

Chronological Index

1952; Shannon 548

► Mobile Agents and Exploration

1955; Kuhn 68

► Assignment Problem

1956; McCluskey 989

► Two-Level Boolean Minimization

1957; Munkres 68

► Assignment Problem

1959; Rosenblatt 642

► Perceptron Algorithm

1962; Gale, Shapley 390

► Hospitals/Residents Problem

1962; Gale, Shapley 877

► Stable Marriage

1965; Dijkstra 188

► Concurrent Programming, Mutual Exclusion

1966; Graham 455

► List Scheduling

1968; Coffman, Kleinrock 562

► Multi-level Feedback Queues

1972; Bayer, McCreight 108

► B-trees

1973; Liu, Layland 751

► Rate-Monotonic Scheduling

1974–1979, Chvátal, Johnson, Lovász, Stein 379

► Greedy Set-Cover Algorithms

1974; Dijkstra 812

► Self-Stabilization

1974; Elias 748

► Rank and Select Operations on Binary Strings

1975; Ibarra, Kim 419

► Knapsack

1976; Booth, Lueker 656

► Planarity Testing

1976; Christofides 517

► Metric TSP

1977; Ziv, Lempel 236

► Dictionary-Based Data Compression

1978; Lamport 129

► Causal Order, Logical Clocks, State Machine Replication

1980; McKay 373

► Graph Isomorphism

1980; Pease, Shostak, Lamport 116

► Byzantine Agreement

1981; Kierstead, Trotter 594

► Online Interval Coloring

1982; Karmarkar, Karp 57

► Approximation Schemes for Bin Packing

1982; Lenstra, Lenstra, Lovasz 841

► Shortest Vector Problem

- 1983; Baker 59
 - ▶ Approximation Schemes for Planar Graph Problems
- 1983; Case, Smith 411
 - ▶ Inductive Inference
- 1983; Gallager, Humblet, Spira 256
 - ▶ Distributed Algorithms for Minimum Spanning Trees
- 1983; Stockmeyer 852
 - ▶ Slicing Floorplan Orientation
- 1984; Bennett, Brassard 708
 - ▶ Quantum Key Distribution
- 1984; Valiant 622
 - ▶ PAC Learning
- 1985–2002; multiple authors 601
 - ▶ Online Paging and Caching
- 1985; Awerbuch 935
 - ▶ Synchronizers, Spanners
- 1985; Day 579
 - ▶ Non-shared Edges
- 1985; Deutsch 693
 - ▶ Quantum Algorithm for the Parity Problem
- 1985; Fischer, Lynch, Paterson 70
 - ▶ Asynchronous Consensus Impossibility
- 1985; Garcia-Molina, Barbara 715
 - ▶ Quorums
- 1985; Sleator, Tarjan, Fiat, Karp, Luby, McGeoch, Sleator, Young 625
 - ▶ Paging
- 1985; Sleator, Tarjan 598
 - ▶ Online List Update
- 1986; Altschul, Erickson 459
 - ▶ Local Alignment (with Affine Gap Weights)
- 1986; Bryant 90
 - ▶ Binary Decision Graph
- 1986; Du, Pan, Shing 4
 - ▶ Adaptive Partitions
- 1986; Lamport, Vitanyi, Awerbuch 761
 - ▶ Registers
- 1987; Arnborg, Corneil, Proskurowski 968
 - ▶ Treewidth of Graphs
- 1987; Irving, Leather, Gusfield 606
 - ▶ Optimal Stable Marriage
- 1987; Keutzer 944
 - ▶ Technology Mapping
- 1987; Littlestone 77
 - ▶ Attribute-Efficient Learning
- 1987; Raghavan, Thompson 737
 - ▶ Randomized Rounding
- 1988; Aggarwal, Vitter 291
 - ▶ External Sorting and Permuting
- 1988; Aggarwal, Vitter 413
 - ▶ I/O-model
- 1988; Baeza-Yates, Culberson, Rawlins 235
 - ▶ Deterministic Searching on the Line
- 1988; Dwork, Lynch, Stockmeyer 198
 - ▶ Consensus with Partial Synchrony
- 1988; Feldman, Micali 604
 - ▶ Optimal Probabilistic Synchronous Byzantine Agreement
- 1988; Leighton, Maggs, Rao 616
 - ▶ Packet Routing
- 1988; Miller, Myers 461
 - ▶ Local Alignment (with Concave Gap Weights)
- 1988; Pitt, Valiant 385
 - ▶ Hardness of Proper Learning
- 1989; Goldreich, Levin 434
 - ▶ Learning Heavy Fourier Coefficients of Boolean Functions
- 1989; Hein 651
 - ▶ Phylogenetic Tree Construction from a Distance Matrix

- 1990; Attiya, Bar-Noy, Dolev, Peleg, Reischuk 774
 ▶ Renaming
- 1990; Blum, Luby, Rubinfeld 446
 ▶ Linearity Testing/Testing Hadamard Codes
- 1990; Burch, Clarke, McMillan, Dill 932
 ▶ Symbolic Model Checking
- 1990; Herlihy, Wing 450
 ▶ Linearizability
- 1990; Karlin, Manasse, McGeogh, Owicki 849
 ▶ Ski Rental Problem
- 1990; Lenstra, Shmoys, Tardos 539
 ▶ Minimum Makespan on Unrelated Machines
- 1991; Chrobak, Larmore 9
 ▶ Algorithm DC-Tree for k Servers on Trees
- 1991; Ekert 708
 ▶ Quantum Key Distribution
- 1991; Herlihy 1015
 ▶ Wait-Free Synchronization
- 1991; Leiserson, Saxe 146
 ▶ Circuit Retiming
- 1991; Plotkin, Shmoys, Tardos 326
 ▶ Fractional Packing and Covering Problems
- 1991; Serna, Spirakis 734
 ▶ Randomized Parallel Approximations to Max Flow
- 1991; Sleator, Tarjan; Fiat, Karp, Luby, McGeoch, Sleator, Young 625
 ▶ Paging
- 1991; Gusfield 246
 ▶ Directed Perfect Phylogeny (Binary Characters)
- 1992; Bennett, Wiesner 703
 ▶ Quantum Dense Coding
- 1992; Borodin, Linial, Saks 514
 ▶ Metrical Task Systems
- 1992; Boser, Guyon, Vapnik 928
 ▶ Support Vector Machines
- 1992; Cong, Ding 322
 ▶ FPGA Technology Mapping
- 1992; Reuven Bar-Yehuda, Oded Goldreich, Alon Itai 725
 ▶ Randomized Broadcasting in Radio Networks
- 1992; Watkins 771
 ▶ Reinforcement Learning
- 1993; Afek, Attiya, Dolev, Gafni, Merritt, Shavit 855
 ▶ Snapshots in Shared Memory
- 1993; Baker 635
 ▶ Parameterized Matching
- 1993; Bennett, Brassard, Crepeau, Jozsa, Peres, Wootters 947
 ▶ Teleportation of Quantum States
- 1993; Chaudhuri 829
 ▶ Set Agreement
- 1993; Garg, Vazirani, Yannakakis 554
 ▶ Multicut
- 1993; Gusfield 267
 ▶ Efficient Methods with Guaranteed Error Bounds
- 1993; Kao, Reif, Tate 740
 ▶ Randomized Searching on Rays or the Line
- 1993; Kearns, Li 436
 ▶ Learning with Malicious Noise
- 1993; Linial, Mansour, Nisan 429
 ▶ Learning Constant-Depth Circuits
- 1993; Manber, Myers 950
 ▶ Text Indexing
- 1993; Rajaraman, Wong 650
 ▶ Performance-Driven Clustering
- 1994; Azar, Broder, Karlin 457
 ▶ Load Balancing
- 1994; Baker 59
 ▶ Approximation Schemes for Planar Graph Problems

- 1994; Burrows, Wheeler 112
 - Burrows–Wheeler Transform
- 1994; Crochemore, Czumaj, Gąsieniec, Jarominek, Lecroq, Plandowski, Rytter 824
 - Sequential Exact String Matching
- 1994; Fürer, Raghavachari 231
 - Degree-Bounded Trees
- 1994; Goemans, Williamson 489
 - Max Cut
- 1994; Howard, Vitter 65
 - Arithmetic Coding for Data Compression
- 1994; Huang 502
 - Maximum-Density Segment
- 1994; Kajitani, Nakatake, Murata, Fujiyoshi 317
 - Floorplan and Placement
- 1994; Karger, Motwani, Sudan 368
 - Graph Coloring
- 1994; Kavvadias, Pantziou, Spirakis, Zaroliagis 576
 - Negative Cycles in Weighted Digraphs
- 1994; Kearns, Valiant 210
 - Cryptographic Hardness of Learning
- 1994; Khuller, Vishkin 371
 - Graph Connectivity
- 1994; Koutsoupias, Papadimitriou 1035
 - Work-Function Algorithm for k Servers
- 1994; Patt-Shamir, Rajsbaum 152
 - Clock Synchronization
- 1994; Shor 683
 - Quantum Algorithm for the Discrete Logarithm Problem
- 1994; Shor 689
 - Quantum Algorithm for Factoring
- 1994; Yang, Wong 138
 - Circuit Partitioning: A Network-Flow-Based Balanced Min-Cut Approach
- 1995; Agrawal, Klein, Ravi 897
 - Steiner Forest
- 1995; Alon, Yuster, Zwick 158
 - Color Coding
- 1995; Attiya, Bar-Noy, Dolev 400
 - Implementing Shared Registers in Asynchronous Message-Passing Systems
- 1995; Callahan, Kosaraju 1030
 - Well Separated Pair Decomposition for Unit-Disk Graph
- 1995; Cristian, Aghili, Strong, Dolev 73
 - Atomic Broadcast
- 1995; Farach, Przytycka, Thorup 495
 - Maximum Agreement Subtree (of 3 or More Trees)
- 1995; Goemans, Williamson 489
 - Max Cut
- 1995; Kamath, Motwani, Palem, Spirakis 942
 - Tail Bounds for Occupancy Problems
- 1995; Karger, Klein, Tarjan 732
 - Randomized Minimum Spanning Tree
- 1995; Kitaev 1
 - Abelian Hidden Subgroup Problem
- 1995; Mehlhorn, Näher 442
 - LEDA: a Library of Efficient Algorithms
- 1995; Plotkin, Shmoys, Tardos 326
 - Fractional Packing and Covering Problems
- 1995; Shor 705
 - Quantum Error Correction
- 1995; Varian 353
 - Generalized Vickrey Auction
- 1995; Wu, Manber, Myers 46
 - Approximate Regular Expression Matching
- 1995; Yao, Demers, Shenker 870
 - Speed Scaling

- 1995; Hellerstein, Pilliappakkamnatt, Raghavan, Wilkins 131
 ▶ Certificate Complexity and Exact Learning
- 1996; Bartal, Fakcharoenphol, Rao, Talwar 51
 ▶ Approximating Metric Spaces by Tree Metrics
- 1996; Bshouty, Cleve, Gavalda, Kannan, Tamon 423
 ▶ Learning with the Aid of an Oracle
- 1996; Chandra, Toueg 304
 ▶ Failure Detectors
- 1996; Chandra 723
 ▶ Randomization in Distributed Computing
- 1996; Cole, Hariharan 492
 ▶ Maximum Agreement Subtree (of 2 Binary Trees)
- 1996; Garg, Vazirani, Yannakakis 554
 ▶ Multicut
- 1996; Grover 712
 ▶ Quantum Search
- 1996; Shor, Aharonov, Ben-Or, Kitaev 313
 ▶ Fault-Tolerant Quantum Computation
- 1997; (Navigation) Blum, Raghavan, Schieber 785
 ▶ Robotics
- 1997; Azar, Kalyanasundaram, Plotkin, Pruhs, Waarts 457
 ▶ Load Balancing
- 1997; Bentley, Sedgewick 907
 ▶ String Sorting
- 1997; Coffman, Garay, Johnson 94
 ▶ Bin Packing
- 1997; Eppstein, Galil, Italiano, Nissenzweig 335
 ▶ Fully Dynamic Higher Connectivity
- 1997; Farach-Colton 925
 ▶ Suffix Tree Construction in RAM
- 1997; Jackson 431
 ▶ Learning DNF Formulas
- 1997; Kannan, Warnow 644
 ▶ Perfect Phylogeny (Bounded Number of States)
- 1997; Leonardi, Raz 531
 ▶ Minimum Flow Time
- 1997; Shmoys, Tardos, Aardal 299
 ▶ Facility Location
- 1998; (Exploration) Deng, Kameda, Papadimitriou 785
 ▶ Robotics
- 1998; Arora 281
 ▶ Euclidean Traveling Salesperson Problem
- 1998; Brassard, Hoyer, Tapp 682
 ▶ Quantum Algorithm for the Collision Problem
- 1998; Brin, Page 624
 ▶ PageRank Algorithm
- 1998; Calinescu, Karloff, Rabani 567
 ▶ Multiway Cut
- 1998; Eppstein, Galil, Italiano, Spencer 337
 ▶ Fully Dynamic Higher Connectivity for Planar Graphs
- 1998; Feige 366
 ▶ Graph Bandwidth
- 1998; Hirsch 286
 ▶ Exact Algorithms for General CNF SAT
- 1998; Karger, Motwani, Sudan 368
 ▶ Graph Coloring
- 1998; Kearns 894
 ▶ Statistical Query Learning
- 1998; Leighton, Rao 815
 ▶ Separators in Graphs
- 1998; Levkopoulos, Krznaric 546
 ▶ Minimum Weight Triangulation
- 1998; Pan, Liu 820
 ▶ Sequential Circuit Technology Mapping
- 1999; Afrati et al. 544
 ▶ Minimum Weighted Completion Time

- 1999; Atteson 253
 - ▶ Distance-Based Phylogeny Reconstruction (Optimal Radius)
- 1999; Basch, Guibas, Hershberger 417
 - ▶ Kinetic Data Structures
- 1999; Chu, Wong 1032
 - ▶ Wire Sizing
- 1999; Crochemore, Czumaj, Gasieniec, Lecroq, Plandowski, Rytter 826
 - ▶ Sequential Multiple String Matching
- 1999; Feige, Krauthgamer 519
 - ▶ Minimum Bisection
- 1999; Frigo, Leiserson, Prokop, Ramachandran 123
 - ▶ Cache-Oblivious Model
- 1999; Frigo, Leiserson, Prokop, Ramachandran 126
 - ▶ Cache-Oblivious Sorting
- 1999; Galil, Italiano, Sarnak 342
 - ▶ Fully Dynamic Planarity Testing
- 1999; Guruswami, Sudan 222
 - ▶ Decoding Reed–Solomon Codes
- 1999; Herlihy Shavit 956
 - ▶ Topology Approach in Distributed Computing
- 1999; Kärkkäinen, Ukkonen 559
 - ▶ Multidimensional String Matching
- 1999; King 343
 - ▶ Fully Dynamic Transitive Closure
- 1999; Kolpakov, Kucherov 874
 - ▶ Squares and Repetitions
- 1999; Krznaric, Levcopoulos, Nilsson 533
 - ▶ Minimum Geometric Spanning Trees
- 1999; Leighton, Rao 815
 - ▶ Separators in Graphs
- 1999; Nisan, Ronen 16
 - ▶ Algorithmic Mechanism Design
- 1999; Schulman, Vazirani 11
 - ▶ Algorithmic Cooling
- 1999; Thorup 847
 - ▶ Single-Source Shortest Paths
- 1999; DasGupta, He, Jiang, Li, Tromp, Zhang 573
 - ▶ Nearest Neighbor Interchange and Related Distances
- 1999; Schöning 468
 - ▶ Local Search Algorithms for k SAT
- 2000; Beimel, Bergadano, Bshouty, Kushilevitz, Varricchio 425
 - ▶ Learning Automata
- 2000; Caldwell, Kahng, Markov 143
 - ▶ Circuit Placement
- 2000; Chrobak, Gasieniec, Rytter 233
 - ▶ Deterministic Broadcasting in Radio Networks
- 2000; Cormode, Paterson, Sahinalp, Vishkin 265
 - ▶ Edit Distance Under Block Operations
- 2000; Czumaj, Lingas 536
 - ▶ Minimum k -Connected Geometric Networks
- 2000; Edmonds 806
 - ▶ Scheduling with Equipartition
- 2000; Eguchi, Fujishige, Tamura, Fleiner 880
 - ▶ Stable Marriage and Discrete Convex Analysis
- 2000; Farach-Colton, Ferragina, Muthukrishnan 922
 - ▶ Suffix Tree Construction in Hierarchical Memory
- 2000; Feige 366
 - ▶ Graph Bandwidth
- 2000; Holm, de Lichtenberg, Thorup 339
 - ▶ Fully Dynamic Minimum Spanning Trees
- 2000; Moffat, Stuiver 178
 - ▶ Compressing Integer Sequences and Sets
- 2000; Muthukrishnan, Sahinalp 265
 - ▶ Edit Distance Under Block Operations
- 2000; Thorup 332
 - ▶ Fully Dynamic Connectivity: Upper and Lower Bounds

- 2000; Koutsoupias, Papadimitriou 34
▶ [Alternative Performance Measures in Online Algorithms](#)
- 2000; Nikolettseas, Palem, Spirakis, Yung 195
▶ [Connectivity and Fault-Tolerance in Random Regular Graphs](#)
- 2001; (Localization) Fleischer, Romanik, Schuierer, Trippen 785
▶ [Robotics](#)
- 2001; Althaus, Mehlhorn 976
▶ [TSP-Based Curve Reconstruction](#)
- 2001; Archer, Tardos 970
▶ [Truthful Mechanisms for One-Parameter Agents](#)
- 2001; Arya, Garg, Khandekar, Meyerson, Munagala, Pandit 470
▶ [Local Search for \$K\$ -medians and Facility Location](#)
- 2001; Bader, Moret, Yan 858
▶ [Sorting Signed Permutations by Reversal \(Reversal Distance\)](#)
- 2001; Becchetti, Leonardi, Marchetti-Spaccamela, Pruhs 320
▶ [Flow Time Minimization](#)
- 2001; Blanchette, Schwikowski, Tompa 910
▶ [Substring Parsimony](#)
- 2001; Chen, Hu, Huang, Li, Xu 871
▶ [Sphere Packing Problem](#)
- 2001; Chen, Kanj, Jia 1006
▶ [Vertex Cover Search Trees](#)
- 2001; Chong, Han, Lam 629
▶ [Parallel Connectivity and Minimum Spanning Trees](#)
- 2001; Chrobak, Gąsieniec, Rytter 731
▶ [Randomized Gossiping in Radio Networks](#)
- 2001; Dessmark, Pelc 105
▶ [Broadcasting in Geometric Radio Networks](#)
- 2001; Fang, Zhu, Cai, Deng 168
▶ [Complexity of Core](#)
- 2001; Ganapathy, Warnow 499
▶ [Maximum Compatible Tree](#)
- 2001; Glazebrook, Nino-Mora 904
▶ [Stochastic Scheduling](#)
- 2001; Goldberg, Hartline, Wright 165
▶ [Competitive Auction](#)
- 2001; Holm, de Lichtenberg, Thorup 331
▶ [Fully Dynamic Connectivity](#)
- 2001; Jain 349
▶ [Generalized Steiner Network](#)
- 2001; Landau, Schmidt, Sokol 48
▶ [Approximate Tandem Repeats](#)
- 2001; McGeoch 290
▶ [Experimental Methods for Algorithm Analysis](#)
- 2001; Munro, Raman 912
▶ [Succinct Data Structures for Parentheses Matching](#)
- 2001; Pagh, Rodler 212
▶ [Cuckoo Hashing](#)
- 2001; Stoica, Morris, Karger, Kaashoek, Balakrishnan 611
▶ [P2P](#)
- 2001; Wan, Calinescu, Li, Frieder 528
▶ [Minimum Energy Cost Broadcasting in Wireless Networks](#)
- 2001; Fakcharoenphol, Rao 838
▶ [Shortest Paths in Planar Graphs with Negative Weight Edges](#)
- 2002 and later; Feldman, Karger, Wainwright 478
▶ [LP Decoding](#)
- 2002; Alon, Beigel, Kasif, Rudich, Sudakov 565
▶ [Multiplex PCR for Gap Closing \(Whole-genome Assembly\)](#)
- 2002; Bader, Moret, Warnow 270
▶ [Engineering Algorithms for Computational Biology](#)
- 2002; Boykin, Mor, Roychowdhury, Vatan, Vrijen 11
▶ [Algorithmic Cooling](#)

- 2002; Buhrman, Miltersen, Radhakrishnan, Venkatesh 43
 ▶ Approximate Dictionaries
- 2002; Cechlárová, Hajduková 885
 ▶ Stable Partition Problem
- 2002; Chan, Garofalakis, Rastogi 764
 ▶ Regular Expression Indexing
- 2002; Czumaj, Vöcking 667
 ▶ Price of Anarchy for Machines Models
- 2002; Demetrescu, Finocchi, Italiano, Näher 1008
 ▶ Visualization Techniques for Algorithm Engineering
- 2002; Deng, Papadimitriou, Safra 347
 ▶ General Equilibrium
- 2002; Fiat, Goldberg, Hartline, Karlin 165
 ▶ Competitive Auction
- 2002; Fotakis, Kontogiannis, Koutsoupias, Mavronicolas, Spirakis 183
 ▶ Computing Pure Equilibria in the Game of Parallel Links
- 2002; Fotakis, Spirakis 522
 ▶ Minimum Congestion Redundant Assignments
- 2002; Gudmundsson, Levcopoulos, Narasimhan, Smid 40
 ▶ Applications of Geometric Spanner Networks
- 2002; Gudmundsson, Levcopoulos, Narasimhan 360
 ▶ Geometric Spanners
- 2002; Hallgren 698
 ▶ Quantum Algorithm for Solving the Pell's Equation
- 2002; Johnson, McGeoch 398
 ▶ Implementation Challenge for TSP Heuristics
- 2002; Kaporis, Kirousis, Lalas 954
 ▶ Thresholds of Random k -SAT
- 2002; Kennings, Markov 143
 ▶ Circuit Placement
- 2002; Li, Ma, Wang 155
 ▶ Closest String and Substring Problems
- 2002; Lin, Jiang, Chao 506
 ▶ Maximum-scoring Segment with Length Restrictions
- 2002; Pettie, Ramachandran 541
 ▶ Minimum Spanning Trees
- 2002; Räcke 585
 ▶ Oblivious Routing
- 2002; Schulz, Wagner, Zaroliagis 272
 ▶ Engineering Algorithms for Large Network Applications
- 2002; Sundararajan, Sapatnekar, Parhi 345
 ▶ Gate Sizing
- 2002; Zhou, Shenoy, Nicholls 754
 ▶ Rectilinear Spanning Tree
- 2002; Zwick 31
 ▶ All Pairs Shortest Paths via Matrix Multiplication
- 2002; Thorup 278
 ▶ Equivalence Between Priority Queues and Sorting
- 2003–2006; Kuhn, Moscibroda, Nieberg, Wattenhofer 463
 ▶ Local Approximation of Covering and Packing Problems
- 2003; Akavia, Goldwasser, Safra 438
 ▶ Learning Significant Fourier Coefficients over Finite Abelian Groups
- 2003; Amir, Landau, Sokol 556
 ▶ Multidimensional Compressed Pattern Matching
- 2003; Azar, Cohen, Fiat, Kaplan, Räcke 791
 ▶ Routing
- 2003; Bansal, Fleischer, Kimbrel, Mahdian, Schieber, Sviridenko 621
 ▶ Packet Switching in Single Buffer
- 2003; Bansal, Pruhs 834
 ▶ Shortest Elapsed Time First Scheduling
- 2003; Baswana, Sen 25
 ▶ Algorithms for Spanners in Weighted Graphs

- 2003; Buchsbaum, Fowler, Giancarlo 939
▶ Table Compression
- 2003; Cai, Deng 62
▶ Arbitrage in Frictional Foreign Exchange Market
- 2003; Chatzigiannakis, Nikolettseas, Spirakis 161
▶ Communication in Ad Hoc Mobile Networks Using Random Walks
- 2003; Chen, Deng, Fang, Tian 483
▶ Majority Equilibrium
- 2003; Cheng, Huang, Li, Wu, Du 191
▶ Connected Dominating Set
- 2003; Crochemore, Landau, Ziv-Ukelson 818
▶ Sequential Approximate String Matching
- 2003; Even-Dar, Kesselman, Mansour 183
▶ Computing Pure Equilibria in the Game of Parallel Links
- 2003; Feldman, Gairing, Lücking, Monien, Rode 183
▶ Computing Pure Equilibria in the Game of Parallel Links
- 2003; Flaxman 742
▶ Random Planted 3-SAT
- 2003; Fomin, Thilikos 101
▶ Branchwidth of Graphs
- 2003; Gao, Zhang 1027
▶ Well Separated Pair Decomposition
- 2003; Grossi, Gupta, Vitter 174
▶ Compressed Suffix Array
- 2003; Hein, Jensen, Pedersen 892
▶ Statistical Multiple Alignment
- 2003; Jung, Serna, Spirakis 627
▶ Parallel Algorithms Precedence Constraint Scheduling
- 2003; Kida, Matsumoto, Shibata, Takeda, Shinohara, Arikawa 171
▶ Compressed Pattern Matching
- 2003; King, Zhang, Zhou 251
▶ Distance-Based Phylogeny Reconstruction (Fast-Converging)
- 2003; Kolpakov, Kucherov 48
▶ Approximate Tandem Repeats
- 2003; Kuhn, Wattenhofer, Zhang, Zollinger 793
▶ Routing in Geometric Networks
- 2003; Kuhn, Wattenhofer, Zollinger 355
▶ Geographic Routing
- 2003; Lipton, Markakis, Mehta 53
▶ Approximations of Bimatrix Nash Equilibria
- 2003; Mehlhorn, Sanders 37
▶ Analyzing Cache Misses
- 2003; Munro, Raman, Raman, Rao 915
▶ Succinct Encoding of Permutations: Applications to Text Indexing
- 2003; Schuler 286
▶ Exact Algorithms for General CNF SAT
- 2003; Szeider 639
▶ Parameterized SAT
- 2003; Ukkonen, Lemström, Mäkinen 657
▶ Point Pattern Matching
- 2004; Abu-Khzam, Collins, Fellows, Langston, Suters, Symons 1003
▶ Vertex Cover Kernelization
- 2004; Alber, Fellows, Niedermeier 220
▶ Data Reduction for Domination in Graphs
- 2004; Ambainis 686
▶ Quantum Algorithm for Element Distinctness
- 2004; Arge, de Berg, Haverkort, Yi 800
▶ R-Trees
- 2004; Arora, Rao, Vazirani 868
▶ Sparsest Cut
- 2004; Azar, Richter; Albers, Schmidt 618
▶ Packet Switching in Multi-Queue Switches

- 2004; Bartal, Fakcharoenphol, Rao, Talwar 51
 ▶ Approximating Metric Spaces by Tree Metrics
- 2004; Chatzigiannakis, Dimitriou, Nikolettseas, Spirakis 671
 ▶ Probabilistic Data Forwarding in Wireless Sensor Networks
- 2004; Cole, Gottlieb, Lewenstein 240
 ▶ Dictionary Matching and Indexing (Exact and with Errors)
- 2004; Deĭneko, Hoffmann, Okamoto, Woeginger 961
 ▶ Traveling Sales Person with Few Inner Points
- 2004; Demaine, Fomin, Hajiaghayi, Thilikos 88
 ▶ Bidimensionality
- 2004; Demaine, Harmon, Iacono, Patrascu 592
 ▶ $O(\log \log n)$ -competitive Binary Search Tree
- 2004; Demetrescu, Italiano 226
 ▶ Decremental All-Pairs Shortest Paths
- 2004; Demetrescu, Italiano 329
 ▶ Fully Dynamic All Pairs Shortest Paths
- 2004; Dujmovic, Whitesides 631
 ▶ Parameterized Algorithms for Drawing Graphs
- 2004; Elkin, Peleg 867
 ▶ Sparse Graph Spanners
- 2004; Finocchi, Panconesi, Silvestri 258
 ▶ Distributed Vertex Coloring
- 2004; Fredriksson, Navarro 818
 ▶ Sequential Approximate String Matching
- 2004; Gramm, Guo, Hüffner, Niedermeier 78
 ▶ Automated Search Tree Generation
- 2004; Halperin 274
 ▶ Engineering Geometric Algorithms
- 2004; Hartman, Sharan 863
 ▶ Sorting by Transpositions and Reversals (Approximate Ratio 1.5)
- 2004; Khuller, Kim, Wan 217
 ▶ Data Migration
- 2004; Li, Yap 788
 ▶ Robust Geometric Computation
- 2004; Lyngsø 780
 ▶ RNA Secondary Structure Prediction Including Pseudoknots
- 2004; Mecke, Wagner 832
 ▶ Set Cover with Almost Consecutive Ones
- 2004; Mucha, Sankowski 504
 ▶ Maximum Matching
- 2004; Navarro, Raffinot 768
 ▶ Regular Expression Matching
- 2004; Nikolettseas, Raptopoulos, Spirakis 405
 ▶ Independent Sets in Random Intersection Graphs
- 2004; Pătraşcu, Demaine 473
 ▶ Lower Bounds for Dynamic Connectivity
- 2004; Pettie 28
 ▶ All Pairs Shortest Paths in Sparse Graphs
- 2004; Ruan, Du, Jia, Wu, Li, Ko 376
 ▶ Greedy Approximation Algorithms
- 2004; Szegedy 677
 ▶ Quantization of Markov Chains
- 2004; Tannier, Sagot 860
 ▶ Sorting Signed Permutations by Reversal (Reversal Sequence)
- 2004; Viallette 985
 ▶ Two-Interval Pattern Problems
- 2004; Wan, Yi 207
 ▶ Critical Range for Wireless Networks
- 2004; Wang, Li, Wang 973
 ▶ Truthful Multicast
- 2004; Williams 507
 ▶ Maximum Two-Satisfiability
- 2004; Yokoo, Sakurai, Matsubara 308
 ▶ False-Name-Proof Auction

- 2004; Zhou 757
▶ Rectilinear Steiner Tree
- 2004; Pyrga, Schulz, Wagner, Zaroliagis 837
▶ Shortest Paths Approaches for Timetable Information
- 2005; Abraham, Irving, Kavitha, Mehlhorn 744
▶ Ranked Matching
- 2005; Aharonov, Jones, Landau 700
▶ Quantum Approximation of the Jones Polynomial
- 2005; Alicherry, Bhatia, Li 134
▶ Channel Assignment Wireless Mesh Networks
- 2005; Ambainis, Kempe, Rivosh 696
▶ Quantum Algorithm for Search on Grids
- 2005; Bader 387
▶ High Performance Algorithm Engineering for Large-scale Problems
- 2005; Bender, Demaine, Farach-Colton 121
▶ Cache-Oblivious B-Tree
- 2005; Borgs, Chayes, Immorlica, Mahdian, Saberi 563
▶ Multiple Unit Auctions with Budget Constraint
- 2005; Bose, Smid, Gudmundsson 653
▶ Planar Geometric Spanners
- 2005; Briest, Krysta, Vöcking 997
▶ Utilitarian Mechanism Design for Single-Minded Agents
- 2005; Chekuri, Khanna, Shepherd 551
▶ Multicommodity Flow, Well-linked Terminals and Routing Problems
- 2005; Codenotti, Saberi, Varadarajan, Ye 444
▶ Leontief Economy Equilibrium
- 2005; Dehne, Fellows, Langston, Rosamond, Stevens 995
▶ Undirected Feedback Vertex Set
- 2005; Demetrescu, Italiano 958
▶ Trade-Offs for Dynamic Graph Problems
- 2005; Demetrescu, Italiano 846
▶ Single-Source Fully Dynamic Reachability
- 2005; Deng, Huang, Li 205
▶ CPU Time Pricing
- 2005; Ding, Filkov, Gusfield 647
▶ Perfect Phylogeny Haplotyping
- 2005; Ebberts-Baumann, Grüne, Karpinski, Klein, Kutz, Knauer, Lingas 244
▶ Dilation of Geometric Networks
- 2005; Efraimidis, Spirakis 1024
▶ Weighted Random Sampling
- 2005; Efthymiou, Spirakis 383
▶ Hamilton Cycles in Random Intersection Graphs
- 2005; Elias, Lagergren 253
▶ Distance-Based Phylogeny Reconstruction (Optimal Radius)
- 2005; Elkin, Emek, Spielman, Teng 477
▶ Low Stretch Spanning Trees
- 2005; Estivill-Castro, Fellows, Langston, Rosamond 511
▶ Max Leaf Spanning Tree
- 2005; Fatourou, Mavronicolas, Spirakis 803
▶ Schedulers for Optimistic Rate Based Flow Control
- 2005; Ferragina, Giancarlo, Manzini, Sciortino 97
▶ Boosting Textual Compression
- 2005; Ferragina, Luccio, Manzini, Muthukrishnan 964
▶ Tree Compression and Indexing
- 2005; Ferragina, Manzini 176
▶ Compressed Text Indexing
- 2005; Fomin, Grandoni, Kratsch 284
▶ Exact Algorithms for Dominating Set
- 2005; Fotakis, Kontogiannis, Spirakis 810
▶ Selfish Unsplittable Flows: Algorithms for Pure Equilibria
- 2005; Fotakis, Kontogiannis, Spirakis 86
▶ Best Response Algorithms for Selfish Routing
- 2005; Fotakis, Nikolettseas, Papadopoulou, Spirakis 721
▶ Radiocoloring in Planar Graphs

- 2005; Guo, Gramm, Hüffner, Niedermeier, Wernicke 995
 ► Undirected Feedback Vertex Set
- 2005; Hallgren 694
 ► Quantum Algorithms for Class Group of a Number Field
- 2005; Heggernes, Telle, Villanger 310
 ► Fast Minimal Triangulation
- 2005; Jansson, Ng, Sadakane, Sung 497
 ► Maximum Agreement Supertree
- 2005; Kim, Amir, Landau, Park 843
 ► Similarity between Compressed Strings
- 2005; Koutsoupias 665
 ► Price of Anarchy
- 2005; Leone, Nikolettseas, Rolim 728
 ► Randomized Energy Balance Algorithms in Sensor Networks
- 2005; Li, Yao 1011
 ► Voltage Scheduling
- 2005; Ma, Zhang, Liang 640
 ► Peptide De Novo Sequencing with MS/MS
- 2005; Magniez, Santha, Szegedy 690
 ► Quantum Algorithm for Finding Triangles
- 2005; Marx 156
 ► Closest Substring
- 2005; Miklós, Meyer, Nagy 777
 ► RNA Secondary Structure Boltzmann Distribution
- 2005; Mirrokni 485
 ► Market Games and Content Distribution
- 2005; Moscibroda, Wattenhofer 466
 ► Local Computation in Unstructured Radio Networks
- 2005; Na, Giancarlo, Park 979
 ► Two-Dimensional Pattern Indexing
- 2005; Paturi, Pudlák, Saks, Zane 83
 ► Backtracking Based k -SAT Algorithms
- 2005; Song, Li, Wang 228
 ► Degree-Bounded Planar Spanner with Low Weight
- 2005; Tarjan, Werneck 260
 ► Dynamic Trees
- 2005; Varian 660
 ► Position Auction
- 2005; Wang, Li, Chu 571
 ► Nash Equilibria and Dominant Strategies in Routing
- 2005; Wang, Wang, Li 1020
 ► Weighted Connected Dominating Set
- 2005; Ye 444
 ► Leontief Economy Equilibrium
- 2005; Zhou 149
 ► Circuit Retiming: An Incremental Approach
- 2005; Ambühl 526
 ► Minimum Energy Broadcasting in Wireless Geometric Networks
- 2006; Abrams 563
 ► Multiple Unit Auctions with Budget Constraint
- 2006; Amir, Chencinski 982
 ► Two-Dimensional Scaled Pattern Matching
- 2006; Björklund, Husfeldt 289
 ► Exact Graph Coloring Using Inclusion–Exclusion
- 2006; Buhrman, Spalek 680
 ► Quantum Algorithm for Checking Matrix Identities
- 2006; Busch, Magdon-Ismail, Mavronicolas, Spirakis 248
 ► Direct Routing Algorithms
- 2006; Chan, Lam, Sung, Tam, Wong 408
 ► Indexed Approximate String Matching
- 2006; Chen, Deng, Liu 403
 ► Incentive Compatible Selection
- 2006; Chen, Deng, Teng 578
 ► Non-approximability of Bimatrix Nash Equilibria

- 2006; Chen, Deng 166
 ► Complexity of Bimatrix Nash Equilibria
- 2006; Daskalakis, Mehta, Papadimitriou 53
 ► Approximations of Bimatrix Nash Equilibria
- 2006; Demetrescu, Goldberg, Johnson 395
 ► Implementation Challenge for Shortest Paths
- 2006; Deng, Fang, Sun 581
 ► Nucleolus
- 2006; Du, Graham, Pardalos, Wan, Wu, Zhao 900
 ► Steiner Trees
- 2006; Dumitrescu, Ebberts-Baumann, Grüne, Klein, Knauer, Rote 358
 ► Geometric Dilation of Geometric Networks
- 2006; Guruswami, Rudra 453
 ► List Decoding near Capacity: Folded RS Codes
- 2006; Jansson, Nguyen, Sung 202
 ► Constructing a Galled Phylogenetic Network
- 2006; Kärkkäinen, Sanders, Burkhardt 919
 ► Suffix Array Construction
- 2006; Kaporis, Spirakis 888
 ► Stackelberg Games: The Price of Optimum
- 2006; Kennings, Vorwerk 143
 ► Circuit Placement
- 2006; Kontogiannis, Panagopoulou, Spirakis 53
 ► Approximations of Bimatrix Nash Equilibria
- 2006; Mestre 1023
 ► Weighted Popular Matchings
- 2006; Ogurtsov, Shabalina, Kondrashov, Roytberg 782
 ► RNA Secondary Structure Prediction by Minimum Free Energy
- 2006; Pătraşcu, Thorup 661
 ► Predecessor Search
- 2006; Sitters, Stougie 351
 ► Generalized Two-Server Problem
- 2007; Bast, Funke, Sanders, Schultes 796
 ► Routing in Road Networks with Transit Nodes
- 2007; Bhargat, Hariharan, Kavitha, Panigrahi 364
 ► Gomory–Hu Trees
- 2007; Bu, Deng, Qi 7
 ► Adwords Pricing
- 2007; Cheng, Yang, Yuan 985
 ► Two-Interval Pattern Problems
- 2007; Iwama, Miyazaki, Yamauchi 883
 ► Stable Marriage with Ties and Incomplete Lists
- 2007; Powell, Nikolettseas 588
 ► Obstacle Avoidance Algorithms in Wireless Sensor Networks

Bibliography

- Aardal, K., Chudak, F.A., Shmoys, D.B.: A 3-approximation algorithm for the k -level uncapacitated facility location problem. *Inf. Process. Lett.* **72**, 161–167 (1999)
- Aaronson, S., Ambainis, A.: Quantum search of spatial regions. In: *Proc. 44th Annual IEEE Symp. on Foundations of Computer Science (FOCS)*, 2003, pp. 200–209
- Aaronson, S., Ambainis, A.: Quantum search of spatial regions. *Theor. Comput.* **1**, 47–79 (2005)
- Aaronson, S., Shi, Y.: Quantum Lower Bounds for the Collision and the Element Distinctness Problems. *J. ACM* **51**(4), 595–605 (2004)
- Abam, M.A., de Berg, M., Farshi, M., Gudmundsson, J.: Region-fault tolerant geometric spanners. In: *Proceedings of the 18th ACM-SIAM Symposium on Discrete Algorithms*, New Orleans, 7–9 January 2007
- Abdi, H.: Additive-tree representations. In: Dress, A., von Haeseler, A. (eds.) *Trees and Hierarchical Structures: Proceedings of a conference held at Bielefeld, FRG, Oct. 5–9th, 1987. Lecture Notes in Biomathematics*, vol. 84, pp. 43–59. Springer (1990)
- Abdulkadiroğlu, A., Pathak, P.A., Roth, A.E.: The New York City high school match. *Am. Economic. Rev.* **95**(2), 364–367 (2006)
- Abdulkadiroğlu, A., Sönmez, T.: Random serial dictatorship and the core from random endowments in house allocation problems. *Econom.* **66**(3), 689–701 (1998)
- Abeysekera, S.P., Turtle H.J.: Long-run relations in exchange markets: a test of covered interest parity. *J. Financial Res.* **18**(4), 431–447 (1995)
- Abouelhoda, M.I., Kurtz, S., Ohlebusch, E.: Replacing suffix trees with enhanced suffix arrays. *J. Discret. Algorithms* **2**, 53–86 (2004)
- Abraham, D., Blum, A., Sandholm, T.: Clearing algorithms for barter exchange markets: Enabling nationwide kidney exchanges. *EC'07*, June 11–15, 2007, San Diego, California
- Abraham, D., Cechlárová, K., Manlove, D., Mehlhorn, K.: Pareto-optimality in house allocation problems. In: Fleischer, R., Trippen, G. (eds.) *Lecture Notes in Comp. Sci.* Vol. 3341/2004, *Algorithms and Computation*, 14th Int. Symposium ISAAC 2004, pp. 3–15. Hong Kong, December 2004
- Abraham, D.J., Cechlárová, K., Manlove, D.F., Mehlhorn, K.: Pareto-optimality in house allocation problems. In: *Proceedings of the 15th International Symposium on Algorithms and Computation*, (LNCS, vol. 3341), pp. 3–15. Springer, Sanya, Hainan (2004)
- Abraham, D.J., Chen, N., Kumar, V., Mirrokni, V.: Assignment problems in rental markets. In: *Proceedings of the 2nd Workshop on Internet and Network Economics*, Patras, December 15–17 2006
- Abraham, D.J., Irving, R.W., Kavitha, T., Mehlhorn, K.: Popular matchings. In: *Proceedings of the 16th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA)*, pp. 424–432 (2005)
- Abraham, D.J., Irving, R.W., Manlove, D.F.: Two algorithms for the Student-Project allocation problem. *J. Discret. Algorithms* **5**(1), 73–90 (2007)
- Abraham, D.J., Kavitha, T.: Dynamic matching markets and voting paths. In: *Proceedings of the 10th Scandinavian Workshop on Algorithm Theory (SWAT)*, pp. 65–76, Riga, July 6–8 2006
- Abraham, I., Awerbuch, B., Azar, Y., Bartal, Y., Malkhi, D., Pavlov, E.: A generic scheme for building overlay networks in adversarial scenarios. In: *Proceedings of the International Parallel and Distributed Processing Symposium (IPDPS 2003)*, 2003
- Abraham, I., Badola, A., Bickson, D., Malkhi, D., Maloo, S., Ron, S.: Practical locality-awareness for large scale information sharing. In: *The 4th Annual International Workshop on Peer-To-Peer Systems (IPTPS '05)*, 2005
- Abraham, I., Bartal, Y., Neiman, O.: Embedding Metrics into Ultrametrics and Graphs into Spanning Trees with Constant Average Distortion. In: *Proceedings of the 18th ACM-SIAM Symposium on Discrete Algorithms*, New Orleans, January 2007
- Abraham, I., Malkhi, D., Dobzinski, O.: LAND: Stretch $(1 + \epsilon)$ locality aware networks for DHTs. In: *Proceedings of the ACM-SIAM Symposium on Discrete Algorithms (SODA04)*, 2004
- Abrams, Z.: Revenue maximization when bidders have budgets. In: *Proceedings of the 17th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA-06)*, Miami, FL 2006, pp. 1074–1082, ACM Press, New York (2006)
- Abu-Khzam, F., Collins, R., Fellows, M., Langston, M., Suters, W., Symons, C.: Kernelization algorithms for the vertex cover problem: theory and experiments. In: *Proc. Workshop on Algorithm Engineering and Experiments (ALENEX)* pp. 62–69 (2004)
- Acar, U.A., Blelloch, G.E., Harper, R., Vitter, J.L., Woo, S.L.M.: Dynamizing static algorithms, with applications to dynamic trees and history independence. In: *Proceedings of the 15th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA)*, pp. 524–533. SIAM (2004)
- Acar, U.A., Blelloch, G.E., Vitter, J.L.: An experimental analysis of change propagation in dynamic trees. In: *Proceedings of the 7th Workshop on Algorithm Engineering and Experiments (ALENEX)*, pp. 41–54 (2005)
- Achlioptas, D., Sorkin, G.B.: Optimal myopic algorithms for random 3-sat. In: *41st Annual Symposium on Foundations of Computer Science*, pp. 590–600. IEEE Computer Society, Washington (2000)
- Achlioptas, D.: Lower bounds for random 3-sat via differential equations. *Theor. Comput. Sci.* **265**(1–2), 159–185 (2001)

- Ackermann, H., Goldberg, P., Mirrokni, V., Röglin, H., Vöcking, B.: A unified Approach to Congestion Games and Two-sided markets. In: 3rd Workshop of Internet Economics (WINE), pp. 30–41. San Diego, CA, USA (2007)
- Ackermann, H., Goldberg, P., Mirrokni, V., Röglin, H., Vöcking, B.: Uncoordinated two-sided markets. ACM Electronic Commerce (ACM EC) (2008)
- ACM Journal of Experimental Algorithmics. Launched in 1996, this journal publishes contributed articles as well as special sections containing selected papers from ALENEX and WEA. Visit www.jea.acm.org, or visit portal.acm.org and click on ACM Digital Library/Journals/Journal of Experimental Algorithmics
- Adamy, U., Erlebach, T.: Online coloring of intervals with bandwidth. In: Proc. of the First International Workshop on Approximation and Online Algorithms (WAOA2003), pp. 1–12 (2003)
- Adler, M., Khanna, S., Rajaraman, R., Rosén, A.: Time-constrained scheduling of weighted packets on trees and meshes. *Algorithmica* **36**, 123–152 (2003)
- Afek, Y., Attiya, H., Dolev, D., Gafni, E., Merritt, M., Shavit, N.: Atomic snapshots of shared memory. *J. Assoc. Comput. Mach.* **40**, 873–890 (1993)
- Afek, Y., Mansour, Y., Ostfeld, Z.: Convergence complexity of optimistic rate based flow control algorithms. *J. Algorithms* **30**(1), 106–143 (1999)
- Afek, Y., Mansour, Y., Ostfeld, Z.: Phantom: a simple and effective flow control scheme. *Comput. Netw.* **32**(3), 277–305 (2000)
- Afek, Y., Stupp, G., Touitou, D.: Long lived adaptive splitter and applications. *Distrib. Comput.* **30**, 67–86 (2002)
- Afrati, F.N., Bampis, E., Chekuri, C., Karger, D.R., Kenyon, C., Khanna, S., Milis, I., Queyranne, M., Skutella, M., Stein, C., Sviridenko, M.: Approximation schemes for minimizing average weighted completion time with release dates. In: Proc. of Foundations of Computer Science, pp. 32–44 (1999)
- Agarwal, A., Charikar, M., Makarychev, K., Makarychev, Y.: $O(\sqrt{\log n})$ approximation algorithms for Min UnCut, Min 2CNF Deletion, and directed cut problems. In: Proceedings of the 37th ACM Symposium on Theory of Computing (STOC), pp. 573–581, Baltimore, May 2005
- Agarwal, A., Cherian, M.: Adaptive backoff synchronization techniques. In: Proceedings of the 16th Annual International Symposium on Computer Architecture, pp. 396–406. ACM Press, New York (1989)
- Agarwal, P.K., Arge, L., Danner, A., Holland-Minkley, B.: Cache-oblivious data structures for orthogonal range searching. In: Proc. 19th ACM Symposium on Computational Geometry, pp. 237–245. ACM, New York (2003)
- Agarwal, P.K., de Berg, M., Gudmundsson, J., Hammar, M., Haverkort, H.J.: Box-trees and R-trees with near-optimal query time. *Discret. Comput. Geom.* **28**, 291–312 (2002)
- Agarwal, P.K., Edelsbrunner, H., Schwarzkopf, O., Welzl, E.: Euclidean minimum spanning trees and bichromatic closest pairs. *Discret. Comput. Geom.* **6**, 407–422 (1991)
- Agarwal, P.K., Flato, E., Halperin, D.: Polygon decomposition for efficient construction of Minkowski sums. *Comput. Geom. Theor. Appl.* **21**(1–2), 39–61 (2002)
- Agarwal, P.K., Har-Peled, S., Karia, M.: Computing approximate shortest paths on convex polytopes. In: Proceedings of the 16th ACM Symposium on Computational Geometry, pp. 270–279. ACM Press, New York (2000)
- Agarwala, R., Fernández-Baca, D.: A polynomial-time algorithm for the perfect phylogeny problem when the number of character states is fixed. *SIAM J. Comput.* **23**, 1216–1224 (1994)
- Agarwala, R., Fernández-Baca, D., Slutzki, G.: Fast algorithms for inferring evolutionary trees. *J. Comput. Biol.* **2**, 397–407 (1995)
- Ageev, A.A., Sviridenko, M.I.: An 0.828-approximation algorithm for the uncapacitated facility location problem. *Discret. Appl. Math.* **93**, 149–156 (1999)
- Aggarwal, A., Alon, N., Charikar, M.: Improved approximations for directed cut problems. In: Proceedings of the 39th ACM Symposium on Theory of Computing (STOC), pp. 671–680, San Diego, June 2007
- Aggarwal, A., Plaxton, C.G.: Optimal parallel sorting in multi-level storage. In: Proceedings of the ACM-SIAM Symposium on Discrete Algorithms, vol. 5, pp. 659–668. ACM Press, New York (1994)
- Aggarwal, A., Vitter, J.S.: The input/output complexity of sorting and related problems. *Commun. ACM* **31**(9), 1116–1127 (1988)
- Aggarwal, G., Fiat, A., Goldberg, A., Immorlica, N., Sudan, M.: Derandomization of auctions. In: Proc. of the 37th ACM Symposium on Theory of Computing (STOC'05), 2005
- Aggarwal, G., Muthukrishnan, S., Feldman, J.: Bidding to the top: Vcg and equilibria of position-based auctions. <http://www.citebase.org/abstract?id=oai:arXiv.org:cs/0607117> (2006)
- Agmon, S.: The relaxation method for linear inequalities. *Can. J. Math.* **6**(3), 382–392 (1954)
- Agnarsson, G., Halldórsson, M.M.: Coloring Powers of Planar Graphs. In: Proceedings of the 11th Annual ACM-SIAM symposium on Discrete algorithms, pp. 654–662 (2000)
- Agrawal, A., Klein, P., Ravi, R.: When trees collide: An approximation algorithm for the generalized Steiner problem in networks. *SIAM J. Comput.* **24**(3), 445–456 (1995)
- Agrawal, A., Klein, P., Ravi, R.: When trees collide: an approximation algorithm for the generalized Steiner problem on networks. In: Proc. of the 23rd Annual ACM Symposium on Theory of Computing, Association for Computing Machinery, New York, pp. 134–144 (1991)
- Agrawal, A., Klein, P.N., Ravi, R.: Cutting down on fill using nested dissection: provably good elimination orderings. In: Brualdi, R.A., Friedland, S., Klee, V. (eds.) *Graph theory and sparse matrix computation*. IMA Volumes in mathematics and its applications, pp. 31–55. Springer, New York (1993)
- Aguilera, M.K., Delporte-Gallet, C., Fauconnier, H., Toueg, S.: On implementing Omega with weak reliability and synchrony assumptions. In: 22th ACM Symposium on Principles of Distributed Computing, pp. 306–314 (2003)
- Aguilera, M.K., Frolund, S., Hadzilacos, V., Horn, S.L., Toueg, S.: Brief announcement: Abortable and query-abortable objects. In: Proc. 20th Annual International Symposium on Distributed Computing, 2006
- Aharonov, D., Ambainis, A., Kempe, J., Vazirani, U.: Quantum walks on graphs. In: Proc. STOC (2001)
- Aharonov, D., Arad, I.: The BQP-hardness of approximating the Jones Polynomial. [arxiv:quant-ph/0605181](http://arxiv.org/abs/quant-ph/0605181) (2006)
- Aharonov, D., Arad, I., Eban, E., Landau, Z.: Polynomial Quantum Algorithms for Additive approximations of the Potts model and other Points of the Tutte Plane. [arxiv:quant-ph/0702008](http://arxiv.org/abs/quant-ph/0702008) (2007)
- Aharonov, D., Ben-Or, M.: Fault-tolerant quantum computation with constant error rate. In: Proc. 29th ACM Symp. on Theory of Computing (STOC), pp. 176–188, (1997). [quant-ph/9906129](http://arxiv.org/abs/quant-ph/9906129)

