Algorithms for Combinatorial Optimization Problems (APPROX99)*, Springer LNCS, Volume 1671, pages 269–280, 1999.
- [62] S. Albers. Online algorithms: A study of graph-theoretic concepts. Paper of an invited lecture in *Proc. 25th International Workshop on Graph-Theoretic Concepts in Computer Science (WG99)*, Springer LNCS, Volume 1665, pages 10–26, 1999.
- [63] S. Albers. Generalized connection caching. In *Proc. 12th ACM Symposium on Parallel Algorithms and Architectures (SPAA00)*, Bar Harbor, Maine, USA, pages 70–78, 2000.
- [64] S. Albers and B. Schröder. An experimental study of online scheduling algorithms. In *Proc. 4th Workshop on Algorithm Engineering (WAE00)*, Springer LNCS, Volume 1982, pages 11–22, 2000.
- [65] S. Albers and C. Witt. Minimizing stall time in single and parallel disk systems using multicommodity network flows. In *Proc. 4th International Workshop on Approximation Algorithms for Combinatorial Optimization Problems (APPROX01)*, Springer LNCS, Volume 2129, pages 12–23, 2001.
- [66] S. Albers. On randomized online scheduling. In *Proc. 34th ACM Symposium on Theory of Computing (STOC02)*, pages 134–143, 2002.
- [67] S. Albers, L.M. Favrholdt and O. Giel. On paging with locality of reference. In *Proc. 34th ACM Symposium on Theory of Computing (STOC02)*, pages 258–267, 2002.
- [68] S. Albers and H. Bals. Dynamic TCP acknowledgement: Penalizing long delays. In *Proc. 14th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA03)*, pages 47–55, 2003.
- [69] S. Albers and R. van Stee. A study of integrated document and connection caching. In *Proc. 30th International Colloquium on Automata, Languages and Programming (ICALP03)*, Springer LNCS, Volume 2719, pages 653–667, 2003.
- [70] S. Albers and M. Büttner. Integrated prefetching and caching in single and parallel disk systems. In *Proc. 15th Annual ACM Symposium on Parallelism in Algorithms and Architectures (SPAA03)*, pages 109–117, 2003.
- [71] S. Albers and M. Büttner. Integrated prefetching and caching with read and write requests. In *Proc. 8th International Workshop on Algorithms and Data Structures (WADS03)*, Springer LNCS, Volume 2748, pages 162–173, 2003.
- [72] S. Albers and M. Schmidt. On the performance of greedy algorithms in packet buffering. In *Proc. 36th ACM Symposium on Theory of Computing (STOC04)*, 35–44, 2004.
- [73] S. Albers. New results on web caching with request reordering. In *Proc. 16th ACM Symposium on Parallelism in Algorithms and Architectures (SPAA04)*, pages 84–92, 2004.
- [74] S. Albers and H. Fujiwara. Energy-efficient algorithms for flow time minimization. In *Proc. 23rd International Symposium on Theoretical Aspects of Computer Science (STACS06)*, Springer LNCS, Volume 3884, pages 621–633, 2006.

- [75] S. Albers, S. Eilts, E. Even-Dar, Y. Mansour and L. Roditty. On Nash equilibria for a network creation game. In *Proc. 17th ACM-SIAM Symposium on Discrete Algorithms (SODA06)*, pages 89–98, 2006.
- [76] S. Albers, F. Müller and S. Schmelzer. Speed scaling on parallel processors. In *Proc. 19th ACM Symposium on Parallelism in Algorithms and Architectures (SPAA07)*, pages 289–298, 2007.
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