- Aharonov, D., Jones, V., Landau, Z.: A polynomial quantum algorithm for approximating the Jones polynomial. *Proceedings of the 38th ACM Symposium on Theory of Computing (STOC)* Seattle, Washington, USA, arxiv:quant-ph/0511096 (2006)
- Aharonov, D., Kitaev, A.Y., Preskill, J.: Fault-tolerant quantum computation with long-range correlated noise. *Phys. Rev. Lett.* **96**, 050504 (2006). quant-ph/0510231
- Ahmed, N., Kanhere, S.S., Jha, S.: The holes problem in wireless sensor networks: a survey. *SIGMOBILE Mob. Comput. Commun. Rev.* **9**, 4–18 (2005)
- Aho, A.: Algorithms for Finding Patterns in Strings. In: van Leewen, J. (ed.) *Handbook of Theoretical Computer Science*, vol. A: Algorithms and Complexity, pp. 255–300. Elsevier Science, Amsterdam and MIT Press, Cambridge (1990)
- Aho, A., Johnson, S.: Optimal Code Generation for Expression Trees. *J. ACM* **23**(July), 488–501 (1976)
- Aho, A., Sethi, R., Ullman, J.: *Compilers: Principles, Techniques and Tools*. pp. 557–584. Addison Wesley, Boston (1986)
- Aho, A.V., Corasick, M.J.: Efficient string matching: an aid to bibliographic search. *C. ACM* **18**(6), 333–340 (1975)
- Aho, A.V., Hopcroft, J.E., Ullman, J.D.: *The design and analysis of computer algorithms*. Addison-Wesley, Reading (1975)
- Aho, A.V., Hopcroft, J.E., Ullman, J.D.: *The Design and Analysis of Computer Algorithms*. Addison-Wesley (1974)
- Ahrens, J.H., Dieter, U.: Sequential random sampling. *ACM Trans. Math. Softw.* **11**, 157–169 (1985)
- Ahuja, R., Magnanti, T., Orlin, J.: *Network Flows*. Prentice-Hall, Englewood Cliffs (1993)
- Ahuja, R.K., Magnanti, T.L., Orlin, J.B., Reddy, M.R.: Applications of network optimization. In: *Handbooks in Operations Research and Management Science*, vol. 7, Network Models, chapter 1, pp. 1–83. North-Holland, Amsterdam (1995)
- Ahuja, R.K., Magnanti, T.L., Orlin, J.B.: *Network Flows: Theory, Algorithms, and Applications*. Prentice Hall, Englewood Cliffs (1993)
- Aiello, W., Mansour, Y., Rajagopalan, S., Rosen, A.: Competitive queue policies for differentiated services. In: *Proc. of the IEEE INFOCOM*, pp. 431–440. IEEE, Tel-Aviv, Israel (2000)
- Aingworth, D., Chekuri, C., Indyk, P., Motwani, R.: Fast estimation of diameter and shortest paths (without matrix multiplication). *SIAM J. Comput.* **28**, 1167–1181 (1999)
- Aingworth, D., Chekuri, C., Motwani, R.: Fast estimation of diameter and shortest paths (without matrix multiplication). In: *Proc. 7th ACM-SIAM Symposium on Discrete Algorithms*, 1996, pp. 547–553
- Ajana, Y., Lefebvre, J.-F., Tillier, E., El-Mabrouk, N.: Exploring the Set of All Minimal Sequences of Reversals – An Application to Test the Replication-Directed Reversal Hypothesis, *Proceedings of the Second Workshop on Algorithms in Bioinformatics. Lecture Notes in Computer Science*, vol. 2452, pp. 300–315. Springer, Berlin (2002)
- Ajtai, M.: A lower bound for finding predecessors in Yao’s cell probe model. *Combinatorica* **8**(3), 235–247 (1988)
- Ajtai, M.: \sum_1^1 -formulae on finite structures. *Ann. Pure Appl. Log.* **24**(1), 1–48 (1983)
- Ajtai, M., Kumar, R., Sivakumar, D.: A sieve algorithm for the shortest lattice vector problem. In: *Proceedings of the thirty-third annual ACM symposium on theory of computing – STOC 2001*, Heraklion, Crete, Greece, July 2001, pp. 266–275. ACM, New York (2001)
- Ajwani, D., Dementiev, U., Meyer, R., Osipov, V.: Breadth first search on massive graphs. In: *9th DIMACS Implementation Challenge Workshop: Shortest Paths*, DIMACS Center, Piscataway, NJ, 13–14 Nov 2006
- Akavia, A., Goldwasser, S.: Manuscript submitted as an NSF grant, awarded (2005) CCF-0514167
- Akavia, A., Goldwasser, S., Safra, S.: Proving hard-core predicates using list decoding. In: *Proceedings of the 44th Symposium on Foundations of Computer Science (FOCS’03)*, pp. 146–157. IEEE Computer Society (2003)
- Akutsu, T.: Dynamic programming algorithms for RNA secondary structure prediction with pseudoknots. *Discret. Appl. Math.* **104**, 45–62 (2000)
- Akutsu, T., Kanaya, K., Ohya, A., Fujiyama, A.: Point matching under non-uniform distortions. *Discret. Appl. Math.* **127**, 5–21 (2003)
- Akyildiz, I.F., Su, W., Sankarasubramaniam, Y., Cayirci, E.: Wireless sensor networks: a survey. *J. Comput. Netw.* **38**, 393–422 (2002)
- Al-Karaki, J.N., Kamal, A.E.: Routing techniques in wireless sensor networks: a survey. *Wirel. Commun. IEEE* **11**, 6–28 (2004)
- Aland, S., Dumrauf, D., Gairing, M., Monien, B., Schoppmann, F.: Exact price of anarchy for polynomial congestion games. In: *23rd Annual Symposium on Theoretical Aspects of Computer Science (STACS)*, pp. 218–229. Springer, Marseille (2006)
- Alber, J., Betzler, N., Niedermeier, R.: Experiments on data reduction for optimal domination in networks. *Ann. Oper. Res.* **146**(1), 105–117 (2006)
- Alber, J., Bodlaender, H.L., Fernau, H., Kloks, T., Niedermeier, R.: Fixed parameter algorithms for Dominating Set and related problems on planar graphs. *Algorithmica* **33**(4), 461–493 (2002)
- Alber, J., Dorn, B., Niedermeier, R.: A general data reduction scheme for domination in graphs. In: *Proc. 32nd SOFSEM. LNCS*, vol. 3831, pp. 137–147. Springer, Berlin (2006)
- Alber, J., Fan, H., Fellows, M.R., Fernau, H., Niedermeier, R., Rosamond, F., Stege, U.: A refined search tree technique for Dominating Set on planar graphs. *J. Comput. Syst. Sci.* **71**(4), 385–405 (2005)
- Alber, J., Fellows, M.R., Niedermeier, R.: Polynomial time data reduction for Dominating Set. *J. ACM* **51**(3), 363–384 (2004)
- Albers, S.: Better bounds for online scheduling. *SIAM J. Comput.* **29**(2), 459–473 (1999)
- Albers, S.: Improved randomized on-line algorithms for the list update problem. *SIAM J. Comput.* **27**, 670–681 (1998)
- Albers, S., Fujiwara, H.: Energy-efficient algorithms for flow time minimization. In: *STACS. Lecture Notes in Computer Science*, vol. 3884, pp. 621–633. Springer, Berlin (2006)
- Albers, S., Henzinger, M.R.: Exploring unknown environments. *SIAM J. Comput.* **29**, 1164–1188 (2000)
- Albers, S., Kursawe, K., Schuierer, S.: Exploring unknown environments with obstacles. *Algorithmica* **32**(1), 123–143 (2002)
- Albers, S., Schmidt, M.: On the performance of greedy algorithms in packet buffering. *SIAM J. Comput.* **35**, 278–304 (2005)
- Albers, S., von Stengel, B., Werchner, R.: A combined BIT and TIMES-TAMP algorithm for the list update problem. *Inf. Proc. Lett.* **56**, 135–139 (1995)
- Alberts, D., Cattaneo, G., Italiano, G.F.: An empirical study of dynamic graph algorithms. *ACM J. Exp. Algorithmics* **2** (1997)
- Aldous, D., Fill, J.: Reversible markov chains and random walks on graphs. <http://stat-www.berkeley.edu/users/aldous/book.html> (1999). Accessed 1999
- Alekhovich, M., Braverman, M., Feldman, V., Klivans, A.R., Pitassi, T.: Learnability and automatizability. In: *FOCS ’04 Proceedings*

- of the 45th Annual IEEE Symposium on Foundations of Computer Science (FOCS'04), pp. 621–630. IEEE Computer Society, Washington (2004)
- ALLENEX. Beginning in 1999, the annual workshop on Algorithm Engineering and Experimentation is sponsored by SIAM and ACM. It is co-located with SODA, the SIAM Symposium on Data Structures and Algorithms. Workshop proceedings are published in the Springer LNCS series. Visit www.siam.org/meetings/ for more information
- Algorithmic Solutions Software GmbH, <http://www.algorithmic-solutions.com/>. Accessed February 2008
- Alicherry, M., Bhatia, R., Li, L.E.: Joint channel assignment and routing for throughput optimization in multi-radio wireless mesh networks. In: Proc. ACM MOBICom 2005, pp. 58–72
- Aliferis, P., Gottesman, D., Preskill, J.: Quantum accuracy threshold for concatenated distance-3 codes. *Quant. Inf. Comput.* **6**, 97–165 (2006). quant-ph/0504218
- Allauzen, C., Crochemore, M., Raffinot, M.: Factor oracle: a new structure for pattern matching. In: SOFSEM'99. LNCS, vol. 1725, pp. 291–306. Springer, Berlin (1999)
- Allender, E., Arora, S., Kearns, M., Moore, C., Russell, A.: Note on the representational incompatibility of function approximation and factored dynamics. In: Advances in Neural Information Processing Systems 15, 2002
- Allgower, E.L., Schmidt, P.H.: An Algorithm for Piecewise-Linear Approximation of an Implicitly Defined Manifold. *SIAM J. Num. Anal.* **22**, 322–346 (1985)
- Alon, N., Asodi, V.: Learning a hidden subgraph, ICALP. LNCS **3142**, 110–121 (2004). Also: *SIAM J. Discret. Math.* **18**, 697–712 (2005)
- Alon, N., Awerbuch, B., Azar, Y., Buchbinder, N., Naor, J.: A general approach to online network optimization problems. In: Symposium on Discrete Algorithms, pp. 570–579 (2004)
- Alon, N., Bar-Noy, A., Linial, N., Peleg, D.: A lower bound for radio broadcast. *J. Comput. Syst. Sci.* **43**(2), 290–298 (1991)
- Alon, N., Beigel, R., Kasif, S., Rudich, S., Sudakov, B.: Learning a Hidden Matching, Proceedings of the 43rd IEEE FOCS, 2002, 197–206. Also: *SIAM J. Computing* **33**, 487–501 (2004)
- Alon, N., Chung, F., Graham, R.: Routing permutations on graphs via matching. *SIAM J. Discret. Math.* **7**(3), 513–530 (1994)
- Alon, N., Galil, Z., Margalit, O.: On the exponent of the all pairs shortest path problem. In: Proc. 32th IEEE FOCS, pp. 569–575. IEEE Computer Society, Los Alamitos, USA (1991). Also *JCSS* **54**, 255–262 (1997)
- Alon, N., Galil, Z., Margalit, O., Naor, M.: Witnesses for Boolean matrix multiplication and for shortest paths. In: Proc. 33th IEEE FOCS, pp. 417–426. IEEE Computer Society, Los Alamitos, USA (1992)
- Alon, N., Goldreich, O., Håstad, J., Peralta, R.: Simple constructions of almost k -wise independent random variables. *Random Struct. Algorithms* **3**(3), 289–304 (1992)
- Alon, N., Kahale, N.: A spectral technique for coloring random 3-colorable graphs. *SIAM J. Comput.* **26**(6), 1733–1748 (1997)
- Alon, N., Karp, R.M., Peleg, D., West, D.: A graph-theoretic game and its application to the k -server problem. *SIAM J. Comput.* **24**, 78–100 (1995)
- Alon, N., Kaufman, T., Krivilevich, M., Litsyn, S., Ron, D.: Testing low-degree polynomials over $\text{GF}(2)$. In: Proceedings of RANDOM'03. Lecture Notes in Computer Science, vol. 2764, pp. 188–199. Springer, Berlin Heidelberg (2003)
- Alon, N., Spencer, J.: *The Probabilistic Method*. Wiley (1992)
- Alon, N., Spencer, J.H.: *The Probabilistic Method*. 2nd edn. Wiley, New York (2000)
- Alon, N., Spencer, J.H.: *The Probabilistic Method*. Wiley, New York (1991)
- Alon, N., Yuster, R., Zwick, U.: Color coding. *J. ACM* **42**, 844–856 (1995)
- Alon, N., Yuster, R., Zwick, U.: Finding and counting given length cycles. *Algorithmica* **17**(3), 209–223 (1997)
- Alpern, S., Gal, S.: *The Theory of Search Games and Rendezvous*. Kluwer Academic Publishers, Norwell (2003)
- Alpert, C.J., Chan, T., Kahng, A.B., Markov, I.L., Mulet, P.: Faster minimization of linear wirelength for global placement. *IEEE Trans. CAD* **17**(1), 3–13 (1998)
- Alpert, C.J., Kahng, A.B.: Recent directions in netlist partitioning: a survey. *Integr. VLSI J.* **19**(1–2), 1–81 (1995)
- Alstrup, S., Brodal, G.S., Rauhe, T.: Pattern matching in dynamic texts. In: Proc. of Symposium on Discrete Algorithms (SODA), 2000, pp. 819–828
- Alstrup, S., Holm, J., de Lichtenberg, K., Thorup, M.: Direct routing on trees. In: Proceedings of the Ninth Annual ACM-SIAM, Symposium on Discrete Algorithms (SODA 98), pp. 342–349. San Francisco, California, United States (1998)
- Alstrup, S., Holm, J., de Lichtenberg, K., Thorup, M.: Minimizing diameters of dynamic trees. In: Proceedings of the 24th International Colloquium on Automata, Languages and Programming (ICALP), Bologna, Italy, 7–11 July 1997. Lecture Notes in Computer Science, vol. 1256, pp. 270–280. Springer (1997)
- Alstrup, S., Holm, J., Thorup, M., de Lichtenberg, K.: Maintaining information in fully dynamic trees with top trees. *ACM Trans. Algorithms* **1**(2), 243–264 (2005)
- Alstrup, S., Husfeldt, T., Rauhe, T.: Marked ancestor problems. In: Proc. 39th IEEE Symposium on Foundations of Computer Science (FOCS), 1998, pp. 534–543
- Alstrup, S., Husfeldt, T., Rauhe, T., Thorup, M.: Black box for constant-time insertion in priority queues (note). *ACM TALG* **1**(1), 102–106 (2005)
- Alt, H., Guibas, L.: Discrete geometric shapes: Matching, interpolation, and approximation. In: Sack, J.R., Urrutia, J. (eds.) *Handbook of Computational Geometry*, pp. 121–153. Elsevier Science Publishers B.V. North-Holland, Amsterdam (1999)
- Alt, H., Mehlhorn, K., Wagnen, H., Welzl, E.: Congruence, similarity and symmetries of geometric objects. *Discret. Comput. Geom.* **3**, 237–256 (1988)
- Althaus, E., Mehlhorn, K.: Traveling salesman-based curve reconstruction in polynomial time. *SIAM J. Comput.* **31**, 27–66 (2001)
- Althaus, E., Mehlhorn, K., Näher, S., Schirra, S.: Experiments on curve reconstruction. In: ALLENEX, 2000, pp. 103–114
- Althöfer, I.: On sparse approximations to randomized strategies and convex combinations. *Linear Algebr. Appl.* **199**, 339–355 (1994)
- Althofer, I., Das, G., Dobkin, D.P., Joseph, D., Soares, J.: On Sparse Spanners of Weighted Graphs. *Discret. Comput. Geom.* **9**, 81–100 (1993)
- Altinel, M., Franklin, M.: Efficient filtering of XML documents for selective dissemination of information. In: *Proceedings of 26th International Conference on Very Large Data Bases*, Cairo, Egypt, pp. 53–64. Morgan Kaufmann, Missouri (2000)
- Altschul, S.F., Erickson, B.W.: Optimal sequence alignment using affine gap costs. *Bull. Math. Biol.* **48**, 603–616 (1986)

- Altschul, S.F., Gish, W., Miller, W., Myers, E.W., Lipman, D.J.: Basic Local Alignment Search Tool. *J. Mol. Biol.* **215**, 403–410 (1990)
- Alur, R., Taubenfeld, G.: Results about fast mutual exclusion. In: Proceedings of the 13th IEEE Real-Time Systems Symposium, December 1992, pp. 12–21
- Aluru, S. (ed.): *Handbook of Computational Molecular Biology*. Computer and Information Science Series. Chapman and Hall/CRC Press, Boca Raton (2005)
- Alzoubi, K., Li, X.-Y., Wang, Y., Wan, P.-J., Frieder, O.: Geometric spanners for wireless ad hoc networks. *IEEE Trans. Parallel Distrib. Process.* **14**, 408–421 (2003)
- Alzoubi, K., Wan, P.-J., Frieder, O.: New distributed algorithm for connected dominating set in wireless ad hoc networks. In: Proceedings of IEEE 35th Hawaii International Conference on System Sciences (HICSS-35), Hawaii, 7–10 January 2002
- Alzoubi, K.M., Wan, P.-J., Frieder, O.: Message-optimal connected dominating sets in mobile ad hoc networks. In: ACM MOBIHOC, Lausanne, Switzerland, 09–11 June 2002
- Amato, N.M., Goodrich, M.T., Ramos, E.A.: Computing the arrangement of curve segments: Divide-and-conquer algorithms via sampling. In: Proc. 11th Annual ACM-SIAM Symp. on Discrete Algorithms, pp. 705–706 (2000)
- Ambainis, A.: A nearly optimal discrete query quantum algorithm for evaluating NAND formulas, arXiv:0704.3628 (2007)
- Ambainis, A.: Polynomial degree and lower bounds in quantum complexity: Collision and element distinctness with small range. *Theor. Comput.* **1**, 37–46 (2005)
- Ambainis, A.: Quantum lower bounds by quantum arguments. *J. Comput. Syst. Sci.* **64**, 750–767, (2002), quant-ph/0002066
- Ambainis, A.: Quantum walk algorithm for Element Distinctness. In: Proceedings of the 45th Symposium on Foundations of Computer Science, pp. 22–31, Rome, Italy, 17–19 October 2004
- Ambainis, A.: Quantum walk algorithm for element distinctness. *SIAM J. Comput.* **37**(1), 210–239 (2007)
- Ambainis, A.: Quantum walks and their algorithmic applications. *Int. J. Quantum Inf.* **1**, 507–518 (2003)
- Ambainis, A., Bach, E., Nayak, A., Vishwanath, A., Watrous, J.: One-dimensional quantum walks. In: Proc. STOC (2001)
- Ambainis, A., Buhrman, H., Høyer, P., Karpinski, M., Kurur, P.: Quantum matrix verification. Unpublished manuscript (2002)
- Ambainis, A., Kempe, J., Rivosh, A.: Coins make quantum walks faster. In: Proc. of SODA'05, pp. 1099–1108
- Ambainis, A., Kempe, J., Rivosh, A.: In: Proceedings of the ACM/SIAM Symposium on Discrete Algorithms (SODA'06), 2006, pp. 1099–1108
- Ambainis, A., Mosca, M., Tapp, A., de Wolf, R.: Private quantum channels. In: Proceedings of the 41st Annual IEEE Symposium on Foundations of Computer Science, 2000, pp. 547–553
- Ambrosio, P., Auletta, V.: Deterministic monotone algorithms for scheduling on related machines. In: 2nd Ws. on Approx. and Online Alg. (WAOA), 2004, pp. 267–280
- Ambühl, C.: Offline list update is NP-hard. In: Proc. 8th Annual European Symposium on Algorithms, pp. 42–51. LNCS, vol. 1879. Springer (2001)
- Ambühl, C., Erlebach, T., Mihalak, M., Nunkesser, M.: Constant-factor approximation for minimum-weight (connected) dominating sets in unit disk graphs. In: Proceedings of the 9th International Workshop on Approximation Algorithms for Combinatorial Optimization Problems (APPROX 2006), Barcelona, 28–30 August 2006, LNCS, vol. 4110, pp. 3–14. Springer, Berlin Heidelberg (2006)
- Ambühl, C., Gärtner, B., von Stengel, B.: Towards new lower bounds for the list update problem. *Theor. Comput. Sci.* **68**, 3–16 (2001)
- Amenta, N., Bern, M.: Surface reconstruction by Voronoi filtering. *Discret. Comput. Geom.* **22**, 481–504 (1999)
- Amenta, N., Bern, M., Eppstein, D.: The crust and the β -skeleton: Combinatorial curve reconstruction. *Graph. Model. Image Process.* **60**, 125–135 (1998)
- Amir, A.: Theoretical issues of searching aerial photographs: a bird's eye view. *Int. J. Found. Comput. Sci.* **16**, 1075–1097 (2005)
- Amir, A., Aumann, Y., Cole, R., Lewenstein, M., Porat, E.: Function matching: Algorithms, applications and a lower bound. In: Proc. of the 30th International Colloquium on Automata, Languages and Programming (ICALP), 2003 pp. 929–942
- Amir, A., Benson, G.: Efficient two dimensional compressed matching. In: Proceeding of Data Compression Conference, Snow Bird, Utah, 1992, pp. 279–288
- Amir, A., Benson, G.: Two-dimensional periodicity and its application. Proceeding of 3rd Symposium on Discrete Algorithms, Orlando, FL, 1992, pp. 440–452
- Amir, A., Benson, G.: Two-dimensional periodicity and its application. *SIAM J. Comput.* **27**(1), 90–106 (1998)
- Amir, A., Benson, G., Farach, M.: An alphabet independent approach to two dimensional pattern matching. *SIAM J. Comput.* **23**(2), 313–323 (1994)
- Amir, A., Benson, G., Farach, M.: Let sleeping files lie: Pattern matching in Z-compressed files. *J. Comput. Syst. Sci.* **52**(2), 299–307 (1996)
- Amir, A., Benson, G., Farach, M.: Optimal parallel two dimensional text searching on a crew pram. *Inf. Comput.* **144**(1), 1–17 (1998)
- Amir, A., Benson, G., Farach, M.: Optimal two-dimensional compressed matching. *J. Algorithms* **24**(2), 354–379 (1997)
- Amir, A., Benson, G., Farach, M.: The truth, the whole truth, and nothing but the truth: Alphabet independent two dimensional witness table construction. Technical Report GIT-CC-92/52, Georgia Institute of Technology (1992)
- Amir, A., Butman, A., Crochemore, M., Landau, G.M., Schaps, M.: Two-dimensional pattern matching with rotations. *Theor. Comput. Sci.* **314**(1–2), 173–187 (2004)
- Amir, A., Butman, A., Lewenstein, M.: Real scaled matching. *Inf. Proc. Lett.* **70**(4), 185–190 (1999)
- Amir, A., Butman, A., Lewenstein, M., Porat, E.: Real two dimensional scaled matching. In: Proc. 8th Workshop on Algorithms and Data Structures (WADS '03), pp. 353–364 (2003)
- Amir, A., Butman, A., Lewenstein, M., Porat, E., Tsur, D.: Efficient one dimensional real scaled matching. In: Proc. 11th Symposium on String Processing and Information Retrieval (SPIRE '04), pp. 1–9 (2004)
- Amir, A., Calinescu, G.: Alphabet independent and dictionary scaled matching. *J. Algorithms* **36**, 34–62 (2000)
- Amir, A., Chencinski, E.: Faster two dimensional scaled matching. In: Proc. 17th Annual Symposium on Combinatorial Pattern Matching. LNCS, vol. 4009, pp. 200–210. Springer, Berlin (2006)
- Amir, A., Farach, M.: Two dimensional dictionary matching. *Inf. Proc. Lett.* **44**, 233–239 (1992)
- Amir, A., Farach, M., Matias, Y.: Efficient randomized dictionary matching algorithms. In: Proc. of Symposium on Combinatorial Pattern Matching (CPM), 1992, pp. 259–272
- Amir, A., Farach, M., Muthukrishnan, S.: Alphabet dependence in parameterized matching. *Inf. Process. Lett.* **49**, 111–115 (1994)

- Amir, A., Kapah, O., Tsur, D.: Faster two dimensional pattern matching with rotations. In: Proc. 15th Annual Symposium on Combinatorial Pattern Matching. LNCS, vol. 3109, pp. 409–419. Springer, Berlin (2004)
- Amir, A., Keselman, D.: Maximum agreement subtree in a set of evolutionary trees: Metrics and efficient algorithms. *SIAM J. Comput.* **26**(6), 1656–1669 (1997)
- Amir, A., Keselman, D., Landau, G.M., Lewenstein, N., Lewenstein, M., Rodeh, M.: Indexing and dictionary matching with one error. In: Proc. of Workshop on Algorithms and Data Structures (WADS), 1999, pp. 181–192
- Amir, A., Kopelowitz, T., Lewenstein, M., Lewenstein, N.: Towards real-time suffix tree construction. In: Proceedings of the 12th International Symposium on String Processing and Information Retrieval, SPIRE 2005. LNCS, vol. 3772, pp. 67–78. Springer, Berlin (2005)
- Amir, A., Landau, G.: Fast parallel and serial multidimensional approximate array matching. *Theor. Comput. Sci.* **81**, 97–115 (1991)
- Amir, A., Landau, G., Sokol, D.: Inplace 2d matching in compressed images. *J. Algorithms* **49**(2), 240–261 (2003)
- Amir, A., Landau, G.M., Sokol, D.: Inplace run-length 2d compressed search. *Theor. Comput. Sci.* **290**(3), 1361–1383 (2003)
- Amir, A., Landau, G.M., Vishkin, U.: Efficient pattern matching with scaling. *J. Algorithms* **13**(1), 2–32 (1992)
- Amir, A., Lewenstein, M., Porat, E.: Faster algorithms for string matching with k mismatches. *J. Algorithms* **50**(2), 257–275 (2004)
- Anagnostopoulos, A., Bent, R., Upfal, E., van Hentenryck, P.: A simple and deterministic competitive algorithm for online facility location. *Inf. Comput.* **194**(2), 175–202 (2004)
- Anagnostou, E., Hadzilacos, V.: Tolerating Transient and Permanent Failures. In: Distributed Algorithms 7th International Workshop. LNCS, vol. 725, pp. 174–188. Springer, Heidelberg (1993)
- Andelman, N., Azar, Y., Sorani, M.: Truthful approximation mechanisms for scheduling selfish related machines. In: 22nd Ann. Symp. on Theor. Aspects of Comp. Sci. (STACS), 2005, pp. 69–82
- Andelman, N., Mansour, Y.: A sufficient condition for truthfulness with single parameter agents. In: Proc. 8th ACM Conference on Electronic Commerce (EC), Ann Arbor, Michigan, June (2006)
- Andelman, N., Mansour, Y., Zhu, A.: Competitive queueing policies in QoS switches. In: Proc. 14th Symp. on Discrete Algorithms (SODA), pp. 761–770 ACM/SIAM, San Francisco, CA, USA (2003)
- Anderegg, L., Eidenbenz, S.: Ad hoc-VCG: a truthful and cost-efficient routing protocol for mobile ad hoc networks with selfish agents. In: Proceedings of the 9th annual international conference on Mobile computing and networking. pp. 245–259 ACM Press, New York (2003)
- Anderson, E., Hall, J., Hartline, J., Hobbess, M., Karlin, A., Saia, J., Swaminathan, R., Wilkes, J.: An experimental study of data migration algorithms. In: Workshop on Algorithm Engineering (2001)
- Anderson, E.J., Hildrum, K., Karlin, A.R., Rasala, A., Saks, M.: On list update and work function algorithms. *Theor. Comput. Sci.* **287**, 393–418 (2002)
- Anderson, J.H.: Composite registers. *Distrib. Comput.* **6**, 141–154 (1993)
- Anderson, J.H.: Multi-writer composite registers. *Distrib. Comput.* **7**, 175–195 (1994)
- Anderson, J.H., Kim, Y.-J.: Adaptive mutual exclusion with local spinning. In: Proceedings of the 14th international symposium on distributed computing. *Lect. Notes Comput. Sci.* **1914**, 29–43, (2000)
- Anderson, R.J.: The Role of Experiment in the Theory of Algorithms. In: Data Structures, Near Neighbor Searches, and Methodology: Fifth and Sixth DIMACS Implementation Challenges. DIMACS Series in Discrete Mathematics and Theoretical Computer Science, vol. 59, pp. 191–195. American Mathematical Society, Providence, RI (2002)
- Anderson, T.E.: The performance of spin lock alternatives for shared-memory multiprocessor. *IEEE Trans. Parallel Distrib. Syst.* **1**(1), 6–16 (1990)
- Andersson, A.: Faster deterministic sorting and searching in linear space. In: Proc. 37th FOCS, 1998, pp. 135–141
- Andersson, A., Hagerup, T., Nilsson, S., Raman, R.: Sorting in linear time? *J. Comp. Syst. Sci.* **57**, 74–93 (1998). Announced at STOC'95
- Andersson, A., Miltersen, P.B., Thorup, M.: Fusion trees can be implemented with AC^0 instructions only. *Theor. Comput. Sci.* **215**(1–2), 337–344 (1999)
- Andersson, A., Nilsson, S.: A new efficient radix sort. In: Proceedings of the 35th Annual Symposium on Foundations of Computer Science (FOCS '94), IEEE Comput. Soc. Press, pp. 714–721 (1994)
- Andersson, A., Nilsson, S.: Implementing radixsort. *ACM J. Exp. Algorithmics* **3**, 7 (1998)
- Andersson, A., Thorup, M.: Dynamic ordered sets with exponential search trees. CoRR cs.DS/0210006. See also FOCS'96, STOC'00, 2002
- Andersson, G., Engebretsen, L., Håstad, J.: A new way to use semidefinite programming with applications to linear equations mod p . *J. Algorithms* **39**, 162–204 (2001)
- Andrews, M., Chuzhoy, J., Khanna, S., Zhang, L.: Hardness of the Undirected Edge-Disjoint Paths Problem with Congestion. *Proc. of IEEE FOCS*, 2005, pp. 226–244
- Andrews, M., Zhang, L.: Hardness of the undirected congestion minimization problem. In: STOC '05: Proceedings of the thirty-seventh annual ACM symposium on Theory of computing, pp. 284–293. ACM Press, New York (2005)
- Andrews, M., Zhang, L.: The access network design problem. In: Proceedings of the 39th Annual IEEE Symposium on Foundations of Computer Science (FOCS), pp. 40–49. IEEE Computer Society, Los Alamitos, CA, USA (1998)
- Aneja, Y.P.: An integer linear programming approach to the Steiner problem in graphs. *Networks* **10**(2), 167–178 (1980)
- Angelopoulos, S., Dorrigiv, R., López-Ortiz, A.: On the separation and equivalence of paging strategies. In: Proceedings of the 18th Annual ACM–SIAM Symposium on Discrete Algorithms. ACM/SIAM, New York, Philadelphia (2007)
- Angluin, D.: Learning regular sets from queries and counterexamples. *Inf. Comput.* **75**, 87–106 (1987)
- Angluin, D.: Queries and concept learning. *Mach. Learn.* **2**(4), 319–342 (1988)
- Angluin, D.: Queries Revisited. *Theor. Comput. Sci.* **313**(2), 175–194 (2004)
- Angluin, D., Kharitonov, M.: When Won't Membership Queries Help? *J. Comput. Syst. Sci.* **50**, 336–355 (1995)
- Angluin, D., Laird, P.: Learning from noisy examples. *Mach. Learn.* **2**, 343–370 (1988)

- Anh, V.N., Moffat, A.: Improved word-aligned binary compression for text indexing. *IEEE Trans. Knowl. Data Eng.* **18**(6), 857–861 (2006)
- Anthony, M., Bartlett, P.L.: *Neural Network Learning: Theoretical Foundations*. Cambridge University Press, Cambridge, England (1999)
- Apostolico, A.: The myriad virtues of subword trees. In: Apostolico, A., Galil, Z. (eds.) *Combinatorial Algorithms on Words*. NATO ASI Series, vol. F12, pp. 85–96. Springer, Berlin (1985)
- Apostolico, A., Erdős, P., Lewenstein, M.: Parameterized matching with mismatches. *J. Discret. Algorithms* **5**(1), 135–140 (2007)
- Apostolico, A., Landau, G.M., Skiena, S.: Matching for Run Length Encoded Strings. *J. Complex.* **15**(1), 4–16 (1999)
- Apostolico, A., Preparata, F.P.: Optimal off-line detection of repetitions in a string. *Theor. Comput. Sci.* **22**(3), 297–315 (1983)
- Applegate, D., Bixby, R., Chvátal, V., Cook, W.: Finding tours in the TSP. Technical Report 99885, Research Institute for Discrete Mathematics, Universität Bonn (1999)
- Applegate, D., Bixby, R., Chvátal, V., Cook, W.: On the solution of traveling salesman problems. *Documenta Mathematica, Extra Volume Proceedings ICM III:645–656*. Deutsche Mathematiker-Vereinigung, Berlin (1998)
- Applegate, D., Cohen, E.: Making intra-domain routing robust to changing and uncertain traffic demands: understanding fundamental tradeoffs. In: *SIGCOMM*, pp. 313–324 (2003)
- Applegate, D., Cohen, E.: Making routing robust to changing traffic demands: algorithms and evaluation. *IEEE/ACM Trans Netw* **14**(6), 1193–1206 (2006). doi:10.1109/TNET.2006.886296
- Ar, S., Blum, M., Codenotti, B., Gemmell, P.: Checking approximate computations over the reals. In: *Proceedings of the Twenty-Fifth Annual ACM Symposium on the Theory of Computing*, pp. 786–795. ACM, New York (2003)
- Arbell, O., Landau, G.M., Mitchell, J.: Edit Distance of Run-Length Encoded Strings. *Inf. Proc. Lett.* **83**(6), 307–314 (2002)
- Archer, A.: *Mechanisms for Discrete Optimization with Rational Agents*. Ph.D. thesis, Cornell University (2004)
- Archer, A., Papadimitriou, C.H., Talwar, K., Tardos, E.: An approximate truthful mechanism for combinatorial auctions with single parameter agents. In: *Proc. 14th Ann. ACM–SIAM Symp. on Discrete Algorithms (SODA)*, pp. 205–214. Baltimore, Maryland (2003)
- Archer, A., Tardos, É.: Truthful mechanisms for one-parameter agents. In: *Proc. 42nd Annual Symposium on Foundations of Computer Science (FOCS)*, 2001, pp. 482–491
- Arge, L.: The buffer tree: A technique for designing batched external data structures. *Algorithmica* **37**(1), 1–24 (2003)
- Arge, L., Bender, M.A., Demaine, E.D., Holland-Minkley, B., Munro, J.I.: Cache-oblivious priority queue and graph algorithm applications. In: *Proc. 34th Annual ACM Symposium on Theory of Computing*, pp. 268–276. ACM Press, New York (2002)
- Arge, L., Brodal, G.S., Fagerberg, R.: Cache-oblivious data structures. In: Mehta, D., Sahni, S. (eds.) *Handbook on Data Structures and Applications*. CRC Press, Boca Raton (2005)
- Arge, L., Brodal, G.S., Fagerberg, R., Laustsen, M.: Cache-oblivious planar orthogonal range searching and counting. In: *Proc. 21st ACM Symposium on Computational Geometry*, pp. 160–169. ACM, New York (2005)
- Arge, L., de Berg, M., Haverkort, H.J.: Cache-oblivious R-trees. In: *Proc. 21st ACM Symposium on Computational Geometry*, pp. 170–179. ACM, New York (2005)
- Arge, L., de Berg, M., Haverkort, H.J., Yi, K.: The priority R-tree: A practically efficient and worst-case optimal R-tree. In: *Proc. SIGMOD International Conference on Management of Data*, 2004, pp. 347–358
- Arge, L., Ferragina, P., Grossi, R., Vitter, J.S.: On sorting strings in external memory (extended abstract). In: *Proceedings of the 29th Annual ACM Symposium on Theory of Computing (STOC '97)*, ACM, ed., pp. 540–548. ACM Press, El Paso (1997)
- Arge, L., Knudsen, M., Larsen, K.: A general lower bound on the I/O-complexity of comparison-based algorithms. In: *Proceedings of the Workshop on Algorithms and Data Structures*. *Lect. Notes Comput. Sci.* **709**, 83–94 (1993)
- Arge, L., Samoladas, V., Vitter, J.S.: On two-dimensional indexability and optimal range search indexing. In: *Proc. ACM Symposium on Principles of Database Systems*, 1999, pp. 346–357
- Arge, L., Samoladas, V., Yi, K.: Optimal external memory planar point enclosure. In: *Proc. European Symposium on Algorithms*, 2004
- Arge, L., Vitter, J.S.: Optimal external memory interval management. *SIAM J. Comput.* **32**(6), 1488–1508 (2003)
- Arge, L., Zeh, N.: Simple and semi-dynamic structures for cache-oblivious planar orthogonal range searching. In: *Proc. 22nd ACM Symposium on Computational Geometry*, pp. 158–166. ACM, New York (2006)
- Arge, L.A.: External memory data structures. In: Abello, J., Pardalos, P.M., Resende, M.G.C. (eds.) *Handbook of Massive Data Sets*, pp. 313–357. Kluwer, Dordrecht (2002)
- Arge, L.A., Hinrichs, K.H., Vahrenhold, J., Vitter, J.S.: Efficient bulk operations on dynamic R-trees. *Algorithmica* **33**, 104–128 (2002)
- Arikati, S., Chen, D.Z., Chew, L.P., Das, G., Smid, M., Zaroliagis, C.D.: Planar spanners and approximate shortest path queries among obstacles in the plane. In: *Proceedings of the 4th Annual European Symposium on Algorithms*. *Lecture Notes in Computer Science*, vol. 1136, Berlin, pp. 514–528. Springer, London (1996)
- Armon, A., Azar, Y., Epstein, L., Regev, O.: On-line restricted assignment of temporary tasks with unknown durations. *Inf. Process. Lett.* **85**(2), 67–72 (2003)
- Armon, A., Azar, Y., Epstein, L., Regev, O.: Temporary tasks assignment resolved. *Algorithmica* **36**(3), 295–314 (2003)
- Arnborg, S.: Efficient algorithms for combinatorial problems on graphs with bounded decomposability – A survey. *BIT* **25**, 2–23 (1985)
- Arnborg, S., Corneil, D.G., Proskurowski, A.: Complexity of finding embeddings in a k -tree. *SIAM J. Algebr. Discret. Methods* **8**, 277–284 (1987)
- Arnborg, S., Proskurowski, A.: Characterization and recognition of partial 3-trees. *SIAM J. Algebr. Discret. Methods* **7**, 305–314 (1986)
- Arnold, R., Bell, T.: A corpus for the evaluation of lossless compression algorithms. In: *Proceedings of the IEEE Data Compression Conference*, Snowbird, Utah, March 1997, pp. 201–210
- Aronov, B., de Berg, M., Cheong, O., Gudmundsson, J., Haverkort, H., Vigneron, A.: Sparse Geometric Graphs with Small Dilation. 16th International Symposium ISAAC 2005, Sanya. In: Deng, X., Du, D. (eds.) *Algorithms and Computation*, *Proceedings. LNCS*, vol. 3827, pp. 50–59. Springer, Berlin (2005)
- Arora, S.: Approximation schemes for \mathcal{NP} -hard geometric optimization problems: A survey. *Math. Program. Ser. B* **97**, 43–69 (2003)

- Arora, S.: Nearly linear time approximation schemes for Euclidean TSP and other geometric problems. In: Proc. 38th IEEE Symp. on Foundations of Computer Science, 1997, pp. 554–563
- Arora, S.: Polynomial time approximation schemes for Euclidean traveling salesman and other geometric problems. *J. ACM* **45**(5), 753–782 (1998)
- Arora, S.: Polynomial-time approximation schemes for euclidean tsp and other geometric problem. *J. ACM* **45**, 753–782 (1998)
- Arora, S.: Polynomial-time approximation schemes for Euclidean TSP and other geometric problems. In: Proc. 37th IEEE Symp. on Foundations of Computer Science, 1996, pp. 2–12
- Arora, S., Chlamtac, E., Charikar, M.: New approximation guarantees for chromatic number. In: Proceedings of the 38th ACM Symposium on Theory of Computing (STOC), Seattle, May 2006, pp. 215–224
- Arora, S., Grigni, M., Karger, D., Klein, P., Woloszyn, A.: A polynomial time approximation scheme for weighted planar graph TSP. In: Proc. 9th Annual ACM-SIAM Symposium on Discrete Algorithms, 1998, pp. 33–41
- Arora, S., Hazan, E., Kale, S.: $O(\sqrt{\log n})$ approximation to sparsest cut in $\tilde{O}(n^2)$ time. In: FOCS '04: Proceedings of the 45th Annual IEEE Symposium on Foundations of Computer Science (FOCS'04), pp. 238–247. IEEE Computer Society, Washington (2004)
- Arora, S., Kale, S.: A combinatorial, primal-dual approach to semidefinite programs. In: STOC '07: Proceedings of the 39th Annual ACM Symposium on Theory of Computing, pp. 227–236. ACM (2007)
- Arora, S., Karger, D., Karpinski, M.: Polynomial time approximation schemes for dense instances of NP-hard problems. *J. Comput. Syst. Sci.* **58**(1), 193–210 (1999). Preliminary version in STOC 1995
- Arora, S., Lee, J., Naor, A.: Euclidean Distortion and the Sparsest Cut. In: Proceedings of the 37th ACM Symposium on Theory of Computing (STOC), Baltimore, May 2005, pp. 553–562
- Arora, S., Lee, J.R., Naor, A.: Euclidean distortion and the sparsest cut. In: STOC '05: Proceedings of the thirty-seventh annual ACM symposium on Theory of computing, pp. 553–562. ACM Press, New York (2005)
- Arora, S., Lund, C., Motwani, R., Sudan, M., Szegedy, M.: Proof verification and the hardness of approximation problems. *J. ACM* **45**(3), 501–555 (1998)
- Arora, S., Raghavan, P., Rao, S.: Approximation schemes for Euclidean k -medians and related problems. In: Proceedings of the 30th Annual ACM Symposium on Theory of Computing (STOC), pp. 106–113. ACM, New York (1998)
- Arora, S., Rao, S., Vazirani, U.: Expander Flows, Geometric Embeddings, and Graph Partitionings. In: Proceedings of the 36th ACM Symposium on Theory of Computing (STOC), Chicago, June 2004, pp. 222–231
- Arora, S., Sudan, M.: Improved low degree testing and its applications. In: Proceedings of the Twenty-Ninth Annual ACM Symposium on the Theory of Computing, pp. 485–495. ACM, New York (1997)
- Arrow, K.J., Debreu, G.: Existence of an equilibrium for a competitive economy. *Econometrica* **22**(3), 265–290 (1954)
- Arroyuelo, D., Navarro, G., Sadakane, K.: Reducing the space requirement of LZ-index. In: Proc. 17th Combinatorial Pattern Matching conference (CPM), LNCS no. 4009, pp. 318–329, Springer (2006)
- Arsalan A., Egecioğlu, Ö., Pevzner, P.: A new approach to sequence comparison: normalized sequence alignment. *Bioinformatics* **17**, 327–337 (2001)
- Arya, S., Das, G., Mount, D.M., Salowe, J.S., Smid, M.: Euclidean spanners: short, thin, and lanky. In: Proceedings of the 27th ACM Symposium on Theory of Computing, pp. 489–498. Las Vegas, 29 May–1 June 1995
- Arya, S., Mount, D.M., Smid, M.: Dynamic algorithms for geometric spanners of small diameter: Randomized solutions. *Comput. Geom. Theor. Appl.* **13**(2), 91–107 (1999)
- Arya, S., Mount, D.M., Smid, M.: Randomized and deterministic algorithms for geometric spanners of small diameter. In: Proceedings of the 35th IEEE Symposium on Foundations of Computer Science, pp. 703–712. Santa Fe, 20–22 November 1994
- Arya, S., Smid, M.: Efficient construction of a bounded-degree spanner with low weight. *Algorithmica* **17**, 33–54 (1997)
- Arya, V., Garg, N., Khandekar, R., Meyerson, A., Munagala, K., Pandit, V.: Local search heuristics for k -median and facility location problems. In: Proceedings of the 33rd Annual ACM Symposium on Theory of Computing (STOC), pp. 21–29. ACM, New York (2001)
- Arya, V., Garg, N., Khandekar, R., Meyerson, A., Munagala, K., Pandit, V.: Local search heuristics for k -median and facility location problems. *SIAM J. Comput.* **33**(3), 544–562 (2004)
- Asano, Y., Imai, H.: Practical efficiency of the linear-time algorithm for the single source shortest path problem. *J. Oper. Res. Soc. Jpn.* **43**(4), 431–447 (2000)
- Aslam, J., Decatur, S.: Specification and simulation of statistical query algorithms for efficiency and noise tolerance. *J. Comput. Syst. Sci.* **56**, 191–208 (1998)
- Aspnes, J.: Randomized protocols for asynchronous consensus. *Distrib. Comput.* **16**(2–3), 165–175 (2003)
- Aspnes, J., Azar, Y., Fiat, A., Plotkin, S., Waarts, O.: On-line load balancing with applications to machine scheduling and virtual circuit routing. *J. ACM* **44**, 486–504 (1997)
- Aspnes, J., Azar, Y., Fiat, A., Plotkin, S., Waarts, O.: On-line routing of virtual circuits with applications to load balancing and machine scheduling. *J. ACM* **44**(3), 486–504 (1997)
- Aspnes, J., Herlihy, M.: Wait-free data structures in the asynchronous PRAM model. In: Proc. 2nd ACM Symposium on Parallel Algorithms and Architectures, Crete, July 1990. pp. 340–349. ACM, New York, 1990
- Aspnes, J., Shah, G.: Skip graphs. In: Fourteenth Annual ACM-SIAM Symposium on Discrete Algorithms, Baltimore, January 2003, pp. 384–393
- Aspnes, J., Waarts, O.: Randomized consensus in expected $o(n \log^2 n)$ operations per processor. In: Proceedings of the 33rd Symposium on Foundations of Computer Science. 24–26 October 1992, pp. 137–146. IEEE Computer Society, Pittsburgh (1992)
- Aspvall, B., Plass, M.F., Tarjan R.E.: A linear-time algorithm for testing the truth of certain quantified boolean formulas. *Inf. Proc. Lett.* **8**(3), 121–123 (1979)
- Atici, A., Servedio, R.A.: Learning unions of $\omega(1)$ -dimensional rectangles. In: Proceedings of 17th Algorithmic Learning Theory Conference, pp. 32–47. Springer, New York (2006)
- Atici, A., Servedio, R.A.: Learning unions of $\omega(1)$ -dimensional rectangles. In: ALT, pp. 32–47 (2006)
- Atkins, J.E., Middendorf, M.: On physical mapping and the consecutive ones property for sparse matrices. *Discret. Appl. Math.* **71**(1–3), 23–40 (1996)

- Atkinson, M.D.: An optimal algorithm for geometric congruence. *J. Algorithms* **8**, 159–172 (1997)
- Attallah, M., Callahan, P., Goodrich, M.: P-complete geometric problems. *Int. J. Comput. Geom. Appl.* **3**(4), 443–462 (1993)
- Atteson, K.: The performance of neighbor-joining methods of phylogenetic reconstruction. *Algorithmica* **25**, 251–278 (1999)
- Attiya, H.: Efficient and robust sharing of memory in message-passing systems. *J. Algorithms* **34**(1), 109–127 (2000)
- Attiya, H., Bar-Noy, A., Dolev, D.: Sharing memory robustly in message-passing systems. *J. ACM* **42**(1), 124–142 (1995)
- Attiya, H., Bar-Noy, A., Dolev, D., Peleg, D., Reischuk, R.: Renaming in an asynchronous environment. *J. ACM* **37**(3), 524–548 (1990)
- Attiya, H., Censor, K.: Tight bounds for asynchronous randomized consensus. In: *Proceedings of the Symposium on the Theory of Computation*. San Diego, 11–13 June 2007 ACM Special Interest Group on Algorithms and Computation Theory (SIGACT) (2007)
- Attiya, H., Fouren, A.: Adaptive and efficient algorithms for lattice agreement and renaming. *SIAM J. Comput.* **31**, 642–664 (2001)
- Attiya, H., Fouren, A., Gafni, E.: An adaptive collect algorithm with applications. *Distrib. Comput.* **15**, 87–96 (2002)
- Attiya, H., Guerraoui, R., Hendler, D., Kouznetsov, P.: Synchronizing without locks is inherently expensive. In: *PODC '06: Proceedings of the twenty-fifth Annual ACM Symposium on Principles of Distributed Computing*, New York, USA, pp. 300–307. ACM Press (2006)
- Attiya, H., Guerraoui, R., Kouznetsov, P.: Computing with reads and writes in the absence of step contention. In: *Proc. 19th Annual International Symposium on Distributed Computing*, 2005
- Attiya, H., Herlihy, M., Rachman, O.: Atomic snapshots using lattice agreement. *Distrib. Comput.* **8**, 121–132 (1995)
- Attiya, H., Herzberg, A., Rajsbaum, S.: Optimal clock synchronization under different delay assumptions. *SIAM J. Comput.* **25**(2), 369–389 (1996)
- Attiya, H., Rachman, O.: Atomic snapshots in $O(n \log n)$ operations. *SIAM J. Comput.* **27**, 319–340 (1998)
- Attiya, H., Welch, J.: *Distributed Computing: Fundamentals, Simulations and Advanced Topics*, 2nd edn. Wiley-Interscience, Hoboken (2004)
- Attiya, H., Welch, J.L.: *Distributed Computing: Fundamentals, Simulations and Advanced Topics*. McGraw-Hill, UK (1998)
- Audsley, N., Burns, A., Wellings, A.: Deadline monotonic scheduling theory and application. *Control Eng. Pract.* **1**, 71–78 (1993)
- Auer, P., Cesa-Bianchi, N.: On-line learning with malicious noise and the closure algorithm. *Ann. Math. Artif. Intell.* **23**, 83–99 (1998)
- Auer, P., Warmuth, M.K.: Tracking the best disjunction. *Mach. Learn.* **32**(2), 127–150 (1998)
- Auletta, V., De Prisco, R., Penna, P., Persiano, G.: Deterministic truthful approximation mechanisms for scheduling related machines. In: *21st Ann. Symp. on Theor. Aspects of Comp. Sci. (STACS)*, 2004, pp. 608–619
- Auletta, V., De Prisco, R., Penna, P., Persiano, G., Ventrè, C.: New constructions of mechanisms with verification. In: *33rd International Colloquium on Automata, Languages and Programming (ICALP)* (1), 2006, pp. 596–607
- Aumann, Y.: Efficient asynchronous consensus with the weak adversary scheduler. In: *Symposium on Principles of Distrib. Comput. (PODC)* Santa Barbara, 21–24 August 1997, pp. 209–218. ACM Special Interest Group on Algorithms and Computation Theory (SIGACT) (1997)
- Aumann, Y., Kapach-Levy, A.: Cooperative sharing and asynchronous consensus using single-reader/single-writer registers. In: *Proceedings of 10th Annual ACM-SIAM Symposium of Discrete Algorithms (SODA)* Baltimore, 17–19 January 1999, pp. 61–70. Society for Industrial and Applied Mathematics (SIAM) (1999)
- Aumann, Y., Rabani, Y.: An $O(\log k)$ approximate min-cut max-flow theorem and approximation algorithm. *SIAM J. Comput.* **27**(1), 291–301 (1998)
- Ausiello, G., Crescenzi, P., Gambosi, G., Kann, V., Marchetti-Spaccamela, A., Protasi, M.: *Complexity and approximation: combinatorial optimization problems and their approximability properties*. Springer, Berlin (1999)
- Ausiello, G., Italiano, G.F., Marchetti-Spaccamela, A., Nanni, U.: Incremental algorithms for minimal length paths. *J. Algorithm* **12**(4), 615–38 (1991)
- Auslander, L., Parter, S.V.: On imbedding graphs in the plane. *J. Math. and Mech.* **10**, pp. 517–523 (1961)
- Ausubel, L.M., Milgrom, P.R.: Ascending auctions with package bidding. *Front. Theor. Econ.* **1**(1) Article 1 (2002)
- Avrahami, N., Azar, Y.: Minimizing total flow time and completion time with immediate dispatching. In: *Proceedings of 15th SPAA*, pp. 11–18. (2003)
- Avram, F., Bertsimas, D., Ricard, M.: Fluid models of sequencing problems in open queueing networks: an optimal control approach. In: Kelly, F.P., Williams, R.J. (eds.) *Stochastic Networks*. Proceedings of the International Mathematics Association, vol. 71, pp. 199–234. Springer, New York (1995)
- Awerbuch, B.: Complexity of network synchronization. *J. ACM* **4**, 804–823 (1985)
- Awerbuch, B.: Optimal distributed algorithms for minimum weight spanning tree, counting, leader election and related problems (detailed summary). In: *Proc. of the 19th Annual ACM Symposium on Theory of Computing*, pp. 230–240. ACM, USA (1987)
- Awerbuch, B., Azar, Y., Bartal, Y.: On-line generalized Steiner problem. In: *Proc. of the 7th Annual ACM-SIAM Symposium on Discrete Algorithms*, Society for Industrial and Applied Mathematics, Philadelphia, 2005, pp. 68–74 (1996)
- Awerbuch, B., Azar, Y., Epstein, A.: Large the price of routing unsplittable flow. In: *Proc. of the 37th Annual ACM Symposium on Theory of Computing (STOC)*, pp. 57–66. ACM, Baltimore (2005)
- Awerbuch, B., Azar, Y., Leonardi, S., Regev, O.: Minimizing the flow time without migration. *SIAM J. Comput.* **31**, 1370–1382 (2002)
- Awerbuch, B., Azar, Y., Meyerson, A.: Reducing truth-telling on-line mechanisms to online optimization. In: *Proc. 35th Ann. ACM. Symp. on Theory of Comput. (STOC)*, San Diego, California (2003)
- Awerbuch, B., Azar, Y., Richter, Y., Tsur, D.: Tradeoffs in worst-case equilibria. In: *Approximation and Online Algorithms*, 1st International Workshop (WAOA), pp. 41–52. Springer, Budapest (2003)
- Awerbuch, B., Azar, Y., Richter, Y., Tsur, D.: Tradeoffs in worst-case equilibria. *Theor. Comput. Sci.* **361**, 200–209 (2006)
- Awerbuch, B., Baratz, A., Peleg, D.: Efficient broadcast and light weight spanners. Tech. Report CS92-22, Weizmann Institute of Science (1992)
- Awerbuch, B., Berger, B., Cowen, L., Peleg, D.: Near-linear time construction of sparse neighborhood covers. *SIAM J. Comput.* **28**, 263–277 (1998)
- Awerbuch, B., Patt-Shamir, B., Peleg, D., Saks, M.E.: Adapting to asynchronous dynamic networks. In: *Proc. of the 24th Annual*

- ACM Symp. on Theory of Computing, Victoria, 4–6 May 1992, pp. 557–570
- Awerbuch, B., Peleg, D.: Network synchronization with polylogarithmic overhead. In: Proc. 31st IEEE Symp. on Foundations of Computer Science, Sankt Louis, 22–24 Oct. 1990, pp. 514–522
- Awerbuch, B., Peleg, D.: Routing with polynomial communication-space tradeoff. *SIAM J. Discret. Math.* **5**, 151–162 (1992)
- Aydin, H., Melhem, R., Mosse, D., Alvarez, P.M.: Determining Optimal Processor Speeds for Periodic Real-Time Tasks with Different Power Characteristics. *Euromicro Conference on Real-Time Systems*, pp. 225–232. IEEE Computer Society, Washington, DC, USA (2001)
- Azar, Y., Broder, A.Z., Karlin, A.R.: On-line load balancing. *Theor. Comput. Sci.* **130**, 73–84 (1994)
- Azar, Y., Broder, A.Z., Karlin, A.R., Upfal, E.: Balanced allocations. *SIAM J. Comput.* **29**(1), 180–200 (1999)
- Azar, Y., Chaitin, Y.: Optimal node routing. In: Proceedings of the 23rd International Symposium on Theoretical Aspects of Computer Science, 2006, pp. 596–607
- Azar, Y., Cohen, E., Fiat, A., Kaplan, H., Räcke, H.: Optimal oblivious routing in polynomial time. In: Proceedings of the 35th ACM Symposium on the Theory of Computing, pp. 383–388 (2003)
- Azar, Y., Epstein, L.: On-line load balancing of temporary tasks on identical machines. *SIAM J. Discret. Math.* **18**(2), 347–352 (2004)
- Azar, Y., Epstein, L., van Stee, R.: Resource augmentation in load balancing. *J. Sched.* **3**(5), 249–258 (2000)
- Azar, Y., Fiat, A., Levy, M., Narayanaswamy, N.S.: An improved algorithm for online coloring of intervals with bandwidth. *Theor. Comput. Sci.* **363**(1), 18–27 (2006)
- Azar, Y., Gamzu, I., Gutner, S.: Truthful unsplittable flow for large capacity networks. In: Proc. 19th Ann. ACM Symp. on Parallelism in Algorithms and Architectures (SPAA), pp. 320–329 (2007)
- Azar, Y., Kalyanasundaram, B., Plotkin, S., Pruhs, K., Waarts, O.: On-line load balancing of temporary tasks. *J. Algorithms* **22**(1), 93–110 (1997)
- Azar, Y., Litichevsky, M.: Maximizing throughput in multi-queue switches. In: Proc. 12th Annual European Symp. on Algorithms (ESA), 53–64 (2004)
- Azar, Y., Naor, J., Rom, R.: The competitiveness of on-line assignments. *J. Algorithms* **18**, 221–237 (1995)
- Azar, Y., Regev, O.: Combinatorial algorithms for the unsplittable flow problem. *Algorithmica* **44**(1), 49–66 (2006). Preliminary version in Proc. of IPCO 2001
- Azar, Y., Richter, Y.: An improved algorithm for CIOQ switches. In: Proc. 12th Annual European Symp. on Algorithms (ESA). LNCS, vol. 3221, 65–76 (2004)
- Azar, Y., Richter, Y.: Management of multi-queue switches in QoS Networks. In: Proc. 35th ACM Symp. on Theory of Computing (STOC), 82–89 (2003)
- Azar, Y., Richter, Y.: The zero-one principle for switching networks. In: Proc. 36th ACM Symp. on Theory of Computing (STOC), 64–71 (2004)
- Aziz, A., Tasiran, S., Brayton, R.: BDD Variable Ordering for Interacting Finite State Machines. In: ACM Design Automation Conference, pp. 283–288. (1994)
- Babai, L.: On Lovasz’ lattice reduction and the nearest lattice point problem. *Combinatorica* **6**(1), 1–13 (1986). Preliminary version in STACS 1985
- Babai, L., Luks, E.: Canonical labelling of graphs. In: Proceedings of the 15th Annual ACM Symposium on Theory of Computing, pp. 171–183. ACM, New York (1983)
- Babaioff, M., Lavi, R., Pavlov, E.: Single-value combinatorial auctions and implementation in undominated strategies. In: Proc. of the 17th Symposium on Discrete Algorithms (SODA), 2006
- Babcock, B., Babu, S., Datar, M., Motwani, R., Widom, J.: Models and issues in data stream systems. In: Proceedings of the twenty-first ACM SIGMOD-SIGACT-SIGART symposium on Principles of database systems, pp. 1–16. ACM Press (2002)
- Bachrach, B., El-Yaniv, R., Reinstädter, M.: On the competitive theory and practice of online list accessing algorithms. *Algorithmica* **32**, 201–245 (2002)
- Bader, D.A., Moret, B.M.E., Sanders, P.: Algorithm engineering for parallel computation. In: Fleischer, R., Meineche-Schmidt, E., Moret, B.M.E. (ed) *Experimental Algorithmics. Lecture Notes in Computer Science*, vol. 2547, pp. 1–23. Springer, Berlin (2002)
- Bader, D.A., Moret, B.M.E., Vawter, L.: Industrial applications of high-performance computing for phylogeny reconstruction. In: Siegel, H.J. (ed.) *Proc. SPIE Commercial Applications for High-Performance Computing*, vol. 4528, pp. 159–168, Denver, CO (2001)
- Bader, D.A., Moret, B.M.E., Warnow, T., Wyman, S.K., Yan, M.: High-performance algorithm engineering for gene-order phylogenies. In: DIMACS Workshop on Whole Genome Comparison, Rutgers University, Piscataway, NJ (2001)
- Bader, D.A., Moret, B.M.E., Yan, M.: A linear-time algorithm for computing inversion distance between signed permutations with an experimental study. *J. Comput. Biol.* **8**(5), 483–491 (2001) An earlier version of this work appeared In: the Proc. 7th Int’l Workshop on Algorithms and Data Structures (WADS 2001)
- Badimo, A., Bergheim, A., Hazelhurst, S., Papathanasopoulos, M., Morris, L.: The stability of phylogenetic tree construction of the HIV-1 virus using genome-ordering data versus env gene data. In: Proc. ACM Ann. Research Conf. of the South African institute of computer scientists and information technologists on enablement through technology (SAICSIT 2003), vol. 47, pp. 231–240, Fourways, ACM, South Africa, September 2003
- Bae, S.E., Takaoka, T.: Algorithms for the problem of k maximum sums and a VLSI algorithm for the k maximum subarrays problem. Proceedings of the 7th International Symposium on Parallel Architectures, Algorithms and Networks, pp. 247–253 (2004)
- Baeza-Yates, R., Navarro, G.: Faster approximate string matching. *Algorithmica* **23**(2), 127–158 (1999)
- Baeza-Yates, R., Navarro, G.: New models and algorithms for multidimensional approximate pattern matching. *J. Discret. Algorithms* **1**, 21–49 (2000)
- Baeza-Yates, R., Schott, R.: Parallel searching in the plane. *Comput. Geom. Theor. Appl.* **5**, 143–154 (1995)
- Baeza-Yates, R.A., Culbertson, J.C., Rawlins, G.J.E.: Searching in the plane. *Inf. Comput.* **106**(2), 234–252 (1993)
- Bafna, V., Berman, P., Fujito, T.: A 2-approximation algorithm for the undirected feedback vertex set problem. *SIAM J. Discret. Math.* **3**(2), 289–297 (1999)
- Bafna, V., Gusfield, D., Lancia, G., Yoosseph, S.: Haplotyping as perfect phylogeny: a direct approach. *J. Comput. Biol.* **10**(3–4), 323–340 (2003)
- Bafna, V., Lawler, E.L., Pevzner, P.A.: Approximation algorithms for multiple sequence alignment. *Theor. Comput. Sci.* **182**, 233–244 (1997)

- Bafna, V., Pevzner, P.A.: Genome rearrangements and sorting by reversals. *SIAM J. Comput.* **25**, 272–289 (1996)
- Bafna, V., Pevzner, P.A.: Sorting by Transpositions. *SIAM J. Discret. Math.* **11**(2), 224–240 (1998)
- Baïou, M., Balinski, M.: Erratum: The Stable Allocation (or Ordinal Transportation) Problem. *Math. Oper. Res.* **27**, 662–680 (2002)
- Baïou, M., Balinski, M.: Student admissions and faculty recruitment. *Theor. Comput. Sci.* **322**(2), 245–265 (2004)
- Baker, B.S.: A theory of parameterized pattern matching: algorithms and applications. In: *Proc. 25th Annual ACM Symposium on the Theory of Computation (STOC)*, 1993, pp. 71–80
- Baker, B.S.: Approximation algorithms for NP-complete problems on planar graphs. *J. Assoc. Comput. Mach.* **41**(1), 153–180 (1994)
- Baker, B.S.: Parameterized diff. In: *Proc. 10th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA)*, 1999, pp. 854–855
- Baker, B.S.: Parameterized duplication in strings: Algorithms and an application to software maintenance. *SIAM J. Comput.* **26**(5), 1343–1362 (1997)
- Baker, B.S.: Parameterized pattern matching by Boyer-Moore-type algorithms. In: *Proc. 6th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA)*, 1995, pp. 541–550
- Baker, B.S.: Parameterized pattern matching: Algorithms and applications. *J. Comput. Syst. Sci.* **52**(1), 28–42 (1996)
- Baker, J., Cruz, I., Liotta, G., Tamassia, R.: A New Model for Algorithm Animation over the WWW. *ACM Comput. Surv.* **27**, 568–572 (1996)
- Baker, J., Cruz, I., Liotta, G., Tamassia, R.: Animating Geometric Algorithms over the Web. In: *Proceedings of the 12th Annual ACM Symposium on Computational Geometry*. Philadelphia, Pennsylvania, May 24–26, pp. C3–C4 (1996)
- Baker, J., Cruz, I., Liotta, G., Tamassia, R.: The Mocha Algorithm Animation System. In: *Proceedings of the 1996 ACM Workshop on Advanced Visual Interfaces*. Gubbio, Italy, May 27–29, pp. 248–250 (1996)
- Baker, R., Boilen, M., Goodrich, M., Tamassia, R., Stibel, B.: Testers and Visualizers for Teaching Data Structures. In: *Proceeding of the 13th SIGCSE Technical Symposium on Computer Science Education*. New Orleans, March 24–28, pp. 261–265 (1999)
- Baker, T.P.: A technique for extending rapid exact-match string matching to arrays of more than one dimension. *SIAM J. Comput.* **7**, 533–541 (1978)
- Baker, T.P.: Stack-based scheduling of real-time processes. *Real-Time Systems: The Int. J. Time-Critical Comput.* **3**, 67–100 (1991)
- Balkan, M., Blum, A., Hartline, J., Mansour, Y.: Mechanism design via machine learning. In: *Proc. of the 46th Annual Symposium on Foundations of Computer Science (FOCS'05)*, 2005
- Balcázar, J.L., Castro, J., Guijarro, D.: A new abstract combinatorial dimension for exact learning via queries. *J. Comput. Syst. Sci.* **64**(1), 2–21 (2002)
- Balcázar, J.L., Castro, J., Guijarro, D., Simon, H.-U.: The consistency dimension and distribution-dependent learning from queries. *Theor. Comput. Sci.* **288**(2), 197–215 (2002)
- Balinski, M.L.: On finding integer solutions to linear programs. In: *Proceedings of the IBM Scientific Computing Symposium on Combinatorial Problems*, pp. 225–248 IBM, White Plains, NY (1966)
- Balinski, M.L., Wolfe, P.: On Benders decomposition and a plant location problem. In *ARO-27*. Mathematica Inc. Princeton (1963)
- Ballester, C.: NP-completeness in Hedonic Games. *Games. Econ. Behav.* **49**(1), 1–30 (2004)
- Banerjee, S., Konishi, H., Sönmez, T.: Core in a simple coalition formation game. *Soc. Choice. Welf.* **18**, 135–153 (2001)
- Bansal, N.: Minimizing flow time on a constant number of machines with preemption. *Oper. Res. Lett.* **33**, 267–273 (2005)
- Bansal, N., Blum, A., Chawla, S., Meyerson, A.: Online oblivious routing. In: *Proceedings of the 15th Annual ACM Symposium on Parallel Algorithms*, 2003, pp. 44–49
- Bansal, N., Blum, A., Chawla, S., Meyerson, A.: Online oblivious routing. In: *Symposium on Parallelism in Algorithms and Architectures*, pp. 44–49 (2003)
- Bansal, N., Buchbinder, N., Naor, J.: A primal-dual randomized algorithm for weighted paging. *Proceedings of 48th Annual IEEE Symposium on Foundations of Computer Science*, pp. 507–517 (2007)
- Bansal, N., Dhamdhere, K., Könemann, J., Sinha, A.: Non-Clairvoyant Scheduling for Minimizing Mean Slowdown. *Algorithmica* **40**(4), 305–318 (2004)
- Bansal, N., Fleischer, L., Kimbrel, T., Mahdian, M., Schieber, B., Sviridenko, M.: Further improvements in competitive guarantees for QoS buffering. In: *Proc. 31st International Colloquium on Automata, Languages, and Programming (ICALP)*. Lecture Notes in Computer Science, vol. 3142, pp. 196–207. Springer, Berlin (2004)
- Bansal, N., Kimbrel, T., Pruhs, K.: Speed scaling to manage energy and temperature. *J. ACM* **54**(1) (2007)
- Bansal, N., Pruhs, K.: Server scheduling in the Lp norm: a rising tide lifts all boat. In: *Symposium on Theory of Computing, STOC*, pp. 242–250 (2003)
- Bansal, N., Pruhs, K.: Server scheduling in the weighted Lp norm. In: *LATIN*, pp. 434–443 (2004)
- Bansal, N., Pruhs, K., Stein, C.: Speed scaling for weighted flow. In: *ACM/SIAM Symposium on Discrete Algorithms*, 2007
- Bansal, N., Raman, V.: Upper bounds for Max Sat: Further Improved. In: *Proceedings of ISAAC. LNCS*, vol. 1741, pp. 247–258. Springer, Berlin (1999)
- Bansal, V., Agrawal, A., Malhotra, V.S.: Stable marriages with multiple partners: efficient search for an optimal solution. In: *Proceedings of ICALP '03: the 30th International Colloquium on Automata, Languages and Programming*. Lecture Notes in Computer Science, vol. 2719, pp. 527–542. Springer, Berlin (2003)
- Bansal, N., Kimbrel, T., Pruhs, K.: Dynamic Speed Scaling to Manage Energy and Temperature. *Proceedings of the 45th Annual IEEE Symposium on Foundations of Computer Science*, pp. 520–529. IEEE Computer Society, Washington, DC, USA (2004)
- Bao, L., Garcia-Aceves, J.J.: Topology management in ad hoc networks. In: *Proceedings of the 4th ACM international symposium on Mobile ad hoc networking & computing*, Annapolis, 1–3 June 2003, pp. 129–140. ACM Press, New York (2003)
- Bar-Eli, E., Berman, P., Fiat, A., Yan, P.: Online navigation in a room. *J. Algorithms* **17**(3), 319–341 (1994)
- Bar-Noy, A., Dolev, D., Dwork, C., Strong, H.R.: Shifting Gears: Changing Algorithms on the Fly To Expedite Byzantine Agreement. In: *PODC*, 1987, pp. 42–51
- Bar-Noy, A., Freund, A., Naor, J.: New algorithms for related machines with temporary jobs. *J. Sched.* **3**(5), 259–272 (2000)
- Bar-Noy, A., Freund, A., Naor, J.: On-line load balancing in a hierarchical server topology. *SIAM J. Comput.* **31**, 527–549 (2001)

- Bar-Noy, A., Motwani, R., Naor, J.: The greedy algorithm is optimal for on-line edge coloring. *Inf. Proc. Lett.* **44**(5), 251–253 (1992)
- Bar-Yehuda, R., Even, S.: A local-ratio theorem for approximating the weighted vertex cover problem. *Ann. Discret. Math.* **25**, 27–45 (1985)
- Bar-Yehuda, R., Geiger, D., Naor, J., Roth, R.M.: Approximation algorithms for the feedback vertex set problem with applications to constraint satisfaction and Bayesian inference. *SIAM J. Comput.* **27**(4), 942–959 (1998)
- Bar-Yehuda, R., Goldreich, O., Itai, A.: On the time-complexity of broadcast in multi-hop radio networks: An exponential gap between determinism and randomization. *J. Comput. Syst. Sci.* **45**(1), 104–126 (1992)
- Bar-Yehuda, R., Halldorsson, M., Naor, J., Shachnai, H., Shapira, I.: Scheduling split intervals. In: *Proc. 13th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA)*, 2002, pp. 732–741
- Bar-Yossef, Z., Hildrum, K., Wu, F.: Incentive-compatible online auctions for digital goods. In: *Proceedings of the 13th Annual ACM-SIAM Symposium On Discrete Mathematics (SODA-02)*, New York, 6–8 January 2002, pp. 964–970. ACM Press, New York (2002)
- Barahona, F.: On cuts and matchings in planar graphs. *Math. Program.* **60**, 53–68 (1993)
- Barbay, J., Golynski, A., Munro, J.I., Rao, S.S.: Adaptive searching in succinctly encoded binary relations and tree-structured documents. In: *Proceedings of the 17th Annual Symposium on Combinatorial Pattern Matching (CPM)*. Lecture Notes in Computer Science (LNCS), vol. 4009, pp. 24–35. Springer, Berlin (2006)
- Barbay, J., Golynski, A., Munro, J.I., Rao, S.S.: Adaptive searching in succinctly encoded binary relations and tree-structured documents. In: *Proc. 17th Combinatorial Pattern Matching (CPM)*. LNCS n. 4009 Springer, Barcelona (2006), pp. 24–35
- Barbay, J., He, M., Munro, J.I., Rao, S.S.: Succinct indexes for strings, binary relations and multi-labeled trees. In: *Proc. 18th ACM-SIAM Symposium on Discrete Algorithms (SODA)*, New Orleans, USA, (2007), pp. 680–689
- Barber, C.B., Dobkin, D.P., Huhdanpaa, H.T.: Imprecision in QHULL. <http://www.qhull.org/html/qh-impre.htm>. Accessed 6 Apr 2008
- Barborak, M., Dahbura, A., Malek, M.: The Consensus Problem in Fault-Tolerant Computing. *ACM Comput. Surv.* **25**(2), 171–220 (1993)
- Barequet, G., Har-Peled, S.: Polygon containment and translational min-hausdorff-distance between segment sets are 3SUM-hard. *Int. J. Comput. Geom. Appl.* **11**(4), 465–474 (2001)
- Barr, A., Feigenbaum, E.A.: *The Handbook of Artificial Intelligence*. Addison-Wesley Pub (Sd) (1994)
- Barr, R.S., Golden, B.L., Kelly, J.P., Resende, M.G.C., Stewart, W.R.: Designing and reporting on computational experiments with heuristic methods. *J. Heuristic* **1**(1), 9–32 (1995)
- Barrett, C., Bissett, K., Holzer, M., Konjevod, G., Marathe, M., Wagner, D.: Implementations of routing algorithms for transportation networks. In: *9th DIMACS Implementation Challenge Workshop: Shortest Paths*. DIMACS Center, Piscataway, NJ, 13–14 Nov 2006
- Barrett, C.L., Bissett, K., Jacob, R., Konjevod, G., Marathe, M.V.: Classical and contemporary shortest path problems in road networks: Implementation and experimental analysis of the TRANSIMS router. In: *Algorithms – ESA 2002: 10th Annual European Symposium, Rome, Italy, 17–21 September 2002*. Lecture Notes Computer Science, vol. 2461, pp. 126–138. Springer, Berlin (2002)
- Barrière, L., Fraigniaud, P., Narayanan, L.: Robust Position-Based Routing in Wireless Ad Hoc Networks with Unstable Transmission Ranges. In: *Proc. of the 5th International Workshop on Discrete Algorithms and Methods for Mobile Computing and Communications (DIAL-M)*, pp. 19–27. ACM Press, New York (2001)
- Bartal, Y.: On approximating arbitrary metrics by tree metrics. In: *STOC '98: Proceedings of the thirtieth annual ACM symposium on Theory of computing*, pp. 161–168. ACM Press, New York (1998)
- Bartal, Y.: Probabilistic approximation of metric spaces and its algorithmic applications. In: *FOCS '96: Proceedings of the 37th Annual Symposium on Foundations of Computer Science*, Washington, DC, USA, IEEE Computer Society, pp. 184–193 (1996)
- Bartal, Y., Blum, A., Burch, C., Tomkins, A.: A polylog()-competitive algorithm for metrical task systems. In: *Proceedings of the 29th annual ACM Symposium on the Theory of Computing*, pp. 711–719. ACM, New York (1997)
- Bartal, Y., Bollobás, B., Mendel, M.: Ramsey-type theorems for metric spaces with applications to online problems. *J. Comput. Syst. Sci.* **72**, 890–921 (2006)
- Bartal, Y., Byers, J.W., Raz, D.: Global optimization using local information with applications to flow control. In: *Proc. of the 38th IEEE Symposium on the Foundations of Computer Science (FOCS)*, pp. 303–312 (1997)
- Bartal, Y., Charikar, M., Raz, D.: Approximating min-sum k-clustering in metric spaces. In: *STOC '01: Proceedings of the thirty-third annual ACM symposium on Theory of computing*, pp. 11–20. ACM Press, New York (2001)
- Bartal, Y., Fiat, A., Karloff, H., Vohra, R.: New algorithms for an ancient scheduling problem. *J. Comput. Syst. Sci.* **51**(3), 359–366 (1995)
- Bartal, Y., Gonen, R., Nisan, N.: Incentive compatible multi-unit combinatorial auctions. In: *Proc. of the 9th Conference on Theoretical Aspects of Rationality and Knowledge (TARK'03)*, 2003
- Bartal, Y., Mendel, M.: Multiembedding of metric spaces. *SIAM J. Comput.* **34**, 248–259 (2004)
- Barthel, W., Hartmann, A.K., Leone, M., Ricci-Tersenghi, F., Weigt, M., Zecchina, R.: Hiding solutions in random satisfiability problems: A statistical mechanics approach. *Phys. Rev. Lett.* **88**, 188701 (2002)
- Barve, R.D., Kallahalla, M., Varman, P.J., Vitter, J.S.: Competitive analysis of buffer management algorithms. *J. Algorithms* **36**, 152–181 (2000)
- Barve, R.D., Vitter, J.S.: A simple and efficient parallel disk merge-sort. *ACM Trans. Comput. Syst.* **35**, 189–215 (2002)
- Basch, J.: *Kinetic Data Structures*. Ph.D. thesis, Stanford University (1999)
- Basch, J., Guibas, L., Hershberger, J.: Data structures for mobile data. *J. Algorithms* **31**, 1–28 (1999)
- Bast, H., Funke, S., Matijevic, D.: Transit: Ultrafast shortest-path queries with linear-time preprocessing. In: *9th DIMACS Implementation Challenge Workshop: Shortest Paths*, DIMACS Center, Piscataway, NJ, 13–14 Nov 2006
- Bast, H., Funke, S., Matijevic, D., Sanders, P., Schultes, D.: In transit to constant time shortest-path queries in road networks. In: *Workshop on Algorithm Engineering and Experiments*, 2007, pp. 46–59

- Bast, H., Funke, S., Sanders, P., Schultes, D.: Fast routing in road networks with transit nodes. *Science* **316**(5824), 566 (2007)
- Baswana, S., Sen, S.: A simple and linear time randomized algorithm for computing sparse spanners in weighted graphs. *Random Struct. Algorithms* **30**, 532–563 (2007)
- Baswana, S., Sen, S.: Approximate distance oracles for unweighted graphs in $\tilde{O}(n^2)$ time. In: *Proceedings of the 15th ACM-SIAM Symposium on Discrete Algorithms*, pp. 271–280. ACM Press, New York (2004)
- Baswana, S., Telikepalli, K., Mehlhorn, K., Pettie, S.: New construction of (α, β) -spanners and purely additive spanners. In: *Proceedings of 16th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA)*, 2005, pp. 672–681
- Batagelj, V., Pisanski, T., Simões-Pereira, J.M.S.: An algorithm for tree-realizability of distance matrices. *Int. J. Comput. Math.* **34**, 171–176 (1990)
- Batu, T., Ergün, F., Sahinalp, S.C.: Oblivious string embeddings and edit distance approximations. *Proc. ACM-SIAM SODA* 792–801 (2006)
- Baugh, J., Moussa, O., Ryan, C.A., Nayak, A., Laflamme, R.: Experimental implementation of heat-bath algorithmic cooling using solid-state nuclear magnetic resonance. *Nature* **438**, 470–473 (2005)
- Baumer, S., Schuler, R.: Improving a probabilistic 3-SAT algorithm by dynamic search and independent clause pairs. *ECCC TR03-010*, (2003) Also presented at SAT (2003)
- Baumer, S., Schuler, R.: Improving a Probabilistic 3-SAT Algorithm by Dynamic Search and Independent Clause Pairs. In: *SAT 2003*, pp. 150–161
- Baur, C., Fekete, S.P.: Approximation of geometric dispersion problems. *Algorithmica* **30**(3), 451–470 (2001)
- Bayer, R., McCreight, E.M.: Organization and maintenance of large ordered indexes. *Acta Inform.* **1**, 173–189 (1972)
- Bayer, R., Schkolnick, M.: Concurrency of operations on B-trees. *Acta Inform.* **9**, 1–21 (1977)
- Bazzi, R.A., Neiger, G.: Simplifying Fault-tolerance: Providing the Abstraction of Crash Failures. *J. ACM* **48**(3), 499–554 (2001)
- Beame, P., Fich, F.E.: Optimal bounds for the predecessor problem and related problems. *J. Comput. Syst. Sci.* **65**(1), 38–72 (2002). See also STOC'99
- Beame, P., Saks, M., Sun, X., Vee, E.: Time-space trade-off lower bounds for randomized computation of decision problems. *J. ACM* **50**(2), 154–195 (2003)
- Beasley, J.E.: Operations research library. <http://people.brunel.ac.uk/~mastijb/jeb/info.html>. Accessed 2008
- Becchetti, L.: Modeling locality: A probabilistic analysis of LRU and FWF. In: *Proceeding 12th European Symposium on Algorithms (ESA)* (2004)
- Becchetti, L., Könnemann, J., Leonardi, S., Pál, M.: Sharing the cost more efficiently: improved approximation for multicommodity rent-or-buy. In: *Proc. of the 16th Annual ACM-SIAM Symposium on Discrete Algorithms, Society for Industrial and Applied Mathematics, Philadelphia*, pp. 375–384 (2005)
- Becchetti, L., Leonardi, S.: Nonclairvoyant scheduling to minimize the total flow time on single and parallel machines. *J. ACM* **51**(4), 517–539 (2004)
- Becker, A., Bar-Yehuda, R., Geiger, D.: Randomized algorithms for the Loop Cutset problem. *J. Artif. Intell. Res.* **12**, 219–234 (2000)
- Becker, A., Geiger, D.: Approximation algorithms for the Loop Cutset problem. In: *Proc. 10th Conference on Uncertainty in Artificial Intelligence*, pp. 60–68. Morgan Kaufman, San Francisco (1994)
- Becker, B., Gschwind, S., Ohler, T., Seeger, B., Widmayer, P.: An asymptotically optimal multiversion B-tree. *Vldb J.* **5**, 264–275 (1996)
- Beckmann, N., Kriegel, H.-P., Schneider, R., Seeger, B.: The R*-Tree: An efficient and robust access method for points and rectangles. In: *Proceedings of the ACM International Conference on Management of Data*, Atlantic City, New Jersey, pp. 322–331. ACM Press, New York (1990)
- Bedathur, S.J., Haritsa, J.R.: Engineering a fast online persistent suffix tree construction. In: *Proc. 20th International Conference on Data Engineering*, pp. 720–731, Boston, USA (2004)
- Beigel, R., Alon, N., Apaydin, M.S., Fortnow, L., Kasif, S.: An optimal procedure for gap closing in whole genome shotgun sequencing. *Proc. RECOMB*, ACM Press pp. 22–30. (2001)
- Beimel, A., Bergadano, F., Bshouty, N.H., Kushilevitz, E., Varricchio, S.: Learning Functions Represented as Multiplicity Automata. *J. ACM* **47**, 506–530 (2000)
- Beimel, A., Bergadano, F., Bshouty, N.H., Kushilevitz, E., Varricchio, S.: On the applications of multiplicity automata in learning. In: *Proc. of the 37th Annu. IEEE Symp. on Foundations of Computer Science*, pp. 349–358, IEEE Comput. Soc. Press, Los Alamitos (1996)
- Beimel, A., Kushilevitz, E.: Learning boxes in high dimension. In: Ben-David S. (ed.) *3rd European Conf. on Computational Learning Theory (EuroCOLT '97)*, Lecture Notes in Artificial Intelligence, vol. 1208, pp. 3–15. Springer, Berlin (1997) Journal version: *Algorithmica* **22**, 76–90 (1998)
- Bein, W., Chrobak, M., Larmore, L.L.: The 3-server problem in the plane. *Theor. Comput. Sci.* **287**, 387–391 (2002)
- Beirouti, R., Snoeyink, J.: Implementations of the LMT Heuristic for Minimum Weight Triangulation. *Symposium on Computational Geometry*, pp. 96–105, Minneapolis, Minnesota, June 7–10, 1998
- Belady, L.A.: A study of replacement algorithms for virtual storage computers. *IBM Syst. J.* **5**, 78–101 (1966)
- Bell, T.C., Cleary, J.G., Witten, I.H.: Text compression. Prentice Hall, NJ (1990)
- Bellare, M., Coppersmith, D., Håstad, J., Kiwi, M., Sudan, M.: Linearity testing over characteristic two. *IEEE Trans. Inf. Theory* **42**(6), 1781–1795 (1996)
- Ben-David, S., Borodin, A., Karp, R.M., Tardos, G., Wigderson, A.: On the power of randomization in on-line algorithms. *Algorithmica* **11**, 2–14 (1994)
- Ben-David, S., Eiron, N., Long, P. M.: On the difficulty of approximately maximizing agreements. In: *Proceedings of COLT*, pp. 266–274 (2000)
- Ben-David, S., Eiron, N., Long, P.: On the difficulty of approximately maximizing agreements. *J. CSS* **66**, 496–514 (2003)
- Ben-Dor, A., Halevi, S., Schuster, A.: Potential function analysis of greedy hot-potato routing. *Theor. Comput. Syst.* **31**(1), 41–61 (1998)
- Ben-Dor, A., Lancia, G., Perone, J., Ravi, R.: Banishing bias from consensus sequences. In: *Proc. 8th Ann. Combinatorial Pattern Matching Conf.*, pp. 247–261. (1997)
- Ben-Or, M.: Another advantage of free choice (extended abstract): Completely asynchronous agreement protocols. In: *PODC '83: Proceedings of the second annual ACM symposium on Principles of distributed computing*, pp. 27–30. ACM Press, New York (1983)

- Ben-Or, M.: Another advantage of free choice: Completely asynchronous agreement protocols. In: Proc. 22nd Annual ACM Symposium on the Principles of Distributed Computing, 1983, pp. 27–30
- Ben-Or, M., Coppersmith, D., Luby, M., Rubinfeld, R.: Non-abelian homomorphism testing, and distributions close to their self-convolutions. In: Proceedings of APPROX-RANDOM. Lecture Notes in Computer Science, vol. 3122, pp. 273–285. Springer, Berlin Heidelberg (2004)
- Ben-Or, M., Crépeau, C., Gottesman, D., Hassidim, A., Smith, A.: Secure multiparty quantum computation with (only) a strict honest majority. In: Proceedings of the 47th Symposium on Foundations of Computer Science (FOCS'06), 2006, pp. 249–260
- Ben-Or, M., El-Yaniv, R.: Optimally-resilient interactive consistency in constant time. *Distrib. Comput.* **16**(4), 249–262 (2003)
- Ben-Or, M., Horodecki, M., Leung, D.W., Mayers, D., Oppenheim, J.: The universal composable security of quantum key distribution. In: Second Theory of Cryptography Conference TCC. Lecture Notes in Computer Science, vol. 3378, pp. 386–406. Springer, Berlin (2005). Also available at <http://arxiv.org/abs/quant-ph/0409078>
- Ben-Sasson, E., Sudan, M., Vadhan, S., Wigderson, A.: Randomness-efficient low degree tests and short pcps via epsilon-biased sets. In: Proceedings of the Thirty-Fifth Annual ACM Symposium on the Theory of Computing, pp. 612–621. ACM, New York (2003)
- Benczúr, A.A.: Counterexamples for Directed and Node Capacitated Cut-Trees. *SIAM J. Comput.* **24**(3), 505–510 (1995)
- Benczúr, A.A., Karger, D.R.: Approximating s-t minimum cuts in $\tilde{O}(n^2)$ time. In: STOC '96: Proceedings of the twenty-eighth annual ACM symposium on Theory of computing, pp. 47–55. ACM Press, New York (1996)
- Bender, M., Cole, R., Demaine, E., Farach-Colton, M.: Scanning and traversing: Maintaining data for traversals in a memory hierarchy. In: Proc. 10th Annual European Symposium on Algorithms. LNCS, vol. 2461, pp. 139–151. Springer, Berlin (2002)
- Bender, M., Cole, R., Raman, R.: Exponential structures for cache-oblivious algorithms. In: Proc. 29th International Colloquium on Automata, Languages, and Programming. LNCS, vol. 2380, pp. 195–207. Springer, Berlin (2002)
- Bender, M., Demaine, E., Farach-Colton, M.: Efficient tree layout in a multilevel memory hierarchy. In: Proc. 10th Annual European Symposium on Algorithms. LNCS, vol. 2461, pp. 165–173. Springer, Berlin (2002). Full version at <http://arxiv.org/abs/cs/0211010>
- Bender, M.A., Brodal, G.S., Fagerberg, R., Ge, D., He, S., Hu, H., Iacono, J., López-Ortiz, A.: The cost of cache-oblivious searching. In: Proc. 44th Annual IEEE Symposium on Foundations of Computer Science, pp. 271–282. IEEE Computer Society Press, Los Alamitos (2003)
- Bender, M.A., Demaine, E.D., Farach-Colton, M.: Cache-oblivious B-trees. *SIAM J. Comput.* **35**(2), 341–358 (2005). Conference version appeared at FOCS (2000)
- Bender, M.A., Demaine, E.D., Farach-Colton, M.: Cache-oblivious B-trees. In: 41st Annual Symposium on Foundations of Computer Science, pp. 399–409. IEEE Computer Society Press, Los Alamitos (2000)
- Bender, M.A., Duan, Z., Iacono, J., Wu, J.: A locality-preserving cache-oblivious dynamic dictionary. *J. Algorithms* **53**(2), 115–136 (2004). Conference version appeared at SODA (2002)
- Bender, M.A., Farach-Colton, M.: The LCA problem revisited. In: Proceedings of the 4th Latin American Symposium on Theoretical Informatics. Lecture Notes in Computer Science, vol. 1776, Berlin, pp. 88–94. Springer, London (2000)
- Bender, M.A., Farach-Colton, M., Fineman, J.T., Fogel, Y.R., Kuszmaul, B.C., Nelson, J.: Cache-oblivious streaming B-trees. In: Proc. 19th Annual ACM Symposium on Parallel Algorithms and Architectures, pp. 81–92. ACM, New York (2007)
- Bender, M.A., Farach-Colton, M., Kuszmaul, B.C.: Cache-oblivious string B-trees. In: Proc. 25th ACM SIGACT-SIGMOD-SIGART Symposium on Principles of Database Systems, pp. 233–242. ACM, New York (2006)
- Bender, M.A., Fernandez, A., Ron, D., Sahai, A., Vadhan, S.: The power of a pebble: Exploring and mapping directed graphs. In: Proc. 30th Ann. Symp. on Theory of Computing, pp. 269–278. Dallas, 23–26 May 1998
- Bender, M.A., Fineman, J.T., Gilbert, S., Kuszmaul, B.C.: Concurrent cache-oblivious B-trees. In: Proc. 17th Annual ACM Symposium on Parallel Algorithms, pp. 228–237. ACM, New York (2005)
- Benioff, P.: Space searches with a quantum robot. In: Quantum computation and information (Washington, DC, 2000). *Contemp. Math.*, vol. 305, pp. 1–12. Amer. Math. Soc. Providence, RI (2002)
- Benner, S.A., Cohen, M.A., Gonnet, G.H.: Empirical and structural models for insertions and deletions in the divergent evolution of proteins. *J. Mol. Biol.* **229**, 1065–1082 (1993)
- Bennett, C.H., Bernstein, E., Brassard, G., Vazirani, U.: Strengths and weaknesses of quantum computing. *SIAM J. Comput.* **26**(5), 1510–1523 (1997)
- Bennett, C.H., Brassard, G.: Quantum cryptography: Public-key distribution and coin tossing. In: Proceedings of IEEE International Conference on Computers, Systems and Signal Processing, pp. 175–179. IEEE Computer Society Press, Los Alamitos (1984)
- Bennett, C.H., Brassard, G., Crépeau, C., Jozsa, R., Peres, A., Wootters, W.K.: Teleporting an unknown quantum state via dual classical and Einstein-Podolsky-Rosen channels. *Phys. Rev. Lett.* **70**, 1895–1899 (1993)
- Bennett, C.H., Brassard, G., Crépeau, C., Maurer, U.: Generalized privacy amplification. *IEEE Trans. Inf. Theory* **41**(6), 1915–1923 (1995)
- Bennett, C.H., Brassard, G., Popescu, S., Schumacher, B., Smolin, J., Wootters, W.: Purification of noisy entanglement and faithful teleportation via noisy channels. *Phys. Rev. Lett.* **76**, 722–726 (1996)
- Bennett, C.H., DiVincenzo, D.P., Smolin, J.A., Terhal, B.M., Wootters, W.K.: Remote state preparation. *Phys. Rev. Lett.* **87**, 077902 (2001)
- Bennett, C.H., DiVincenzo, D.P., Smolin, J.A., Wootters, W.K.: Mixed-state entanglement and quantum error correction. *Phys. Rev. A* **54**, 3824–3851 (1996)
- Bennett, C.H., Hayden, P., Leung, W., Shor, P.W., Winter, A.: Remote preparation of quantum states. *IEEE Trans. Inform. Theory* **51**, 56–74 (2005)
- Bennett, C.H., Li, M., Ma, B.: Chain letters and evolutionary histories. *Sci. Am.* **288**, 76–81 (2003)
- Bennett, C.H., Wiesner, S.J.: Communication via one- and two-particle operators on Einstein-Podolsky-Rosen states. *Phys. Rev. Lett.* **69**, 2881–2884 (1992)

- Benoit, D., Demaine, E., Munro, J.I., Raman, R., Raman, V., Rao, S.S.: Representing trees of higher degree. *Algorithmica* **43**, 275–292 (2005)
- Benson, G.: Tandem Repeats Finder: a program to analyze DNA sequences. *Nucleic Acids Res.* **27**, 573–580 (1999)
- Bent, S.W., Sleator, D.D., Tarjan, R.E.: Biased search trees. *SIAM J. Comput.* **14**(3), 545–568 (1985)
- Bentley, J.L., McGeoch, C.C.: Amortized analyses of self-organizing sequential search heuristics. *Commun. ACM* **28**, 404–411 (1985)
- Bentley, J.: *Programming Pearls*. Addison-Wesley, Reading (1986)
- Bentley, J., Sedgewick, R.: Algorithm alley: Sorting strings with three-way radix quicksort. *Dr. Dobbs's J. Softw. Tools* **23**, 133–134, 136–138 (1998)
- Bentley, J.L., Johnson, D.S., Leighton, F.T., McGeoch, C.C.: An experimental study of bin packing. In: *Proc. of the 21st Annual Allerton Conference on Communication, Control, and Computing*, Urbana, University of Illinois, 1983 pp. 51–60
- Bentley, J.L., Johnson, D.S., Leighton, F.T., McGeoch, C.C., McGeoch, L.A.: Some unexpected expected behavior results for bin packing. In: *Proc. of the 16th Annual ACM Symposium on Theory of Computing*, pp. 279–288. ACM, New York (1984)
- Bentley, J.L., McIlroy, M.D.: Engineering a sort function. *Softw. Pract. Exp.* **23**, 1249–1265 (1993)
- Bentley, J.L., Sleator, D.S., Tarjan, R.E., Wei, V.K.: A locally adaptive data compression scheme. *Commun. ACM* **29**, 320–330 (1986)
- Berberich, E., Eigenwillig, A., Hemmer, M., Hert, S., Schmer, K. M., Schmer, E.: A computational basis for conic arcs and boolean operations on conic polygons. In: *10th European Symposium on Algorithms (ESA'02)*, pp. 174–186, (2002) *Lecture Notes in CS*, No. 2461
- Bergadano, F., Catalano, D., Varricchio, S.: Learning sat- k -DNF formulas from membership queries. In: *Proc. of the 28th Annu. ACM Symp. on the Theory of Computing*, pp. 126–130. ACM Press, New York (1996)
- Bergadano, F., Varricchio, S.: Learning behaviors of automata from multiplicity and equivalence queries. In: *Proc. of 2nd Italian Conf. on Algorithms and Complexity. Lecture Notes in Computer Science*, vol. 778, pp. 54–62. Springer, Berlin (1994). Journal version: *SIAM J. Comput.* **25**(6), 1268–1280 (1996)
- Bergadano, F., Varricchio, S.: Learning behaviors of automata from shortest counterexamples. In: *EuroCOLT '95, Lecture Notes in Artificial Intelligence*, vol. 904, pp. 380–391. Springer, Berlin (1996)
- Berger, A., Czumaj, A., Grigni, M., Zhao, H.: Approximation schemes for minimum 2-connected spanning subgraphs in weighted planar graphs. *Proc. 13th Annual European Symposium on Algorithms*, pp. 472–483. (2005)
- Bergeron, A., Chauve, C., Hartman, T., St-Onge, K.: On the properties of sequences of reversals that sort a signed permutation. *Proceedings of JOBIM'02*, 99–108 (2002)
- Bergeron, A., Mixtacki, J., Stoye, J.: The inversion distance problem. In: Gascuel, O. (ed.) *Mathematics of evolution and phylogeny*. Oxford University Press, USA (2005)
- Bergeron, A., Stoye, J.: On the similarity of sets of permutations and its applications to genome comparison. *J. Comput. Biol.* **13**(7), 1340–1354 (2006)
- Bergkvist, A., Damaschke, P.: Fast algorithms for finding disjoint subsequences with extremal densities. In: *Proceedings of the 16th Annual International Symposium on Algorithms and Computation*. LNCS, vol. 3827, pp. 714–723 (2005)
- Berkhin, P.: A survey on PageRank computing. *Internet Math.* **2**(1), 73–120 (2005)
- Berlekamp, E., McEliece, R., van Tilborg, H.: On the inherent intractability of certain coding problems. *IEEE Trans. Inf. Theory* **24**, 384–386 (1978)
- Berman, C.L.: Ordered Binary Decision Diagrams and Circuit Structure. In: *IEEE International Conference on Computer Design*. (1989)
- Berman, P., Blum, A., Fiat, A., Karloff, H., Rosén, A., Saks, M.: Randomized robot navigation algorithms. In: *Proceedings, Seventh Annual ACM-SIAM Symposium on Discrete Algorithms (SODA)*, pp. 75–84 (1996)
- Berman, P., Charikar, M., Karpinski, M.: On-line load balancing for related machines. *J. Algorithms* **35**, 108–121 (2000)
- Berman, P., Coulston, C.: On-line algorithms for Steiner tree problems. In: *Proc. of the 29th Annual ACM Symposium on Theory of Computing*, pp. 344–353. Association for Computing Machinery, New York (1997)
- Berman, P., Garay, J.A., Perry, K.J.: Bit Optimal Distributed Consensus. In: Yaeza-Bates, R., Manber, U. (eds.) *Computer Science Research*, pp. 313–322. Plenum Publishing Corporation, New York (1992)
- Berman, P., Garay, J.A., Perry, K.J.: Optimal Early Stopping in Distributed Consensus. In: *Proc. 6th International Workshop on Distributed Algorithms (WDAG)*, pp. 221–237, Israel, November 1992
- Berman, P., Hannenhalli, S.: Fast sorting by reversal. In: Hirschberg, D.S., Myers, E.W. (eds.) *Proc. 7th Ann. Symp. Combinatorial Pattern Matching (CPM96)*. *Lecture Notes in Computer Science*, vol. 1075, pp. 168–185. Laguna Beach, CA, June 1996. Springer (1996)
- Berman, P., Hannenhalli, S.: Fast Sorting by Reversal, *proceedings of CPM '96. Lecture notes in computer science* **1075**, 168–185 (1996)
- Berman, P., Karpinski, M.: Approximability of hypergraph minimum bisection. *ECCC Report TR03-056*, *Electronic Colloquium on Computational Complexity*, vol. 10 (2003)
- Berman, P., Karpinski, M., Larmore, L., Plandowski, W., Rytter, W.: On the complexity of pattern matching for highly compressed two dimensional texts. *Proceeding of 8th Annual Symposium on Combinatorial Pattern Matching (CPM 97)*. LNCS, vol. 1264, pp. 40–51. Springer, Berlin (1997)
- Berman, P., Ramaiyer, V.: Improved approximations for the Steiner tree problem. *J. Algorithms* **17**, 381–408 (1994)
- Bern, M., Eppstein, D.: Approximation algorithms for geometric problems. In: Hochbaum, D. (ed.) *Approximation Algorithms for NP-hard problems*. PWS Publishing, Boston (1996)
- Bern, M., Plassmann, P.: The Steiner problem with edge lengths 1 and 2. *Inf. Process. Lett.* **32**(4), 171–176 (1989)
- Bernhart, F., Kainen P.C.: The book thickness of a graph. *J. Comb. Theory B* **27**(3), 320–331 (1979)
- Bernhart, S., Hofacker, I.L., Stadler, P.: Local RNA base pairing probabilities in large sequences. *Bioinformatics* **22**, 614–615 (2006)
- Bernhart, S.H., Tafer, H., Mückstein, U., Flamm, C., Stadler, P.F., Hofacker, I.L.: Partition function and base pairing probabilities of RNA heterodimers. *Algorithms Mol. Biol.* **1**, 3 (2006)
- Bernstein, E., Vazirani, U.: Quantum complexity theory. *SIAM J. Comput.* **26**(5), 1411–1473 (1997)
- Berrou, C., Glavieux, A., Thitimajshima, P.: Near Shannon limit error-correcting coding and decoding: turbo-codes. In: *Proc. IEEE Int. Conf. Comm. (ICC)*, pp. 1064–1070. Geneva, 23–26 May 1993

- Berry, V., Guillemot, S., Nicolas, F., Paul, C.: On the approximation of computing evolutionary trees. In: Wang, L. (ed.) Proc. of the 11th Annual International Conference on Computing and Combinatorics (COCOON'05). LNCS, vol. 3595, pp. 115–125. Springer, Berlin (2005)
- Berry, V., Nicolas, F.: Improved parameterized complexity of the maximum agreement subtree and maximum compatible tree problems. *IEEE/ACM Trans. Comput. Biology Bioinform.* **3**(3), 289–302 (2006)
- Berry, V., Nicolas, F.: Maximum agreement and compatible subtrees. *J. Discret. Algorithms* (2006)
- Berry, V., Nicolas, F.: Maximum agreement and compatible subtrees. *J. Discret. Algorithms. Algorithmica*, Springer, New York (2008)
- Berry, V., Peng, Z.S., Ting, H.-F.: From constrained to unconstrained maximum agreement subtree in linear time. *Algorithmica*, to appear (2006)
- Bertier, M., Marin, O., Sens, P.: Performance analysis of a hierarchical failure detector. In: International Conference on Dependable Systems and Networks (DSN 2003), San Francisco, CA, USA, Proceedings, pp. 635–644. 22–25 June 2003
- Bertsekas, D.P., Gallager, R.G.: *Data Networks*, 2nd edn. Prentice Hall, Englewood Cliffs (1992)
- Bertsekas, D.P., Tsitsiklis, J. N.: *Neuro-Dynamic Programming*. Athena Scientific, Belmont (1996)
- Bertsimas, D., Niño-Mora, J.: Conservation laws, extended polymatroids and multiarmed bandit problems: polyhedral approaches to indexable systems. *Math. Oper. Res.* **21**(2), 257–306 (1996)
- Besmyatnikh, S., Segal, M.: Enumerating longest increasing subsequences and patience sorting. *Inform. Proc. Lett.* **76**(1–2), 7–11 (2000)
- Besmyatnikh, S.: An Optimal Algorithm for Closest-Pair Maintenance. *Discret. Comput. Geom.* **19**(2), 175–195 (1998)
- Besmyatnikh, S.: On Constructing Minimum Spanning Trees in R_1^k . *Algorithmica* **18**(4), 524–529 (1997)
- Bhalgat, A., Hariharan, R., Kavitha, T., Panigrahi, D.: An $\tilde{O}(mn)$ Gomory-Hu tree construction algorithm for unweighted graphs. In: Proc. of the 39th Annual ACM Symposium on Theory of Computing, San Diego 2007
- Bhatt, S.N., Leighton, F.T.: A framework for solving vlsi graph layout problems. *J. Comput. Syst. Sci.* **28**(2), 300–343 (1984)
- Biere, A., Cimatti, A., Clarke, E., Fujita, M., Zhu, Y.: Symbolic Model Checking Using Sat Procedures Instead of BDDs. In: ACM Design Automation Conference. (1999)
- Bikhchandani, S., Chatterjee, S., Lavi, R., Mu'alem, A., Nisan, N., Sen, A.: Weak monotonicity characterizes deterministic dominant-strategy implementation. *Econometrica* **74**, 1109–1132 (2006)
- Billoud, B., Kontic, M., Viari, A.: Palingol a declarative programming language to describe nucleic acids' secondary structures and to scan sequence database. *Nucleic. Acids. Res.* **24**, 1395–1403 (1996)
- Bini, E., Buttazzo, G., Buttazzo, G.: Rate monotonic scheduling: The hyperbolic bound. *IEEE Trans. Comput.* **52**, 933–942 (2003)
- Bininda-Emonds, O., Gittleman, J., Steel, M.: The (super)tree of life: Procedures, problems, and prospects. *Ann. Rev. Ecol. System.* **33**, 265–289 (2002)
- Biran, O., Moran, S., Zaks, S.: A combinatorial characterization of the distributed 1-solvable tasks. *J. Algorithms* **11**(3), 420–440 (1990)
- Bird, R.S.: Two dimensional pattern matching. *Inf. Process. Lett.* **6**, 168–170 (1977)
- Birman, K.: *Building Secure and Reliable Network Applications*. Manning, (1996)
- Biró, P., Cechlárová, K.: Inapproximability of the kidney exchange problem. *Inf. Proc. Lett.* **101**(5), 199–202 (2007)
- Bisht, L., Bshouty, N.H., Mazzawi, H.: On Optimal Learning Algorithms for Multiplicity Automata. In: Proc. of 19th Annu. ACM Conf. Comput. Learning Theory, Lecture Notes in Computer Science, vol. 4005, pp. 184–198. Springer, Berlin (2006)
- Bixby, R.E., Wagner, D.K.: An almost linear-time algorithm for graph realization. *Math. Oper. Res.* **13**, 99–123 (1988)
- Björklund, A., Husfeldt, T.: Exact algorithms for exact satisfiability and number of perfect matchings. In: Proc. 33rd ICALP. LNCS, vol. 4051, pp. 548–1559. Springer (2006). *Algorithmica*, doi:10.1007/s00453-007-9149-8
- Björklund, A., Husfeldt, T.: Finding a path of superlogarithmic length. *SIAM J. Comput.* **32**(6), 1395–1402 (2003)
- Björklund, A., Husfeldt, T., Kaski, P., Koivisto, M.: Fourier meets Möbius: fast subset convolution. In: Proceedings of the 39th Annual ACM Symposium on Theory of Computing (STOC), San Diego, CA, June 11–13, 2007. Association for Computing Machinery, pp. 67–74. New York (2007)
- Björklund, A., Husfeldt, T., Koivisto, M.: Set partitioning via inclusion–exclusion. *SIAM J. Comput.*
- Blanchette, M.: Algorithms for phylogenetic footprinting. In: RECOMB01: Proceedings of the Fifth Annual International Conference on Computational Molecular Biology, pp. 49–58. ACM Press, Montreal (2001)
- Blanchette, M.: Algorithms for phylogenetic footprinting. Ph.D. thesis, University of Washington (2002)
- Blanchette, M., Schwikowski, B., Tompa, M.: Algorithms for phylogenetic footprinting. *J. Comput. Biol.* **9**(2), 211–223 (2002)
- Blanchette, M., Tompa, M.: Discovery of regulatory elements by a computational method for phylogenetic footprinting. *Genome Res.* **12**, 739–748 (2002)
- Blanchette, M., Tompa, M.: Footprinter: A program designed for phylogenetic footprinting. *Nucleic Acids Res.* **31**(13), 3840–3842 (2003)
- Blelloch, G.E., Leiserson, C.E., Maggs, B.M., Plaxton, C.G., Smith, S.J., Zagha, M.: An experimental analysis of parallel sorting algorithms. *Theor. Comput. Syst.* **31**(2), 135–167 (1998)
- Blin, G., Fertin, G., Vialette, S.: Extracting 2-intervals subsets from 2-interval sets. *Theor. Comput. Sci.* **385**(1–3), 241–263 (2007)
- Blin, G., Fertin, G., Vialette, S.: New results for the 2-interval pattern problem. In: Proc. 15th Annual Symposium on Combinatorial Pattern Matching (CPM). Lecture Notes in Computer Science, vol. 3109. Springer, Berlin (2004)
- Block, H. D.: The perceptron: A model for brain functioning. *Rev. Mod. Phys.* **34**, 123–135 (1962)
- Bloom, B.: Constructing two-writer atomic registers. *IEEE Trans. Comput.* **37**(12), 1506–1514 (1988)
- Blum, A.: Learning a function of r relevant variables (open problem). In: Proceedings of the 16th Annual Conference on Learning Theory, pp. 731–733, Washington, 24–27 August 2003
- Blum, A.: New approximations for graph coloring. *J. ACM* **41**(3), 470–516 (1994)
- Blum, A., Chawla, S., Kalai, A.: Static optimality and dynamic search-optimality in lists and trees. *Algorithmica* **36**, 249–260 (2003)

- Blum, A., Chawla, S., Kalai, A.: Static optimality and dynamic search-optimality in lists and trees. In: Proc. 13th Annual ACM-SIAM Symposium on Discrete Algorithms, pp. 1–8 (2002)
- Blum, A., Dunagan J. D.: Smoothed analysis of the perceptron algorithm for linear programming. In: SODA, (2002)
- Blum, A., Frieze, A., Kannan, R., Vempala, S.: A polynomial time algorithm for learning noisy linear threshold functions. *Algorithmica* **22**(1/2), 35–52 (1997)
- Blum, A., Furst, M., Jackson, J., Kearns, M., Mansour, Y., Rudich, S.: Weakly learning DNF and characterizing statistical query learning using Fourier analysis. In: Proceedings of the 26th Annual ACM Symposium on Theory of Computing, pp. 253–262. Association for computing Machinery, New York (1994)
- Blum, A., Hartline, J.: Near-optimal online auctions. In: Proc. of the 16th Symposium on Discrete Algorithms (SODA), 2005
- Blum, A., Hellerstein, L., Littlestone, N.: Learning in the presence of finitely or infinitely many irrelevant attributes. *J. Comp. Syst. Sci.* **50**(1), 32–40 (1995)
- Blum, A., Kalai, A., Wasserman, H.: Noise-tolerant learning, the parity problem, and the statistical query model. *J. ACM* **50**(4), 506–519 (2003)
- Blum, A., Karger, D.: An $\tilde{O}(n^{3/14})$ -coloring for 3-colorable graphs. *Inf. Process. Lett.* **61**(6), 49–53 (1997)
- Blum, A., Khardon, R., Kushilevitz, E., Pitt, L., Roth, D.: On learning read- k -satisfy- j DNF. In: Proc. of 7th Annu. ACM Conf. on Comput. Learning Theory, pp. 110–117. ACM Press, New York (1994)
- Blum, A., Konjevod, G., Ravi, R., Vempala, S.: Semi-definite relaxations for minimum bandwidth and other vertex-ordering problems. *Theor. Comput. Sci.* **235**(1), 25–42 (2000), Selected papers in honor of Manuel Blum (Hong Kong, 1998)
- Blum, A., Li, M., Tromp, J., Yannakakis, M.: Linear approximation of shortest superstrings. *J. ACM* **41**, 630–47 (1994)
- Blum, A., Raghavan, P., Schieber, B.: Navigating in Unfamiliar Geometric Terrain. In: On Line Algorithms, pp. 151–155, DIMACS Series in Discrete Mathematics and Theoretical Computer Science, American Mathematical Society, Providence RI (1992) Preliminary Version in STOC 1991, pp. 494–504
- Blum, A., Raghavan, P., Schieber, B.: Navigating in unfamiliar geometric terrain. In: Proceedings 23rd ACM Symposium on Theory of Computing (STOC), pp. 494–504 (1991)
- Blum, A., Raghavan, P., Schieber, B.: Navigating in unfamiliar geometric terrain. *SIAM J. Comput.* **26**(1), 110–137 (1997)
- Blum, A., Sandholm, T., Zinkevich, M.: Online algorithms for market clearing. *J. ACM* **53**(5), 845–879 (2006)
- Blum, A.L., Rivest, R.L.: Training a 3-node neural network is NP-complete. *Neural Netw.* **5**(1), 117–127 (1992)
- Blum, J., Ding, M., Thaler, A., Cheng, X.: Applications of Connected Dominating Sets in Wireless Networks. In: Du, D.-Z., Pardalos, P. (eds.) *Handbook of Combinatorial Optimization*, pp. 329–369. Kluwer Academic (2004)
- Blum, L., Blum, M.: Toward a mathematical theory of inductive inference. *Inform. Control* **28**(2), 125–155 (1975)
- Blum, M., Luby, M., Rubinfeld, R.: Self-testing/correcting with applications to numerical problems. *J. CSS* **47**, 549–595 (1993)
- Blum, M., Micali, S.: How to Generate Cryptographically Strong Sequences of Pseudo-Random Bits. *SIAM J. Comput.* **4**(13), 850–864 (1984)
- Blumer, A., Ehrenfeucht, A., Haussler, D., Warmuth, M.: Learnability and the Vapnik–Chervonenkis dimension. *J. ACM* **36**(4), 929–965 (1989)
- Blumrosen, L., Nisan, N.: On the computational power of iterative auctions. In: Proc. of the 7th ACM Conference on Electronic Commerce (EC'05), 2005
- Böcker, S., Mäkinen, V.: Maximum line-pair stabbing problem and its variations. In: Proc. 21st European Workshop on Computational Geometry (EWCG'05), pp. 183–186. Technische Universiteit Eindhoven, The Netherlands (2005)
- Bodlaender, H.L.: A linear time algorithm for finding tree-decompositions of small treewidth. *SIAM J. Comput.* **25**, 1305–1317 (1996)
- Bodlaender, H.L.: A partial k -arboreum of graphs with bounded treewidth. *Theor. Comp. Sci.* **209**, 1–45 (1998)
- Bodlaender, H.L.: A tourist guide through treewidth. *Acta Cybernetica* **11**, 1–23 (1993)
- Bodlaender, H.L.: Discovering treewidth. In: P. Vojtáš, M. Bieliková, B. Charron-Bost (eds.) *Proceedings 31st Conference on Current Trends in Theory and Practice of Computer Science, SOFSEM 2005. Lecture Notes in Computer Science*, vol. 3381, pp. 1–16. Springer, Berlin (2005)
- Bodlaender, H.L.: On disjoint cycles. *Int. J. Found. Comp. Sci.* **5**(1), 59–68 (1994)
- Bodlaender, H.L.: Treewidth: Characterizations, applications, and computations. In: Fomin, F.V. (ed.) *Proceedings 32nd International Workshop on Graph-Theoretic Concepts in Computer Science WG'06. Lecture Notes in Computer Science*, vol. 4271, pp. 1–14. Springer, Berlin (2006)
- Bodlaender, H.L.: Treewidthlib. <http://www.cs.uu.nl/people/hansb/treewidthlib> (2004)
- Bodlaender, H.L., Fellows, M.R., Warnow, T.: Two strikes against perfect phylogeny. In: *Proceedings of the 19th International Colloquium on Automata, Languages and Programming (ICALP 1992). Lecture Notes in Computer Science*, vol. 623, pp. 273–283. Springer, Berlin (1992)
- Bodlaender, H.L., Gilbert, J.R., Hafsteinsson, H., Kloks, T.: Approximating treewidth, pathwidth, frontsize, and shortest elimination tree. *J. Algorithms* **18**(2), 238–255 (1995)
- Bodlaender, H.L., Kloks, T., Tan, R.B., van Leeuwen, J.: Approximations for λ -Coloring of Graphs. In: *Proceedings of the 17th Annual Symposium on Theoretical Aspects of Computer Science. Lecture Notes in Computer Science*, vol. 1770, pp. 395–406. Springer (2000)
- Bodlaender, H.L., Thilikos, D.M.: Constructive linear time algorithms for branchwidth. In: *Automata, languages and programming (Bologna, 1997). Lecture Notes in Computer Science*, vol. 1256, pp. 627–637. Springer, Berlin (1997)
- Bodlaender, H.L., Thilikos, D.M.: Graphs with branchwidth at most three. *J. Algorithms* **32**, 167–194 (1999)
- Boesch, F.T.: Properties of the distance matrix of a tree. *Quarterly Appl. Math.* **26**, 607–609 (1968)
- Boeva, V.A., Régnier, M., Makeev, V.J.: SWAN: searching for highly divergent tandem repeats in DNA sequences with the evaluation of their statistical significance. *Proceedings of JOBIM 2004*, Montreal, Canada, p. 40 (2004)
- Bogomolnaia, A., Jackson, M.O.: The Stability of Hedonic Coalition Structures. *Games. Econ. Behav.* **38**(2), 201–230 (2002)
- Boissonnat, J.-D., Devillers, O., Pion, S., Teillaud, M., Yvinec, M.: Triangulations in CGAL. *Comput. Geom. Theor. Appl.* **22**(1–3), 5–19 (2002)
- Boissonnat, J.-D., Teillaud, M. (eds.) *Effective Computational Geometry for Curves and Surfaces*. Springer, Berlin (2006)

- Boldi, P., Vigna, S.: Codes for the world-wide web. *Internet Math.* **2**(4), 405–427 (2005)
- Bollobás, B.: A probabilistic proof of an asymptotic formula for the number of labeled regular graphs. *Eur. J. Comb.* **1**, 311–316 (1980)
- Bollobás, B.: *Random Graphs*. Academic Press (1985)
- Bollobás, B., Coppersmith, D., Elkin M.: Sparse distance preserves and additive spanners. In: *Proceedings of the 14th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA)*, 2003, pp. 414–423
- Boman, E., Hendrickson, B.: On spanning tree preconditioners. Manuscript, Sandia National Lab. (2001)
- Boman, E., Hendrickson, B., Vavasis, S.: Solving elliptic finite element systems in near-linear time with support preconditioners. Manuscript, Sandia National Lab. and Cornell, <http://arXiv.org/abs/cs/0407022> Accessed 9 July 2004
- Boneh, D., Lipton, R.: Quantum Cryptanalysis of Hidden Linear Functions (Extended Abstract) In: *Proceedings of 15th Annual International Cryptology Conference (CRYPTO'95)*, pp. 424–437, Santa Barbara, 27–31 August 1995
- Bonizzoni, P., Della Vedova, G., Dondi, R., Li, J.: The haplotyping problem: an overview of computational models and solutions. *J. Comput. Sci. Technol.* **19**(1), 1–23 (2004)
- Bonomi, F., Fendick, K.: The Rate-Based Flow Control for Available Bit Rate ATM Service. *IEEE/ACM Trans. Netw.* **9**(2), 25–39 (1995)
- Bonsma, P.: Spanning trees with many leaves: new extremal results and an improved FPT algorithm. *Memorandum Department of Applied Mathematics*, vol. 1793, University of Twente, Enschede (2006)
- Bonsma, P., Brueggemann, T., Woeginger, G.: A faster FPT algorithm for finding spanning trees with many leaves. *Proceedings of MFCS 2003. Lecture Notes in Computer Science*, vol. 2747, pp. 259–268. Springer, Berlin (2003)
- Boost C++ Libraries, <http://www.boost.org/>. Accessed February 2008
- Booth, K.S., Lueker, G.S.: Testing for the consecutive ones property, interval graphs, and graph planarity using PQ-tree algorithms. *J. Comp. Syst. Sci.* **13**, pp. 335–379 (1976)
- Borah, M., Owens, R.M., Irwin, M.J.: An edge-based heuristic for steiner routing. *IEEE Transac. Comput. Aided Des.* **13**, 1563–1568 (1994)
- Bordewich, M., Freedman, M., Lovasz, L., Welsh, D.: Approximate counting and Quantum computation, *Combinatorics. Prob. Comput.* **14**(5–6), 737–754 (2005)
- Borgelt, C., Grantson, M., Levopoulos, C.: Fixed-Parameter Algorithms for the Minimum Weight Triangulation Problem. Technical Report LU-CS-TR:2006-238, ISSN 1650-1276 Report 158. Lund University, Lund (An extended version has been submitted to IJCGA) (2006)
- Borgs, C., Chayes, J., Etesami, O., Immorlica, N., Jain, K., Mahdian, M.: Bid optimization in online advertisement auctions. In: *2nd Workshop on Sponsored Search Auctions*, in conjunction with the ACM Conference on Electronic Commerce (EC-06), Ann Arbor, MI, 2006
- Borgs, C., Chayes, J.T., Immorlica, N., Mahdian, M., Saberi, A.: Multi-unit auctions with budget-constrained bidders. In: *ACM Conference on Electronic Commerce (EC-05)*, 2005, pp. 44–51
- Borodin, A., El-Yaniv, R.: *Online Computation and Competitive Analysis*. Cambridge University Press, Cambridge (1998)
- Borodin, A., Fischer, M., Kirkpatrick, D., Lynch, N.: A time-space tradeoff for sorting on non-oblivious machines. *J. Comput. Syst. Sci.* **22**, 351–364 (1981)
- Borodin, A., Hopcroft, J.E.: Routing, merging and sorting on parallel models of computation. *J. Comput. Syst. Sci.* **30**(1), 130–145 (1985)
- Borodin, A., Irani, S., Raghavan, P., Schieber B.: Competitive paging with locality of reference. *J. Comput. Syst. Sci.* **50**(2), 244–258 (1995)
- Borodin, A., Linial, N., Saks, M.E.: An optimal on-line algorithm for metrical task systems. *J. ACM* **39**, 745–763 (1992)
- Borowsky, E., Gafni, E.: Generalized FLP impossibility result for t -resilient asynchronous computations. In: *Proceedings of the 1993 ACM Symposium on Theory of Computing*, May 1993, pp. 206–215
- Borradaile, G., Kenyon-Mathieu, C., Klein, P.N.: A polynomial-time approximation scheme for Steiner tree in planar graphs. In: *Proceedings of the 18th Annual ACM-SIAM Symposium on Discrete Algorithms*, 2007
- Borůvka, O.: O jistém problému minimálním. *Práce Moravské Přírodovědecké Společnosti* **3**, 37–58 (1926) (In Czech)
- Borůvka, O.: Otakar Borůvka on minimum spanning tree problem (translation of both the 1926 papers, comments, history). *Disc. Math.* **233**, 3–36 (2001)
- Boschi, D., Branca, S., Martini, F.D., Hardy, L., Popescu, S.: Experimental realization of teleporting an unknown pure quantum state via dual classical and einstein-podolski-rosen channels. *Phys. Rev. Lett.* **80**, 1121–1125 (1998)
- Bose, P., Brodnik, A., Carlsson, S., Demaine, E., Fleischer R., López-Ortiz, A., Morin, P., Munro, J.: Online Routing in Convex Subdivisions. In: *International Symposium on Algorithms and Computation (ISAAC)*. LNCS, vol. 1969, pp 47–59. Springer, Berlin/New York (2000)
- Bose, P., Gudmundsson, J., Smid, M.: Constructing plane spanners of bounded degree and low weight. *Algorithmica* **42**, 249–264 (2005)
- Bose, P., Gudmundsson, J., Smid, M.: Constructing plane spanners of bounded degree and low weight. In: *Proceedings of European Symposium of Algorithms*, University of Rome, 17–21 September 2002
- Bose, P., Maheshwari, A., Narasimhan, G., Smid, M., Zeh, N.: Approximating geometric bottleneck shortest paths. *Comput. Geom.: Theory Appl.* **29**, 233–249 (2004)
- Bose, P., Morin, P.: Competitive online routing in geometric graphs. *Theor. Comput. Sci.* **324**, 273–288 (2004)
- Bose, P., Morin, P.: Online Routing in Triangulations. In: *Proc. 10th Int. Symposium on Algorithms and Computation (ISAAC)*. LNCS, vol. 1741, pp 113–122. Springer, Berlin (1999)
- Bose, P., Morin, P.: Online routing in triangulations. *SIAM J. Comput.* **33**, 937–951 (2004)
- Bose, P., Morin, P., Stojmenovic, I., Urrutia, J.: Routing with guaranteed delivery in ad hoc wireless networks. *ACM/Kluwer Wireless Networks* **7**(6), 609–616 (2001). 3rd int. Workshop on Discrete Algorithms and methods for mobile computing and communications, 48–55 (1999)
- Bose, P., Morin, P., Stojmenovic, I., Urrutia, J.: Routing with guaranteed delivery in ad hoc wireless networks. In: *Proceedings of the Third International Workshop on Discrete Algorithm and Methods for Mobility*, Seattle, Washington, Aug 1999, pp. 48–55

- Bose, P., Smid, M., Xu, D.: Diamond triangulations contain spanners of bounded degree. In: Proceedings of the 17th International Symposium on Algorithms and Computation. Lecture Notes in Computer Science, vol. 4288, pp. 173–182. Springer, Berlin (2006)
- Boser, B., Guyon, I., Vapnik, V.: A training algorithm for optimal margin classifiers. In: Proceedings of the Fifth Annual Workshop on Computational Learning Theory, Pittsburgh (1992)
- Bosse, H., Byrka, J., Markakis, E.: New Algorithms for Approximate Nash Equilibria in Bimatrix Games. In: LNCS Proceedings of the 3rd International Workshop on Internet and Network Economics (WINE 2007), San Diego, 12–14 December 2007
- Boston, N., Ganesan, A., Koetter, R., Pazos, S., Vontobel, P.: Papers on pseudocodewords. HP Labs, Palo Alto. <http://www.pseudocodewords.info>.
- Bouchitté, V., Todinca, I.: Listing all potential maximal cliques of a graph. *Theor. Comput. Sci.* **276**(1–2), 17–32 (2002)
- Bouchitté, V., Todinca, I.: Treewidth and minimum fill-in: Grouping the minimal separators. *SIAM J. Comput.* **31**, 212–232 (2001)
- Bourgain, J.: On Lipschitz embedding of finite metric spaces in Hilbert space. *Israel J. Math.* **52**(1–2), 46–52 (1985)
- Bourland, J.D., Wu, Q.R.: Use of shape for automated, optimized 3D radiosurgical treatment planning. *SPIE Proc. Int. Symp. on Medical Imaging*, pp. 553–558 (1996)
- Bouwmeester, D., Pan, J.W., Mattle, K., Eible, M., Weinfurter, H., Zeilinger, A.: Experimental quantum teleportation. *Nature* **390**(6660), 575–579 (1997)
- Boyer, J., Myrvold, W.: Stop minding your P's and Q's: A simplified $O(n)$ planar embedding algorithm. In: SODA '99: Proceedings of the Tenth Annual ACM-SIAM Symposium on Discrete Algorithms. Philadelphia, PA, USA, Society for Industrial and Applied Mathematics, pp. 140–146 (1999)
- Boyer, M., Brassard, G., Høyer, P., Tapp A.: Tight bounds on quantum searching. *Fortschr. Phys.* **46**(4–5), 493–505 (1998)
- Boykin, P.O., Mor, T., Roychowdhury, V., Vatan, F., Vrijen, R.: Algorithmic cooling and scalable NMR quantum computers. *Proc. Natl. Acad. Sci.* **99**, 3388–3393 (2002)
- Boykin, P.O., Roychowdhury, V.: Optimal encryption of quantum bits. *Phys. Rev. A* **67**, 042317 (2003)
- Brace, K., Rudell, R., Bryant, R.: Efficient Implementation of a BDD Package. In: ACM Design Automation Conference. (1990)
- Bracha, G.: An $O(\log n)$ expected rounds randomized Byzantine generals protocol. *J. Assoc. Comput. Mach.* **34**(4), 910–920 (1987)
- Brafman, R., Tennenholtz, M.: R-max – a general polynomial time algorithm for near optimal reinforcement learning. *J. Mach. Learn. Res.* **3**, 213–231 (2002)
- Braga, M.D.V., Sagot, M.F., Scornavacca, C., Tannier, E.: The Solution Space of Sorting by Reversals. In: Proceedings of ISBRA'07. *Lect. Notes Comp. Sci.* **4463**, 293–304 (2007)
- Brainard, W.C., Scarf, H.E.: How to compute equilibrium prices in 1891. Cowles Foundation Discussion Paper 1270, August 2000
- Brakmo, L.S., Peterson, L.: TCP Vegas: End-to-end Congestion Avoidance on a Global Internet. *IEEE J. Sel. Areas Commun.* **13**(8), 1465–1480 (1995)
- Brass, P., Pach, J.: Problems and results on geometric patterns. In: Avis, D. et al. (eds.) *Graph Theory and Combinatorial Optimization*, pp. 17–36. Springer Science + Business Media Inc., NY, USA (2005)
- Brassard, G.: Searching a quantum phone book. *Science* **275**(5300), 627–628 (1997)
- Brassard, G., Elias, Y., Fernandez, J.M., Gilboa, H., Jones, J.A., Mor, T., Weinstein, Y., Xiao, L.: Experimental heat-bath cooling of spins. Submitted to *Proc. Natl. Acad. Sci. USA*. See also quant-ph/0511156 (2005)
- Brassard, G., Høyer, P.: An exact quantum polynomial-time algorithm for Simon's problem. In: *Proc. 5th Israeli Symp. on Theory of Computing and Systems (ISTCS)*, pp. 12–23. IEEE Computer Society Press, Hoboken (1997)
- Brassard, G., Høyer, P., Mosca, M., Tapp A.: Quantum Amplitude Amplification and Estimation. In: Lomonaco, S.J. (ed.) *Quantum Computation & Quantum Information Science*, AMS Contemporary Mathematics Series Millennium Volume, vol. 305, pp. 53–74. American Mathematical Society, Providence (2002)
- Brassard, G., Høyer, P., Mosca, M., Tapp, A.: Quantum amplitude amplification and estimation. In: *Quantum computation and information* (Washington, DC, 2000). *Contemp. Math.*, vol. 305, pp. 53–74. American Mathematical Society, Providence, RI (2002)
- Brassard, G., Høyer, P., Mosca, M., Tapp, A.: Quantum amplitude amplification and estimation. In: *Quantum Computation and Quantum Information Science*. AMS Contemporary Mathematics Series, vol. 305 Contemporary Mathematics, pp. 53–74, Providence (2002)
- Brassard, G., Høyer, P., Tapp, A.: Quantum Algorithm for the Collision Problem. 3rd Latin American Theoretical Informatics Symposium (LATIN'98). LNCS, vol. 1380, pp. 163–169. Springer (1998)
- Brassard, G., Høyer, P., Tapp, A.: Quantum cryptanalysis of hash and claw-free functions. In: *Proc. 3rd Latin American Theoretical Informatics Conference (LATIN)*. Lecture Notes in Computer Science, vol. 1380, pp. 163–169. Springer, New York (1998)
- Brayton, R., Hachtel, G., McMullen, C., Sangiovanni-Vincentelli, A.: *Logic Minimization Algorithms for VLSI Synthesis*. Kluwer Academic Publishers (1984)
- Brayton, R.K., Hachtel, G.D., Sangiovanni-Vincentelli, A.L.: Multilevel logic synthesis. *Proc. IEEE* **78**(2), 264–300 (1990)
- Brayton, R.K., Rudell, R., Sangiovanni-Vincentelli, A.L.: MIS: A Multiple-Level Logic Optimization. *IEEE Trans. CAD* **6**(6), 1061–1081 (1987)
- Briest, P., Krysta, P., Vöcking, B.: Approximation techniques for utilitarian mechanism design. In: *Proc. 37th Ann. ACM. Symp. on Theory of Comput. (STOC)*, pp. 39–48 (2005)
- Brin, S., Page, L.: The anatomy of a large-scale hypertextual Web search engine. In: *Proc. 7th Int. World Wide Web Conference*, pp. 107–117. Elsevier Science, Amsterdam (1998)
- Brisaboa, N.R., Fariña, A., Navarro, G., Esteller, M.F.: (S, C)-dense coding: An optimized compression code for natural language text databases. In: Nascimento, M.A. (ed.) *Proc. Symp. String Processing and Information Retrieval*. LNCS, vol. 2857, pp. 122–136, Manaus, Brazil, October 2003
- Brodal, G.S.: Cache-oblivious algorithms and data structures. In: *Proc. 9th Scandinavian Workshop on Algorithm Theory*. LNCS, vol. 3111, pp. 3–13. Springer, Berlin (2004)
- Brodal, G.S., Fagerberg, R.: Cache oblivious distribution sweeping. In: *Proc. 29th International Colloquium on Automata, Languages, and Programming*. LNCS, vol. 2380, pp. 426–438. Springer, Berlin (2002)

- Brodal, G.S., Fagerberg, R.: Cache-oblivious string dictionaries. In: *SODA: ACM-SIAM Symposium on Discrete Algorithms*, pp. 581–590. ACM Press, New York (2006)
- Brodal, G.S., Fagerberg, R.: On the limits of cache-obliviousness. In: *Proc. 35th Annual ACM Symposium on Theory of Computing*, pp. 307–315. ACM, New York (2003)
- Brodal, G.S., Fagerberg, R., Jacob, R.: Cache-oblivious search trees via binary trees of small height. In: *Proc. 13th Annual ACM-SIAM Symposium on Discrete Algorithms*, pp. 39–48. ACM, New York (2002)
- Brodal, G.S., Fagerberg, R., Meyer, U., Zeh, N.: Cache-oblivious data structures and algorithms for undirected breadth-first search and shortest paths. In: *Proc. 9th Scandinavian Workshop on Algorithm Theory. LNCS*, vol. 3111, pp. 480–492. Springer, Berlin (2004)
- Brodal, G.S., Fagerberg, R., Vinther, K.: Engineering a cache-oblivious sorting algorithm. *ACM J. Exp. Algorithmics (Special Issue of ALENEX 2004)* **12**(2.2), 23 (2007)
- Brodal, G.S., Jacob, R.: Time-dependent networks as models to achieve fast exact time-table queries. In: *Proceedings of the 3rd Workshop on Algorithmic Methods and Models for Optimization of Railways (ATMOS'03)*, 2003, [1], pp. 3–15
- Brodnik, A., Carlsson, S., Fredman, M.L., Karlsson, J., Munro, J.I.: Worst case constant time priority queue. *J. Syst. Softw.* **78**(3), 249–256 (2005). See also SODA'01
- Brodnik, A., Munro, J.I.: Membership in constant time and minimum space. In: *Lecture Notes in Computer Science*, vol. 855, pp. 72–81. Springer, Berlin (1994). Final version: Membership in Constant Time and Almost-Minimum Space. *SIAM J. Comput.* **28**(5), 1627–1640 (1999)
- Brönnimann, H., Goodrich, M.T.: Almost optimal set covers in finite VC-dimension. *Discret. Comput. Geom.* **14**(4), 463–479 (1995)
- Brown, L.G.: A survey of image registration techniques. *ACM Computing Surveys* **24**, 325–376 (1992)
- Brown, M.: *Algorithm Animation*. MIT Press, Cambridge, MA (1988)
- Brown, M.: Perspectives on Algorithm Animation. In: *Proceedings of the ACM SIGCHI'88 Conference on Human Factors in Computing Systems*. Washington, D.C., May 15–19, pp. 33–38 (1988)
- Brown, M.: Zeus: a System for Algorithm Animation and Multi-View Editing. In: *Proceedings of the 7th IEEE Workshop on Visual Languages*. Kobe, Japan, October 8–11, pp. 4–9 (1991)
- Brown, M., Grundy, W., Lin, D., Cristianini, N., Sugnet, C., Furey, T., Ares Jr., M., Haussler, D.: Knowledge-based analysis of microarray gene expression data using support vector machines. In: *Proceedings of the National Academy of Sciences* **97**(1), 262–267 (2000)
- Brown, M., Wilson, C.: RNA pseudoknot modeling using intersections of stochastic context free grammars with applications to database search. In: Hunter, L., Klein, T. (eds.) *Proceedings of the 1st Pacific Symposium on Biocomputing*, 1996, pp. 109–125
- Bruno, J., Downey, P., Frederickson, G.N.: Sequencing tasks with exponential service times to minimize the expected flow time or makespan. *J. ACM* **28**, 100–113 (1981)
- Bruno, J.L., Coffman, E.G., Sethi, R.: Scheduling independent tasks to reduce mean finishing time. *Commun. ACM* **17**, 382–387 (1974)
- Bruno, W.J., Socci, N.D., Halpern, A.L.: Weighted Neighbor Joining: A Likelihood-Based Approach to Distance-Based Phylogeny Reconstruction. *Mol. Biol. Evol.* **17**, 189–197 (2000)
- Bruschi, D., Del Pinto, M.: Lower bounds for the broadcast problem in mobile radio networks. *Distrib. Comput.* **10**(3), 129–135 (1997)
- Bryand, D.: Building trees, hunting for trees, and comparing trees: theory and methods in phylogenetic analysis. In: Ph.D. thesis, Dept. Math., University of Canterbury (1997)
- Bryant, R.: Graph-based Algorithms for Boolean Function Manipulation. *IEEE Trans. Comp.* **C-35**, 677–691 (1986)
- Bshouty, N., Eiron, N., Kushilevitz, E.: PAC learning with nasty noise. *TCS* **288**, 255–275 (2002)
- Bshouty, N., Feldman, V.: On using extended statistical queries to avoid membership queries. *J. Mach. Learn. Res.* **2**, 359–395 (2002)
- Bshouty, N., Hellerstein, L.: Attribute-efficient learning in query and mistake-bound models. *J. Comp. Syst. Sci.* **56**(3), 310–319 (1998)
- Bshouty, N.H.: Exact Learning Boolean Function via the Monotone Theory. *Inform. Comput.* **123**, 146–153 (1995)
- Bshouty, N.H.: Exact learning via the monotone theory. In: *Proc. of the 34th Annu. IEEE Symp. on Foundations of Computer Science*, pp. 302–311. IEEE Comput. Soc. Press, Los Alamitos (1993). Journal version: *Inform. Comput.* **123**(1), 146–153 (1995)
- Bshouty, N.H.: Simple learning algorithms using divide and conquer. In: *Proc. of 8th Annu. ACM Conf. on Comput. Learning Theory*, pp. 447–453. ACM Press, New York (1995). Journal version: *Computational Complexity*, **6**, 174–194 (1997)
- Bshouty, N.H., Cleve, R., Gavaldà, R., Kannan, S., Tamon, C.: Oracles and Queries That Are Sufficient for Exact Learning. *J. Comput. Syst. Sci.* **52**(3), 421–433 (1996)
- Bshouty, N.H., Jackson, J.C.: Learning DNF over the uniform distribution using a quantum example oracle. *SIAM J. Comput.* **28**, 1136–1153 (1999)
- Bshouty, N.H., Jackson, J.C., Tamon, C.: More efficient PAC-learning of DNF with membership queries under the uniform distribution. *J. Comput. Syst. Sci.* **68**, 205–234 (2004)
- Bshouty, N.H., Mossel, E., O'Donnell, R., Servedio, R.A.: Learning DNF from random walks. *J. Comput. Syst. Sci.* **71**, 250–265 (2005)
- Bshouty, N.H., Tamon, C., Wilson, D.K.: Learning Matrix Functions over Rings. *Algorithmica* **22**(1/2), 91–111 (1998)
- Bu, T.-M., Deng, X., Qi, Q.: Dynamics of strategic manipulation in ad-words auction. In: *3rd Workshop on Sponsored Search Auctions*, in conjunction with WWW2007, Banff, Canada, 2007
- Bu, T.-M., Qi, Q., Sun, A.W.: Unconditional competitive auctions with copy and budget constraints. In: Spirakis, P.G., Mavronicolas, M., Kontogiannis, S.C. (eds.) *Internet and Network Economics*, 2nd International Workshop, WINE 2006, Patras, Greece, 15–17 Dec 2006. *Lecture Notes in Computer Science*, vol. 4286, pp. 16–26. Springer, Berlin (2006)
- Buchmann, J.: A subexponential algorithm for the determination of class groups and regulators of algebraic number fields. In: Goldstein, C. (ed.) *Séminaire de Théorie des Nombres*, Paris 1988–1989, *Progress in Mathematics*, vol. 91, pp. 27–41. Birkhäuser (1990)
- Buchmann, J., Thiel, C., Williams, H.C.: Short representation of quadratic integers. In: Bosma, W., van der Poorten A.J. (eds.) *Computational Algebra and Number Theory*, Sydney 1992. *Mathematics and its Applications*, vol. 325, pp. 159–185. Kluwer Academic Publishers (1995)
- Buchmann, J.A., Williams, H.C.: A key exchange system based on real quadratic fields (extended abstract). In: Brassard, G. (ed.)

- Advances in Cryptology—CRYPTO '89. Lecture Notes in Computer Science, vol. 435, 20–24 Aug 1989, pp. 335–343. Springer (1990)
- Buchsbaum, A., Kaplan, H., Rogers, A., Westbrook, J.R.: Linear-time pointer-machine algorithms for least common ancestors, MST verification and dominators. In: Proc. ACM Symp. on Theory of Computing (STOC), 1998, pp. 279–288
- Buchsbaum, A.L., Caldwell, D.F., Church, K.W., Fowler, G.S., Muthukrishnan, S.: Engineering the compression of massive tables: An experimental approach. In: Proc. 11th ACM-SIAM Symp. on Discrete Algorithms, 2000, pp. 175–84
- Buchsbaum, A.L., Fowler, G.S., Giancarlo, R.: Improving table compression with combinatorial optimization. *J. ACM* **50**, 825–851 (2003)
- Buchsbaum, A.L., Goodrich, M.T., Westbrook, J.R.: Range searching over tree cross products. In: Proceedings of European Symposium on Algorithms, 2000, pp. 120–131
- Buhler, J., Tompa, M.: Finding motifs using random projections. In: RECOMB01: Proceedings of the Fifth Annual International Conference on Computational Molecular Biology, 2001, pp. 69–76
- Buhler, J., Tompa, M.: Finding motifs using random projections. *J. Comput. Biol.* **9**(2), 225–242 (2002)
- Buhrman, H., Dürr, C., Heiligman, M., Høyer, P., Magniez, F., Santha, M., de Wolf, R.: Quantum algorithms for element distinctness, quant-ph/0007016 (2000)
- Buhrman, H., Dürr, C., Heiligman, M., Høyer, P., Magniez, F., Santha, M., de Wolf, R.: Quantum algorithms for element distinctness. *SIAM J. Comput.* **34**(6), 1324–1330 (2005)
- Buhrman, H., Dürr, C., Heiligman, M., P. Høyer, Magniez, F., Santha, M., de Wolf, R.: Quantum algorithms for element distinctness. *SIAM J. Computing* **34**(6), 1324–1330, (2005). Preliminary version in Proc. CCC (2001) quant-ph/0007016
- Buhrman, H., Miltersen, P.B., Radhakrishnan, J., Venkatesh, S.: Are bitvectors optimal? *SIAM J. Comput.* **31**(6), 1723–1744 (2002)
- Buhrman, H., Špalek, R.: Quantum verification of matrix products. In: Proceedings of 17th ACM-SIAM Symposium on Discrete Algorithms, pp. 880–889, Miami, FL, USA, 22–26 January 2006
- Bui, T.N., Jones, C.: Finding good approximate vertex and edge partitions is NP-hard. *Inform. Process. Lett.* **42**(3), 153–159 (1992)
- Bunch, J., Hopcroft, J.: Triangular Factorization and Inversion by Fast Matrix Multiplication. *Math. Comput.* **125**, 231–236 (1974)
- Bunke, H., Csirik, H.: An Improved Algorithm for Computing the Edit Distance of Run Length Coded Strings. *Inf. Proc. Lett.* **54**, 93–96 (1995)
- Burani, N., Zwicker, W.S.: Coalition formation games with separable preferences. *Math. Soc. Sci.* **45**, 27–52 (2003)
- Burch, J.R., Clarke, E.M., McMillan, K.L., Dill, D.L.: Symbolic Model Checking: 10^{20} States and Beyond. *Inf. Comp.* **98**(2), 142–170 (1992)
- Burd, T.D., Brodersen, R.W.: Design Issues for Dynamic Voltage Scaling, Proceedings of the 2000 international symposium on Low power electronics and design, pp. 9–14. ACM, New York, USA (2000)
- Burgart, L.J., Robinson, R.A., Heller, M.J., Wilke, W.W., Iakubova, O.K., Cheville, J.C.: Multiplex polymerase chain reaction. *Mod. Pathol.* **5**, 320–323 (1992)
- Burkhardt, S., Kärkkäinen, J.: Fast lightweight suffix array construction and checking. In: Proc. 14th Annual Symposium on Combinatorial Pattern Matching. LNCS, vol. 2676, pp. 55–69. Springer, Berlin/Heidelberg (2003)
- Burkhart, M., von Rickenbach, P., Wattenhofer, R., Zollinger, A.: Does topology control reduce interference. In: ACM Int. Symposium on Mobile Ad-Hoc Networking and Computing (MobiHoc), Tokyo, 24–26 May 2004
- Burley, W.R.: Traversing layered graphs using the work function algorithm. *J. Algorithms* **20**, 479–511 (1996)
- Burley, W.R., Irani, S.: On algorithm design for metrical task systems. *Algorithmica* **18**, 461–485 (1997)
- Burnikel, C., Funke, S., Mehlhorn, K., Schirra, S., Schmitt, S.: A separation bound for real algebraic expressions. In: Lecture Notes in Computer Science, pp. 254–265. Springer, vol 2161 (2001)
- Burns, J.E.: A formal model for message-passing systems. Indiana University, Bloomington, TR-91, USA (1980)
- Burns, J.E., Lynch, N.A.: The Byzantine Firing Squad problem. *Adv. Comput. Res.* **4**, 147–161 (1987)
- Burns, J.E., Peterson, G.L.: Constructing multi-reader atomic values from non-atomic values. In: Proc. 6th ACM Symp. Principles Distr. Comput., pp. 222–231. Vancouver, 10–12 August 1987
- Burns, J.N., Lynch, N.A.: Bounds on shared-memory for mutual exclusion. *Inform. Comput.* **107**(2), 171–184 (1993)
- Burrows, M., Wheeler, D.: A block sorting lossless data compression algorithm. Tech. Report 124, Digital Equipment Corporation (1994)
- Busch, C., Herlihy, M., Wattenhofer, R.: Hard-potato routing. In: Proceedings of the 32nd Annual ACM Symposium on Theory of Computing, pp. 278–285. Portland, Oregon, United States (2000)
- Busch, C., Magdon-Ismael, M., Mavronicolas, M., Spirakis, P.: Direct routing: Algorithms and Complexity. *Algorithmica* **45**(1), 45–68 (2006)
- Busch, C., Tirthapura, S.: Analysis of link reversal routing algorithms. *SIAM J. Comput.* **35**(2):305–326 (2005)
- Busch, R., Magdon-Ismael, M., Sivrikaya, F., Yener, B.: Contention-Free MAC Protocols for Wireless Sensor Networks. In: Proc. 18th Annual Conference on Distributed Computing (DISC) (2004)
- Butler, J.M.: Forensic DNA Typing: Biology and Technology Behind STR Markers. Academic Press (2001)
- Butman, A., Hermelin, D., Lewenstein, M., Rawitz, D.: Optimization problems in multiple-interval graphs. In: Proc. 9th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA), ACM-SIAM, 2007, pp. 268–277
- Byrka, J.: An optimal bifactor approximation algorithm for the metric uncapacitated facility location problem. In: Proceedings of the 10th International Workshop on Approximation Algorithms for Combinatorial Optimization Problems (APPROX), Lecture Notes in Computer Science, vol. 4627, pp. 29–43. Springer, Berlin (2007)
- Byskov, J.M.: Exact algorithms for graph colouring and exact satisfiability. Ph. D. thesis, University of Aarhus, Denmark (2004)
- C. Ambühl: An optimal bound for the MST algorithm to compute energy efficient broadcast trees in wireless networks. In: Proceedings of 32th International Colloquium on Automata, Languages and Programming (ICALP). Lecture Notes in Computer Science, vol. 3580, pp. 1139–1150. Springer, Berlin (2005)
- Cabello, S.: Many distances in planar graphs. In: SODA '06: Proceedings of the seventeenth annual ACM-SIAM symposium on Discrete algorithm, pp. 1213–1220. ACM Press, New York (2006)
- Cai, M., Deng, X.: Approximation and computation of arbitrage in frictional foreign exchange market. *Electron. Notes Theor. Comput. Sci.* **78**, 1–10(2003)

- Cain, J.A., Sanders, P., Wormald, N.: The random graph threshold for k -orientability and a fast algorithm for optimal multiple-choice allocation. In: Proceedings of the 18th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA '07), pp. 469–476. ACM Press, New Orleans, Louisiana, USA, 7–9 December 2007
- Calabro, C., Impagliazzo, R., Kabanets, V., Paturi, R.: The Complexity of Unique k -SAT: An Isolation Lemma for k -CNFs. In: Proceedings of the Eighteenth IEEE Conference on Computational Complexity, 2003
- Calabro, C., Impagliazzo, R., Paturi, R.: A duality between clause width and clause density for SAT. In: Proceedings of the 21st Annual IEEE Conference on Computational Complexity (CCC 2006), pp. 252–260. IEEE Computer Society (2006)
- Calderbank, A.R., Rains, E.M., Shor, P.W., Sloane, N.J.A.: Quantum error correction via codes over GF(4). *IEEE Trans. Inform. Theory* **44**, 1369–1387 (1998)
- Calderbank, A.R., Shor, P.W.: Good quantum error-correcting codes exist. *Phys. Rev. A* **54**, 1098–1105 (1996)
- Caldwell, A.E., Kahng, A.B., Markov, I.L.: Optimal partitioners and end-case placers for standard-cell layout. *IEEE Trans. CAD* **19**(11), 1304–1314 (2000)
- Calinescu, G., Karloff, H., Rabani, Y.: Approximation algorithms for the 0-extension problem. In: SODA '01: Proceedings of the twelfth annual ACM-SIAM symposium on Discrete algorithms, Philadelphia, PA, USA, Society for Industrial and Applied Mathematics, pp. 8–16. (2001)
- Calinescu, G., Karloff, H.J., Rabani, Y.: An improved approximation algorithm for multiway cut. *J. Comput. Syst. Sci.* **60**(3), 564–574 (2000)
- Callahan, P.: Dealing with Higher Dimensions: The Well-Separated Pair Decomposition and Its Applications. Ph.D. Thesis, The Johns Hopkins University, USA (1995)
- Callahan, P.B., Kosaraju, S.R.: A decomposition of multidimensional point sets with applications to k -nearest-neighbors and n -body potential fields. *J. ACM* **42**, 67–90 (1995)
- Callahan, P.B., Kosaraju, S.R.: Faster Algorithms for Some Geometric Graph Problems in Higher Dimensions. In: SODA 1993, pp. 291–300
- Canadian Resident Matching Service (CaRMS) <http://www.carms.ca/>. Accessed 27 Feb 2008, JST
- Canetti, R., Rabin, T.: Fast asynchronous Byzantine agreement with optimal resilience. In: Proceedings of the 25th Annual ACM Symposium on the Theory of Computing, San Diego, California, 16–18 May 1993, pp. 42–51
- Cao, P., Irani, S.: Cost-aware WWW proxy caching algorithms. In: USENIX Symposium on Internet Technologies and Systems, Monterey, December 1997
- Caprara, A.: Sorting by reversals is difficult. In: Proc. 1st Conf. Computational Molecular Biology (RECOMB97), pp. 75–83. ACM, Santa Fe, NM (1997)
- Caprara, A.: Sorting permutations by reversals and Eulerian cycle decompositions. *SIAM J. Discret. Math.* **12**(1), 91–110 (1999)
- Carr, R.: The Tandem global update protocol. *Tandem Syst. Rev.* **1**, 74–85 (1985)
- Carter, J.L., Wegman, M.N.: Universal classes of hash functions. *J. Comput. Syst. Sci.* **18**(2), 143–154 (1979)
- Cartigny, J., Ingelrest, F., Simplot-Ryl, D., Stojmenovic, I.: Localized LMST and RNG based minimum-energy broadcast protocols in ad hoc networks. *Ad Hoc Netw.* **3**(1), 1–16 (2004)
- Cary, M., Das, A., Edelman, B., Giotis, I., Heimerl, K., Karlin, A.R., Mathieu, C., Schwarz, M.: Greedy bidding strategies for keyword auctions. In: MacKie-Mason, J.K., Parkes, D.C., Resnick, P. (eds.) Proceedings of the 8th ACM Conference on Electronic Commerce (EC-2007), San Diego, California, USA, June 11–15 2007, pp. 262–271. ACM, New York (2007)
- Case, J., Smith, C.H.: Anomaly hierarchies of mechanized inductive inference. In: Proceedings of the 10th Symposium on the Theory of Computing, pp. 314–319. ACM, New York (1978)
- Case, J., Smith, C.H.: Comparison of Identification Criteria for Machine Inductive Inference. *Theor. Comput. Sci.* **25**(2), 193–220 (1983)
- Cassels, J.W.S.: An introduction to the geometry of numbers. Springer, New York (1971)
- Castro, M., Druschel, P., Kermarrec, A.-M., Nandi, A., Rowstron, A., Singh, A.: Splitstream: High-bandwidth multicast in a cooperative environment. In: SOSP'03, October 2003
- Castro, M., Druschel, P., Rowstron, A.: Scribe: A large-scale and decentralised application-level multicast infrastructure. *IEEE J. Sel. Areas Commun. (JSAC)* (Special issue on Network Support for Multicast Communications) **20**(8), 1489–1499 (2002). ISSN: 0733–8716
- Cattaneo, G., Faruolo, P., Ferraro Petrillo, U., Italiano, G.F.: Maintaining Dynamic Minimum Spanning Trees: An Experimental Study. In: Proceeding 4th Workshop on Algorithm Engineering and Experiments (ALENEX 02), 6–8 Jan 2002. pp. 111–125
- Cattaneo, G., Ferraro, U., Italiano, G.F., Scarano, V.: Cooperative Algorithm and Data Types Animation over the Net. *J. Visual Lang. Comp.* **13**(4): 391– (2002)
- Cechlárová, K., Dahm, M., Lacko, V.: Efficiency and stability in a discrete model of country formation. *J. Glob. Opt.* **20**(3–4), 239–256 (2001)
- Cechlárová, K., Fleiner, T., Manlove, D.: The kidney exchange game. In: Zadnik-Stirn, L., Drobne, S. (eds.) Proc. SOR '05, pp. 77–83. Nova Gorica, September 2005
- Cechlárová, K., Hajduková, J.: Computational complexity of stable partitions with \mathcal{B} -preferences. *Int. J. Game. Theory* **31**(3), 353–364 (2002)
- Cechlárová, K., Hajduková, J.: Stability of partitions under WB-preferences and BW-preferences. *Int. J. Inform. Techn. Decis. Mak. Special Issue on Computational Finance and Economics* **3**(4), 605–614 (2004)
- Cechlárová, K., Hajduková, J.: Stability testing in coalition formation games. In: Rupnik, V., Zadnik-Stirn, L., Drobne, S. (eds.) Proceedings of SOR'99, pp. 111–116. Predvor, Slovenia (1999)
- Cechlárová, K., Hajduková, J.: Stable partitions with \mathcal{W} -preferences. *Discret. Appl. Math.* **138**(3), 333–347 (2004)
- Cechlárová, K., Lacko, V.: The Kidney Exchange problem: How hard is it to find a donor? IM Preprint A4/2006, Institute of Mathematics, P.J. Šafárik University, Košice, Slovakia, (2006)
- Cechlárová, K., Romero-Medina, A.: Stability in coalition formation games. *Int. J. Game. Theory* **29**, 487–494 (2001)
- Cesa-Bianchi, N., Dichterman, E., Fischer, P., Shamir, E., Simon, H.U.: Sample-efficient strategies for learning in the presence of noise. *J. ACM* **46**, 684–719 (1999)
- Cesa-Bianchi, N., Gentile, C.: Tracking the best hyperplane with a simple budget perceptron. In: Proceedings of the Nineteenth Annual Conference on Computational Learning Theory, (2006)
- CGAL: Computational Geometry Algorithms Library, <http://www.cgal.org/>. Accessed February 2008
- Chaitin, G.J.: Register allocation & spilling via graph coloring. In: Proceedings of the 1982 SIGPLAN Symposium on Compiler Construction (1982) pp. 98–105.

- Chaitin, G.J., Auslander, M.A., Chandra, A.K., Cocke, J., Hopkins, M.E., Markstein, P.W.: Register allocation via coloring. *Comp. Lang.* **6**, 47–57 (1981)
- Chakrabarti, A., Khot, S.: Improved lower bounds on the randomized complexity of graph properties. *Proc. ICALP* (2001)
- Chakrabarti, A., Regev, O.: An optimal randomised cell probe lower bound for approximate nearest neighbour searching. In: *Proc. 45th IEEE Symposium on Foundations of Computer Science (FOCS)*, 2004, pp. 473–482
- Chan, C.-Y., Felber, P., Garofalakis, M., Rastogi, R.: Efficient filtering of XML documents with XPath expressions. In: *Proceedings of the 18th International Conference on Data Engineering*, San Jose, California, pp. 235–244. IEEE Computer Society, New Jersey (2002)
- Chan, C.-Y., Garofalakis, M., Rastogi, R.: RE-Tree: An efficient index structure for regular expressions. In: *Proceedings of 28th International Conference on Very Large Data Bases*, Hong Kong, China, pp. 251–262. Morgan Kaufmann, Missouri (2002)
- Chan, C.-Y., Garofalakis, M., Rastogi, R.: RE-Tree: An efficient index structure for regular expressions. *Vldb J.* **12**(2), 102–119 (2003)
- Chan, H.-L., Lam, T.-W., Sung, W.-K., Tam, S.-L., Wong, S.-S.: A linear size index for approximate pattern matching. In: *Proceedings of Symposium on Combinatorial Pattern Matching*, 2006, pp. 49–59
- Chan, H.-L., Lam, T.-W., Sung, W.-K., Tam, S.-L., Wong, S.-S.: Compressed indexes for approximate string matching. In: *Proceedings of European Symposium on Algorithms*, 2006, pp. 208–219
- Chan, T.: More algorithms for all-pairs shortest paths in weighted graphs. In: *Proc. 39th ACM Symposium on Theory of Computing (STOC)*, 2007, pp. 590–598
- Chan, T., Cong, J., Sze, K.: Multilevel generalized force-directed method for circuit placement. *Proc. Intl. Symp. Physical Design*. ACM Press, San Francisco, 3–5 Apr 2005. pp. 185–192 (2005)
- Chan, T.M.: Backward analysis of the Karger–Klein–Tarjan algorithm for minimum spanning trees. *Inf. Process. Lett.* **67**, 303–304 (1998)
- Chan, T.M.: Euclidean bounded-degree spanning tree ratios. *Discret. Comput. Geom.* **32**(2), 177–194 (2004)
- Chan, W.-T., Wong, P.W.H., Yung, F.C.C.: On dynamic bin packing: an improved lower bound and resource augmentation analysis. In: *Proc. of the 12th Annual International Conference on Computing and Combinatorics (COCOON2006)*, 2006, pp. 309–319
- Chandhuri, S.: More Choices Allow More Faults: Set Consensus Problems in Totally Asynchronous Systems. *Inf. Comput.* **105**(1), 132–158, July 1993
- Chandra, T.D., Hadzilacos, V., Toueg, S.: The Weakest Failure Detector for Solving Consensus. *J. ACM* **43**(4), 685–722 (1996)
- Chandra, T.D., Toueg, S.: Unreliable failure detectors for reliable distributed systems. *J. ACM* **43**(2), 225–267 (1996)
- Chang, D.E., Vandersypen, L.M.K., Steffen, M.: NMR implementation of a building block for scalable quantum computation. *Chem. Phys. Lett.* **338**, 337–344 (2001)
- Chang, E.C., Choi, S.W., Kwon, D., Park, H., Yap, C.: Shortest Paths for Disc Obstacles is Computable. In: Gao, X.S., Michelucci, D. (eds.) *Special Issue on Geometric Constraints*. *Int. J. Comput. Geom. Appl.* **16**(5–6), 567–590 (2006), Also appeared in *Proc. 21st ACM Symp. Comp. Geom.*, pp. 116–125 (2005)
- Chang, J.-M., Maxemchuk, N.F.: Reliable broadcast protocols. *ACM Trans. Comput. Syst.* **2**, 251–273 (1984)
- Chang, J.T.: Full reconstruction of Markov models on evolutionary trees: identifiability and consistency. *Math. Biosci.* **137**, 51–73 (1996)
- Chang, P., Mendonca, D., Yao, X., Raghavachari, M.: An evaluation of ranking methods for multiple incomplete round-robin tournaments. In: *Proceedings of the 35th Annual Meeting of Decision Sciences Institute*, Boston, 20–23 November 2004
- Chang, S.K.: The design of network configurations with linear or piecewise linear cost functions. In: *Symp. on Computer-Communications, Networks, and Teletraffic*, pp. 363–369. IEEE Computer Society Press, California (1972)
- Chang, S.K.: The generation of minimal trees with a Steiner topology. *J. ACM* **19**, 699–711 (1972)
- Chang, W., Marr, T.: Approximate string matching and local similarity. In: *Proc. 5th Annual Symposium on Combinatorial Pattern Matching (CPM'94)*. LNCS, vol. 807, pp. 259–273. Springer, Berlin, Germany (1994)
- Chang, Y.-C., Chang, Y.-W., Wu, G.-M., Wu, S.-W.: B*-trees: A new representation for non-slicing floorplans. In: *37th DAC*, June 2000, pp. 458–463
- Chao, K.M., Miller, W.: Linear-space algorithms that build local alignments from fragments. *Algorithmica* **13**, 106–134 (1995)
- Charikar, M., Chekuri, C., Goel, A., Guha, S.: Rounding via trees: deterministic approximation algorithms for group steiner trees and k-median. In: *STOC '98: Proceedings of the thirtieth annual ACM symposium on Theory of computing*, pp. 114–123. ACM Press, New York (1998)
- Charikar, M., Guha, S.: Improved combinatorial algorithms for facility location problems. *SIAM J. Comput.* **34**(4), 803–824 (2005)
- Charikar, M., Guha, S., Tardos, E., Shmoys, D.B.: A constant-factor approximation algorithm for the k-median problem (extended abstract). In: *STOC '99: Proceedings of the thirty-first annual ACM symposium on Theory of computing*, pp. 1–10. Atlanta, May 1–4 1999
- Charikar, M., Guruswami, V., Wirth, A.: Clustering with qualitative information. In: *Proceedings of the 44th Annual IEEE Symposium on Foundations of Computer Science (FOCS)*, Boston 2003, pp. 524–533
- Charikar, M., Khuller, S., Mount, D., Narasimhan, G.: Facility location with outliers. In: *Proceedings of the 12th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA)*, pp. 642–651. SIAM, Philadelphia (2001)
- Charikar, M., Lehman, E., Liu, D., Panigrahy, R., Prabhakaran, M., Sahai, A., Shelat, A.: The smallest grammar problem. *IEEE Trans. Inf. Theor.* **51**, 2554–2576 (2005)
- Charny, A.: An algorithm for rate-allocation in a packet-switching network with feedback. Technical Report MIT/LCS/TR-601, Massachusetts Institute of Technology, April 1994
- Charras, C., Lecroq, T.: Handbook of exact string matching algorithms. King's College London Publications, London (2004)
- Charron-Bost, B., Schiper, A.: The “Heard-Of” model: Computing in distributed systems with benign failures. Technical Report, EPFL (2007)
- Charron-Bost, B., Schiper, A.: Uniform Consensus is Harder than Consensus. *J. Algorithms* **51**(1), 15–37 (2004)
- Chatterjee, M., Das, S., Turgut, D.: WCA: A weighted clustering algorithm for mobile ad hoc networks. *J. Clust. Comput.* **5**, 193–204 (2002)
- Chatzigiannakis, I., Dimitriou, T., Mavronicolas, M., Nikolettseas, S., Spirakis, P.: A Comparative Study of Protocols for Efficient Data Propagation in Smart Dust Networks. In: *Proc. 9th European*

- Symposium on Parallel Processing (EuroPar), Distinguished Paper. Lecture Notes in Computer Science, vol. 2790, pp. 1003–1016. Springer (2003) Also in the Parallel Processing Letters (PPL) Journal, Volume 13, Number 4, pp. 615–627 (2003)
- Chatzigiannakis, I., Dimitriou, T., Nikolettseas, S., Spirakis, P.: A Probabilistic Algorithm for Efficient and Robust Data Propagation in Smart Dust Networks. In: Proc. 5th European Wireless Conference on Mobile and Wireless Systems (EW 2004), pp. 344–350 (2004). Also in: *Ad-Hoc Netw J* **4**(5), 621–635 (2006)
- Chatzigiannakis, I., Dimitriou, T., Nikolettseas, S., Spirakis, P.: A probabilistic forwarding protocol for efficient data propagation in sensor networks. In: European Wireless Conference on Mobility and Wireless Systems beyond 3G (EW 2004), pp. 344–350. Barcelona, Spain, 27 February 2004
- Chatzigiannakis, I., Kinalis, A., Nikolettseas, S.: An Adaptive Power Conservation Scheme for Heterogeneous Wireless Sensors. In: Proc. 17th Annual ACM Symposium on Parallelism in Algorithms and Architectures (SPAA 2005), ACM Press, pp. 96–105 (2005). Also in: *Theory Comput Syst (TOCS) J* **42**(1), 42–72 (2008)
- Chatzigiannakis, I., Kinalis, A., Nikolettseas, S.: Sink Mobility Protocols for Data Collection in Wireless Sensor Networks. In: Proc. of the 4th ACM/IEEE International Workshop on Mobility Management and Wireless Access Protocols (MobiWac), ACM Press, pp. 52–59 (2006)
- Chatzigiannakis, I., Kinalis, A., Nikolettseas, S.: Sink mobility protocols for data collection in wireless sensor networks. In: Zomaya, A.Y., Bononi, L. (eds.) 4th International Mobility and Wireless Access Workshop (MOBIWAC 2006), Terromolinos, pp 52–59
- Chatzigiannakis, I., Mylonas, G., Nikolettseas, S.: Modeling and evaluation of the effect of obstacles on the performance of wireless sensor networks. In: 39th ACM/IEEE Simulation Symposium (ANSS), Los Alamitos, CA, USA, IEEE Computer Society, pp. 50–60 (2006)
- Chatzigiannakis, I., Nikolettseas, S.: Design and analysis of an efficient communication strategy for hierarchical and highly changing ad-hoc mobile networks. *J. Mobile Netw. Appl.* **9**(4), 319–332 (2004). Special Issue on Parallel Processing Issues in Mobile Computing
- Chatzigiannakis, I., Nikolettseas, S., Spirakis, P.: Distributed communication algorithms for ad hoc mobile networks. *J. Parallel Distrib. Comput.* (JPDC) **63**(1), 58–74 (2003). Special Issue on Wireless and Mobile Ad-hoc Networking and Computing, edited by Boukerche A
- Chatzigiannakis, I., Nikolettseas, S., Spirakis, P.: Smart dust protocols for local detection and propagation. *J. Mob. Netw. (MONET)* **10**, 621–635 (2005)
- Chaudhuri, K., Rao, S., Riesenfeld, S., Talwar, K.: A push-relabel algorithm for approximating degree bounded MSTs. In: Proceedings of the 33rd International Colloquium on Automata, Languages and Programming (ICALP 2006), Part I. LNCS, vol. 4051, pp. 191–201. Springer, Berlin (2006)
- Chaudhuri, S.: Agreement is harder than consensus: Set consensus problems in totally asynchronous systems. In: Proceedings Of The Ninth Annual ACM Symposium On Principles Of Distributed Computing, August 1990. pp. 311–234
- Chaudhuri, S., Herlihy, M., Lynch, N.A., Tuttle, M.R.: Tight bounds for k-set agreement. *J. ACM* **47**(5), 912–943 (2000)
- Chaudhuri, S., Zaroliagis, C.: Shortest Paths in Digraphs of Small Treewidth. Part I: Sequential Algorithms. *Algorithmica* **27**(3), pp. 212–226 (2000)
- Chaudhuri, S., Zaroliagis, C.: Shortest Paths in Digraphs of Small Treewidth. Part II: Optimal Parallel Algorithms. *Theor. Comput. Sci.* **203**(2), pp. 205–223 (1998)
- Chang, I.L., Gottesman, D.: Quantum teleportation is a universal computational primitive. *Nature* **402**, 390–393 (1999)
- Chawla, S., Gupta, A., Räcke, H.: Embeddings of Negative-type Metrics and An Improved Approximation to Generalized Sparsest Cut. In: Proceedings of the ACM-SIAM Symposium on Discrete Algorithms (SODA), Vancouver, January 2005, pp. 102–111
- Chawla, S., Krauthgamer, R., Kumar, R., Rabani, Y., Sivakumar, D.: On the Hardness of Approximating Sparsest Cut and Multicut. In: Proceedings of the 20th IEEE Conference on Computational Complexity (CCC), San Jose, June 2005, pp. 144–153
- Chazelle, B.: A minimum spanning tree algorithm with inverse-Ackermann type complexity. *J. ACM* **47**(6), 1028–1047 (2000)
- Che, Y.-K., Gale, I.: Standard auctions with financially constrained bidders. *Rev. Econ. Stud.* **65**(1), 1–21 (1998)
- Cheetham, J., Dehne, F., Rau-Chaplin, A., Stege, U., Taillon, P.: Solving large FPT problems on coarse grained parallel machines. *J. Comput. Syst. Sci.* **67**, 691–706 (2003)
- Chekuri, C., Goel, A., Khanna, S., Kumar, A.: Multi-processor scheduling to minimize flow time with epsilon resource augmentation. In: Symposium on Theory of Computing, STOC, pp. 363–372 (2004)
- Chekuri, C., Hagihay, M.T., Kortsarz, G., Salavatipour, M.: Approximation Algorithms for Non-Uniform Buy-at-Bulk Network Design. In: Proceedings of the 47th Annual Symp. on Foundations of Computer Science, Berkeley, Oct. 2006, pp. 677–686
- Chekuri, C., Khanna, S.: A PTAS for the multiple knapsack problem. In 11th ACM-SIAM Symp. on Discrete Algorithms (SODA), pp. 213–222 (2000)
- Chekuri, C., Khanna, S.: Approximation algorithms for minimizing weighted completion time. In: J. Y.-T. Leung (eds.) *Handbook of Scheduling: Algorithms, Models, and Performance Analysis*. CRC Press, Boca Raton (2004)
- Chekuri, C., Khanna, S., Shepherd, F.B.: A note on multiflows and treewidth. *Algorithmica*, published online (2007)
- Chekuri, C., Khanna, S., Shepherd, F.B.: An $O(\sqrt{n})$ approximation and integrality gap for disjoint paths and UFP. *Theor. Comput. Sci.* **2**, 137–146 (2006)
- Chekuri, C., Khanna, S., Shepherd, F.B.: Edge Disjoint Paths in Planar Graphs. Proc. of IEEE FOCS, 2004, pp. 71–80
- Chekuri, C., Khanna, S., Shepherd, F.B.: Edge-Disjoint Paths in Planar Graphs with Constant Congestion. Proc. ACM STOC, pp. 757–766 (2006)
- Chekuri, C., Khanna, S., Shepherd, F.B.: Multicommodity flow, well-linked terminals, and routing problems. Proc. ACM STOC, pp. 183–192 (2005)
- Chekuri, C., Khanna, S., Shepherd, F.B.: The All-or-Nothing Multicommodity Flow Problem. Proc. ACM STOC, pp. 156–165 (2004)
- Chekuri, C., Motwani, R., Natarajan, B., Stein, C.: Approximation techniques for average completion time scheduling. *SIAM J. Comput.* **31**(1), 146–166 (2001)
- Chen, B., van Vliet, A., Woeginger, G.J.: New lower and upper bounds for on-line scheduling. *Oper. Res. Lett.* **16**, 221–230 (1994)
- Chen, C.-P., Chen, Y.-P., Wong, D.F.: Optimal wire-sizing formula under the Elmore delay model. In: Proc. ACM/IEEE Design Automation Conf., pp. 487–490 ACM, New York (1996)

- Chen, C.-P., Wong, D.F.: A fast algorithm for optimal wire-sizing under Elmore delay model. In: Proc. IEEE ISCAS, vol. 4, pp. 412–415 IEEE Press, Piscataway (1996)
- Chen, C.-P., Wong, D.F.: Optimal wire-sizing function with fringing capacitance consideration. In: Proc. ACM/IEEE Design Automation Conf., pp. 604–607 ACM, New York (1997)
- Chen, C.P., Chu, C.N., Wong, D.F.: Fast and Exact Simultaneous Gate and Wire Sizing by Lagrangian Relaxation. In: Proceedings of the 1998 IEEE/ACM International Conference on Computer-Aided Design, pp. 617–624. November 1998
- Chen, D., Chiang, Y.J., Memon, N., Wu, X.: Optimal alphabet partitioning for semi-adaptive coding of sources of unknown sparse distributions. In: Storer, J.A., Cohn, M. (eds.) Proc. 2003 IEEE Data Compression Conference, pp. 372–381, IEEE Computer Society Press, Los Alamitos, California, March 2003
- Chen, D., Cong, J., Pan, P.: FPGA design automation: a survey. Foundations and Trends in Electronic Design Automation, vol 1, no 3. Now Publishers, Hanover, USA (2006)
- Chen, D.Z., Daescu, O., Klenk, K.S.: On geometric path query problems. *Int. J. Comput. Geom. Appl.* **11**, 617–645 (2001)
- Chen, D.Z., Hu, X., Huang, Y., Li, Y., Xu, J.: Algorithms for congruent sphere packing and applications. Proc. 17th Annual ACM Symp. on Computational Geometry, pp. 212–221 (2001)
- Chen, H., Frieze, A.M.: Coloring bipartite hypergraphs. In: Cunningham, H.C., McCormick, S.T., Queyranne, M. (eds.) Integer Programming and Combinatorial Optimization, 5th International IPCO Conference, Vancouver, British Columbia, Canada, June 3–5 1996. Lecture Notes in Computer Science, vol. 1084, pp. 345–358. Springer
- Chen, H.Y., Kang, S.M.: icoach: A circuit optimization aid for cmos high-performance circuits. *Intergr. VLSI J.* **10**(2), 185–212 (1991)
- Chen, J.-H., Le, S.-Y., Maize, J.: Prediction of common secondary structures of RNAs: a genetic algorithm approach. *Nucleic Acids. Res.* **28**, 991–999 (2000)
- Chen, J., Fernau, H., Kanj, I.A., Xia, G.: Parametric duality and kernelization: lower bounds and upper bounds on kernel size. *SIAM J. Comput.* **37**(4), 1077–1106 (2007)
- Chen, J., Kanj, I.A., Jia, W.: Vertex cover: further observations and further improvements. *J. Algorithms* **41**, 280–301 (2001)
- Chen, J., Kanj, I.A., Xia, G.: Improved parameterized upper bounds for vertex cover. In: Lecture Notes in Computer Science (MFCS 2006), vol. 4162, pp. 238–249. Springer, Berlin (2006)
- Chen, J., Liu, Y., Lu, S., O'Sullivan, B., Razgon, I.: A Fixed-Parameter Algorithm for the Directed Feedback Vertex Set Problem. In: 40th ACM Symposium on Theory of Computing STOC 2008, May 17–20, Victoria (BC), Canada (2008)
- Chen, J., Lu, S., Sze, S., Zhang, F.: Improved algorithms for path, matching, and packing problems. Proceedings of the 18th ACM-SIAM Symposium on Discrete Algorithms (SODA), pp. 298–307 (2007)
- Chen, J.J., Kuo, T.W., Lu, H.I.: Power-Saving Scheduling for Weakly Dynamic Voltage Scaling Devices Workshop on Algorithms and Data Structures (WADS). LNCS, vol. 3608, pp. 338–349. Springer, Berlin, Germany (2005)
- Chen, K.-Y., Chao, K.-M.: On the range maximum-sum segment query problem. Proceedings of the 15th International Symposium on Algorithms And Computation. LNCS **3341**, 294–305 (2004)
- Chen, K.-Y., Chao, K.-M.: Optimal algorithms for locating the longest and shortest segments satisfying a sum or an average constraint. *Inf. Process. Lett.* **96**, 197–201 (2005)
- Chen, L., Deng, X., Fang, Q., Tian, F.: Majority equilibrium for public facility allocation. *Lect. Notes Comput. Sci.* **2697**, 435–444 (2002)
- Chen, M.T., Seiferas, J.: Efficient and elegant subword tree construction. In: Apostolico, A., Galil, Z. (eds.) Combinatorial Algorithms on Words. Springer, New York (1985)
- Chen, T., Kao, M.-Y., Tepel, M., Rush J., Church, G.: A dynamic programming approach to de novo peptide sequencing via tandem mass spectrometry. *J. Comput. Biol.* **8**(3), 325–337 (2001)
- Chen, W., Toueg, S., Aguilera, M.K.: On the quality of service of failure detectors. *IEEE Trans. Comput.* **51**(1), 13–32 (2002)
- Chen, X., Deng, X.: 3-Nash is PPAD-complete. *ECCC*, TR05-134 (2005)
- Chen, X., Deng, X.: Settling the complexity of 2-player Nash equilibrium. In: Proceedings of the 47th Annual IEEE Symposium on Foundations of Computer Science (FOCS'06). Berkeley, 21–24 October 2005
- Chen, X., Deng, X., Liu, B.J.: On incentive compatible competitive selection protocol. In: COCOON'06: Proceedings of the 12th Annual International Computing and Combinatorics Conference, pp. 13–22, Taipei, 15–18 August 2006
- Chen, X., Deng, X., Liu, B.J.: On incentive compatible competitive selection protocol. In: Computing and Combinatorics, 12th Annual International Conference, COCOON 2006, Taipei, Taiwan, 15 August 2006. Lecture Notes in Computer Science, vol. 4112, pp. 13–22. Springer, Berlin (2006)
- Chen, X., Deng, X., Teng, S.H.: Computing Nash equilibria: approximation and smoothed complexity. In: FOCS'06: Proc. of the 47th Annual IEEE Symposium on Foundations of Computer Science, 2006, pp. 603–612
- Chen, Y.H., Lu, H.I., Tang, C.Y.: Disjoint segments with maximum density. In: Proceedings of the 5th Annual International Conference on Computational Science, pp. 845–850 (2005)
- Cheng, C.-H., Chen, K.-Y., Tien, W.-C., Chao, K.-M.: Improved algorithms for the k maximum-sum problems. Proceedings of the 16th International Symposium on Algorithms And Computation. *Theoret. Comput. Sci.* **362**: 162–170 (2006)
- Cheng, C.S., Shann, J.J.J., Chung, C.P.: Unique-order interpolative coding for fast querying and space-efficient indexing in information retrieval systems. *Inf. Process. Manag.* **42**(2), 407–428 (2006)
- Cheng, X., Huang, X., Li, D., Wu, W., Du, D.-Z.: A polynomial-time approximation scheme for minimum connected dominating set in ad hoc wireless networks. *Networks* **42**, 202–208 (2003)
- Cheriton, D. and Tarjan, R.E.: Finding Minimum Spanning Trees. *SIAM J. Comput.* **5**(4), 724–742 (1976)
- Cheriyán, J., Thurimella, R.: Approximating minimum-size k -connected spanning subgraphs via matching. *SIAM J. Comput.* **30**(2), 528–560 (2000)
- Cheriyán, J., Vempala, S., Vetta, A.: An approximation algorithm for the minimum-cost k -vertex connected subgraph. *SIAM J. Comput.* **32**(4), 1050–1055 (2003)
- Cheriyán, J., Vetta, A.: Approximation algorithms for network design with metric costs. Proc. 37th Annual ACM Symposium on Theory of Computing, Baltimore, 22–24 May 2005, pp. 167–175. (2005)
- Cherkassky, B.V., Goldberg, A.V.: Negative-Cycle Detection Algorithms. *Math. Program.* **85**, pp. 277–311 (1999)

- Chernoff, H.: A measure of the asymptotic efficiency for tests of a hypothesis based on the sum of observations. *Ann. Math. Stat.* **23**, 493–509 (1952)
- Cheung, C., Yu, J., Lu, H.: Constructing suffix tree for gigabyte sequences with megabyte memory. *IEEE Trans. Knowl. Data Eng.* **17**, 90–105 (2005)
- Cheung, K., Cunningham, W.H., Tang, L.: Optimal 3-Terminal Cuts and Linear Programming. *Math. Program.* **105**, 389–421 (2006), Preliminary version in IPCO 1999
- Cheung, K., Mosca, M.: Decomposing Finite Abelian Groups. *Quantum Inf. Comp.* **1**(2), 26–32 (2001)
- Chew, L.P.: There are planar graphs almost as good as the complete graph. *J. Comput. Syst. Sci.* **39**, 205–219 (1989)
- Chew, L.P.: There is a planar graph almost as good as the complete graph. In: *Proceedings of the 2nd ACM Symposium on Computational Geometry*, pp. 169–177 (1986)
- Chew, L.P., Kedem, K.: Improvements on geometric pattern matching problems. In: *Proc. Scandinavian Workshop Algorithm Theory (SWAT)*. LNCS, vol. 621, pp. 318–325. Springer, Berlin (1992)
- Chiang, Y.-T., Lin, C.-C., Lu, H.-I.: Orderly spanning trees with applications. *SIAM J. Comput.* **34**(4), 924–945 (2005)
- Chiaverini, J., Leibfried, D., Schaetz, T., Barrett, M.D., Blakestad, R.B., Britton, J., Itano, W.M., Jost, J.D., Knill, E., Langer, C., Ozeri, R., Wineland, D.J.: Realization of quantum error correction. *Nature* **432**, 602–605 (2004)
- Childs, A., Cleve, R., Deotto, E., Farhi, E., Gutmann, S., Spielman, D.: Exponential algorithmic speedup by a quantum walk. In: *Proc. STOC* (2003)
- Childs, A.M., Eisenberg, J.M.: Quantum algorithms for subset finding. *Quantum Inf. Comput.* **5**, 593 (2005)
- Childs, A.M., Goldstone, J.: Spatial search and the Dirac equation. *Phys. Rev. A* **70**, 042312 (2004)
- Childs, A.M., Goldstone, J.: Spatial search by quantum walk. *Phys. Rev. A* **70**, 022314 (2004)
- Childs, A.M., Landahl A.J., Parrilo, P.A.: Improved quantum algorithms for the ordered search problem via semidefinite programming. *Phys. Rev. A* **75**, 032335 (2007)
- Childs, A.M., Reichardt, B.W., Špalek, R., Zhang, S.: Every NAND formula of size N can be evaluated in time $N^{1/2+o(1)}$ on a quantum computer, quant-ph/0703015 (2007)
- Chinn, P.Z., Chvátalová, J., Dewdney, A.K., Gibbs, N.E.: The bandwidth problem for graphs and matrices—a survey. *J. Graph Theory* **6**(3), 223–254 (1982)
- Chlebig M., Chlebigova J.: Approximation Hardness of the Steiner Tree Problem on Graphs. In: *8th Scandinavian Workshop on Algorithm Theory*. Number 2368 in LNCS, pp. 170–179, (2002)
- Chlebus, B.S., Gasieniec, L., Gibbons, A., Pelc, A., Rytter, W.: Deterministic broadcasting in ad hoc radio networks. *Distrib. Comput.* **15**, 27–38 (2002)
- Chlebus, B.S., Kowalski, D.R.: Almost Optimal Explicit Selectors. In: *Proc. 15th International Symposium on Fundamentals of Computation Theory*, pp. 270–280, Lübeck, Germany (2005)
- Chlebus, B.S., Kowalski, D.R.: Time and Communication Efficient Consensus for Crash Failures. In: *Proc. 20th International Symposium on Distributed Computing (DISC)*, pp. 314–328, Sweden, September 2006
- Chlebus, M., Gaśieniec, L., Östlin, A., Robson, J.M.: Deterministic broadcasting in radio networks. In: *Proc. 27th International Colloquium on Automata, Languages and Programming*. LNCS, vol. 1853, pp. 717–728, Geneva, Switzerland (2000)
- Chockler, G., Keidar, I., Vitenberg, R.: Group communication specifications: A comprehensive study. *ACM Comput. Surv.* **33**, 427–469 (2001)
- Choi, J., Dongarra, J.J., Pozo, R., Walker, D.W.: ScaLAPACK: A scalable linear algebra library for distributed memory concurrent computers. In: *The 4th Symp. the Frontiers of Massively Parallel Computations*, pp. 120–127, McLean, VA (1992)
- Choi, V., Goyal, N.: An efficient approximation algorithm for point pattern matching under noise. In: *Proc. 7th Latin American Symposium on Theoretical Informatics (LATIN 2006)*. LNCS, vol. 3882, pp. 298–310. Springer, Berlin (2006)
- Chong, K., Sahni, S.: Optimal Realizations of Floorplans. In: *IEEE Trans. Comput. Aided Des.* **12**(6), 793–901 (1993)
- Chong, K.W., Han, Y., Lam, T.W.: Concurrent Threads and Optical Parallel Minimum Spanning Trees Algorithm. *J. ACM* **48**(2), 297–323 (2001)
- Chopra, S., Rao, M.R.: On the Multiway Cut Polyhedron. *Networks* **21**, 51–89 (1991)
- Chor, B., Coan, B.: A simple and efficient randomized Byzantine agreement algorithm. *IEEE Trans. Softw. Eng.* **SE-11**(6), 531–539 (1985)
- Chor, B., Dwork, C.: Randomization in Byzantine Agreement. *Adv. Comput. Res.* **5**, 443–497 (1989)
- Chor, B., Hendy, M., Penny, D.: Analytic solutions for three-taxon ML_{MC} trees with variable rates across sites. In: *Proceedings of the 1st Workshop on Algorithms in Bioinformatics (WABI 2001)*. Lecture Notes in Computer Science, vol. 2149, pp. 204–213. Springer (2001)
- Chor, B., Moscovici, L.: Solvability in asynchronous environments. In: *Proc. 30th Symposium on Foundations of Computer Science*, pp. 422–427 (1989)
- Chor, B., Sudan, M.: A geometric approach to betweenness. *SIAM J. Discret. Math.* **11**, 511–523 (1998)
- Chou, P., Wu, Y., Jain, K.: Network coding for the internet. In: *IEEE Communication Theory Workshop*, 2004
- Chowdhury, R.A., Ramachandran, V.: Cache-oblivious dynamic programming. In: *Proc. 17th Annual ACM-SIAM Symposium on Discrete Algorithms*, pp. 591–600. ACM-SIAM, New York (2006)
- Chowdhury, R.A., Ramachandran, V.: Cache-oblivious shortest paths in graphs using buffer heap. In: *Proc. 16th Annual ACM Symposium on Parallelism in Algorithms and Architectures*. ACM, New York (2004)
- Choy, C., Jansson, J., Sadakane, K., Sung, W.-K.: Computing the maximum agreement of phylogenetic networks. In: *Proc. Computing: the 10th Australasian Theory Symposium (CATS 2004)*, 2004, pp. 33–45
- Christie, D.A.: Genome Rearrangement Problems. Ph. D. thesis, Department of Computer Science. University of Glasgow, U.K. (1999)
- Christodoulou, G., Koutsoupias, E.: On the price of anarchy and stability of correlated equilibria of linear congestion games. In: *Algorithms – ESA 2005, 13th Annual European Symposium*, pp. 59–70. Springer, Palma de Mallorca (2005)
- Christodoulou, G., Koutsoupias, E.: The Price of Anarchy of Finite Congestion Games. In: *Proc. of the 37th ACM Symp. on Th. of Comp. (STOC '05)*, pp. 67–73. ACM, Baltimore (2005)
- Christodoulou, G., Koutsoupias, E., Nanavati, A.: Coordination mechanisms. In: *Proceedings of the 31st International Colloquium on Automata, Languages and Programming (ICALP)*, pp. 345–357 (2004)

- Christodoulou, G., Koutsoupias, E., Vidali, A.: A lower bound for scheduling mechanisms. In: Proc. 18th Symposium on Discrete Algorithms (SODA), 2007
- Christofides, N.: Worst-case analysis of a new heuristic for the traveling salesman problem. In: Technical report, Graduate School of Industrial Administration. Carnegie-Mellon University, Pittsburgh (1976)
- Chrobak, M.: Sigact news online algorithms column 1. *ACM SIGACT News* **34**, 68–77 (2003)
- Chrobak, M., Gąsieniec, L., Kowalski, D.: The Wake-Up Problem in Multi-Hop Radio Networks. In: Proc. of the 15th ACM-SIAM Symposium on Discrete Algorithms (SODA), pp. 992–1000 (2004)
- Chrobak, M., Gąsieniec, L., Rytter, W.: A Randomized Algorithm for Gossiping in Radio Networks. In: Proc. 8th Annual International Computing Combinatorics Conference. Guilin, China, pp. 483–492 (2001) Full version in *Networks* **43**(2), 119–124 (2004)
- Chrobak, M., Gąsieniec, L., Rytter, W.: Fast Broadcasting and Gossiping in Radio Networks. In: Proc. 41st Annual Symposium on Foundations of Computer Science, pp. 575–581, Redondo Beach, USA (2000) Full version in *J. Algorithms* **43**(2) 177–189 (2002)
- Chrobak, M., Karloff, H., Payne, T.H., Vishwanathan, S.: New results on server problems. *SIAM J. Discret. Math.* **4**(2), 172–181 (1991)
- Chrobak, M., Larmore, L.L.: An optimal online algorithm for k servers on trees. *SIAM J. Comput.* **20**, 144–148 (1991)
- Chrobak, M., Larmore, L.L.: Metrical service systems: Deterministic strategies. Tech. Rep. UCR-CS-93-1, Department of Computer Science, Univ. of California at Riverside (1992)
- Chrobak, M., Larmore, L.L.: Metrical task systems, the server problem and the work function algorithm. In: Fiat, A., Woeginger, G.J. (eds.) *Online Algorithms. The State of the Art. LNCS*, vol. 1442, ch. 4, pp. 74–96. Springer, London (1998)
- Chrobak, M., Sgall, J.: The weighted 2-server problem. *Theor. Comput. Sci.* **324**, 289–312 (2004)
- Chrobak, M., Ślusarek, M.: On some packing problems relating to dynamical storage allocation. *RAIRO J. Inf. Theor. Appl.* **22**, 487–499 (1988)
- Chu, C.: FLUTE: Fast lookup table based wirelength estimation technique. In: Proc. Intl. Conf. on Computer-Aided Design, San Jose, Nov. 2004, pp. 696–701
- Chu, C., Wong, Y.C.: Fast and accurate rectilinear steiner minimal tree algorithm for vlsi design. In: International Symposium on Physical Design, pp. 28–35 (2005)
- Chu, C.C.N., Wong, D.F.: A quadratic programming approach to simultaneous buffer insertion/sizing and wire sizing. *IEEE Trans. Comput. Des.* **18**(6), 787–798 (1999)
- Chu, C.C.N., Wong, D.F.: Greedy wire-sizing is linear time. *IEEE Trans. Comput. Des.* **18**(4), 398–405 (1999)
- Chu, Y., Rao, S.G., Zhang, H.: A case for end system multicast. In: Proceedings of ACM SIGMETRICS, Santa Clara, June 2000, pp. 1–12
- Chuang, R.C.-N., Garg, A., He, X., Kao, M.-Y., Lu, H.-I.: Compact encodings of planar graphs via canonical orderings and multiple parentheses. *Comput. Res. Repos. cs.DS/0102005* (2001)
- Chudak, F.A., Shmoys, D.B.: Improved approximation algorithms for the uncapacitated facility location problem. *SIAM J. Comput.* **33**(1), 1–25 (2003)
- Chudak, F.A., Williamson, D.P.: Improved approximation algorithms for capacitated facility location problems. In: Proceedings of the 7th Conference on Integer Programming and Combinatorial Optimization (IPCO). Lecture Notes in Computer Science, vol. 1610, pp. 99–113. Springer, Berlin (1999)
- Chudak, F.A., Williamson, D.P.: Improved approximation algorithms for capacitated facility location problems. *Math. Program.* **102**(2), 207–222 (2005)
- Chun, B., Culler, D., Roscoe, T., Bavier, A., Peterson, L., Wawrzoniak, M., Bowman, M.: Planetlab: An overlay testbed for broad-coverage services. *ACM SIGCOMM Comput. Commun. Rev.* **33**, 3–12 (2003)
- Chung, F.R.K., Hajela, D.J., Seymour, P.D.: Self-organizing sequential search and Hilbert's inequality. In: Proc. 17th Annual Symposium on the Theory of Computing pp 217–223 (1985)
- Chung, F.R.K., Seymour, P.D.: Graphs with small bandwidth and cutwidth. *Discret. Math.* **75**(1–3), 113–119 (1989). Graph theory and combinatorics, Cambridge (1988)
- Chung, K.-M., Lu, H.-I.: An optimal algorithm for the maximum-density segment problem. *SIAM. J. Comput.* **34**, 373–387 (2004)
- Chung, R.H., Gusfield, D.: Empirical exploration of perfect phylogeny haplotyping and haplotypes. In: Proceedings of Annual International Conference on Computing and Combinatorics (COCOON). Lecture Notes in Computer Science, vol. 2697, pp. 5–9. Springer, Berlin (2003)
- Chuzhoy, J., Guruswami, V., Khanna, S., Talwar, K.: Hardness of routing with congestion in directed graphs. In: STOC '07: Proceedings of the thirty-ninth annual ACM symposium on Theory of computing, pp. 165–178. ACM Press, New York (2007)
- Chuzhoy, J., Khanna, S.: Polynomial flow-cut gaps and hardness of directed cut problems. In: Proceedings of the 39th ACM Symposium on Theory of Computing (STOC), San Diego, June 2007 pp. 179–188
- Chuzhoy, J., Naor, J.: New Hardness Results for Congestion Minimization and Machine Scheduling. Proceedings of the 36th Annual ACM Symposium on Theory of Computing, pp. 28–34. ACM, New York (2004)
- Chvátal, V.: A Greedy Heuristic for the Set-Covering Problem. *Math. Oper. Res.* **4**(3), 233–235 (1979)
- Chvátal, V.: Tough graphs and Hamiltonian circuits. *Discret. Math.* **5**, 215–228 (1973)
- Chvátal, V., Reed, B.: Mick gets some (the odds are on his side). In: 33rd Annual Symposium on Foundations of Computer Science, pp. 620–627. IEEE Computer Society, Pittsburgh (1992)
- Cilibiasi, R., Vitanyi, P.M.B.: Clustering by compression. *IEEE Trans. Inf. Theory* **51**, 1523–1545 (2005)
- Cimikowski, R.: Branch-and-bound techniques for the maximum planar subgraph problem. *Int. J. Computer Math.* **53**, 135–147 (1994)
- Ciriani, V., Ferragina, P., Luccio, F., Muthukrishnan, S.: A data structure for a sequence of string accesses in external memory. *ACM Trans. Algorithms* **3** (2007)
- Clark, B.N., Colbourn, C.J., Johnson, D.S.: Unit disk graphs. *Discret. Math.* **86**, 165–177 (1990)
- Clark, D., Munro, J.I.: Efficient suffix trees on secondary storage. In: Proc. 7th ACM-SIAM SODA, pp. 383–391 (1996)
- Clark, J., DeRose, S.: XML Path Language (XPath) Version 1.0. W3C Recommendation, <http://www.w3.org/TR/xpath>, Accessed Nov 1999
- Clarke, E.H.: Multipart pricing of public goods. *Publ. Choice* **2**, 19–33 (1971)

- Clarkson, K.L.: Fast Expected-Time and Approximation Algorithms for Geometric Minimum Spanning Trees. In: Proc. STOC 1984, pp. 342–348
- Cleary, J.G., Witten, I.H.: Data compression using adaptive coding and partial string matching. *IEEE Transactions on Communications*, COM-32, pp. 396–402 (1984)
- Clementi, A., Crescenzi, P., Penna, P., Rossi, G., Vocca, P.: On the Complexity of Computing Minimum Energy Consumption Broadcast Subgraphs. In: Proceedings of the 18th Annual Symposium on Theoretical Aspects of Computer Science (STACS), pp. 121–131 (2001)
- Clementi, A., Huiban, G., Penna, P., Rossi, G., Verhoeven, Y.: Some Recent Theoretical Advances and Open Questions on Energy Consumption in Ad-Hoc Wireless Networks. In: Proceedings of the 3rd Workshop on Approximation and Randomization Algorithms in Communication Networks (ARACNE), pp. 23–38 (2002)
- Cleve, R., Ekert, A., Macchiavello, C., Mosca, M.: Quantum algorithms revisited. *Proc. Royal Soc. London* **A454**, 339–354 (1998)
- Cleve, R., Luby, M.: A note on self-testing/correcting methods for trigonometric functions. In: International Computer Science Institute Technical Report TR-90-032, July 1990
- Clifford, R., Christodoukalis, M., Crawford, T., Meredith, D., Wiggins, G.: A Fast, Randomised, Maximum Subset Matching Algorithm for Document-Level Music Retrieval. In: Proc. International Conference on Music Information Retrieval (ISMIR 2006), University of Victoria, Canada (2006)
- Clinton, K.: Transactions costs and covered interest arbitrage: theory and evidence. *J. Political Econ.* **96**(2), 358–370 (1988)
- Coan, B.A., Welch, J.L.: Modular construction of a Byzantine agreement protocol with optimal message bit complexity. *Inf. Comput.* **97**(1), 61–85 (1992)
- Cobbs, A.: Fast approximate matching using suffix trees. In: Proceedings of Symposium on Combinatorial Pattern Matching, 1995, pp. 41–54
- Codenotti, B., McCune, B., Varadarajan, K.: Market equilibrium via the excess demand function. In: Proceedings STOC'05, pp. 74–83. ACM, Baltimore (2005)
- Codenotti, B., Saberi, A., Varadarajan, K., Ye, Y.: Leontief economies encode nonzero sum two-player games. *SODA* (2006)
- Coelho, L.P., Oliveira, A.L.: Dotted suffix trees: a structure for approximate text indexing. In: SPIRE, 2006, pp. 329–336
- Coffman, E., Garey, M., Jr., Johnson, D., Lapaugh, A.: Scheduling file transfers. *SIAM J. Comput.* **14**(3), 744–780 (1985)
- Coffman, E.G., Garey, M.R., Johnson, D.S.: Approximation algorithms for bin packing: a survey. In: Hochbaum, D. (ed.) *Approximation Algorithms for NP-hard Problems*, pp. 46–93. PWS, Boston (1996)
- Coffman, E.G., Garey, M.R., Johnson, D.S.: Dynamic bin packing. *SIAM J. Comput.* **12**(2), 227–258 (1983)
- Coffman, E.G., Graham, R.L.: Optimal scheduling for two processors systems. *Acta Informatica* **1**, 200–213 (1972)
- Coffman, E.G., Kleinrock, L.: Feedback Queueing Models for Time-Shared Systems. *J. ACM (JACM)* **15**(4), 549–576 (1968)
- Coffman Jr, E.G., Courcoubetis, C., Garey, M.R., Johnson, D.S., McGeoch, L.A., Shor, P.W., Weber, R.R., Yannakakis, M.: Fundamental discrepancies between average-case analyses under discrete and continuous distributions. In: Proc. of the 23rd Annual ACM Symposium on Theory of Computing, New York, 1991, pp. 230–240. ACM Press, New York (1991)
- Coffman Jr., E.G., Gilbert, E.N.: Paths through a maze of rectangles. *Networks* **22**, 349–367 (1992)
- Coffman Jr., E.G., Johnson, D.S., Shor, P.W., Weber, R.R.: Bin packing with discrete item sizes, part II: Tight bounds on first fit. *Random Struct. Algorithms* **10**, 69–101 (1997)
- Coffman Jr., E.G., So, K., Hofri, M., Yao, A.C.: A stochastic model of bin-packing. *Inf. Cont.* **44**, 105–115 (1980)
- Cohen, B.: Incentives build robustness in bittorrent. In: Proceedings of P2P Economics Workshop, 2003
- Cohen, E.: Fast algorithms for constructing t -spanners and paths with stretch t . *SIAM J. Comput.* **28**, 210–236 (1998)
- Cohen, H.: A course in computational algebraic number theory. *Graduate Texts in Mathematics*, vol. 138. Springer (1993)
- Cohen, P.R.: *Empirical Methods for Artificial Intelligence*. MIT Press, Cambridge (1995)
- Coja-Oghlan, A., Goerdts, A., Lanka, A., Schädlich, F.: Techniques from combinatorial approximation algorithms yield efficient algorithms for random $2k$ -SAT. *Theor. Comput. Sci.* **329**(1–3), 1–45 (2004)
- Cole, R., Hariharan, R.: Faster suffix tree construction with missing suffix links. In: Proceedings of the 30th Annual ACM Symposium on Theory of Computing, 2000, pp. 407–415
- Cole, R.: On the dynamic finger conjecture for splay trees II: The proof. *SIAM J. Comput.* **30**(1), 44–85 (2000)
- Cole, R., Farach-Colton, M., Hariharan, R., Przytycka, T., Thorup, M.: An $O(n \log n)$ algorithm for the maximum agreement subtree problem for binary trees. *SIAM J. Comput.* **30**(5), 1385–1404 (2000)
- Cole, R., Gottlieb, L.A., Lewenstein, M.: Dictionary matching and indexing with errors and don't cares. In: Proceedings of Symposium on Theory of Computing, 2004, pp. 91–100
- Cole, R., Hariharan, R.: A Fast Algorithm for Computing Steiner Edge Connectivity. In: Proc. of the 35th Annual ACM Symposium on Theory of Computing, San Diego 2003, pp. 167–176
- Cole, R., Hariharan, R.: An $O(n \log n)$ algorithm for the maximum agreement subtree problem for binary trees. *Proc. of the 7th ACM-SIAM SODA*, pp. 323–332 (1996)
- Cole, R., Hariharan, R.: Approximate string matching: A simpler faster algorithm. *SIAM J. Comput.* **31**(6), 1761–1782 (2002)
- Cole, R., Hariharan, R., Paterson, M., Zwick, U.: Tighter lower bounds on the exact complexity of string matching. *SIAM J. Comput.* **24**(1), 30–45 (1995)
- Cole, R., Klein, P.N., Tarjan, R.E.: Finding minimum spanning forests in logarithmic time and linear work using random sampling. In: Proceedings of the 8th Annual ACM Symposium on Parallel Architectures and Algorithms, 1996, pp. 243–250
- Cole, R., Kopelowitz, T., Lewenstein, M.: Suffix trays and suffix trits: Structures for faster text indexing. In: Proc. of International Colloquium on Automata, Languages and Programming (ICALP), 2006, pp. 358–369
- Cole, R., Mishra, B., Schmidt, J., Siegel, A.: On the dynamic finger conjecture for splay trees I: Splay sorting $\log n$ -block sequences. *SIAM J. Comput.* **30**(1), 1–43 (2000)
- Cole, R., Vishkin, U.: Approximate and Exact Parallel Scheduling with Applications to List, Tree, and Graph Problems. In: Proceedings of the 27th Annual IEEE Symposium on Foundations of Computer Science, 1986, pp. 478–491
- Collins, M.: Discriminative training methods for hidden markov models: Theory and experiments with perceptron algorithms. In: Conference on Empirical Methods in Natural Language Processing, (2002)

- Comer, D.E.: The ubiquitous B-tree. *ACM Comput. Surv.* **11**, 121–137 (1979)
- Cominetti, R., Correa, J.R., Moses, N.E.S.: Network games with atomic players. In: *Automata, Languages and Programming, 33rd International Colloquium (ICALP)*, pp. 525–536. Springer, Venice (2006)
- Commentz-Walter, B.: A string matching algorithm fast on the average. In: *Proceedings of ICALP'79*. LNCS, vol. 71, pp. 118–132. Springer, Berlin (1979)
- Condon, A., Davy, B., Rastegari, B., Tarrant, F., Zhao, S.: Classifying RNA pseudoknotted structures. *Theor. Comput. Sci.* **320**, 35–50 (2004)
- Cong, J., Ding, Y.: An optimal technology mapping algorithm for delay optimization in lookup-table based FPGA designs, *Proc. IEEE/ACM International Conference on Computer-Aided Design*, pp. 48–53. San Jose, USA (1992)
- Cong, J., Ding, Y.: Combinational logic synthesis for LUT based field programmable gate arrays. *ACM Trans. Design Autom. Electron. Sys.* **1**(2): 145–204 (1996)
- Cong, J., Ding, Y.: FlowMap: An Optimal Technology Mapping Algorithm for Delay Optimization in Lookup-Table Based FPGA Designs. *IEEE Trans. on Comput. Aided Des. of Integr. Circuits and Syst.*, **13**(1), 1–12 (1994)
- Cong, J., Hagen, L., Kahng, A.: Net Partitions Yield Better Module Partitions. In: *Proc. 29th ACM/IEEE Design Automation Conf.*, 1992, pp. 47–52
- Cong, J., He, L.: Optimal wiresizing for interconnects with multiple sources. *ACM Trans. Des. Autom. Electron. Syst.* **1**(4) 568–574 (1996)
- Cong, J., Leung, K.-S.: Optimal wiresizing under the distributed Elmore delay model. *IEEE Trans. Comput. Des.* **14**(3), 321–336 (1995)
- Cong, J., Wu, C.: FPGA Synthesis with Retiming and Pipelining for Clock Period Minimization of Sequential Circuits. *ACM/IEEE Design Automation Conference* (1997)
- Conn, A.R., Coulman, P.K., Haring, R.A., Morrill, G.L., Visweswariah, C., Wu, C.W.: JiffyTune: Circuit Optimization Using Time-Domain Sensitivities. *IEEE Trans. Comput. Aided. Des. Integr. Circuits. Syst.* **17**(12), 1292–1309 (1998)
- Conway, J.H.: An enumeration of knots and links, and some of their algebraic properties. *Computational Problems in Abstract Algebra* (Proc. Conf., Oxford, 1967), 329–358 (1970)
- Conway, J.H., Sloane, N.J.A.: *Sphere Packings, Lattices and Groups*. Springer, New York (1988)
- Cook, S.: The complexity of theorem-proving procedures. In: *Proceedings of the 3rd Annual Symposium on Theory of Computing*, pp. 151–158. Shaker Heights, May 3–5, 1971.
- Cook, S.A., Dwork, C., Reischuk, R.: Upper and lower time bounds for parallel random access machines without simultaneous writes. *SIAM J. Comput.* **15**(1), 87–97 (1986)
- Cook, W., Seymour, P.D.: Tour merging via branch-decomposition. *Inf. J. Comput.* **15**, 233–248 (2003)
- Cook, W.J., Cunningham, W.H., Pulleyblank, W.R., Schrijver, A.: *Combinatorial optimization*. Wiley, New York (1998)
- Coppersmith, D.: Manuscript, private communications (1989)
- Coppersmith, D.: Rectangular matrix multiplication revisited. *J. Complex.* **13**, 42–49 (1997)
- Coppersmith, D., Winograd, S.: Matrix Multiplication via Arithmetic Progressions. In: *Proceedings of the 19th Annual ACM Conference on Theory of Computing (STOC)*, 1987, pp. 1–6
- Coppersmith, D., Winograd, S.: Matrix multiplication via arithmetic progressions. *J. Symb. Comput.* **9**(3), 251–280 (1990)
- Cormack, G.: Data compression in a data base system. *Commun. ACM* **28**, 1336–1350 (1985)
- Cormen, T.H., Leiserson, C.E., Rivest, R.L.: *Introduction to algorithms*. McGraw-Hill, New York (1990)
- Cormen, T.H., Leiserson, C.E., Rivest, R.L.: *Introduction to Algorithms*. MIT Press, Cambridge (1989)
- Cormen, T.H., Leiserson, C.E., Rivest, R.L., Stein, C.: *Introduction to Algorithms*, 2nd edn. MIT Press, Cambridge (2001)
- Cormen, T.H., Sundquist, T., Wisniewski, L.F.: Asymptotically tight bounds for performing BMMC permutations on parallel disk systems. *SIAM J. Comput.* **28**, 105–136 (1999)
- Cormode, G., Muthukrishnan, S.: Combinatorial algorithms for compressed sensing. In: *Structural Information and Communication Complexity, 13th International Colloquium, SIROCCO* (2006), Chester, UK, July 2–5, 2006 pp. 280–294
- Cormode, G., Muthukrishnan, S.: Substring compression problems. In: *Proc. 16th ACM-SIAM Symposium on Discrete Algorithms (SODA '05)*, pp. 321–330 (2005)
- Cormode, G., Muthukrishnan, S.: The string edit distance matching problem with moves. *Proc. ACM-SIAM SODA* 667–676 (2002)
- Cormode, G., Paterson, M., Sahinalp, S.C., Vishkin, U.: Communication complexity of document exchange. *Proc. ACM-SIAM SODA* 197–206 (2000)
- Cornuéjols, G., Fisher, M.L., Nemhauser, G.L.: Location of bank accounts to optimize float: An analytic study of exact and approximate algorithms. *Manag. Sci.* **8**, 789–810 (1977)
- Cornuejols, G., Nemhauser, G.L., Wolsey, L.A.: The uncapacitated facility location problem. In: *Discrete Location Theory*, pp. 119–171. Wiley, New York (1990)
- Cortes, C., Vapnik, V.: Support-vector network. *Mach. Learn.* **20**, 273–297 (1995)
- Cory, D.G., Fahmy, A.F., Havel, T.F.: Ensemble quantum computing by NMR spectroscopy. *Proc. Natl. Acad. Sci.* **94**, 1634–1639 (1997)
- Cottle, R., Pang, J.S., Stone, R.E.: *The linear complementarity problem*. Academic Press, Boston (1992)
- Coudert, O., Madre, J.C.: New ideas for solving covering problems. In: *Proc. Design Automation Conf.*, 1995, pp. 641–646
- Courcoubetis, C., Weber, R.R.: Necessary and sufficient conditions for stability of a bin packing system. *J. Appl. Prob.* **23**, 989–999 (1986)
- Cournier, A., Datta, A.K., Petit, F., Villain, V.: Snap-Stabilizing PIF Algorithm in Arbitrary Networks. In: *Proceedings of the 22nd International Conference Distributed Computing Systems*, pp. 199–206, Vienna, July 2002
- Cover, T.M., Thomas, J.A.: *Elements of Information Theory*. Wiley Interscience, New York, USA (1990)
- Cox, I.J., Rao, S. B., Zhong, Y.: 'Ratio Regions': A Technique for Image Segmentation. In: *Proceedings International Conference on Pattern Recognition, IEEE*, pp. 557–564, August (1996)
- Cramer, K., Dekel, O., Keshet, J., Shalev-Shwartz, S., Singer, Y.: On-line passive aggressive algorithms. *J. Mach. Learn. Res.* **7** (2006)
- Cramer, K., Singer, Y.: A new family of online algorithms for category ranking. In: *Proceedings of the 25th Annual International ACM SIGIR Conference on Research and Development in Information Retrieval* (2002)
- Cramton, P., Shoham, Y., Steinberg, R.: *Combinatorial Auctions*. MIT Press (2005)

- Cramton, P., Steinberg, R., Shoham, Y. (eds.): Combinatorial Auctions. MIT Press, Cambridge (2005)
- Crane, C.A.: Linear lists and priority queues as balanced binary trees. Technical Report STAN-CS-72-259, Computer Science Dept., Stanford University (1972)
- Crescenzi, P., Demetrescu, C., Finocchi, I., Petreschi, R.: Reversible Execution and Visualization of Programs with LEONARDO. *J. Visual Lang. Comp.* **11**, 125–150 (2000). Leonardo is available at: <http://www.dis.uniroma1.it/~demetres/Leonardo/>. Accessed 15 Jan 2008
- Crescenzi, P., Grossi, R., Italiano, G.: Search data structures for skewed strings. In: International Workshop on Experimental and Efficient Algorithms (WEA). Lecture Notes in Computer Science, vol. 2, pp. 81–96. Springer, Berlin (2003)
- Cristian, F.: Synchronous atomic broadcast for redundant broadcast channels. *Real-Time Syst.* **2**, 195–212 (1990)
- Cristian, F., Aghili, H., Strong, R., Dolev, D.: Atomic Broadcast: From simple message diffusion to Byzantine agreement. In: Proc. 15th Intl. Symp. on Fault-Tolerant Computing (FTCS-15), Ann Arbor, June 1985 pp. 200–206. IEEE Computer Society Press
- Cristian, F., Aghili, H., Strong, R., Dolev, D.: Atomic broadcast: From simple message diffusion to Byzantine agreement. *Inform. Comput.* **118**, 158–179 (1995)
- Cristianini, N., Shawe-Taylor, J.: An Introduction to Support Vector Machines and other kernel-based learning methods. Cambridge University Press, Cambridge, Book website: www.support-vector.net (2000)
- Crochemore, M.: Transducers and repetitions. *Theor. Comput. Sci.* **45**(1), 63–86 (1986)
- Crochemore, M.: An optimal algorithm for computing the repetitions in a word. *Inform. Process. Lett.* **12**(5), 244–250 (1981)
- Crochemore, M.: Recherche linéaire d'un carré dans un mot. *Comptes Rendus Acad. Sci. Paris Sér. I Math.* **296**, 781–784 (1983)
- Crochemore, M., Czumaj, A., Gąsieniec, L., Jarominek, S., Lecroq, T., Plandowski, W., Rytter, W.: Speeding up two string matching algorithms. *Algorithmica* **12**(4/5), 247–267 (1994)
- Crochemore, M., Czumaj, A., Gąsieniec, L., Lecroq, T., Plandowski, W., Rytter, W.: Fast practical multi-pattern matching. *Inf. Process. Lett.* **71**(3–4), 107–113 (1999)
- Crochemore, M., Galil, Z., Gąsieniec, L., Hariharan, R., Muthukrishnan, S., Park, K., Ramesh, H., Rytter, W.: Parallel two-dimensional pattern matching. In: Proceeding of 34th Annual IEEE FOCS, 1993, pp. 248–258
- Crochemore, M., Hancart, C., Lecroq, T.: Algorithms on strings. Cambridge University Press, Cambridge (2007)
- Crochemore, M., Hermelin, D., Landau, G., Rawitz, D., Viallette, S.: Approximating the 2-interval pattern problem, Theoretical Computer Science (special issue for Alberto Apostolico) (2008)
- Crochemore, M., Ilie, L.: Analysis of maximal repetitions in strings. *J. Comput. Sci.* (2007)
- Crochemore, M., Landau, G.M., Schieber, B., Ziv-Ukelson, M.: Re-Use Dynamic Programming for Sequence Alignment: An Algorithmic Toolkit. In: Iliopoulos, C.S., Lecroq, T. (eds.) String Algorithms, pp. 19–59. King's College London Publications, London (2005)
- Crochemore, M., Landau, G.M., Ziv-Ukelson, M.: A subquadratic sequence alignment algorithm for unrestricted scoring matrices. *SIAM J. Comput.* **32**(6), 1654–1673 (2003)
- Crochemore, M., Perrin, D.: Two-way string matching. *J. ACM* **38**(3), 651–675 (1991)
- Crochemore, M., Rytter, W.: Jewels of Stringology. World Scientific Publishing Company, Singapore (2002)
- Crochemore, M., Rytter, W.: Squares, cubes, and time-space efficient string searching. *Algorithmica* **13**(5), 405–425 (1995)
- Courant, R., Robbins, H.: What Is Mathematics? Oxford University Press, New York (1941)
- Crovella, M.E., Frangioso, R., Harchal-Balter, M.: Connection scheduling in web servers. In: Proceedings of the 2nd USENIX Symposium on Internet Technologies and Systems (USITS-99), 1999 pp. 243–254
- Csirik, J., Johnson, D.S.: Bounded space on-line bin packing: Best is better than first. *Algorithmica* **31**, 115–138 (2001)
- Csirik, J., Johnson, D.S., Kenyon, C., Orlin, J.B., Shor, P.W., Weber, R.R.: On the sum-of-squares algorithm for bin packing. *J. ACM* **53**, 1–65 (2006)
- Csirik, J., Johnson, D.S., Kenyon, C., Shor, P.W., Weber, R.R.: A self organizing bin packing heuristic. In: Proc. of the 1999 Workshop on Algorithm Engineering and Experimentation. LNCS, vol. 1619, pp. 246–265. Springer, Berlin (1999)
- Csirik, J., Woeginger, G.: On-line packing and covering problems. In: Fiat, A., Woeginger, G. (eds.) Online Algorithms: The State of the Art. LNCS, vol. 1442, pp. 147–177. Springer, Berlin (1998)
- Csiszár, I., Körner, J.: Broadcast channels with confidential messages. *IEEE Trans. Inf. Theory* **24**, 339–348 (1978)
- Csűrös, M.: Fast recovery of evolutionary trees with thousands of nodes. *J. Comput. Biol.* **9**(2), 277–297 (2002) Conference version at RECOMB 2001
- Csűrös, M.: Maximum-scoring segment sets. *IEEE/ACM Trans. Comput. Biol. Bioinform.* **1**, 139–150 (2004)
- Csűrös, M., Kao, M.-Y.: Provably fast and accurate recovery of evolutionary trees through Harmonic Greedy Triplets. *SIAM J. Comput.* **31**(1), 306–322 (2001) Conference version at SODA (1999)
- Csűrös, M., Miklós, I.: A probabilistic model for gene content evolution with duplication, loss, and horizontal transfer. In: Lecture Notes in Bioinformatics, Proceedings of RECOMB2006, vol. 3909, pp. 206–220 (2006)
- Culberson, J.C.: <http://web.cs.ualberta.ca/~joe/Coloring/index.html>
- Culberson, J.C., Rudnicki, P.: A fast algorithm for constructing trees from distance matrices. *Inf. Process. Lett.* **30**, 215–220 (1989)
- Culik II, K., Wood, D.: A note on some tree similarity measures. *Inf. Process. Lett.* **15**(1), 39–42 (1982)
- Culler, D.E., Karp, R.M., Patterson, D.A., Sahay, A., Schauer, K.E., Santos, E., Subramonian, R., von Eicken, T.: LogP: Towards a realistic model of parallel computation. In: 4th Symp. Principles and Practice of Parallel Programming, pp. 1–12. ACM SIGPLAN (1993)
- Culpepper, J.S., Moffat, A.: Enhanced byte codes with restricted prefix properties. In: Consens, M.P., Navarro, G. (eds.) Proc. Symp. String Processing and Information Retrieval. LNCS Volume 3772, pp. 1–12, Buenos Aires, November 2005
- Cypher, R., Meyer auf der Heide, F., Scheideler, C., Vöcking, B.: Universal algorithms for store-and-forward and wormhole routing. In: Proceedings of the 28th ACM Symposium on Theory of Computing, pp. 356–365. Philadelphia, Pennsylvania, USA (1996)
- Czumaj, A.: Selfish routing on the Internet. In: Leung, J. (ed.) Handbook of Scheduling: Algorithms, Models, and Performance Analysis. CRC Press, Boca Raton, FL, USA (2004)
- Czumaj, A., Ergün, F., Fortnow, L., Magen, A., Newman, I., Rubinfeld, R., Sohler, C.: Approximating the Weight of the Euclidean Mini-

- imum Spanning Tree in Sublinear Time. *SIAM J. Comput.* **35**(1), 91–109 (2005)
- Czumaj, A., Krysta, P., Vöcking, B.: Selfish traffic allocation for server farms. In: *Proceedings of the 34th Annual ACM Symposium on Theory of Computing (STOC)*, pp. 287–296 (2002)
- Czumaj, A., Lingas, A.: Approximation schemes for minimum-cost k -connectivity problems in geometric graphs. In: Gonzalez, T.F. (eds.) *Handbook of Approximation Algorithms and Metaheuristics*. CRC Press, Boca Raton (2007)
- Czumaj, A., Lingas, A.: Fast approximation schemes for Euclidean multi-connectivity problems. In: *Proceedings of the 27th International Colloquium on Automata, Languages and Programming*. *Lect. Notes Comput. Sci.* **1853**, 856–868 (2000)
- Czumaj, A., Lingas, A.: On approximability of the minimum-cost k -connected spanning subgraph problem. *Proc. 10th Annual ACM-SIAM Symposium on Discrete Algorithms*, Baltimore, 17–19 January 1999, pp. 281–290
- Czumaj, A., Lingas, A., Zhao, H.: Polynomial-time approximation schemes for the Euclidean survivable network design problem. *Proc. 29th Annual International Colloquium on Automata, Languages and Programming*, Malaga, 8–13 July 2002, pp. 973–984
- Czumaj, A., Rytter, W.: Broadcasting algorithms in radio networks with unknown topology. *J. Algorithms* **60**(2), 115–143 (2006)
- Czumaj, A., Vöcking, B.: Tight bounds for worst-case equilibria. *ACM Trans. Algorithms* **3**(1) (2007)
- Czumaj, A., Vöcking, B.: Tight bounds for worst-case equilibria. In: *Proc. of the 13th ACM-SIAM Symp. on Discr. Alg. (SODA '02)*, pp. 413–420. SIAM, San Francisco (2002)
- Czumaj, A., Zhao, H.: Fault-tolerant geometric spanners. *Discret. Comput. Geom.* **32**(2), 207–230 (2004)
- Dacre, M., Glazebrook, K., Nino-Mora, J.: The achievable region approach to the optimal control of stochastic systems. *J. R. Stat. Soc. Series B* **61**(4), 747–791 (1999)
- Dahlhaus, E., Johnson, D.S., Papadimitriou, C.H., Seymour, P.D., Yannakakis, M.: The Complexity of Multiterminal Cuts. *SIAM J. Comp.* **23**, 864–894 (1994). Preliminary version in *STOC 1992*, An extended abstract was first announced in 1983
- Dai, Z., Asada, K.: MOSIZ: A Two-Step Transistor Sizing Algorithm based on Optimal Timing Assignment Method for Multi-Stage Complex Gates. In: *Proceedings of the 1989 Custom Integrated Circuits Conference*, pp. 17.3.1–17.3.4. May 1989
- Daley, R.P., Smith, C.H.: On the Complexity of Inductive Inference. *Inform. Control* **69**(1–3), 12–40 (1986)
- Dalli, D., Wilm, A., Mainz, I., Stegar, G.: STRAL: progressive alignment of non-coding RNA using base pairing probability vectors in quadratic time. *Bioinformatics* **22**(13), 1593–1599 (2006)
- Damron, P., Fedorova, A., Lev, Y., Luchangco, V., Moir, M., Nussbaum, D.: Hybrid transactional memory. In: *Proc. 12th Symposium on Architectural Support for Programming Languages and Operating Systems*, 2006
- Dančák, V., Addona, T., Clauser, K., Vath, J., Pevzner, P.: De novo protein sequencing via tandem mass-spectrometry. *J. Comput. Biol.* **6**, 327–341 (1999)
- Dantsin, E., Goerdt, A., Hirsch, E.A., Kannan, R., Kleinberg, J., Papadimitriou, C., Raghavan, P., Schöning, U.: A deterministic $(2 - 2/(k+1))^n$ algorithm for k -SAT based on local search. *Theor. Comput. Sci.* **289**(1), 69–83 (2002)
- Dantsin, E., Hirsch, E.A.: Worst-Case Upper Bounds. In: Biere, A., van Maaren, H., Walsh, T. (eds.) *Handbook of Satisfiability*. IOS Press (2008) To appear
- Dantsin, E., Hirsch, E.A., Wolpert, A.: Clause shortening combined with pruning yields a new upper bound for deterministic SAT algorithms. In: *Proceedings of CIAC-2006. Lecture Notes in Computer Science*, vol. 3998, pp. 60–68. Springer, Berlin (2006)
- Dantsin, E., Wolpert, A.: Max SAT for formulas with constant clause density can be solved faster than in $O(2^n)$ time. In: *Proc. of the 9th International Conference on Theory and Applications of Satisfiability Testing*. *LNCS*, vol. 4121, pp. 266–276. Springer, Berlin (2006)
- Darga, P.T., Liffiton, M.H., Sakallah, K.A., Markov, I.L.: Exploiting Structure in Symmetry Generation for CNF. In: *Proceedings of the 41st Design Automation Conference*, 2004, pp. 530–534. Source code at <http://vlsicad.eecs.umich.edu/BK/SAUCY/>
- Darringer, J.A., Brand, D., Gerbi, J.V., Joyner, W.H., Trevillyan, L.H.: LSS: Logic Synthesis through Local Transformations. *IBM J. Res. Dev.* **25**, 272–280 (1981)
- Das, B., Bharghavan, V.: Routing in ad-hoc networks using minimum connected dominating sets. In: *Proceedings of IEEE International Conference on Communications (ICC'97)*, vol. 1, pp. 376–380. Montreal, 8–12 June 1997
- Das, G.: The visibility graph contains a bounded-degree spanner. In: *Proceedings of the 9th Canadian Conference on Computational Geometry*, Kingston, 11–14 August 1997
- Das, G., Joseph, D.: Which Triangulations Approximate the Complete Graph? In: *Proc. Int. Symp. Optimal Algorithms*. *LNCS* 401, pp. 168–192. Springer, Berlin (1989)
- Das, G., Joseph, D.: Which triangulations approximate the complete graph? In: *Proceedings of the International Symposium on Optimal Algorithms*. *Lecture Notes in Computer Science*, vol. 401, pp. 168–192. Springer, Berlin (1989)
- Das, G., Narasimhan, G.: A fast algorithm for constructing sparse Euclidean spanners. *Int. J. Comput. Geom. Appl.* **7**, 297–315 (1997)
- Das, G., Narasimhan, G., Salowe, J.: A new way to weigh malnourished Euclidean graphs. In: *Proceedings of the 6th ACM-SIAM Symposium on Discrete Algorithms*, pp. 215–222. San Francisco, 22–24 January 1995
- Dasdan, A., Aykanat, C.: Improved Multiple-Way Circuit Partitioning Algorithms. In: *Int. ACM/SIGDA Workshop on Field Programmable Gate Arrays*, Feb. 1994
- DasGupta, B., He, X., Jiang, T., Li, M., Tromp, J.: On the linear-cost subtree-transfer distance. *Algorithmica* **25**(2), 176–195 (1999)
- DasGupta, B., He, X., Jiang, T., Li, M., Tromp, J., Wang, L., Zhang, L.: Computing Distances between Evolutionary Trees. In: Du, D.Z., Pardalos, P.M. (eds.) *Handbook of Combinatorial Optimization*. Kluwer Academic Publishers, Norwell, **2**, 35–76 (1998)
- DasGupta, B., He, X., Jiang, T., Li, M., Tromp, J., Zhang, L.: On Computing the Nearest Neighbor Interchange Distance. In: Du, D.Z., Pardalos, P.M., Wang, J. (eds.) *Proceedings of the DIMACS Workshop on Discrete Problems with Medical Applications*, DIMACS Series in Discrete Mathematics and Theoretical Computer Science. *Am. Math. Soc.* **55**, 125–143 (2000)
- DasGupta, B., He, X., Jiang, T., Li, M., Tromp, J., Zhang, L.: On distances between phylogenetic trees, 8th Annual ACM-SIAM Symposium on Discrete Algorithms, pp. 427–436 (1997)
- DasGupta, B., He, X., Jiang, T., Li, M., Tromp, J., Zhang, L.: On Distances between Phylogenetic Trees. In: *Proceedings of the Eighth ACM-SIAM Annual Symposium on Discrete Algorithms (SODA)*, New Orleans, pp. 427–436. SIAM, Philadelphia (1997)
- Daskalakis, C., Goldberg, P.W., Papadimitriou, C.H.: The complexity of computing a Nash equilibrium. In: *STOC'06: Proceedings of*

- the 38th ACM Symposium on Theory of Computing, 2006, pp. 71–78
- Daskalakis, C., Hill, C., Jaffe, A., Mihaescu, R., Mossel, E., Rao, S.: Maximal accurate forests from distance matrices. In: *Proc. Research in Computational Biology (RECOMB)*, pp. 281–295 (2006)
- Daskalakis, C., Mehta, A., Papadimitriou, C.: A note on approximate Nash equilibria. In: *Proceedings of the 2nd Workshop on Internet and Network Economics (WINE'06)*, pp. 297–306. Patras, 15–17 December 2006
- Daskalakis, C., Mehta, A., Papadimitriou, C.: Progress in approximate Nash equilibrium. In: *Proceedings of the 8th ACM Conference on Electronic Commerce (EC07)*, San Diego, 11–15 June 2007
- Daskalakis, C., Mossel, E., Roch, S.: Optimal phylogenetic reconstruction. In: *Proc. ACM Symposium on Theory of Computing (STOC)*, pp. 159–168 (2006)
- Daskalakis, C., Papadimitriou, C.H.: Three-player games are hard. *ECCC*, TR05-139 (2005)
- Datta, S., Stojmenovic, I., Wu, J.: Internal Node and Shortcut Based Routing with Guaranteed Delivery in Wireless Networks. In: *Cluster Computing 5*, pp. 169–178. Kluwer Academic Publishers, Dordrecht (2002)
- Davis, M., Logemann, G., Loveland, D.: A machine program for theorem-proving. *Commun. ACM* **5**, 394–397 (1962)
- Davis, M., Putnam, H.: A computing procedure for quantification theory. *J. Assoc. Comput. Mach.* **7**(4), 201–215 (1960)
- Day, W.H.E.: Optimal Algorithms for Comparing Trees with Labeled Leaves. *J. Classif.* **2**, 7–28 (1985)
- de Berg, M., van Kreveld, M., Overmars, M., Schwarzkopf, O.: *Computational Geometry – Algorithms and Applications*, 2nd edn. Springer, Heidelberg (2000)
- De Bonis, A., Gaşieniec, L., Vaccaro, U.: Optimal Two-Stage Algorithms for Group Testing Problems. *SIAM J. Comput.* **34**(5), 1253–1270 (2005)
- de Klerk, E., Pasechnik, D., Warners, J.: On approximate graph colouring and MAX- k -CUT algorithms based on the θ function. *J. Combin. Optim.* **8**(3), 267–294 (2004)
- De Marco, G., Gargano, L., Kranakis, E., Krizanc, D., Pelc, A., Vaccaro, U.: Asynchronous Deterministic Rendezvous in Graphs. *Theoret. Comput. Sci.* **355**, 315–326 (2006)
- De Marco, G., Pelc, A.: Faster broadcasting in unknown radio networks. *Inf. Process. Lett.* **79**(2), 53–56 (2001)
- De Micheli, G.: *Synthesis and Optimization of Digital Circuits*, 1st edn., pp. 504–533. McGraw-Hill, New York (1994)
- de Moura, E.S., Navarro, G., Ziviani, N., Baeza-Yates, R.: Fast and flexible word searching on compressed text. *ACM Trans. Inf. Syst.* **18**(2), 113–139 (2000)
- De Roberts, E., Oliver, G., Wright, C.: Homeobox genes and the vertebrate body plan, pp. 46–52. *Scientific American* (1990)
- Défago, X., Schiper, A., Urbán, P.: Total order broadcast and multicast algorithms: Taxonomy and survey. *ACM Comput. Surv.* **36**, 372–421 (2004)
- Degermark, M., Brodnik, A., Carlsson, S., Pink, S.: Small forwarding tables for fast routing lookups. In: *Proc. ACM SIGCOMM*, 1997, pp. 3–14
- Dehne, F., Fellows, M., Langston, M., Rosamond, F., Stevens, K.: An $O(2^{O(k)}n^3)$ FPT algorithm for the undirected feedback vertex set problem. *Proceedings COCOON 2005. Lecture Notes in Computer Science*, vol. 3595, pp. 859–869. Springer, Berlin (2005)
- Deiniko, V.G., Hoffmann, M., Okamoto, Y., Woeginger, G.J.: The traveling salesman problem with few inner points. *Oper. Res. Lett.* **31**, 106–110 (2006)
- Dekel, E., Nassimi, D., Sahni, S.: Parallel matrix and graph algorithms. *SIAM J. Comput.* **10**, 657–675 (1981)
- Dekel, O., Shalev-Shwartz, S., Singer, Y.: The Forgetron: A kernel-based perceptron on a fixed budget. In: *Advances in Neural Information Processing Systems 18* (2005)
- Delgrange, O., Rivals, E.: STAR – an algorithm to Search for Tandem Approximate Repeats. *Bioinform.* **20**, 2812–2820 (2004)
- Delling, D., Holzer, M., Müller, K., Schulz, F., Wagner, D.: High-Performance Multi-Level Graphs. In: *9th DIMACS Challenge on Shortest Paths*, Nov 2006. Rutgers University, USA (2006)
- Delling, D., Holzer, M., Müller, K., Schulz, F., Wagner, D.: High-performance multi-level graphs. In: *9th DIMACS Implementation Challenge Workshop: Shortest Paths*, DIMACS Center, Piscataway, NJ, 13–14 Nov 2006
- Delling, D., Sanders, P., Schultes, D., Wagner, D.: Highway Hierarchies Star. In: *9th DIMACS Challenge on Shortest Paths*, Nov 2006 Rutgers University, USA (2006)
- Delling, D., Sanders, P., Schultes, D., Wagner, D.: Highway hierarchies star. In: *9th DIMACS Implementation Challenge Workshop: Shortest Paths*, DIMACS Center, Piscataway, NJ, 13–14 Nov 2006
- Delorme, C., Poljak, S.: Laplacian eigenvalues and the maximum cut problem. *Math. Program.* **62**, 557–574 (1993)
- Delorme, C., Poljak, S.: The performance of an eigenvalue bound in some classes of graphs. *Discret. Math.* **111**, 145–156 (1993). Also appeared in: *Proceedings of the Conference on Combinatorics*, Marseille, 1990
- Delparte-Gallet, C., Fauconnier, H., Guerraoui, R.: Failure detection lower bounds on registers and consensus. In: *Proceedings of the 16th International Symposium on Distributed Computing*, LNCS 2508 (2002)
- Delparte-Gallet, C., Fauconnier, H., Guerraoui, R.: Implementing atomic objects in a message passing system. Technical report, EPFL Lausanne (2005)
- Delparte-Gallet, C., Fauconnier, H., Guerraoui, R., Hadzilacos, V., Kouznetsov, P., Toueg, S.: The weakest failure detectors to solve certain fundamental problems in distributed computing. In: *Proc. 23rd ACM Symposium on Principles of Distributed Computing*, pp. 338–346. St. John's, Newfoundland, 25–28 July 2004
- Delpratt, O., Rahman, N., Raman, R.: Compressed prefix sums. In: *Proc. SOFSEM 2007. LNCS*, vol. 4362, pp. 235–247 (2007)
- Delpratt, O., Rahman, N., Raman, R.: Engineering the LOUDS succinct tree representation. In: *Proc. WEA 2006. LNCS*, vol. 4007, pp. 134–145. Springer, Berlin (2006)
- Demaine, E., Fekete, S., Gal, S.: Online searching with turn cost. *Theor. Comput. Sci.* **361**, 342–355 (2006)
- Demaine, E.D.: Cache-oblivious algorithms and data structures. In: *Proc. EFF summer school on massive data sets*, LNCS. Springer, Berlin. To appear. Online version at <http://theory.csail.mit.edu/edemaine/papers/BRICS2002/>
- Demaine, E.D., Fomin, F.V., Hajiaghayi, M., Thilikos, D.M.: Bidimensional parameters and local treewidth. *SIAM J. Discret. Math.* **18**(3), 501–511 (2004)
- Demaine, E.D., Fomin, F.V., Hajiaghayi, M., Thilikos, D.M.: Fixed-parameter algorithms for (k, r) -center in planar graphs and map graphs. *ACM Trans. Algorithms* **1**(1), 33–47 (2005)
- Demaine, E.D., Fomin, F.V., Hajiaghayi, M., Thilikos, D.M.: Subexponential parametrized algorithms on graphs of bounded genus and H -minor-free graphs. *J. ACM* **52**(6), 866–893 (2005)

- Demaine, E.D., Hajiaghayi, M.: Bidimensionality: new connections between FPT algorithms and PTASs. In: Proceedings of the 16th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA 2005), Vancouver, January 2005, pp. 590–601
- Demaine, E.D., Hajiaghayi, M.: Diameter and treewidth in minor-closed graph families, revisited. *Algorithmica* **40**(3), 211–215 (2004)
- Demaine, E.D., Hajiaghayi, M.: Equivalence of local treewidth and linear local treewidth and its algorithmic applications. In: Proceedings of the 15th ACM-SIAM Symposium on Discrete Algorithms (SODA'04), January 2004, pp. 833–842 (2004)
- Demaine, E.D., Hajiaghayi, M.: Graphs excluding a fixed minor have grids as large as treewidth, with combinatorial and algorithmic applications through bidimensionality. In: Proceedings of the 16th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA 2005), pp. 682–689. Vancouver, January (2005)
- Demaine, E.D., Hajiaghayi, M.: The bidimensionality theory and its algorithmic applications. *Comput. J.* To appear
- Demaine, E.D., Hajiaghayi, M., Kawarabayashi, K.-I.: Algorithmic graph minor theory: Decomposition, approximation, and coloring. In: Proceedings of the 46th Annual IEEE Symposium on Foundations of Computer Science, Pittsburgh, October 2005, pp. 637–646
- Demaine, E.D., Hajiaghayi, M., Kawarabayashi, K.: Algorithmic graph minor theory: Improved grid minor bounds and Wagner's contraction. In: Proceedings of the 17th Annual International Symposium on Algorithms and Computation, Calcutta, India, December 2006. Lecture Notes in Computer Science, vol. 4288, pp. 3–15 (2006)
- Demaine, E.D., Hajiaghayi, M., Mohar, B.: Approximation algorithms via contraction decomposition. In: Proceedings of the 18th Annual ACM-SIAM Symposium on Discrete Algorithms, New Orleans, 7–9 January 2007, pp. 278–287
- Demaine, E.D., Hajiaghayi, M., Nishimura, N., Ragde, P., Thilikos, D.M.: Approximation algorithms for classes of graphs excluding single-crossing graphs as minors. *J. Comput. Syst. Sci.* **69**(2), 166–195 (2004)
- Demaine, E.D., Hajiaghayi, M., Thilikos, D.M.: Exponential speedup of fixed-parameter algorithms for classes of graphs excluding single-crossing graphs as minors. *Algorithmica* **41**(4), 245–267 (2005)
- Demaine, E.D., Hajiaghayi, M., Thilikos, D.M.: The bidimensional theory of bounded-genus graphs. *SIAM J. Discret. Math.* **20**(2), 357–371 (2006)
- Demaine, E.D., Harmon, D., Iacono, J., Patrascu, M.: Dynamic optimality—almost. *SIAM J. Comput.* **37**(1), 240–251 (2007)
- Demange, G.: Spatial Models of Collective Choice. In: Thisse, J.F., Zoller, H.G. (eds.) *Locational Analysis of Public Facilities*, North-Holland Publishing Company, North Holland, Amsterdam (1983)
- Demange, G., Gale, D., Sotomayor, M.: Multi-item auctions. *J. Polit. Econ.* **94**(4), 863–72 (1986)
- Dementiev, R., Mehnert, J., Kärkkäinen, J., Sanders, P.: Better external memory suffix array construction. *ACM J. Exp. Algorithmics* (2008) in press
- Demetrescu, C., Italiano, G.F.: Trade-offs for fully dynamic transitive closure on DAG's: breaking through the $O(n^2)$ barrier, (presented in FOCS 2000). *J. ACM* **52**(2), 147–156 (2005)
- Demetrescu, C.: Fully Dynamic Algorithms for Path Problems on Directed Graphs. Ph. D. thesis, Department of Computer and Systems Science, University of Rome "La Sapienza", Rome (2001)
- Demetrescu, C., Finocchi, I., Italiano, G.: Dynamic Graphs. In: Mehta, D., Sahni, S. (eds.) *Handbook on Data Structures and Applications* (CRC Press Series, in Computer and Information Science), chap. 36. CRC Press, Boca Raton (2005)
- Demetrescu, C., Finocchi, I., Italiano, G.F., Näher, S.: Visualization in algorithm engineering: tools and techniques. In: *Experimental Algorithm Design to Robust and Efficient Software*. Lecture Notes in Computer Science, vol. 2547. Springer, Berlin, pp. 24–50 (2002)
- Demetrescu, C., Finocchi, I., Liotta, G.: Visualizing Algorithms over the Web with the Publication-driven Approach. In: Proc. of the 4th Workshop on Algorithm Engineering (WAE'00), Saarbrücken, Germany, 5–8 September (2000)
- Demetrescu, C., Goldberg, A.V., Johnson, D.: 9th DIMACS Implementation challenge – shortest paths. <http://www.dis.uniroma1.it/~challenge9/> (2006)
- Demetrescu, C., Italiano, G.: Fully dynamic transitive closure: Breaking through the $O(n^2)$ barrier. In: Proc. of the 41st IEEE Annual Symposium on Foundations of Computer Science (FOCS'00), Redondo Beach (2000), pp. 381–389
- Demetrescu, C., Italiano, G.: Trade-offs for fully dynamic reachability on dags: Breaking through the $O(n^2)$ barrier. *J. ACM* **52**, 147–156 (2005)
- Demetrescu, C., Italiano, G.F.: A new approach to dynamic all pairs shortest paths. *J. Assoc. Comp. Mach.* **51**(6), 968–992 (2004)
- Demetrescu, C., Italiano, G.F.: Experimental analysis of dynamic all pairs shortest path algorithms. *ACM Trans. Algorithms* **2**(4), 578–601 (2006)
- Demetrescu, C., Italiano, G.F.: Fully Dynamic All Pairs Shortest Paths with Real Edge Weights. *J. Comp. Syst. Sci.* **72**(5), 813–837 (2006)
- Deng, X.: Combinatorial Optimization and Coalition Games. In: Du, D., Pardalos, P.M. (eds.) *Handbook of combinatorial optimization*, vol 2, pp 77–103, Kluwer, Boston (1998)
- Deng, X., Fang, Q., Sun, X.: Finding Nucleolus of Flow Games. Proceedings of the 17th annual ACM-SIAM symposium on Discrete algorithm (SODA 2006). *Lect. Notes in Comput. Sci.* **3111**, 124–131 (2006)
- Deng, X., Huang, L.-S., Li, M.: On Walrasian Price of CPU time. In: Proceedings of COCOON'05, Knming, 16–19 August 2005, pp. 586–595. *Algorithmica* **48**(2), 159–172 (2007)
- Deng, X., Ibaraki, T., Nagamochi, H.: Algorithmic Aspects of the Core of Combinatorial Optimization Games. *Math. Oper. Res.* **24**, 751–766 (1999)
- Deng, X., Kameda, T., Papadimitriou, C.H.: How to learn an unknown environment. *J. ACM* **45**, 215–245 (1998)
- Deng, X., Li, G., Li, Z., Ma, B., Wang, L.: Genetic Design of Drugs Without Side-Effects. *SIAM J. Comput.* **32**(4), 1073–1090 (2003)
- Deng, X., Li, Z.F., Wang, S.: Computational complexity of arbitrage in frictional security market. *Int. J. Found. Comput. Sci.* **13**(5), 681–684 (2002)
- Deng, X., Papadimitriou, C.: On the complexity of cooperative game solution concepts. *Math. Oper. Res.* **19**(2), 257–266 (1994)
- Deng, X., Papadimitriou, C., Safra, S.: On the complexity of price equilibria. *J. Comput. System Sci.* **67**(2), 311–324 (2003)
- Deng, X., Papadimitriou, C.H.: Exploring an unknown graph. *J. Graph Theory* **32**, 265–297 (1999)
- Denne, E., Sullivan, J.M.: The Distortion of a Knotted Curve. <http://www.arxiv.org/abs/math.GT/0409438> (2004)

- Deo, N., Prabhu, G.M., Krishnamoorthy, M.S.: Algorithms for generating fundamental cycles in a graph. *ACM Trans. Math. Softw.* **8**, 26–42 (1982)
- Department of Computer Science, Duke University. TPIE: a transparent parallel I/O environment. <http://www.cs.duke.edu/TPIE/>. Accessed 2002
- Derryberry, J., Sleator, D.D., Wang, C.C.: A lower bound framework for binary search trees with rotations. Technical Report CMU-CS-05-187, Carnegie Mellon University (2005)
- Deshmukh, K., Goldberg, A.V., Hartline, J.D., Karlin, A.R.: Truthful and competitive double auctions. In: Möhring, R.H., Raman, R. (eds.) *Algorithms–ESA 2002*, 10th Annual European Symposium, Rome, Italy, 17–21 Sept 2002. *Lecture Notes in Computer Science*, vol. 2461, pp. 361–373. Springer, Berlin (2002)
- Desper, R., Gascuel, O.: Fast and Accurate Phylogeny Reconstruction Algorithms Based on the Minimum – Evolution Principle. *J. Comput. Biol.* **9**, 687–706 (2002)
- Dessmark, A., Pelc, A.: Broadcasting in geometric radio networks. *J. Discret. Algorithms* **5**, 187–201 (2007)
- Dessmark, A., Pelc, A.: Tradeoffs between knowledge and time of communication in geometric radio networks. *Proc. 13th Ann. ACM Symposium on Parallel Algorithms and Architectures (SPAA)*, pp. 59–66, Crete Greece, July 3–6, 2001
- Detle, H., Henze, N.: The limit distribution of the largest nearest-neighbour link in the unit d -cube. *J. Appl. Probab.* **26**, 67–80 (1989)
- Deutsch, D.: Quantum theory, the Church-Turing principle and the universal quantum computer. *Proc. Royal Soc. London A* **400**, 97–117 (1985)
- Deutsch, D., Jozsa, R.: Rapid solutions of problems by quantum computation. *Proc. Royal Soc. London A* **439**, 553–558 (1992)
- Devadas, S., Ghosh, A., Keutzer, K.: *Logic Synthesis*. McGraw Hill, New York (1994), pp. 185–200
- Devanur, N.R., Khot, S.A., Saket, R., Vishnoi, N.K.: Integrality gaps for sparsest cut and minimum linear arrangement problems. In: *STOC '06: Proceedings of the thirty-eighth annual ACM symposium on Theory of computing*, pp. 537–546. ACM Press, New York (2006)
- Devanur, N.R., Papadimitriou, C.H., Saberi, A., Vazirani, V.V.: Market equilibria via a primal-dual-type algorithm. In: *Proceedings of FOCS'02*, pp. 389–395. IEEE Computer Society, Vancouver (2002)
- Devetak, I., Harrow, A., Winter, A.: A resource framework for quantum Shannon theory. Tech. Report CSTR-05-008, CS Department, University of Bristol, December (2005)
- Devetak, I., Winter, A.: Distillation of secret key and entanglement from quantum states. *Proc. R. Soc. Lond. A* **461**, 207–235 (2005)
- DeVos, M., Ding, G., Oporowski, B., Sanders, D.P., Reed, B., Seymour, P., Vertigan, D.: Excluding any graph as a minor allows a low tree-width 2-coloring. *J. Comb. Theory Ser. B* **91**(1), 25–41 (2004)
- Devroye, L.: *Non-uniform Random Variate Generation*. Springer, New York (1986)
- Devroye, L., Györfi, L., Lugosi, G.: *A Probabilistic Theory of Pattern Recognition*. Springer, New York, USA (1996)
- DeWitt, D.J., Kabra, N., Luo, J., Patel, J.M., Yu, J.-B.: Client-server paradise. In: *Proc. International Conference on Very Large Databases*, 1994, pp. 558–569
- Dey, T.K.: Curve and surface reconstruction. In: Goodman, J.E., O'Rourke, J. (eds.) *Handbook of Discrete and Computational Geometry*, 2nd edn. CRC, Boca Raton (2004)
- Dey, T.K.: *Curve and Surface Reconstruction: Algorithms with Mathematical Analysis*. Cambridge University Press, New York (2006)
- Dhagat, A., Hellerstein, L.: PAC learning with irrelevant attributes. In: *Proceedings of the 35th Annual Symposium on Foundations of Computer Science*, Santa Fe, pp. 64–74. IEEE Computer Society, Los Alamitos (1994)
- Diao, Y., Fischer, P., Franklin, M., To, R.: YFilter: Efficient and scalable filtering of XML documents. In: *Proceedings of the 18th International Conference on Data Engineering*, San Jose, California, pp. 341–342. IEEE Computer Society, New Jersey (2002)
- Diaz-Gutierrez, P., Bhushan, A., Gopi, M., Pajarola, R.: Single-strips for fast interactive rendering. *J. Vis. Comput.* **22**(6), 372–386 (2006)
- Díaz, J., Serna, M., Spirakis, P.G., Torán, J.: Paradigms for fast parallel approximation. In: *Cambridge International Series on Parallel Computation*, vol. 8, Cambridge University Press, Cambridge (1997)
- Diekmann, Y., Sagot, M.F., Tannier, E.: Evolution under Reversals: Parsimony and Conversation of Common Intervals. *IEEE/ACM Transactions in Computational Biology and Bioinformatics*, **4**, 301–309, 1075 (2007)
- Dietzfelbinger, M., Weidling, C.: Balanced allocation and dictionaries with tightly packed constant size bins. In: *ICALP. Lecture Notes in Computer Science*, vol. 3580, pp. 166–178. Springer, Berlin (2005)
- Diffie, W., Hellman, M.: New directions in cryptography. *IEEE Trans. Inf. Theor.* **22**, 644–654 (1976)
- Diggavi, S.N., Grossglauser, M., Tse, D.N.C.: Even one-dimensional mobility increases the capacity of wireless networks. *IEEE Trans. Inf. Theory* **51**(11), 3947–3954 (2005)
- Dijkstra, E.W.: A note on two problems in connexion with graphs. *Numer. Math.* **1**, 269–271 (1959)
- Dijkstra, E.W.: Co-operating sequential processes. In: Genuys, F. (ed.) *Programming Languages*, pp. 43–112. Academic Press, New York (1968). Reprinted from: Technical Report EWD-123, Technological University, Eindhoven (1965)
- Dijkstra, E.W.: Self Stabilizing Systems in Spite of Distributed Control. *Commun. ACM* **17**(11), 643–644 (1974). See also EWD391 (1973) In: *Selected Writings on Computing: A Personal Perspective*, pp. 41–46. Springer, New York (1982)
- Dijkstra, E.W.: Solution of a problem in concurrent programming control. *Commun. ACM* **8**(9), 569 (1965)
- Diks, K., Fraigniaud, P., Kranakis, E., Pelc, A.: Tree exploration with little memory. *J. Algorithms* **51**, 38–63 (2004)
- Diks, K., Kranakis, E., Krizanc, D., Pelc, A.: The impact of knowledge on broadcasting time in linear radio networks. *Theor. Comput. Sci.* **287**, 449–471 (2002)
- Dille, J., Arlitt, M., Perret, S.: Enhancement and validation of Squid's cache replacement policy. Hewlett-Packard Laboratories Technical Report HPL-1999-69 (1999)
- DIMACS Implementation Challenges. Each DIMACS Implementation Challenge is a year-long cooperative research event in which researchers cooperate to find the most efficient algorithms and strategies for selected algorithmic problems. The DIMACS Challenges since 1991 have targeted a variety of optimization problems on graphs; advanced data structures; and scientific application areas involving computational biology and parallel computation. The DIMACS Challenge proceedings are published by AMS as part of the DIMACS Series in Discrete

- Mathematics and Theoretical Computer Science. Visit dimacs.rutgers.edu/Challenges for more information
- Dimitriou, T., Nikolettseas, S.E., Spirakis, P.G.: Analysis of the information propagation time among mobile hosts. In: Nikolaidis, I., Barbeau, M., Kranakis, E. (eds.) 3rd International Conference on Ad-Hoc, Mobile, and Wireless Networks (ADHOC-NOW 2004), pp 122–134. Lecture Notes in Computer Science (LNCS), vol. 3158. Springer, Berlin (2004)
- Dimitrov, D., Borm, P., Hendrickx, R., Sung, S. Ch.: Simple priorities and core stability in hedonic games. *Soc. Choice. Welf.* **26**(2), 421–433 (2006)
- Ding, Y., Chan, C.Y., Lawrence, C.E.: RNA secondary structure prediction by centroids in a Boltzmann weighted ensemble. *RNA* **11**, 1157–1166 (2005)
- Ding, Z., Filkov, V., Gusfield, D.: A linear-time algorithm for the perfect phylogeny haplotyping problem. In: Proceedings of the Annual International Conference on Computational Molecular Biology (RECOMB), New York, 2005. ACM Press, New York (2005)
- Dinitz, E.A.: Maintaining the 4-edge-connected components of a graph on-line. In: Proc. 2nd Israel Symp. Theory of Computing and Systems, 1993, pp. 88–99
- Dinitz, E.A., Karzanov A.V., Lomonosov M.V.: On the structure of the system of minimal edge cuts in a graph. In: Fridman, A.A. (ed) *Studies in Discrete Optimization*, pp. 290–306. Nauka, Moscow (1990). In Russian
- Dinur, I., Kindler, G., Raz, R., Safra, S.: Approximating CVP to within almost-polynomial factors is NP-hard. *Combinatorica* **23**(2), 205–243 (2003). Preliminary version in FOCS 1998
- Dinur, I., Mossel, E., Regev, O.: Conditional hardness for approximate coloring. In: Proceedings of the 38th annual ACM Symposium on Theory of Computing (2006) pp. 344–353.
- Dirks, R.M., Pierce, N.A.: A partition function algorithm for nucleic acid secondary structure including pseudoknots. *J. Comput. Chem.* **24**, 1664–1677 (2003)
- Dixon, B., Rauch, M., Tarjan, R.E.: Verification and sensitivity analysis of minimum spanning trees in linear time. *SIAM J. Comput.* **21**(6), 1184–1192 (1992)
- Dobkin, D.P., Friedman, S.J., Supowit, K.J.: Delaunay Graphs Are Almost as Good as Complete Graphs. *Discret. Comput. Geom.* **5**, 399–407 (1990)
- Dobzinski, S., Nisan, N., Schapira, M.: Truthful randomized mechanisms for combinatorial auctions. In: Proc. of the 38th ACM Symposium on Theory of Computing (STOC'06), 2006
- Dolev, D., Dwork, C., Stockmeyer, L.: On the minimal synchrony needed for distributed consensus. *J. ACM* **34**(1), 77–97 (1987)
- Dolev, D., Reischuk, R.: Bounds on Information Exchange for Byzantine Agreement. *J. ACM* **32**(1), 191–204 (1985)
- Dolev, D., Reischuk, R., Strong, H.R.: Early Stopping in Byzantine Agreement. *J. ACM* **37**(4), 720–741 (1990)
- Dolev, D., Shavit, N.: Bounded concurrent time-stamp systems are constructible. *SIAM J. Comput.* **26**(2), 418–455 (1997)
- Dolev, D., Strong, H.R.: Authenticated Algorithms for Byzantine Agreement. *SIAM J. Comput.* **12**(4), 656–666 (1983)
- Dolev, S.: *Self-Stabilization*. MIT Press, Cambridge (2000)
- Dolev, S., Gilbert, S., Lynch, N.A., Shvartsman, A.A., Welch, J.L.: Geo-Quorums: Implementing atomic memory in mobile ad hoc networks. *Distrib. Comput.* **18**(2), 125–155 (2005)
- Dolev, S., Gouda, M.G., Schneider, M.: Memory Requirements for Silent Stabilization. In: Proceedings of the 15th Annual ACM Symposium on Principles of Distributed Computing, pp. 27–34, Philadelphia, May 1996
- Dolev, S., Yagel, R.: Toward Self-Stabilizing Operating Systems. In: 2nd International Workshop on Self-Adaptive and Autonomic Computing Systems, pp. 684–688, Zaragoza, August 2004
- Dopazo, J., Rodríguez, A., Sáiz, J.C., Sobrino, F.: Design of primers for PCR amplification of highly variable genomes. *CABIOS* **9**, 123–125 (1993)
- Dor, D., Halperin, S., Zwick, U.: All Pairs Almost Shortest Paths. *SIAM J. Comput.* **29**, 1740–1759 (2000)
- Dorn, F.: Dynamic Programming and Fast Matrix Multiplication. In: Proceedings of 14th Annual European Symposium on Algorithms. LNCS, vol. 4168, pp. 280–291. Springer, Berlin (2006)
- Dorn, F., Fomin, F.V., Thilikos, D.M.: Fast subexponential algorithm for non-local problems on graphs of bounded genus. In: Proceedings of the 10th Scandinavian Workshop on Algorithm Theory (SWAT 2006). Lecture Notes in Computer Science. Springer, Berlin (2005)
- Dorn, F., Fomin, F.V., Thilikos, D.M.: Subexponential algorithms for non-local problems on H -minor-free graphs. In: Proceedings of the nineteenth annual ACM-SIAM symposium on Discrete algorithms (SODA 2008). pp. 631–640. Society for Industrial and Applied Mathematics, Philadelphia (2006)
- Dorn, F., Penninx, E., Bodlaender, H., Fomin, F.V.: Efficient exact algorithms on planar graphs: Exploiting sphere cut branch decompositions. In: Proceedings of the 13th Annual European Symposium on Algorithms (ESA 2005). Lecture Notes in Computer Science, vol. 3669, pp. 95–106. Springer, Berlin (2005)
- Doulligeris, C., Mazumdar, R.: Multilevel flow control of Queues. In: Johns Hopkins Conference on Information Sciences, Baltimore, 22–24 Mar 1989 (2006)
- Dowell, R., Eddy, S.R.: Evaluation of several lightweight stochastic context-free grammars for RNA secondary structure prediction. *BMC Bioinformatics* **5**, 71 (2004)
- Downey, R.G., Fellows, M.R.: Fixed-parameter tractability and completeness. *Congres. Numerant.* **87**, 161–187 (1992)
- Downey, R.G., Fellows, M.R.: *Parameterized complexity*. In: Monographs in Computer Science. Springer, New York (1999)
- Dress, A., Steel, M.: Convex tree realizations of partitions. *Appl. Math. Lett.* **5**, 3–6 (1992)
- Driscoll, J.R., Sarnak, N., Sleator, D.D., Tarjan, R.E.: Making data structures persistent. *J. Comput. Syst. Sci.* **38**(1), 86–124 (1989). See also STOC'86
- Driscoll, K., Hall, B., Sivencrona, H., Zumsteg, P.: Byzantine Fault Tolerance, from Theory to Reality. In: Proc. 22nd International Conference on Computer Safety, Reliability, and Security (SAFE-COMP), pp. 235–248, UK, September 2003
- Drucker, H., Burges, C.J.C., Kaufman, L., Smola, A., Vapnik, V.: Support Vector Regression Machines. *Adv. Neural. Inf. Process. Syst. (NIPS)* **9**, 155–161 MIT Press (1997)
- Drysdale, R.L., McElfresh, S., Snoeyink, J.S.: On exclusion regions for optimal triangulations. *Discrete Appl. Math.* **109**, 49–65 (2001)
- Du, D.-Z., Hsu, D.F., Xu, K.-J.: Bounds on guillotine ratio. *Congressus Numerantium* **58**, 313–318 (1987)
- Du, D.-Z., Pan, L.-Q., Shing, M.-T.: Minimum edge length guillotine rectangular partition. Technical Report 0241886, Math. Sci. Res. Inst., Univ. California, Berkeley (1986)
- Du, D.Z., Graham, R.L., Pardalos, P.M., Wan, P.J., Wu, W., Zhao, W.: Analysis of greedy approximations with nonsubmodular potential functions. In: Proceedings of 19th ACM-SIAM Sympos-

- sium on Discrete Algorithms (SODA), pp. 167–175. ACM, New York (2008)
- Du, D.Z., Hwang, F.K.: The Steiner ratio conjecture of Gilbert-Pollak is true. *Proc. Natl. Acad. Sci. USA* **87**, 9464–9466 (1990)
- Du, D.Z., Hwang, F.K., Shing, M.T., Witbold, T.: Optimal routing trees. *IEEE Trans. Circuits* **35**, 1335–1337 (1988)
- Du, D.Z., Zhang, Y., Feng, Q.: On better heuristic for euclidean Steiner minimum trees. In: *Proceedings 32nd FOCS*, IEEE Computer Society Press, California (1991)
- Dubhashi, D., Mei, A., Panconesi, A., Radhakrishnan, J., Srinivasan, A.: Fast Distributed Algorithms for (Weakly) Connected Dominating Sets and Linear-Size Skeletons. In: *SODA*, 2003, pp. 717–724
- Dubois, O.: Upper bounds on the satisfiability threshold. *Theor. Comput. Sci.* **265**, 187–197 (2001)
- Dubois, O., Boufkhad, Y., Mandler, J.: Typical random 3-sat formulae and the satisfiability threshold. In: *11th ACM-SIAM symposium on Discrete algorithms*, pp. 126–127. Society for Industrial and Applied Mathematics, San Francisco (2000)
- Duda, R.O., Hart, P.E., Stork, D.G.: *Pattern Classification*. Wiley-Interscience Publication (2000)
- Dudek, G., Romanik, K., Whitesides, S.: Localizing a robot with minimum travel. *SIAM J. Comput.* **27**(2), 583–604 (1998)
- Duffin, R.J.: Topology of Series-Parallel Networks. *J. Math. Anal. Appl.* **10**, 303–318 (1965)
- Dujmović, V., Fellows, M.R., Hallett, M., Kitching, M., Liotta, G., McCartin, C., Nishimura, N., Ragde, P., Rosamond, F.A., Suderman, M., Whitesides, S., Wood, D.R.: A fixed-parameter approach to 2-layer planarization. *Algorithmica* **45**, 159–182 (2006)
- Dujmović, V., Fernau, H., Kaufmann, M.: Fixed parameter algorithms for one-sided crossing minimization revisited. In: Liotta G. (ed.) *Graph Drawing*, 11th International Symposium GD 2003. LNCS, vol. 2912, pp. 332–344. Springer, Berlin (2004). A journal version has been accepted to *J. Discret. Algorithms*, see doi: 10.1016/j.jda.2006.12.008
- Dujmović, V., Whitesides, S.: An efficient fixed parameter tractable algorithm for 1-sided crossing minimization. *Algorithmica* **40**, 15–32 (2004)
- Dumais, S., Platt, J., Heckerman, D., Sahami, M.: Inductive learning algorithms and representations for text categorization. In: *7th International Conference on Information and Knowledge Management* (1998)
- Dumitrescu, A., Ebbels-Baumann, A., Grüne, A., Klein, R., Rote, G.: On the Geometric Dilation of Closed Curves, Graphs, and Point Sets. *Comput. Geom. Theory Appl.* **36**(1), 16–38 (2006)
- Dunagan, J., Vempala, S.: On Euclidean embeddings and bandwidth minimization. In: *Randomization, approximation, and combinatorial optimization*, pp. 229–240. Springer (2001)
- Durbin, R., Eddy, S., Krogh, A., Mitchison, G.: *Biological sequence analysis*. Cambridge University Press, Cambridge, UK (1998)
- Dutta, P., Guerraoui, R., Levy, R.R., Chakraborty, A.: How fast can a distributed atomic read be? In: *Proc. 23rd ACM Symposium on Principles of Distributed Computing*, pp. 236–245. St. John's, Newfoundland, 25–28 July 2004
- Dutta, R., Savage, C.: A Note on the Complexity of Converter Placement Supporting Broadcast in WDM Optical Networks. In: *Proceedings of the International Conference on Telecommunication Systems-Modeling and Analysis*, Dallas, November 2005 ISBN: 0-9716253-3-6 pp. 23–31. American Telecommunication Systems Management Association, Nashville
- Dwork, C., Lynch, N.A., Stockmeyer, L.: Consensus in the presence of partial synchrony. *J. ACM* **35**(2), 288–323 (1988)
- Dwork, C., Moses, Y.: Knowledge and Common Knowledge in a Byzantine Environment: Crash Failures. *Inf. Comput.* **88**(2), 156–186 (1990)
- Dyachkov, A.G., Rykov, V.V.: Bounds on the length of disjunctive codes. *Problemy Peredachi Informatsii* **18**(3), 7–13 (1982)
- Eades, P., Wormald, N.C.: Edge crossings in drawings of bipartite graphs. *Algorithmica* **11**, 379–403 (1994)
- Eaves, B.C.: Finite solution for pure trade markets with Cobb-Douglas utilities, *Math. Program. Study* **23**, 226–239 (1985)
- Ebbels-Baumann, A., Gruene, A., Karpinski, M., Klein, R., Knauer, C., Lingas, A.: Embedding Point Sets into Plane Graphs of Small Dilation. *Int. J. Comput. Geom. Appl.* **17**(3), 201–230 (2007)
- Ebbels-Baumann, A., Grüne, A., Klein, R.: On the Geometric Dilation of Finite Point Sets. *Algorithmica* **44**(2), 137–149 (2006)
- Ebbels-Baumann, A., Klein, R., Knauer, C., Rote, G.: The Geometric Dilation of Three Points. Manuscript (2006)
- Economides, A., Silvester, J.: Priority load sharing: an approach using stackelberg games. In: *28th Annual Allerton Conference on Communications, Control and Computing* (1990)
- Edelman, B., Ostrovsky, M., Schwartz, M.: Internet advertising and the generalized second price auction. NBER Working Paper, 11765, November 2005
- Edelman, B., Ostrovsky, M., Schwarz, M.: Internet advertising and the generalized second price auction: selling billions of dollars worth of dollars worth of keywords. In: *2nd Workshop on Sponsored Search Auctions*, in conjunction with the ACM Conference on Electronic Commerce (EC-06), Ann Arbor, MI, June 2006
- Edelsbrunner, H., Guibas, L.J., Pach, J., Pollack, R., Seidel, R., Sharir, M.: Arrangements of curves in the plane: Topology, combinatorics, and algorithms. *Theor. Comput. Sci.* **92**, 319–336 (1992)
- Edelsbrunner, H.: Shape reconstruction with the Delaunay complex. In: *LATIN'98, Theoretical Informatics. Lecture Notes in Computer Science*, vol. 1380, pp. 119–132. Springer, Berlin (1998)
- Edmonds, J.: On the Competitiveness of AIMD-TCP within a General Network. In: *LATIN, Latin American Theoretical Informatics*, vol. 2976, pp. 577–588 (2004). Submitted to *Journal Theoretical Computer Science and/or Lecture Notes in Computer Science*
- Edmonds, J.: Paths, Trees, and Flowers. *Canad. J. Math.* **17**, 449–467 (1965)
- Edmonds, J.: Scheduling in the dark. Improved results: manuscript 2001. In: *Theor. Comput. Sci.* **235**, 109–141 (2000). In: *31st Ann. ACM Symp. on Theory of Computing*, 1999
- Edmonds, J., Chinn, D., Brecht, T., Deng, X.: Non-clairvoyant Multiprocessor Scheduling of Jobs with Changing Execution Characteristics. In: *29th Ann. ACM Symp. on Theory of Computing*, 1997, pp. 120–129. Submitted to *SIAM J. Comput.*
- Edmonds, J., Datta, S., Dymond, P.: TCP is Competitive Against a Limited Adversary. In: *SPAA, ACM Symp. of Parallelism in Algorithms and Architectures*, 2003, pp. 174–183
- Edmonds, J., Pruhs, K.: A maiden analysis of longest wait first. In: *Proc. 15th Symp. on Discrete Algorithms (SODA)*
- Edmonds, J., Pruhs, K.: Multicast pull scheduling: when fairness is fine. *Algorithmica* **36**, 315–330 (2003)
- Edmonds, N., Breuer, A., Gregor, D., Lumsdaine, A.: Single-source shortest paths with the parallel boost graph library. In: *9th DIMACS Implementation Challenge Workshop: Shortest Paths*, DIMACS Center, Piscataway, NJ, 13–14 Nov 2006

- Efrimidis, P., Spirakis, P.: Weighted Random Sampling with a reservoir. *Inf. Process. Lett.* **97**(5), 181–185 (2006)
- Efrat, A., Itai, A., Katz, M.: Geometry Helps in Bottleneck Matching and Related Problems. *Algorithmica* **31**(1), 1–28 (2001)
- Efthymiou, C., Nikolettseas, S., Rolim, J.: Energy Balanced Data Propagation in Wireless Sensor Networks. 4th International Workshop on Algorithms for Wireless, Mobile, Ad-Hoc and Sensor Networks (WMAN '04) IPDPS 2004, *Wirel. Netw. J. (WINET)* **12**(6), 691–707 (2006)
- Efthymiou, C., Nikolettseas, S., Rolim, J.: Energy Balanced Data Propagation in Wireless Sensor Networks. In: *Wireless Networks (WINET) Journal, Special Issue on Algorithms for Wireless, Mobile, Ad Hoc and Sensor Networks*. Springer (2006)
- Efthymiou, C., Spirakis, P.: On the existence of hamiltonian cycles in random intersection graphs. In: *Proceedings of 32st International colloquium on Automata, Languages and Programming (ICALP)*, pp. 690–701. Springer, Berlin Heidelberg (2005)
- Efthymiou, C., Spirakis, P.G.: On the Existence of Hamilton Cycles in Random Intersection Graphs. In: *Proc. of the 32nd ICALP. LNCS*, vol. 3580, pp. 690–701. Springer, Berlin/Heidelberg (2005)
- Egecioglu, O., Gonzalez, T.: Minimum-energy Broadcast in Simple Graphs with Limited Node Power. In: *Proc. IASTED International Conference on Parallel and Distributed Computing and Systems (PDCS 2001)*, Anaheim, August 2001 pp. 334–338
- Eguchi, A., Fujishige, S., Tamura, A.: A generalized Gale-Shapley algorithm for a discrete-concave stable-marriage model. In: Ibaraki, T., Katoh, N., Ono, H. (eds.) *Algorithms and Computation: 14th International Symposium, ISAAC2003. LNCS*, vol. 2906, pp. 495–504. Springer, Berlin (2003)
- Ekert, A.K.: Quantum cryptography based on Bell's theorem. *Phys. Rev. Lett.* **67**, 661–663 (1991)
- ElGamal, T.: A public-key cryptosystem and a signature scheme based on discrete logarithms. *IEEE Trans. Inf. Theor.* **31**(4), 469–472 (1985)
- Elias, I., Lagergren, J.: Fast Neighbor Joining. In: *Proceedings of the 32nd International Colloquium on Automata, Languages, and Programming (ICALP)*, pp. 1263–1274 (2005)
- Elias, I.: Settling the intractability of multiple alignment. In: *Proc. of the 14th Annual International Symposium on Algorithms and Computation (ISAAC 2003)*, 2003, pp. 352–363
- Elias, I.: Settling the intractability of multiple alignment. *J. Comput. Biol.* **13**, 1323–1339 (2006)
- Elias, I., Hartman, T.: A 1.375-approximation algorithm for sorting by transpositions. *IEEE/ACM Transactions on Computational Biology and Bioinformatics* **3**, 369–379 (2006)
- Elias, P.: Efficient storage retrieval by content and address of static files. *J. ACM*, **21**(2):246–260 (1974)
- Elias, P.: Error-correcting codes for list decoding. *IEEE Trans. Inf. Theory* **37**, 5–12 (1991)
- Elias, P.: List decoding for noisy channels. Technical Report 335, Research Laboratory of Electronics, MIT, Cambridge, MA, USA (1957)
- Elias, P., Flower, R.A.: The complexity of some simple retrieval problems. *J. Assoc. Comput. Mach.* **22**, 367–379 (1975)
- Elias, Y., Fernandez, J.M., Mor, T., Weinstein, Y.: Optimal algorithmic cooling of spins. *Isr. J. Chem.* **46**, 371–391 (2006), also in: Ekl, S. et al. (eds.) *Lecture Notes in Computer Science*, Volume 4618, pp. 2–26. Springer, Berlin (2007), *Unconventional Computation. Proceedings of the Sixth International Conference UC2007 Kingston*, August 2007.
- Elkin, M.: Computing Almost Shortest Paths. In: *Proc. 20th ACM Symp. on Principles of Distributed Computing*, Newport, RI, USA, 26–29 Aug. 2001, pp. 53–62
- Elkin, M.: Computing Almost Shortest Paths. *Trans. Algorithms* **1**(2), 283–323 (2005)
- Elkin, M., Emek, Y., Spielman, D., Teng, S.-H.: Lower-Stretch Spanning Trees. In: *Proc. of the 37th Annual ACM Symp. on Theory of Computing, STOC'05*, Baltimore, May 2005, pp. 494–503
- Elkin, M., Emek, Y., Spielman, D.A., Teng, S.-H.: Lower-stretch spanning trees. In: *STOC '05: Proceedings of the thirty-seventh annual ACM symposium on Theory of computing*, pp. 494–503. ACM Press, New York (2005)
- Elkin, M., Liebchen, C., Rizzi, R.: New Length Bounds for Cycle Bases. *Inf. Proc. Lett.* **104**(5), 186–193 (2007)
- Elkin, M., Peleg, D.: $(1 + \epsilon, \beta)$ -Spanner Constructions for General Graphs. *SIAM J. Comput.* **33**(3), 608–631 (2004)
- Elkin, M., Peleg, D.: Spanner constructions for general graphs. In: *Proc. of the 33th ACM Symp. on Theory of Computing, Heraklion*, 6–8 Jul. 2001, pp. 173–182
- Elkin, M., Peleg, D.: Strong inapproximability of the basic k-spanner problem. In: *Proc. of 27th International Colloquium on Automata, Languages and Programming*, 2000, pp. 636–648
- Elkin, M., Zhang, J.: Efficient Algorithms for Constructing $(1 + \epsilon, \beta)$ -spanners in the Distributed and Streaming Models. *Distrib. Comput.* **18**(5), 375–385 (2006)
- Ellen, F., Fatourou, P., Ruppert, E.: Time lower bounds for implementations of multi-writer snapshots. *J. Assoc. Comput. Mach.* **54**(6) article 30 (2007)
- Elmasri, R., Navathe, S.B.: *Fundamentals of Database Systems*, 5th edn. Addison-Wesley, Boston (2007)
- Elmasry, A.: On the sequential access theorem and deque conjecture for splay trees. *Theor. Comput. Sci.* **314**(3), 459–466 (2004)
- Emek, Y., Peleg, D.: A tight upper bound on the probabilistic embedding of series-parallel graphs. In: *Proc. of Symp. on Discr. Algorithms, SODA'06*, Miami, Jan. 2006, pp. 1045–1053
- Emerson, E.A.: *Temporal and Modal Logic*. In: van Leeuwen, J. (ed.) *Formal Models and Semantics*, vol. B of *Handbook of Theoretical Computer Science*, pp. 996–1072. Elsevier Science (1990)
- Englert, B., Shvartsman, A.A.: Graceful quorum reconfiguration in a robust emulation of shared memory. In: *Proc. 20th IEEE International Conference on Distributed Computing Systems*, pp. 454–463. Taipei, 10–13 April 2000
- Englert, M., Westermann, M.: Lower and upper bounds on FIFO buffer management in qos switches. In: Azar, Y., Erlebach, T. (eds.) *Algorithms – ESA 2006, 14th Annual European Symposium, Proceedings. Lecture Notes in Computer Science*, vol. 4168, pp. 352–363. Springer, Berlin (2006)
- Ephremides, A., Hajek, B.: Information theory and communication networks: an unconsummated union. *IEEE Trans. Inf. Theor.* **44**, 2416–2434 (1998)
- Eppstein, D.: Diameter and treewidth in minor-closed graph families. *Algorithmica* **27**(3–4), 275–291 (2000)
- Eppstein, D.: Dynamic Connectivity in Digital Images. *Inf. Process. Lett.* **62**(3), 121–126 (1997)
- Eppstein, D.: Dynamic Euclidean Minimum Spanning Trees and Extrema of Binary Functions. *Discret. Comput. Geom.* **13**, 111–122 (1995)
- Eppstein, D.: Finding the k Shortest Paths. *SIAM J. Comput.* **28**, 652–673 (1998)
- Eppstein, D.: Finding the k smallest spanning trees. *BIT.* **32**, 237–248 (1992)

- Eppstein, D.: Geometry in action: minimum spanning trees. <http://www.ics.uci.edu/~eppstein/gina/mst.html>
- Eppstein, D.: Quasiconvex analysis of backtracking algorithms. In: Proceedings of SODA 2004, pp. 781–790
- Eppstein, D.: Sequence comparison with mixed convex and concave costs. *J. Algorithms* **11**(1), 85–101 (1990)
- Eppstein, D.: Spanning Trees and Spanners. In: Sack, J.R., Urrutia, J. (eds.) *Handbook of Computational Geometry*, pp. 425–461. Elsevier, Amsterdam (1999)
- Eppstein, D.: Subgraph isomorphism in planar graphs and related problems. *J. Graph Algorithms Appl.* **3**(3), 1–27 (1999)
- Eppstein, D.: The Geometry Junkyard. <http://www.ics.uci.edu/~eppstein/junkyard/dilation-free/>
- Eppstein, D.: Tree-weighted neighbors and geometric k smallest spanning trees. *Int. J. Comput. Geom. Appl.* **4**, 229–238 (1994)
- Eppstein, D., Galil, Z., Italiano, G.F., Nissenzweig, A.: Sparsification – a technique for speeding up dynamic graph algorithms. *J. Assoc. Comput. Mach.* **44**(5), 669–696 (1997)
- Eppstein, D., Galil, Z., Italiano, G.F., Spencer, T.H.: Separator based sparsification I: planarity testing and minimum spanning trees. *J. Comput. Syst. Sci. Special issue of STOC 93* **52**(1), 3–27 (1996)
- Eppstein, D., Galil, Z., Italiano, G.F., Spencer, T.H.: Separator based sparsification II: edge and vertex connectivity. *SIAM J. Comput.* **28**, 341–381 (1999)
- Eppstein, D., Italiano, G.F., Tamassia, R., Tarjan, R.E., Westbrook, J., Yung, M.: Maintenance of a minimum spanning forest in a dynamic plane graph. *J. Algorithms* **13**, 33–54 (1992)
- Eppstein, D., Wortman, K.A.: Minimum Dilation Stars. In: Proc. 21st ACM Symp. Comp. Geom. (SoCG), Pisa, 2005, pp. 321–326
- Epstein, L.: A note on on-line scheduling with precedence constraints on identical machines. *Inf. Process. Lett.* **76**, 149–153 (2000)
- Epstein, L., Levin, A.: On the max coloring problem. In: Proc. of the Fifth International Workshop on Approximation and Online Algorithms (WAOA2007) (2007), pp. 142–155
- Epstein, L., Levin, A., Woeginger, G.J.: Graph coloring with rejection. In: Proc. of 14th European Symposium on Algorithms (ESA2006), pp. 364–375. (2006)
- Epstein, L., Levy, M.: Online interval coloring and variants. In: Proc. of The 32nd International Colloquium on Automata, Languages and Programming (ICALP2005), pp. 602–613. (2005)
- Epstein, L., Levy, M.: Online interval coloring with packing constraints. In: Proc. of the 30th International Symposium on Mathematical Foundations of Computer Science (MFCS2005), pp. 295–307. (2005)
- Erdős, C., Linji, Y., Hao, Y.: Improved algorithms for 2-interval pattern problem. *J. Combin. Optim.* **13**(3), 263–275 (2007)
- Erdős, P.: Extremal problems in graph theory. In: *Theory of Graphs and its Applications* (Proc. Sympos. Smolenice, 1963), pp. 29–36. Publ. House Czechoslovak Acad. Sci., Prague (1964)
- Erdős, P., Frankl, P., Füredi, Z.: Families of finite sets in which no set is covered by the union of r others. *Isr. J. Math.* **51**, 79–89 (1985)
- Erdős, P., Lovász, L.: Problems and results on 3-chromatic hypergraphs and some related questions. *Colloq. Math. Soc. János Bolyai* **10**, 609–627 (1975)
- Erdős, P.L., Steel, M.A., Székely, L. A., Warnow, T.J.: A few logs suffice to build (almost) all trees (II). *Theor. Comput. Sci.* **221**, 77–118 (1999) Preliminary version as DIMACS TR97-72
- Erdős, P.L., Steel, M.A., Székely, L.A., Warnow, T.J.: A few logs suffice to build (almost) all trees (I). *Random Struct. Algorithm* **14**, 153–184 (1999) Preliminary version as DIMACS TR97-71
- Ergun, F., Kumar, R., Rubinfeld, R.: Checking approximate computations of polynomials and functional equations. *SIAM J. Comput.* **31**(2), 550–576 (2001)
- Erlenkotter, D.: A dual-based procedure for uncapacitated facility location problems. *Oper. Res.* **26**, 992–1009 (1978)
- Erlingsson, Ú., Manasse, M., McSherry, F.: A cool and practical alternative to traditional hash tables. In: Proceedings of the 7th Workshop on Distributed Data and Structures (WDAS '06), Santa Clara, CA, USA, 4–6 January 2006
- Eskin, E., Halperin, E., Karp, R.: Efficient reconstruction of haplotype structure via perfect phylogeny. *J. Bioinform. Comput. Biol.* **1**(1), 1–20 (2003)
- Estabrook, G.F., Johnson, C.S., Jr., McMorris, F.R.: A mathematical foundation for the analysis of cladistic character compatibility. *Math. Biosci.* **29**, 181–187 (1976)
- Estabrook, G.F., Johnson, C.S., Jr., McMorris, F.R.: An algebraic analysis of cladistic characters. *Discret. Math.* **16**, 141–147 (1976)
- Estivill-Castro, V., Fellows, M.R., Langston, M.A., Rosamond, F.A.: FPT is P-time extremal structure I. In: Algorithms and complexity in Durham 2005. Texts in Algorithmics, vol. 4, pp. 1–41. Kings College Publications, London (2005)
- Estrin, D., Govindan, R., Heidemann, J., Kumar, S.: Next Century Challenges: Scalable Coordination in Sensor Networks. In: Proc. 5th ACM/IEEE International Conference on Mobile Computing, MOBICOM'1999
- Eswaran, K.P., Gray, J.N., Lorie, R.A., Traiger, I.L.: The notions of consistency and predicate locks in a database system. *Commun. ACM* **19**(11), 624–633 (1976). doi: <http://doi.acm.org/10.1145/360363.360369>
- Ettinger, M., Høyer, P., Knill, E.: The quantum query complexity of the hidden subgroup problem is polynomial. *Inf. Process. Lett.* **91**, 43–48 (2004)
- Evans, P.A., Smith, A.D., Wareham, H.T.: On the complexity of finding common approximate substrings. *Theor. Comput. Sci.* **306**(1–3), 407–430 (2003)
- Even, G., Naor, J.S., Rao, S., Schieber, B.: Divide-and-conquer approximation algorithms via spreading metrics. *J. ACM* **47**(4), 585–616 (2000)
- Even, S.: Graph Algorithms. Computer Science Press, Potomac (1979)
- Even, S., Gazit, H.: Updating distances in dynamic graphs. *Method. Oper. Res.* **49**, 371–387 (1985)
- Even-Dar, E., Kesselman, A., Mansour, Y.: Convergence time to nash equilibria. In: Proc. of the 30th Int. Col. on Aut., Lang. and Progr. (ICALP '03). LNCS, pp. 502–513. Springer, Eindhoven (2003)
- Even-Dar, E., Mansour, Y.: Fast convergence of selfish rerouting. In: Proc. of the 16th ACM-SIAM Symp. on Discr. Alg. (SODA '05), SIAM, pp. 772–781. SIAM, Vancouver (2005)
- Even-Dar, E., Mansour, Y.: Learning rates for Q-learning. *J. Mach. Learn. Res.* **5**, 1–25 (2003)
- Eyal, E., Halperin, D.: Improved Maintenance of Molecular Surfaces Using Dynamic Graph Connectivity. in: Proc. 5th International Workshop on Algorithms in Bioinformatics (WABI 2005), Mallorca, Spain, 2005, pp. 401–413
- Fabri, A., Giezeman, G.-J., Kettner, L., Schirra, S., Schönherr, S.: On the design of CGAL a computational geometry algorithms library. *Softw. Pract. Experience* **30**(11), 1167–1202 (2000)
- Fabri, A., Giezeman, G., Kettner, L., Schirra, S., Schönherr, S.: The cgal kernel: A basis for geometric computation. In: Applied Computational Geometry: Towards Geometric Engineering Proceed-

- ings (WACG'96), Philadelphia. Philadelphia, PA, May 27–28, pp. 191–202 (1996)
- Fabrikant, A., Papadimitriou, C., Talwar, K.: The complexity of pure nash equilibria. In: Proc. of the 36th ACM Symp. on Th. of Comp. (STOC '04). ACM, Chicago (2004)
- Fagerberg, R., Pagh, A., Pagh, R.: External string sorting: Faster and cache-oblivious. In: Proceedings of STACS '06. LNCS, vol. 3884, pp. 68–79. Springer, Marseille (2006)
- Faigle, U., Fekete, S., Hochstättler, W., Kern, W.: On the Complexity of Testing Membership in the Core of Min-Cost Spanning Tree Games. *Int. J. Game. Theor.* **26**, 361–366 (1997)
- Faigle, U., Kern, W., Kuipers, J.: Computing the Nucleolus of Min-cost Spanning Tree Games is \mathcal{NP} -hard. *Int. J. Game Theory* **27**, 443–450 (1998)
- Faigle, U., Kern, W., Kuipers, J.: On the Computation of the Nucleolus of a Cooperative Game. *Int. J. Game Theory* **30**, 79–98 (2001)
- Faigle, U., Kern, W., Turán, G.: On the performane of online algorithms for partition problems. *Acta Cybern.* **9**, 107–119 (1989)
- Fakcharoenphol, J., Rao, S.: Planar Graphs, Negative Weight Edges, Shortest Paths, and near Linear Time. In: Proc. 42nd IEEE Symp. on Foundations of Computer Science – FOCS (2001), pp. 232–241. IEEE Computer Society Press, Los Alamitos (2001)
- Fakcharoenphol, J., Rao, S.: Planar graphs, negative weight edges, shortest paths, and near linear time. *J. Comput. Syst. Sci.* **72**, 868–889 (2006)
- Fakcharoenphol, J., Rao, S., Talwar, K.: A tight bound on approximating arbitrary metrics by tree metrics. In: Proceedings of the 35th annual ACM symposium on Theory of Computing, San Diego, June 2003, pp. 448–455
- Fakcharoenphol, J., Rao, S., Talwar, K.: A tight bound on approximating arbitrary metrics by tree metrics. *J. Comput. Syst. Sci.* **69**, 485–497 (2004)
- Fakcharoenphol, J., Rao, S., Talwar, K.: Approximating metrics by tree metrics. *SIGACT News* **35**, 60–70 (2004)
- Fan, R., Lynch, N.A.: Gradient clock synchronization. *Distrib. Comput.* **18**(4), 255–266 (2006)
- Fan, T.-H., Lee, S., Lu, H.-I., Tsou, T.-S., Wang, T.-C., Yao, A.: An optimal algorithm for maximum-sum segment and its application in bioinformatics. Proceedings of the Eighth International Conference on Implementation and Application of Automata. LNCS **2759**, 251–257 (2003)
- Fang, F., Blanchette, M.: Footprinter3: phylogenetic footprinting in partially alignable sequences. *Nucleic Acids Res.* **34**(2), 617–620 (2006)
- Fang, Q., Zhu, S., Cai, M., Deng, X.: Membership for core of LP games and other games. COCOON 2001 Lecture Notes in Computer Science, vol. 2108, pp 247–246. Springer-Verlag, Berlin Heidelberg (2001)
- Fang, X., Zhu, X., Feng, M., Mao, X., Du, F.: Experimental implementation of dense coding using nuclear magnetic resonance. *Phys. Rev. A* **61**, 022307 (2000)
- Farach, M.: Optimal suffix tree construction with large alphabets. In: Proc. 38th Annu. Symp. Found. Comput. Sci., FOCS 1997, pp. 137–143. IEEE Press, New York (1997)
- Farach, M., Muthukrishnan, S.: Optimal parallel dictionary matching and compression. In: Symposium on Parallel Algorithms and Architecture (SPAA), 1995, pp. 244–253
- Farach, M., Przytycka, T., Thorup, M.: The maximum agreement subtree problem for binary trees. Proc. of 2nd ESA (1995)
- Farach, M., Przytycka, T.M., Thorup, M.: On the agreement of many trees. *Inf. Process. Lett.* **55**(6), 297–301 (1995)
- Farach, M., Thorup, M.: Fast comparison of evolutionary trees. *Inf. Comput.* **123**(1), 29–37 (1995)
- Farach, M., Thorup, M.: Sparse dynamic programming for evolutionary-tree comparison. *SIAM J. Comput.* **26**(1), 210–230 (1997)
- Farach, M., Thorup, M.: String-matching in Lempel–Ziv compressed strings. *Algorithmica* **20**(4), 388–404 (1998)
- Farach-Colton, M., Fernandes, R.J., Mosteiro, M.A.: Bootstrapping a Hop-Optimal Network in the Weak Sensor Model. In: Proc. of the 13th European Symposium on Algorithms (ESA), pp. 827–838 (2005)
- Farach-Colton, M., Fernandes, R.J., Mosteiro, M.A.: Lower Bounds for Clear Transmissions in Radio Networks. In: Proc. of the 7th Latin American Symposium on Theoretical Informatics (LATIN), pp. 447–454 (2006)
- Farach-Colton, M., Ferragina, P., Muthukrishnan, S.: On the sorting-complexity of suffix tree construction. *J. Assoc. Comput. Mach.* **47**, 987–1011 (2000)
- Farhi, E., Goldstone, J., Gutmann, S.: A quantum algorithm for the Hamiltonian NAND tree. *quant-ph/0702144* (2007)
- Farhi, E., Goldstone, J., Gutmann, S., Sipser, M.: A limit on the speed of quantum computation in determining parity. *Phys. Rev. Lett.* **81**, 5442–5444 (1998)
- Farhi, E., Gutmann, S.: Quantum computation and decision trees. *Phys. Rev. A* **58** (1998)
- Farris, J.S.: The logical basis of phylogenetic analysis. In: Platnick, N.I., Funk, V.A. (eds.) *Advances in Cladistics*, pp. 1–36. Columbia Univ. Press, New York (1983)
- Farshi, M., Gudmundsson, J.: Experimental study of geometric t-spanners. In: Proceedings of the 13th Annual European Symposium on Algorithms. Lect. Notes Comput. Sci. **3669**, 556–567 (2005)
- Farzan, A., Ferragina, P., Franceschini, G., Munro, J.I.: Cache-oblivious comparison-based algorithms on multisets. In: Proc. 13th Annual European Symposium on Algorithms. LNCS, vol. 3669, pp. 305–316. Springer, Berlin (2005)
- Fatourou, P., Kallimanis, N.D.: Single-scanner multi-writer snapshot implementations are fast! In: Proc. 25th ACM Symposium on Principles of Distrib. Comput. Colorado, July 2006 pp. 228–237. ACM, New York (2006)
- Fatourou, P., Mavronicolas, M., Spirakis, P.: Efficiency of oblivious versus non-oblivious schedulers for optimistic, rate-based flow control. *SIAM J. Comput.* **34**(5), 1216–1252 (2005)
- Fatourou, P., Mavronicolas, M., Spirakis, P.: Max-min fair flow control sensitive to priorities. *J. Interconnect. Netw.* **6**(2), 85–114 (2005) (also in Proceedings of the 2nd International Conference on Principles of Distributed Computing, pp. 45–59 (1998))
- Fatourou, P., Mavronicolas, M., Spirakis, P.: The global efficiency of distributed, rate-based flow control algorithms. In: Proceedings of the 5th Colloquium on Structural Information and Communication Complexity, pp. 244–258, June 1998
- Feder, T.: A new fixed point approach for stable networks and stable marriages. In: Proceedings of 21st ACM Symposium on Theory of Computing, pp. 513–522, Theory of Computing, Seattle WA, May 1989, pp. 513–522, ACM, New York (1989)
- Feder, T.: A new fixed point approach for stable networks and stable marriages. *J. Comput. Syst. Sci.* **45**, 233–284 (1992)
- Feder, T.: Network flow and 2-satisfiability. *Algorithmica* **11**, 291–319 (1994)
- Feder, T.: Stable networks and product graphs. Ph. D. thesis, Stanford University (1991)

- Feder, T., Megiddo, N., Plotkin, S.A.: A sublinear parallel algorithm for stable matching. *Theor. Comput. Sci.* **233**(1–2), 297–308 (2000)
- Feder, T., Mihail, M.: Balanced matroids. In: *Proceeding 24th ACM Symp. Theory of Computing*, pp 26–38, Victoria, British Columbia, Canada, May 04–06 1992
- Fedin, S.S., Kulikov, A.S.: Automated proofs of upper bounds on the running time of splitting algorithms. *J. Math. Sci.* **134**, 2383–2391 (2006). Improved results at <http://logic.pdmi.ras.ru/~kulikov/autoproofs.html>
- Feige, U.: A Threshold of $\ln n$ for Approximating Set Cover. *J. ACM* **45**(4) 634–652 (1998)
- Feige, U.: Approximating maximum clique by removing subgraphs. *SIAM J. Discret. Math.* **18**(2), 219–225 (2004)
- Feige, U.: Approximating the bandwidth via volume respecting embeddings. *J. Comput. Syst. Sci.* **60**(3), 510–539 (2000)
- Feige, U.: On maximizing welfare when utility functions are subadditive. In: *Proc. of the 38th ACM Symposium on Theory of Computing (STOC'06)*, 2006
- Feige, U.: Randomized graph products, chromatic numbers, and the Lovász theta function. *Combinatorica* **17**(1), 79–90 (1997)
- Feige, U.: Relations between average case complexity and approximation complexity. In: *34th Annual ACM Symposium on the Theory of Computing*, pp. 534–543, Montréal, May 19–21, 2002
- Feige, U., Hajiaghai, M., Lee, J.R.: Improved approximation algorithms for minimum-weight vertex separators. In: *Proceedings of the 37th annual ACM Symposium on Theory of computing (STOC 2005)*, pp. 563–572. ACM Press, New York (2005)
- Feige, U., Kilian, J.: Zero knowledge and the chromatic number. *J. Comput. Syst. Sci.* **57**, 187–199 (1998)
- Feige, U., Krauthgamer, R.: A polylogarithmic approximation of the minimum bisection. *SIAM J. Comput.* **31**(4), 1090–1118 (2002)
- Feige, U., Krauthgamer, R.: A polylogarithmic approximation of the minimum bisection. *SIAM Review* **48**(1), 99–130 (2006) (Previous versions appeared in *Proceedings of 41st FOCS*, 1999; and in *SIAM J. Comput.* 2002)
- Feige, U., Langberg, M., Schechtman, G.: Graphs with tiny vector chromatic numbers and huge chromatic numbers. *SIAM J. Comput.* **33**(6), 1338–1368 (2004)
- Feige, U., Mossel, E., Vilenchik, D.: Complete convergence of message passing algorithms for some satisfiability problems. In: Diaz, J., Jansen, K., Rolim, J.D.P., Zwick, U. (eds.) *Approximation, Randomization, and Combinatorial Optimization. Algorithms and Techniques*, 9th International Workshop on Approximation Algorithms for Combinatorial Optimization Problems, APPROX 2006 and 10th International Workshop on Randomization and Computation, RANDOM 2006, Barcelona, Spain, August 28–30 2006. *Lecture Notes in Computer Science*, vol. 4110, pp. 339–350. Springer
- Feige, U., Raghavan, P.: Exact analysis of hot-potato routing. In: IEEE (ed.) *Proceedings of the 33rd Annual Symposium on Foundations of Computer Science*, pp. 553–562, Pittsburgh (1992)
- Feige, U., Schechtman, G.: On the optimality of the random hyperplane rounding technique for MAX-CUT. *Random Struct. Algorithms* **20**(3), 403–440 (2002)
- Feige, U., Vilenchik, D.: A local search algorithm for 3-SAT, Tech. rep. The Weizmann Institute, Rehovot, Israel (2004)
- Feige, U., Yahalom, O.: On the complexity of finding balanced oneway cuts. *Inf. Process. Lett.* **87**(1), 1–5 (2003)
- Feigenbaum, J., Papadimitriou, C., Sami, R., Shenker, S.: A BGP-based mechanism for lowest-cost routing. In: *Proceedings of the 2002 ACM Symposium on Principles of Distributed Computing*, pp. 173–182. Monterey, 21–24 July 2002
- Feigenbaum, J., Papadimitriou, C.H., Shenker, S.: Sharing the cost of multicast transmissions. *J. Comput. Syst. Sci.* **63**, 21–41 (2001)
- Fekete, S.P., Khuller, S., Klemmstein, M., Raghavachari, B., Young, N.: A network-flow technique for finding low-weight bounded-degree spanning trees. In: *Proceedings of the 5th Integer Programming and Combinatorial Optimization Conference (IPCO 1996)* and *J. Algorithms* **24**(2), 310–324 (1997)
- Felber, P., Guerraoui, R., Fayad, M.: Putting oo distributed programming to work. *Commun. ACM* **42**(11), 97–101 (1999)
- Feldman, J.: *Decoding Error-Correcting Codes via Linear Programming*. Ph.D. thesis, Massachusetts Institute of Technology (2003)
- Feldman, J., Karger, D.R.: Decoding turbo-like codes via linear programming. In: *Proc. 43rd annual IEEE Symposium on Foundations of Computer Science (FOCS)*, Vancouver, 16–19 November 2002
- Feldman, J., Malkin, T., Servedio, R.A., Stein, C., Wainwright, M.J.: LP decoding corrects a constant fraction of errors. In: *Proc. IEEE International Symposium on Information Theory*, Chicago, 27 June – 2 July 2004
- Feldman, J., Stein, C.: LP decoding achieves capacity. In: *Symposium on Discrete Algorithms (SODA '05)*, Vancouver, January (2005)
- Feldman, J., Wainwright, M.J., Karger, D.R.: Using linear programming to decode linear codes. In: *37th annual Conf. on Information Sciences and Systems (CISS '03)*, Baltimore, 12–14 March 2003
- Feldman, P.: *Optimal Algorithms for Byzantine Agreement*. Ph.D. thesis, MIT (1988)
- Feldman, P., Micali, S.: An optimal probabilistic protocol for synchronous Byzantine agreement. *SIAM J. Comput.* **26**(4), 873–933 (1997). Preliminary version in *STOC'88*
- Feldman, V.: Hardness of Approximate Two-level Logic Minimization and PAC Learning with Membership Queries. In: *Proceedings of STOC*, pp. 363–372 (2006)
- Feldman, V.: On attribute efficient and non-adaptive learning of parities and DNF expressions. In: *18th Annual Conference on Learning Theory*, pp. 576–590. Springer-Verlag, Berlin Heidelberg (2005)
- Feldman, V.: Optimal hardness results for maximizing agreements with monomials. In: *Proceedings of Conference on Computational Complexity (CCC)*, pp. 226–236 (2006)
- Feldmann, A., Muthukrishnan, S.: Tradeoffs for packet classification. In: *Proc. IEEE INFOCOM*, 2000, pp. 1193–1202
- Feldmann, R., Gairing, M., Lücking, T., Monien, B., Rode, M.: Nashification and the coordination ratio for a selfish routing game. In: *Proc. of the 30th Int. Col. on Aut., Lang. and Progr. (ICALP '03)*. LNCS, pp. 514–526. Springer, Eindhoven (2003)
- Fellows, M.: Blow-ups, win/win's and crown rules: some new directions in FPT. In: *Proceedings of the 29th Workshop on Graph Theoretic Concepts in Computer Science (WG 2003)*. *Lecture Notes in Computer Science*, vol. 2880, pp. 1–12. Springer, Berlin (2003)
- Fellows, M.: Parameterized complexity: the main ideas and some research frontiers. In: *Lecture Notes in Computer Science (ISAAC 2001)*, vol. 2223, pp. 291–307. Springer, Berlin (2001)
- Fellows, M., Langston, M.: On well-partial-order theory and its applications to combinatorial problems of VLSI design. *SIAM J. Discret. Math.* **5**, 117–126 (1992)

- Fellows, M., McCartin, C., Rosamond, F., Stege, U.: Coordinatized kernels and catalytic reductions: an improved FPT algorithm for max leaf spanning tree and other problems. In: *Proceedings of the 20th Conference on Foundations of Software Technology and Theoretical Computer Science (FST-TCS 2000)*. Lecture Notes in Theoretical Computer Science 1974, pp. 240–251. Springer, Berlin (2000)
- Fellows, M.R.: New Directions and new challenges in algorithm design and complexity, parameterized. In: *Lecture Notes in Computer Science*, vol. 2748, p. 505–519 (2003)
- Fellows, M.R., Gramm, J., Niedermeier, R.: On the parameterized intractability of motif search problems. *Combinatorica* **26**(2), 141–167 (2006)
- Felsenstein, J.: Evolutionary trees from DNA sequences: a maximum likelihood approach. *J. Mol. Evol.* **17**, 368–376 (1981)
- Felsenstein, J.: *Inferring Phylogenies*. Sinauer Associates, Inc., Sunderland (2004)
- Fenwick, P.: Universal codes. In: Sayood, K. (ed.) *Lossless Compression Handbook*, pp. 55–78, Academic Press, Boston (2003)
- Ferguson, D., Yemini, Y., Nikolaou, C.: Microeconomic Algorithms for Load Balancing in Distributed Computer Systems. In: *Proceedings of DCS'88*, pp. 419–499. San Jose, 13–17 June 1988
- Fernandess, Y., Malkhi, D.: On collaborative content distribution using multi-message gossip. In: *Twentieth IEEE International Parallel and Distributed Processing Symposium (IPDPS 2006)*, Greece, April 2006
- Fernández, A., Jiménez, E., Raynal, M.: Eventual leader election with weak assumptions on initial knowledge, communication reliability and synchrony. In: *Proc International Symposium on Dependable Systems and Networks (DSN)*, pp. 166–178 (2006)
- Fernandez de la Vega, W., Lueker, G.: Bin packing can be solved within $1 + \epsilon$ in linear time. *Combinatorica* **1**, 349–355 (1981)
- Fernandez, J.M.: *De computatione quantica*. Dissertation, University of Montreal (2004)
- Fernandez, J.M., Lloyd, S., Mor, T., Roychowdhury V.: Practicable algorithmic cooling of spins. *Int. J. Quant. Inf.* **2**, 461–477 (2004)
- Fernández-Baca, D.: The Perfect Phylogeny Problem. In: Cheng, X., Du, D.-Z. (eds.) *Steiner Trees in Industry*, pp. 203–234. Kluwer Academic Publishers, Dordrecht (2001)
- Fernández-Baca, D., Lagergren, J.: A polynomial-time algorithm for near-perfect phylogeny. *SIAM J. Comput.* **32**, 1115–1127 (2003)
- Fernau, H.: Two-layer planarization: improving on parameterized algorithms. *J. Graph Algorithms Appl.* **9**, 205–238 (2005)
- Fernau, H., Kaufmann, M., Poths, M.: Comparing trees via crossing minimization. In: Ramanujam R., Sen S. (eds.) *Foundations of Software Technology and Theoretical Computer Science FSTTCS 2005*. LNCS, vol. 3821, pp. 457–469. Springer, Berlin (2005)
- Fernholz, D., Ramachandran, V.: The k -orientability thresholds for $g_{n,p}$. In: *Proceedings of the 18th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA '07)*, pp. 459–468. ACM Press, New Orleans, Louisiana, USA, 7–9 December 2007
- Ferragina, P.: *Handbook of Computational Molecular Biology*. In: *Computer and Information Science Series*, ch. 35 on “String search in external memory: algorithms and data structures”. Chapman & Hall/CRC, Florida (2005)
- Ferragina, P., Giancarlo, R., Manzini, G.: The engineering of a compression boosting library: Theory vs practice in bwt compression. In: *Proc. 14th European Symposium on Algorithms (ESA)*. LNCS, vol. 4168, pp. 756–767. Springer, Berlin (2006)
- Ferragina, P., Giancarlo, R., Manzini, G.: The myriad virtues of wavelet trees. In: *Proc. 33th International Colloquium on Automata and Languages (ICALP)*, pp. 561–572. LNCS n. 4051. Springer, Berlin, Heidelberg (2006)
- Ferragina, P., Giancarlo, R., Manzini, G., Sciortino, M.: Boosting textual compression in optimal linear time. *J. ACM* **52**, 688–713 (2005)
- Ferragina, P., Grossi, R.: Optimal On-Line Search and Sublinear Time Update in String Matching. *SIAM J. Comput.* **3**, 713–736 (1998)
- Ferragina, P., Grossi, R.: The string B-tree: A new data structure for string search in external memory and its applications. *J. ACM* **46**, 236–280 (1999)
- Ferragina, P., Grossi, R., Montanero, M.: A note on updating suffix tree labels. *Theor. Comput. Sci.* **201**, 249–262 (1998)
- Ferragina, P., Luccio, F.: Dynamic dictionary matching in external memory. *Inf. Comput.* **146**(2), 85–99 (1998)
- Ferragina, P., Luccio, F., Manzini, G., Muthukrishnan, S.: Compressing and searching XML data via two zips. In: *Proc. 15th World Wide Web Conference (WWW)*, pp. 751–760. Edingburg, UK (2006)
- Ferragina, P., Luccio, F., Manzini, G., Muthukrishnan, S.: Structuring labeled trees for optimal succinctness, and beyond. In: *Proc. 46th IEEE Symposium on Foundations of Computer Science (FOCS)*, pp. 184–193. Cambridge, USA (2005)
- Ferragina, P., Manzini, G.: Indexing compressed text. *J. ACM* **52**, 552–581 (2005)
- Ferragina, P., Manzini, G.: Opportunistic data structures with applications. In: *Proceedings of Symposium on Foundations of Computer Science, 2000*, pp. 390–398
- Ferragina, P., Manzini, G., Mäkinen, V., Navarro, G.: Compressed representation of sequences and full-text indexes. *ACM Trans. Algorithms* **3**(2) Article 20 (2007)
- Ferragina, P., Muthukrishnan, S., deBerg, M.: Multi-method dispatching: a geometric approach with applications to string matching. In: *Proc. of the Symposium on the Theory of Computing (STOC)*, 1999, pp. 483–491
- Ferragina, P., Venturini, R.: A simple storage scheme for strings achieving entropy bounds. In: *Proceedings of the 18th ACM-SIAM Symposium on Discrete Algorithms (SODA)*, pp. 690–695. ACM, SIAM (2007)
- Ferragina, P., Venturini, R.: A simple storage scheme for strings achieving entropy bounds. *Theor. Comput. Sci.* **372**, 115–121 (2007)
- Fiala, E.R., Greene, D.H.: Data compression with finite windows. *Commun. ACM* **32**, 490–505 (1989)
- Fiat, A., Goldberg, A.V., Hartline, J.D., Karlin, A.R.: Competitive generalized auctions. In: *Proceedings of the 34th Annual ACM Symposium on Theory of Computing (STOC-02)*, New York, 19–21 May 2002, pp. 72–81. ACM Press, New York (2002)
- Fiat, A., Karp, R.M., Luby, M., McGeoch, L.A., Sleator, D.D., Young, N.E.: Competitive paging algorithms. *J. Algorithms* **12**(4), 685–699 (1991)
- Fiat, A., Mendel, M.: Better algorithms for unfair metrical task systems and applications. *SIAM J. Comput.* **32**, 1403–1422 (2003)
- Fiat, A., Naor, M.: Implicit $O(1)$ probe search. *SIAM J. Comput.* **22**, 1–10 (1993)
- Fiat, A., Naor, M., Schmidt, J.P., Siegel, A.: Non-oblivious hashing. *J. Assoc. Comput. Mach.* **31**, 764–782 (1992)
- Fiat, A., Rabani, Y., Ravid, Y.: Competitive k -server algorithms. In: *Proceedings 31st IEEE Symposium on Foundations of Computer Science (FOCS)*, pp. 454–463 (1990)

- Fiat, A., Ricklin, M.: Competitive algorithms for the weighted server problem. *Theor. Comput. Sci.* **130**, 85–99 (1994)
- Fiat, A., Woeginger, G. (eds.) *Online Algorithms – The State of the Art*. Springer Lecture Notes in Computer Science, vol. 1442. Springer, Heidelberg (1998)
- Fich, F., Luchangco, V., Moir, M., Shavit, N.: Brief announcement: Obstruction-free step complexity: Lock-free DCAS as an example. In: *Proc. 19th Annual International Symposium on Distributed Computing*, 2005
- Fich, F., Luchangco, V., Moir, M., Shavit, N.: Obstruction-free algorithms can be practically wait-free. In: *Proc. 19th Annual International Symposium on Distributed Computing*, 2005
- Fich, F., Ruppert, E.: Hundreds of impossibility results for distributed computing. *Distrib. Comput.* **16**(2–3), 121–163 (2003)
- Fich, F.E.: How hard is it to take a snapshot? In: *SOFSEM 2005: Theory and Practice of Computer Science*. Liptovský Ján, January 2005, LNCS, vol. 3381, pp. 28–37. Springer (2005)
- Fidge, C. J.: Logical time in distributed computing systems. *IEEE Comput.* **24**, 28–33 (1991)
- Fiduccia, C.M., Mattheyses, R.M.: A Linear Time Heuristic for Improving Network Partitions. In: *Proc. ACM/IEEE Design Automation Conf.*, 1982, pp. 175–181
- Fill, J.A., Scheinerman, E.R., Singer-Cohen, K.B.: Random intersection graphs when $m = \omega(n)$: an equivalence theorem relating the evolution of the $G(n, m, p)$ and $G(n, p)$ models. *Random Struct. Algorithms* **16**, 156–176 (2000)
- Finden, C.R., Gordon, A.D.: Obtaining common pruned trees. *J. Classific.* **2**, 255–276 (1985)
- Finn G.: Routing and Addressing Problems in Large Metropolitan-scale Internetworks. Tech. Report ISI/RR-87–180, USC/ISI, March (1987)
- Finocchi, I., Panconesi, A., Silvestri, R.: An experimental Analysis of Simple Distributed Vertex Coloring Algorithms. *Algorithmica* **41**, 1–23 (2004)
- Fischer, B., Roth, V., Roos, F., Grossmann, J., Baginsky, S., Widmayer, P., Grüsssem, W., Buhmann J.: NovoHMM: A Hidden Markov Model for de novo peptide sequencing. *Anal. Chem.* **77**, 7265–7273 (2005)
- Fischer, M.J.: The Consensus Problem in Unreliable Distributed Systems (A Brief Survey). Research Report, YALEU/DCS/RR-273, Yale University, New Heaven (1983)
- Fischer, M.J., Lynch, N.A.: A Lower Bound for the Time to Assure Interactive Consistency. *Inf. Process. Lett.* **14**(4), 183–186 (1982)
- Fischer, M.J., Lynch, N.A., Paterson, M.: Impossibility of distributed consensus with one faulty process. In: *Proceedings of the 2nd ACM SIGACT-SIGMOD Symposium on Principles of Database System (PODS)* Atlante, 21–23 March, pp. 1–7. Association for Computational Machinery (ACM) (1983)
- Fischer, M.J., Lynch, N.A., Paterson, M.S.: Impossibility of distributed consensus with one faulty processor. *J. ACM* **32**(2), 374–382 (1985)
- Fischer, S., Vöcking, B.: On the structure and complexity of worst-case equilibria. *Theor. Comput. Sci.* **378**(2), 165–174 (2007)
- Fischer, T.: Optimizing the degree of minimum weight spanning trees, Technical Report TR93–1338. Cornell University, Computer Science Department (1993)
- Fischl, B., Sereno, M., Dale, A.: Cortical surface-based analysis II: Inflation, flattening, and a surface-based coordinate system. *NeuroImage* **9**, 195–207 (1999)
- Fishburn, J.P., Dunlop, A. E.: TILOS: A Posynomial Programming Approach to Transistor Sizing. In: *Proceedings of the 1985 International Conference on Computer-Aided Design*, pp. 326–328. Santa Clara, CA, November 1985
- Fishburn, J.P., Schevon, C.A.: Shaping a distributed-RC line to minimize Elmore delay. *IEEE Trans. Circuits Syst.-I: Fundam. Theory Appl.* **42**(12), 1020–1022 (1995)
- Fishburn, J.P.: Shaping a VLSI wire to minimize Elmore delay. In: *Proc. European Design and Test Conference* pp. 244–251. IEEE Compute Society, Washington D.C. (1997)
- Fitch, W.M.: Toward defining the course of evolution: Minimum change for a specified tree topology. *Syst. Zool.* **20**, 406–416 (1971)
- Flammini, M., Klasing, R., Navarra, A., Perennes, S.: Improved approximation results for the minimum energy broadcasting problem. In: *Proceedings of the 2004 joint workshop on Foundations of mobile computing* (2004)
- Flammini, M., Navarra, A., Klasing, R., Pérennes, A.: Improved approximation results for the minimum energy broadcasting problem. *DIALM-POMC*, pp. 85–91. ACM Press, New York (2004)
- Flaxman, A.D.: A spectral technique for random satisfiable 3CNF formulas. In: *Proceedings of the Fourteenth Annual ACM-SIAM Symposium on Discrete Algorithms* (Baltimore, MD, 2003), pp. 357–363. ACM, New York (2003)
- Fleiner, T.: A Fixed Point Approach to Stable Matchings and Some Applications. *Math. Oper. Res.* **28**, 103–126 (2003)
- Fleiner, T.: A matroid generalization of the stable matching polytope. In: Gerards, B., Aardal K. (eds.) *Integer Programming and Combinatorial Optimization: 8th International IPCO Conference*. LNCS, vol. 2081, pp. 105–114. Springer, Berlin (2001)
- Fleischer, L.: Approximating fractional multicommodity flow independent of the number of commodities. In: *Proceedings of the 40th IEEE Symposium on Foundations of Computer Science (FOCS)*, pp. 24–31, New York, October 1999
- Fleischer, L.: Approximating fractional multicommodity flow independent of the number of commodities. *SIAM J. Discret. Math.* **13**(4), 505–520 (2000)
- Fleischer, L., Goemans, M., Mirrokni, V.S., Sviridenko, M.: Tight approximation algorithms for maximum general assignment problems. In: *Proceedings of the 16th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA)*, pp. 611–620 (2006)
- Fleischer, L., Könemann, J., Leonardi, S., Schäfer, G.: Simple cost sharing schemes for multicommodity rent-or-buy and stochastic Steiner tree. In: *Proc. of the 38th Annual ACM Symposium on Theory of Computing*, pp. 663–670. Association for Computing Machinery, New York (2006)
- Fleischer, R., Kamphans, T., Klein, R., Langetepe, E., Trippen, G.: Competitive online approximation of the optimal search ratio. In: *Proceedings of the 12th European Symposium on Algorithms (ESA'04)*. Lecture Notes in Computer Science, vol. 3221, pp. 335–346. Springer, Heidelberg (2004)
- Fleischer, R., Romanik, K., Schuieler, S., Trippen, G.: Optimal robot localization in trees. *Inf. Comput.* **171**, 224–247 (2001)
- Fleischer, R., Trippen, G.: Experimental studies of graph traversal algorithms. In: *Proceedings of the 2nd International Workshop on Experimental and Efficient Algorithms (WEA'03)*. Lecture Notes in Computer Science, vol. 2647, pp. 120–133. Springer, Heidelberg (2003)
- Fleischer, R., Trippen, G.: Exploring an unknown graph efficiently. In: *Proceedings of the 13th European Symposium on Algorithms (ESA'05)*. Lecture Notes in Computer Science, vol. 3669, pp. 11–22. Springer, Heidelberg (2005)

- Fleischer, R., Trippen, G.: Optimal robot localization in trees. In: Proceedings of the 16th Annual Symposium on Computational Geometry (SoCG'00), 2000, pp. 373–374. A video shown at the 9th Annual Video Review of Computational Geometry
- Fleischer, R., Wahl, M.: On-line scheduling revisited. *J. Sched.* **3**, 343–353 (2000)
- Flocchini, P., Kranakis, E., Krizanc, D., Santoro, N., Sawchuk, C.: Multiple Mobile Agent Rendezvous in the Ring. In: Proc. LATIN 2004. LNCS, vol. 2976, pp. 599–608. Bueons Aires, 5–8 April 2004
- Flum, J., Grohe, M.: Parameterized Complexity Theory. Texts in Theoretical Computer Science, vol. XIV. An EATCS Series. Springer, Berlin (2006)
- Flum, J., Grohe, M.: The Parameterized complexity of counting problems. *SIAM J. Comput.* **33**(4), 892–922 (2004)
- Flury, R., Wattenhofer, R.: MLS: An Efficient Location Service for Mobile Ad Hoc Networks. In: Proceedings of the 7th ACM Int. Symposium on Mobile Ad-Hoc Networking and Computing (MobiHoc), Florence, Italy, May 2006
- Fomin, F., Grandoni, F., Kratsch, D.: Measure and conquer: a simple $O(2^{0.288n})$ independent set algorithm. In: Proc. 17th Ann. ACM-SIAM Symp. on Discrete Algorithms (SODA 2006), pp. 18–25 (2006)
- Fomin, F.V., Gaspers, S., Pyatkin, A.V.: Finding a minimum feedback vertex set in time $O(1.7548^n)$. In: Proc. 2th IWPEC. LNCS, vol. 4196, pp. 184–191. Springer, Berlin (2006)
- Fomin, F.V., Grandoni, F., Kratsch, D.: Measure and conquer: Domination – A case study. In: Proceedings of ICALP 2005. LNCS, vol. 3380, pp. 192–203. Springer, Berlin (2005)
- Fomin, F.V., Kratsch, D., Todinca, I.: Exact (exponential) algorithms for treewidth and minimum fill-in. In: ICALP of LNCS, vol. 3142, pp. 568–580. Springer, Berlin (2004)
- Fomin, F.V., Kratsch, D., Todinca, I., Villanger, I.: Exact (exponential) algorithms for treewidth and minimum fill-in (2006). To appear in SIAM Journal of Computing, Preliminary version appeared in ICALP 2004
- Fomin, F.V., Kratsch, D., Woeginger, G.J.: Exact (exponential) algorithms for the dominating set problem. In: Proceedings of WG 2004. LNCS, vol. 3353, pp. 245–256. Springer, Berlin (2004)
- Fomin, F.V., Mazoit, F., Todinca, I.: Computing branchwidth via efficient triangulations and blocks. In: Proceedings of the 31st Workshop on Graph Theoretic Concepts in Computer Science (WG 2005). Lecture Notes Computer Science, vol. 3787, pp. 374–384. Springer, Berlin (2005)
- Fomin, F.V., Thilikos, D.M.: Dominating sets in planar graphs: Branch-width and exponential speed-up. *SIAM J. Comput.* **36**, 281–309 (2006)
- Fomin, F.V., Thilikos, D.M.: Fast parameterized algorithms for graphs on surfaces: Linear kernel and exponential speed-up. In: Proceedings of the 31st International Colloquium on Automata, Languages and Programming (ICALP 2004). Lecture Notes Computer Science, vol. 3142, pp. 581–592. Springer, Berlin (2004)
- Fomin, F.V., Thilikos, D.M.: New upper bounds on the decomposability of planar graphs. *J. Graph Theor.* **51**, 53–81 (2006)
- Fonseca, R., Ratnasamy, S., Zhao, J., Ee, C.T., Culler, D., Shenker, S., Stoica, I.: Beacon Vector Routing: Scalable Point-to-Point Routing in Wireless Sensor networks. In: 2nd Symposium on Networked Systems Design & Implementation (NSDI), Boston, Massachusetts, USA, May 2005
- Ford, L.R., Fulkerson, D.R.: Maximal flow through a network. *Can. J. Math.* **8**, 399–404. (1956)
- Fortune, S.J.: Stable maintenance of point-set triangulations in two dimensions. *IEEE Found. Comput. Sci.* **30**, 494–499 (1989)
- Fortune, S.J., van Wyk, C.J.: Efficient exact arithmetic for computational geometry. In: Proceeding 9th ACM Symposium on Computational Geometry, pp. 163–172 (1993)
- Foschini, L., Grossi, R., Gupta, A., Vitter, J.S.: When indexing equals compression: Experiments with compressing suffix arrays and applications. *ACM Trans. Algorithms* **2**(4), 611–639 (2006)
- Fotakis, D.: On the competitive ratio for online facility location. In: Proceedings of the 30th International Colloquium on Automata, Languages and Programming (ICALP). Lecture Notes in Computer Science, vol. 2719, pp. 637–652. Springer, Berlin (2003)
- Fotakis, D., Kontogiannis, S., Koutsoupias, E., Mavronicolas, M., Spirakis, P.: The structure and complexity of nash equilibria for a selfish routing game. In: Proc. of the 29th Int. Col. on Aut., Lang. and Progr. (ICALP '02). LNCS, pp. 123–134. Springer, Málaga (2002)
- Fotakis, D., Kontogiannis, S., Spirakis, P.: Atomic congestion games among coalitions. In: Proc. of the 33rd Int. Col. on Aut., Lang. and Progr. (ICALP '06). LNCS, vol. 4051, pp. 572–583. Springer, Venice (2006)
- Fotakis, D., Kontogiannis, S., Spirakis, P.: Selfish unsplitable flows. *J. Theoret. Comput. Sci.* **348**, 226–239 (2005)
- Fotakis, D., Kontogiannis, S., Spirakis, P.: Symmetry in Network Congestion Games: Pure Equilibria and Anarchy Cost. In: Proc. of the 3rd Workshop of Approximate and On-line Algorithms (WAOA 2005). Lecture Notes in Computer Science (LNCS), vol. 3879, pp. 161–175. Springer, Berlin Heidelberg (2006)
- Fotakis, D., Nikolettseas, S., Papadopoulou, V., Spirakis, P.: \mathcal{NP} -Completeness Results and Efficient Approximations for Radiocoloring in Planar Graphs. In: Proceedings of the 25th International Symposium on Mathematical Foundations of Computer Science, Lecture Notes of Computer Science, vol. 1893, pp. 363–372. Springer (2000)
- Fotakis, D., Nikolettseas, S., Papadopoulou, V.G., Spirakis, P.G.: Radiocoloring in Planar Graphs: Complexity and Approximations. *Theor. Comput. Sci. Elsevier* **340**, 514–538 (2005)
- Fotakis, D., Pagh, R., Sanders, P., Spirakis, P.G.: Space efficient hash tables with worst case constant access time. *Theor. Comput. Syst.* **38**(2), 229–248 (2005)
- Fotakis, D., Pantziou, G., Pentaris, G., Spirakis, P.: Frequency Assignment in Mobile and Radio Networks. In: Networks in Distributed Computing, DIMACS Series in Discrete Mathematics and Theoretical Computer Science 45, pp. 73–90 (1999)
- Fotakis, D., Spirakis, P.: Minimum Congestion Redundant Assignments to Tolerate Random Faults. *Algorithmica* **32**, 396–422 (2002)
- Fowler, R.J., Paterson, M.S., Tanimoto, S.L.: Optimal packing and covering in the plane are NP-complete. *Inf. Process. Lett.* **12**(3), 133–137 (1981)
- Fraenkel, A.S., Klein, S.T.: Novel compression of sparse bit-strings – Preliminary report. In: Apostolico, A., Galil, Z. (eds) Combinatorial Algorithms on Words, NATO ASI Series F, vol. 12, pp. 169–183. Springer, Berlin (1985)
- Fraenkel, A.S., Simpson, R.J.: How many squares can a string contain? *J. Comb. Theory Ser. A* **82**, 112–120 (1998)
- Fraenkel, A.S., Simpson, R.J.: The Exact Number of Squares in Fibonacci Words. *Theor. Comput. Sci.* **218**(1), 95–106 (1999)
- Fraignaud, P., Gauron, P.: The content-addressable network D2B. Tech. Report 1349, LRI, Univ. Paris-Sud (2003)

- Fraigniaud, P., Ilcinkas, D., Peer, G., Pelc, A., Peleg, D.: Graph exploration by a finite automaton. *Theor. Comput. Sci.* **345**, 331–344 (2005)
- Frances, M., Litman, A.: On covering problems of codes. *Theor. Comput. Syst.* **30**, 113–119 (1997)
- Franceschini, G.: Proximity mergesort: Optimal in-place sorting in the cache-oblivious model. In: *Proceedings of the 15th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA)*, SIAM, p. 291. Philadelphia, 2004
- Franceschini, G., Grossi, R.: A general technique for managing strings in comparison-driven data structures. In: *Annual International Colloquium on Automata, Languages and Programming (ICALP)*, 2004
- Franceschini, G., Grossi, R.: Optimal in-place sorting of vectors and records. In: *Proceedings of the 32nd International Colloquium on Automata, Languages and Programming (ICALP '05)*. LNCS, vol. 3580, pp. 90–102. Springer, Lisbon (2005)
- Franceschini, G., Grossi, R.: Optimal worst-case operations for implicit cache-oblivious search trees. In: *Proc. Algorithms and Data Structures, 8th International Workshop, WADS*. LNCS, vol. 2748, pp. 114–126. Springer, Berlin (2003)
- Francis, Y.L., Chin, N.L.H., Lam, T.W., Prudence, W.H.W.: Efficient constrained multiple sequence alignment with performance guarantee. *J. Bioinform. Comput. Biol.* **3**(1), 1–18 (2005)
- Franco, J.: Probabilistic analysis of the pure literal heuristic for the satisfiability problem. *Annal. Oper. Res.* **1**, 273–289 (1984)
- Franco, J.: Results related to threshold phenomena research in satisfiability: Lower bounds. *Theor. Comput. Sci.* **265**, 147–157 (2001)
- Franeek, F., Karaman, A., Smyth, W.F.: Repetitions in Sturmian strings. *Theor. Comput. Sci.* **249**(2), 289–303 (2000)
- Franeek, F., Simpson, R.J., and Smyth, W.F.: The maximum number of runs in a string. In: *Proc. 14-th Australian Workshop on Combinatorial Algorithms*, pp. 26–35. Curtin University Press, Perth (2003)
- Franeek, F., Smyth, W.F., Tang, Y.: Computing all repeats using suffix arrays. *J. Autom. Lang. Comb.* **8**(4), 579–591 (2003)
- Frank, A.: Packing paths, cuts, and circuits – a survey. In: Korte, B., Lovász, L., Prömel H.J., Schrijver A. (eds.) *Paths, Flows and VLSI-Layout*, pp. 49–100. Springer, Berlin (1990)
- Frank, A., Pevzner, P.: Pepnovo: De novo peptide sequencing via probabilistic network modeling. *Anal. Chem.* **77**, 964–973 (2005)
- Fraser, K., Harris, T.: Concurrent programming without locks. <http://www.cl.cam.ac.uk/netos/papers/2004-cpwl-submission.pdf> (2004)
- Frederickson, G., Lynch, N.: The impact of synchronous communication on the problem of electing a leader in a ring. In: *Proc. of the 16th Annual ACM Symposium on Theory of Computing*, pp. 493–503. ACM, USA (1984)
- Frederickson, G.N.: A data structure for dynamically maintaining rooted trees. *J. Algorithms* **24**(1), 37–65 (1997)
- Frederickson, G.N.: Ambivalent data structures for dynamic 2-edge-connectivity and k smallest spanning trees. *SIAM J. Comput.* **26**(2), 484–538 (1997)
- Frederickson, G.N.: Data structures for on-line update of minimum spanning trees, with applications. *SIAM J. Comput.* **14**(4), 781–798 (1985)
- Frederickson, G.N., Jájá, J.: On the relationship between the bi-connectivity augmentation and Traveling Salesman Problem. *Theor. Comput. Sci.* **19**(2), 189–201 (1982)
- Frederickson, G.N., Srinivas, M.A.: Algorithms and data structures for an expanded family of matroid intersection problems. *SIAM J. Comput.* **18**, 112–138 (1989)
- Fredman, M., Tarjan, R.: Fibonacci heaps and their uses in improved network optimization algorithms. *J. ACM* **34**(3), 596–615 (1987)
- Fredman, M.L.: New bounds on the complexity of the shortest path problem. *SIAM J. Comput.* **5**(1), 83–89 (1976)
- Fredman, M.L.: New bounds on the complexity of the shortest path problems. *SIAM J. Comp.* **5**(1), 87–89 (1976)
- Fredman, M.L.: Two applications of a probabilistic search technique: sorting $X + Y$ and building balanced search trees. *Proc. of the 7th ACM STOC*, pp. 240–244 (1975)
- Fredman, M.L., Komlós, J., Szemerédi, E.: Storing a sparse table with $O(1)$ worst case access time. *J. Assoc. Comput. Mach.* **31**(3), 538–544 (1984)
- Fredman, M.L., Saks, M.E.: The cell probe complexity of dynamic data structures. In: *Proc. 21st ACM Symposium on Theory of Computing (STOC)*, 1989, pp. 345–354
- Fredman, M.L., Willard, D.E.: Surpassing the information theoretic bound with fusion trees. *J. Comput. Syst. Sci.* **47**(3), 424–436 (1993). See also STOC'90
- Fredman, M.L., Willard, D.E.: Trans-dichotomous algorithms for minimum spanning trees and shortest paths. *J. Comput. Syst. Sci.* **48**(3), 533–551 (1994). See also FOCS'90
- Fredriksson, K., Grabowski, S.: Practical and optimal string matching. In: *Proceedings of SPIRE'2005*. LNCS, vol. 3772, pp. 374–385. Springer, Berlin (2005)
- Fredriksson, K., Mäkinen, V., Navarro, G.: Rotation and lighting invariant template matching. In: *Proceedings of the 6th Latin American Symposium on Theoretical Informatics (LATIN'04)*. LNCS, pp. 39–48 (2004)
- Fredriksson, K., Mozgovoy, M.: Efficient parameterized string matching. *Inf. Process. Lett.* **100**(3), 91–96 (2006)
- Fredriksson, K., Navarro, G.: Average-optimal single and multiple approximate string matching. *ACM J. Exp. Algorithms* **9**(1.4) (2004)
- Fredriksson, K., Navarro, G., Ukkonen, E.: Faster than FFT: Rotation invariant combinatorial template matching. In: Pandalai, S. (ed.) *Recent Research Developments in Pattern Recognition*, vol. II, pp. 75–112. Transworld Research Network, Trivandrum, India (2002)
- Fredriksson, K., Navarro, G., Ukkonen, E.: Optimal exact and fast approximate two dimensional pattern matching allowing rotations. In: *Proceedings of the 13th Annual Symposium on Combinatorial Pattern Matching (CPM 2002)*. LNCS, vol. 2373, pp. 235–248 (2002)
- Fredriksson, K., Navarro, G., Ukkonen, E.: Sequential and Indexed Two-Dimensional Combinatorial Template Matching Allowing Rotations. *Theor. Comput. Sci.* **347**(1–2), 239–275 (2005)
- Fredriksson, K., Ukkonen, E.: A rotation invariant filter for two-dimensional string matching. In: *Proc. 9th Annual Symposium on Combinatorial Pattern Matching (CPM)*. LNCS, vol. 1448, pp. 118–125. Springer, Berlin (1998)
- Fredriksson, K., Ukkonen, E.: Combinatorial methods for approximate pattern matching under rotations and translations in 3D arrays. In: *Proc. 7th International Symposium on String Processing and Information Retrieval*, pp. 96–104. IEEE Computer Society, Washington, DC (2000)
- Freedman, M.: P/NP and the quantum field computer. *Proc. Natl. Acad. Sci. USA* **95**, 98–101 (1998)

- Freedman, M., Kitaev, A., Larsen, M., Wang, Z.: Topological quantum computation. Mathematical challenges of the 21st century. (Los Angeles, CA, 2000). Bull. Amer. Math. Soc. (N.S.) **40**(1), 31–38 (2003)
- Freedman, M.H., Kitaev, A., Wang, Z.: A modular Functor which is universal for quantum computation. Commun. Math. Phys. **227**(3), 605–622 (2002)
- Freedman, M.H., Kitaev, A., Wang, Z.: Simulation of topological field theories by quantum computers. Commun. Math. Phys. **227**, 587–603 (2002)
- Freedman, M.J., Freudenthal, E., Mazières, D.: Democratizing content publication with coral. In: Proceedings of the 1st USENIX/ACM Symposium on Networked Systems Design and Implementation (NSDI '04), March 2004
- Freedman, M.J., Mazières, D.: Sloppy hashing and self-organizing clusters. In: Proceedings of the 2nd Intl. Workshop on Peer-to-Peer Systems (IPTPS '03), February 2003
- Freivalds, R.: Fast probabilistic algorithms. In: Proceedings of the 8th Symposium on Mathematical Foundations of Computer Science, pp. 57–69, Olomouc, Czechoslovakia, 3–7 September 1979
- Freivalds, R., Kinber, E., Smith, C.H.: On the Intrinsic Complexity of Learning. Inform. Comput. **118**(2), 208–226 (1995)
- Freivalds, R., Kinber, E., Wiehagen, R.: How inductive inference strategies discover their errors. Inform. Comput. **123**(1), 64–71 (1995)
- Freivalds, R., Smith, C.H.: On the Role of Procrastination in Machine Learning. Inform. Comput. **107**(2), 237–271 (1993)
- Freund, A., Karloff, H.: A lower bound of $8/(7 + \frac{1}{k-1})$ on the integrality ratio of the Calinescu–Karloff–Rabani relaxation for Multiway Cut. Inf. Process. Lett. **75**, 43–50 (2000)
- Freund, Y., Schapire, R. E.: Large margin classification using the perceptron algorithm. In: Proceedings of the Eleventh Annual Conference on Computational Learning Theory (1998)
- Frick, M., Grohe, M.: Deciding first-order properties of locally tree-decomposable structures. J. ACM **48**(6), 1184–1206 (2001)
- Friedgut, E.: Sharp thresholds of graph properties, and the k -sat problem. J. AMS **12**, 1017–1054 (1997)
- Frieze, A., Jerrum, M.R.: Improved approximation algorithms for MAX- k -CUT and MAX BISECTION. Algorithmica **18**, 61–77 (1997)
- Frieze, A., Kannan, R.: The Regularity Lemma and Approximation Schemes for Dense Problems. In: Proc. 37th IEEE FOCS 1996, pp. 12–20. IEEE Computer Society Press, Los Alamitos
- Frigioni, D., Marchetti-Spaccamela, A., Nanni, U.: Fully dynamic algorithms for maintaining shortest paths trees. J. Algorithm **34**, 351–381 (2000)
- Frigioni, D., Marchetti-Spaccamela, A., Nanni, U.: Semi-dynamic algorithms for maintaining single source shortest paths trees. Algorithmica **22**, 250–274 (1998)
- Frigioni, D., Miller, T., Nanni, U., Zaroliagis, C.D.: An experimental study of dynamic algorithms for transitive closure. ACM J Exp. Algorithms **6**(9) (2001)
- Frigo, M., Johnson, S. G.: FFTW: An adaptive software architecture for the FFT. In: Proc. IEEE Int'l Conf. Acoustics, Speech, and Signal Processing, vol. 3, pp. 1381–1384, Seattle, WA (1998)
- Frigo, M., Leiserson, C.E., Prokop, H., Ramachandran, S.: Cache-oblivious algorithms. In: 40th Annual IEEE Symposium on Foundations of Computer Science, pp. 285–298. IEEE Computer Society Press, Los Alamitos (1999)
- Ftp site of DIMACS implementation challenges, [ftp://dimacs.rutgers.edu/pub/challenge/](http://dimacs.rutgers.edu/pub/challenge/)
- Fuchs, B.: On the hardness of range assignment problems. In: Proceedings of the 6th Italian Conference on Algorithms and Complexity (CIAC), pp. 127–138 (2006)
- Fuchs, C.A., Gisin, N., Griffiths, R.B., Niu, C., Peres, A.: Optimal eavesdropping in quantum cryptography, I. Information bound and optimal strategy. Phys. Rev. A **56**, 1163–1172 (1997)
- Fujii, M., Kasami, T., Ninomiya, K.: Optimal sequencing of two equivalent processors. SIAM J. Comput. **17**, 784–789 (1969)
- Fujishige, S., Tamura, A.: A Two-Sided Discrete-Concave Market with Bounded Side Payments: An Approach by Discrete Convex Analysis. Math. Oper. Res. **32**, 136–155 (2007)
- Fukuda, T., Morimoto, Y., Morishita, S., Tokuyama, T.: Mining Optimized Association Rules for Numeric Attributes. J. Comput. Syst. Sci. **58**, 1–12 (1999)
- Fulkerson, D.R., Gross, O.A.: Incidence matrices and interval graphs. Pac. J. Math. **15**(3), 835–855 (1965)
- Füredi, Z.: On r -cover-free families. J. Comb. Theory, Series A **73**, 172–173 (1996)
- Fürer, M., Raghavachari, B.: An NC approximation algorithm for the minimum-degree spanning tree problem. In: Proceedings of the 28th Annual Allerton Conference on Communication, Control and Computing, 1990, pp. 174–281
- Fürer, M., Raghavachari, B.: Approximating the minimum degree spanning tree to within one from the optimal degree. In: Proceedings of the Third Annual ACM-SIAM Symposium on Discrete Algorithms (SODA 1992), 1992, pp. 317–324
- Fürer, M., Raghavachari, B.: Approximating the minimum-degree Steiner tree to within one of optimal. J. Algorithms **17**(3), 409–423 (1994)
- Furst, M., Jackson, J., Smith, S.: Improved learning of AC^0 functions. In: Proceedings of the Fourth Annual Workshop on Computational Learning Theory, pp. 317–325, Santa Cruz, (1991)
- Furst, M., Saxe, J., Sipser, M.: Parity, circuits, and the polynomial time hierarchy. Math. Syst. Theor. **17**(1), 13–27 (1984)
- Gabow, H.: Data structures for weighted matching and nearest common ancestors with linking. In: Symp. on Discrete Algorithms, 1990, pp. 434–443
- Gabow, H.N.: A matroid approach to finding edge connectivity and packing arborescences. J. Comput. Syst. Sci. **50**, 259–273 (1995)
- Gabow, H.N.: An almost linear time algorithm for two processors scheduling. J. ACM **29**(3), 766–780 (1982)
- Gabow, H.N.: An ear decomposition approach to approximating the smallest 3-edge connected spanning subgraph of a multigraph. SIAM J. Discret. Math. **18**(1), 41–70 (2004)
- Gabow, H.N.: Better performance bounds for finding the smallest k -edge connected spanning subgraph of a multigraph. In: SODA, 2003, pp. 460–469
- Gabow, H.N., Bentley, J.L., Tarjan, R.E.: Scaling and Related Techniques for Geometry Problems. In: STOC 1984, pp. 135–143
- Gabow, H.N., Galil, Z., Spencer, T.H., Tarjan, R.E.: Efficient algorithms for finding minimum spanning trees in undirected and directed graphs. Combinatorica **6**, 109–122 (1986)
- Gabow, H.N., Goemans, M.X., Williamson, D.P.: An efficient approximation algorithm for the survivable network design problem. Math. Program. Ser. B **82**(1–2), 13–40 (1998)
- Gabow, H.N., Tarjan, R.E.: Faster scaling algorithms for general graph matching problems. J. ACM **38**(4), 815–853 (1991)
- Gabriel, K.R., Sokal, R.R.: A new statistical approach to geographic variation analysis. Syst. Zool. **18**, 259–278 (1969)

- Gafni, E., Bertsekas, D.: Dynamic control of session input rates in communication networks. *IEEE Trans. Autom. Control* **29**(11), 1009–1016 (1984)
- Gafni, E., Bertsekas, D.P.: Distributed algorithms for generating loop-free routes in networks with frequently changing topology. *IEEE Trans. Commun.* **29**(1), 11–18 (1981)
- Gafni, E., Guerraoui, R., Pochon, B.: From a Static Impossibility to an Adaptive Lower Bound: The Complexity of Early Deciding Set Agreement. In: *Proc. 37th ACM Symposium on Theory of Computing (STOC 2005)*, pp. 714–722. ACM Press, New York (2005)
- Gafni, E., Koutsoupias, E.: Three-processor tasks are undecidable. *SIAM J. Comput.* **28**(3), 970–983 (1999)
- Gafni, E., Rajsbaum, S., Herlihy, M.: Subconsensus Tasks: Renaming is Weaker than Set Agreement. In: *Proc. 20th Int'l Symposium on Distributed Computing (DISC'06)*. LNCS, vol. 4167, pp. 329–338. Springer, Berlin (2006)
- Gairing, M., Lücking, T., Mavronicolas, M., Monien, B.: The price of anarchy for polynomial social cost. *Theor. Comput. Sci.* **369**(1–3), 116–135 (2006)
- Gairing, M., Luecking, T., Mavronicolas, M., Monien, B.: The price of anarchy for restricted parallel links. *Parallel Process. Lett.* **16**, 117–131 (2006) Preliminary version appeared in STOC 2004
- Gairing, M., Monien, B., Tiemann, K.: Routing (un-)splittable flow in games with player specific linear latency functions. In: *Proc. of the 33rd Int. Col. on Aut., Lang. and Progr. (ICALP '06)*. LNCS, pp. 501–512. Springer, Venice (2006)
- Gal, S.: Minimax solutions for linear search problems. *SIAM J. Appl. Math.* **27**, 17–30 (1974)
- Gal, S.: *Search Games*, pp. 109–115, 137–151, 189–195. Academic Press, New York (1980)
- Galambos, G., Woeginger, G.J.: Online bin packing – a restricted survey. *ZOR Math. Methods Oper. Res.* **42**, 25–45 (1995)
- Gale, D., Shapley, L.S.: College admissions and the stability of marriage. *Am. Math. Mon.* **69**, 9–15 (1962)
- Gale, D., Sotomayor, M.: Some remarks on the stable matching problem. *Discret. Appl. Math.* **11**, 223–232 (1985)
- Galil, Z., Giancarlo, R.: Speeding up dynamic programming with applications to molecular biology. *Theor. Comput. Sci.* **64**, 107–118 (1989)
- Galil, Z., Italiano, G. F.: Fully dynamic algorithms for 2-edge-connectivity. *SIAM J. Comput.* **21**, 1047–1069 (1992)
- Galil, Z., Italiano, G.F.: Maintaining the 3-edge-connected components of a graph on-line. *SIAM J. Comput.* **22**, 11–28 (1993)
- Galil, Z., Italiano, G.F., Sarnak, N.: Fully dynamic planarity testing with applications. *J. ACM* **48**, 28–91 (1999)
- Galil, Z., Park, J.G., Park, K.: Three-dimensional periodicity and its application to pattern matching. *SIAM J. Discret. Math.* **18**, 362–381 (2004)
- Galil, Z., Park, K.: Alphabet-independent two-dimensional witness computation. *SIAM J. Comput.* **25**(5), 907–935 (1996)
- Galil, Z., Seiferas, J.: Time-space optimal string matching. *J. Comput. Syst. Sci.* **26**(3), 280–294 (1983)
- Gallager, R.: A perspective on multiaccess communications. *IEEE Trans. Inf. Theor.* **31**, 124–142 (1985)
- Gallager, R.: Low-density parity-check codes. *IRE Trans. Inform. Theory*, IT-8, pp. 21–28 (1962)
- Gallager, R.G., Humblet, P.A., Spira, P.M.: A distributed algorithm for minimum-weight spanning trees. *ACM Trans. Prog. Lang. Systems* **5**(1), 66–77 (1983)
- Ganapathy, G., Warnow, T.J.: Approximating the complement of the maximum compatible subset of leaves of k trees. In: *Proc. of the 5th International Workshop on Approximation Algorithms for Combinatorial Optimization (APPROX'02)*, LNCS, vol. 2462, pp. 122–134., Springer, Berlin (2002)
- Ganapathy, G., Warnow, T.J.: Finding a maximum compatible tree for a bounded number of trees with bounded degree is solvable in polynomial time. In: Gascuel, O., Moret, B.M.E. (eds.) *Proc. of the 1st International Workshop on Algorithms in Bioinformatics (WABI'01)*, pp. 156–163 (2001)
- Gandhi, R., Khuller, S., Parthasarathy, S., Srinivasan, A.: Dependent rounding and its applications to approximation algorithms. *J. ACM* **53**(3), 324–360 (2006)
- Gandhi, R., Parthasarathy, S.: Distributed Algorithms for Coloring and Connected Domination in Wireless Ad Hoc Networks. In: *Foundations of Software Technology and Theoretical Computer Science (FSTTCS)*, pp. 447–459 (2004)
- Gao, J., Guibas, L., Hershberger, J., Zhang, L., Zhu, A.: Geometric Spanner for Routing in Mobile Networks. In: *Proc. 2nd ACM Int. Symposium on Mobile Ad-Hoc Networking and Computing (MobiHoc)*, Long Beach, CA, USA, October 2001
- Gao, J., Guibas, L.J., Hershberger, J., Zhang, L., Zhu, A.: Discrete mobile centers. *Discrete Comput. Geom.* **30**, 45–63 (2003)
- Gao, J., Guibas, L.J., Hershberger, J., Zhang, L., Zhu, A.: Geometric spanners for routing in mobile networks. *IEEE J. Sel. Areas Commun. Wirel. Ad Hoc Netw. (J-SAC)*, **23**(1), 174–185 (2005)
- Gao, J., Guibas, L.J., Nguyen, A.: Deformable spanners and applications. In: *Proceedings of the 20th ACM Symposium on Computational Geometry*, pp. 190–199, New York, 9–11 June 2004
- Gao, J., Zhang, L.: Well-separated pair decomposition for the unit-disk graph metric and its applications. In: *Proc. of 35th ACM Symposium on Theory of Computing (STOC'03)*, 2003, pp. 483–492
- Gao, Y., Wong, D.F.: Wire-sizing for delay minimization and ringing control using transmission line model. In: *Proc. Conf. on Design Automation and Test in Europe*, pp. 512–516. ACM, New York (2000)
- Garay, J.A., Moses, Y.: Fully Polynomial Byzantine Agreement for $n > 3t$ Processors in $t + 1$ Rounds. *SIAM J. Comput.* **27**(1), 247–290 (1998)
- Garcia-Molina, H., Barbara, D.: How to assign votes in a distributed system. *J. ACM* **32**, 841–860 (1985)
- García, Y.J., López, M.A., Leutenegger, S.T.: A greedy algorithm for bulk loading R-trees. In: *Proc. 6th ACM Symposium on Advances in GIS*, 1998, pp. 163–164
- Gardner, M.K.: Probabilistic Analysis and Scheduling of Critical Soft Real-Time Systems. Ph. D. thesis, Department of Computer Science, University of Illinois at Urbana-Champaign (1999)
- Gardenfors, P.: Match Making: assignments based on bilateral preferences. *Behav. Sci.* **20**, 166–173 (1975)
- Gardner, P.P., Giegerich, R.: A comprehensive comparison of comparative RNA structure prediction approaches. *BMC Bioinformatics* **30**, 140 (2004)
- Garey, M., Johnson, D., Stockmeyer, L.: Some simplified NP-complete graph problems. *Theor. Comput. Sci.* **1**, 237–267 (1976)
- Garey, M., Johnson, D.S.: *Computers and Intractability*. W. H. Freeman, San Francisco (1979)
- Garey, M.R., Graham, R.L., Johnson, D.S.: Some NP-complete geometric problems. In: *Proceedings of 8th Annual ACM Symposium on Theory of Computing (STOC '76)*, pp. 10–22. Association for Computing Machinery, New York (1976)

- Garey, M.R., Johnson, D.S.: *Computers and Intractability: A Guide to the Theory of NP-Completeness*. Freeman, New York (1979)
- Garg, N., Könemann, J.: Faster and simpler algorithms for multicommodity flow and other fractional packing problems. In: *Proceedings of the 39th IEEE Symposium on Foundations of Computer Science (FOCS)*, pp. 300–309. (1998)
- Garg, N., Kumar, A.: Better algorithms for minimizing average flow-time on related machines. In: *Proceedings of ICALP*, pp. 181–190 (2006)
- Garg, N., Kumar, A.: Minimizing average flow time on related machines. In: *ACM Symposium on Theory of Computing (STOC)*, pp. 730–738 (2006)
- Garg, N., Vazirani, V., Yannakakis, M.: Primal-Dual Approximation Algorithms for Integral Flow and Multicut in Trees. *Algorithmica* **18**(1), 3–20 (1997). Preliminary version appeared in *Proc. ICALP* 1993
- Garg, N., Vazirani, V.V., Yannakakis, M.: Approximate max-flow min-(multi)cut theorems and their applications. *SIAM Comput. J.*, **25**(2), 235–251. (1996)
- Garg, N., Vazirani, V.V., Yannakakis, M.: Multiway cuts in node weighted graphs. *J. Algorithms* **50**(1), 49–61 (2004). Preliminary version in *ICALP* 1994
- Garg, N., Vempala, S., Singla, A.: Improved approximation algorithms for biconnected subgraphs via better lower bounding techniques. In: *SODA*, 1993, pp. 103–111
- Garg, R., Kapoor, S.: Auction algorithms for market equilibrium, In: *Proceedings of STOC'04*, pp. 511–518. ACM, Chicago (2004)
- Garnerone, S., Marzuoli, A., Rasetti, M.: An efficient quantum algorithm for colored Jones polynomials [arXiv.org:quant-ph/0606167](https://arxiv.org/abs/quant-ph/0606167) (2006)
- Gascuel, O., McKenzie, A.: Performance Analysis of Hierarchical Clustering Algorithms. *J. Classif.* **21**, 3–18 (2004)
- Gascuel, O.: BIONJ: an Improved Version of the NJ Algorithm Based on a Simple Model of Sequence Data. *Mol. Biol. Evol.* **14**, 685–695 (1997)
- Gascuel, O., Steel, M.: Neighbor-Joining Revealed. *Mol. Biol. Evol.* **23**, 1997–2000 (2006)
- Gąsieniec, L., Jansson, J., Lingas, A.: Efficient approximation algorithms for the hamming center problem. In: *Proc. 10th ACM-SIAM Symp. on Discrete Algorithms.*, pp. 135–S906. (1999)
- Gąsieniec, L., Karpinski, M., Plandowski, W., Rytter, W.: Efficient algorithms for Lempel–Ziv encoding. In: *Proc. 5th Scandinavian Workshop on Algorithm Theory (SWAT'96)*. LNCS, vol. 1097, pp. 392–403 (1996)
- Gąsieniec, L., Kranakis, E., Krizanc, D., Pelc, A.: Minimizing Congestion of Layouts for ATM Networks with Faulty Links. In: Penczek, W., Szalas, A. (eds.) *Proceedings of the 21st International Symposium on Mathematical Foundations of Computer Science. Lecture Notes in Computer Science*, vol. 1113, pp. 372–381. Springer, Berlin (1996)
- Gąsieniec, L., Pelc, A., Peleg, D.: The Wakeup Problem in Synchronous Broadcast Systems (Extended Abstract). In: *Proc. of the 19th ACM Symposium on Principles of Distributed Computing (PODC)*, pp. 113–121 (2000)
- Gąsieniec, L., Su, C., Wong, P.W.H., Xin, Q.: Routing via single-source and multiple-source queries in static sensor networks. *J. Discret. Algorithm* **5**(1), 1–11 (2007). A preliminary version of the paper appeared in *IPDPS'2005*
- Geary, R., Raman, R., Raman, V.: Succinct ordinal trees with level-ancestor queries. In: *Proc. 15th ACM-SIAM Symposium on Discrete Algorithms (SODA)*, pp. 1–10. New Orleans, USA (2004)
- Geary, R.F., Rahman, N., Raman, R., Raman, V.: A simple optimal representation for balanced parentheses. *Theor. Comput. Sci.* **368**(3), 231–246 (2006)
- Geffert, V.: Translation of binary regular expressions into nondeterministic ε -free automata with $\mathcal{O}(n \log n)$ transitions. *J. Comput. Syst. Sci.* **66**(3), 451–472 (2003)
- Geiger, L.C.D., Gupta, A., Vrontzos, J.: Dynamic programming for detecting, tracking and matching elastic contours. *IEEE Trans. On Pattern Analysis and Machine Intelligence* (1995)
- Gelfand, Y., Rodriguez, A., Benson, G.: TRDB – The Tandem Repeats Database. *Nucl. Acids Res.* **35**(suppl. 1), D80–D87 (2007)
- Gemmell, P., Lipton, R., Rubinfeld, R., Sudan, M., Wigderson, A.: Self-testing/correcting for polynomials and for approximate functions. In: *Proceedings of the Twenty-Third Annual ACM Symposium on Theory of Computing*, pp. 32–42. ACM, New York (1991)
- Gentile, C.: The robustness of the p-norm algorithms. *Mach. Learn.* **53**(3) (2002)
- Gentile, C., Warmuth, M.K.: Linear hinge loss and average margin. In: Kearns, M.J., Solla, S.A., Cohn, D.A. (eds.) *Advances in neural information processing systems 11*, p. 225–231. MIT Press, Cambridge (1999)
- Georgakopoulos, G.F.: How to splay for $\log \log n$ -competitiveness. In: *Proc. 4th Int'l Workshop on Experimental and Efficient Algorithms (WEA)*, pp. 570–579 (2005)
- George, A., Liu, J.W.H.: *Computer solution of large sparse positive definite systems*. Prentice-Hall Series in Computational Mathematics, Prentice-Hall Inc. Englewood Cliffs (1981)
- Gerards, B., Marchetti-Spaccamela, A. (eds.): *Proceedings of the 3rd Workshop on Algorithmic Methods and Models for Optimization of Railways (ATMOS'03) 2003*. *Electronic Notes in Theoretical Computer Science*, vol. 92. Elsevier (2004)
- Gershenfeld, N.A., Chuang, I.L.: Bulk spin-resonance quantum computation. *Science* **275**, 350–356 (1997)
- Gfeller, B., Vicari, E.: A Randomized Distributed Algorithm for the Maximal Independent Set Problem in Growth-Bounded Graphs. In: *PODC* 2007
- Ghao, J., Zhang, L.: Well-Separated Pair Decomposition for the Unit Disk Graph Metric and its Applications. *SIAM J. Comput.* **35**(1), 151–169 (2005)
- Giammarresi D., Italiano G.F.: Incremental 2- and 3-connectivity on planar graphs. *Algorithmica* **16**(3), 263–287 (1996)
- Giancarlo, R.: A generalization of the suffix tree to square matrices, with application. *SIAM J. Comput.* **24**, 520–562 (1995)
- Giancarlo, R.: An index data structure for matrices, with applications to fast two-dimensional pattern matching. In: *Proceedings of Workshop on Algorithm and Data Structures*, vol. 709, pp. 337–348. Springer Lect. Notes Comp. Sci. Montréal, Canada (1993)
- Giancarlo, R., Grossi, R.: On the construction of classes of suffix trees for square matrices: Algorithms and applications. *Inf. Comput.* **130**, 151–182 (1996)
- Giancarlo, R., Grossi, R.: Suffix tree data structures for matrices. In: Apostolico, A., Galil, Z. (eds.) *Pattern Matching Algorithms*, ch. 11, pp. 293–340. Oxford University Press, Oxford (1997)
- Giancarlo, R., Guaiana, D.: On-line construction of two-dimensional suffix trees. *J. Complex.* **15**, 72–127 (1999)
- Giancarlo, R., Restivo, A., Sciortino, M.: From first principles to the Burrows and Wheeler transform and beyond, via combinatorial optimization. *Theor. Comput. Sci.* **387**(3):236–248 (2007)
- Giegerich, R., Kurtz, S., Stoye, J.: Efficient implementation of lazy suffix trees. *Softw. Pract. Exp.* **33**, 1035–1049 (2003)

- Giesen, J.: Curve reconstruction, the TSP, and Menger's theorem on length. *Discret. Comput. Geom.* **24**, 577–603 (2000)
- Gifford, D.K.: Weighted voting for replicated data. In: *Proceedings of the 7th ACM Symposium on Operating Systems Principles*, 1979, pp. 150–162
- Gilbert, A.C., Guha, S., Indyk, P., Muthukrishnan, S., Strauss, M.: Near-optimal sparse fourier representations via sampling. In: *Proceedings of the thirty-fourth annual ACM symposium on Theory of computing*, pp. 152–161. ACM Press (2002)
- Gilbert, A.C., Muthukrishnan, S., Strauss, M.J.: Improved time bounds for near-optimal sparse fourier representation via sampling. In: *Proceedings of SPIE Wavelets XI*, San Diego, CA 2005 (2005)
- Gilbert, A.C., Strauss, M.J., Tropp, J.A., Vershynin, R.: One sketch for all: Fast algorithms for compressed sensing. In: *39th ACM Symposium on Theory of Computing (STOC'07)*
- Gilbert, E.N., Pollak, H.O.: Steiner minimal trees. *SIAM J. Appl. Math.* **16**, 1–29 (1968)
- Gilbert, S., Lynch, N., Shvartsman, A.: Rambo II: rapidly reconfigurable atomic memory for dynamic networks. In: *Proc. International Conference on Dependable Systems and Networks*, pp. 259–268. San Francisco, 22–25 June 2003
- Gilboa, I., Zemel, E.: Nash and correlated equilibria: some complexity considerations. *Games Econ. Behav.* **1**, 80–93 (1989)
- Gimpel, J.F.: A reduction technique for prime implicant tables. *IEEE Trans. Electron. Comput.* **14**(4), 535–541 (1965)
- Giridhar, A., Kumar, P.R.: Maximizing the Functional Lifetime of Sensor Networks. In: *Proceedings of The Fourth International Conference on Information Processing in Sensor Networks*, IPSN '05, UCLA, Los Angeles, April 25–27 2005
- Gisin, N., Ribordy, G., Tittel, W., Zbinden, H.: Quantum cryptography. *Rev. Mod. Phys.* **74**, 145–195 (2002)
- Gittins, J.C.: Bandit processes and dynamic allocation indices. *J. R. Stat. Soc. Series B*, **41**(2), 148–177 (1979)
- Gittins, J.C., Jones, D.M.: A dynamic allocation index for the sequential design experiments. In: Gani, J., Sarkadu, K., Vince, I. (eds.) *Progress in Statistics. European Meeting of Statisticians I*, pp. 241–266. North Holland, Amsterdam (1974)
- Gkantsidis, C., Rodriguez, P.: Network coding for large scale content distribution. In: *IEEE/INFOCOM*, 2005
- Glazebrook, K., Niño-Mora, J.: Parallel scheduling of multiclass M/M/m queues: approximate and heavy-traffic optimization of achievable performance. *Oper. Res.* **49**(4), 609–623 (2001)
- Gluick, T.C., Draper, D.E.: Thermodynamics of folding a pseudoknoted mRNA fragment. *J. Mol. Biol.* **241**, 246–262 (1994)
- Glushkov, V.M.: The abstract theory of automata. *Russ. Math. Surv.* **16**, 1–53 (1961)
- Goemans, M., Li, L., Mirrokni, V.S., Thottan, M.: Market sharing games applied to content distribution in ad-hoc networks. In: *Proceedings of the 5th ACM International Symposium on Mobile Ad Hoc Networking and Computing (MobiHoc)*, pp. 1020–1033 (2004)
- Goemans, M., Mirrokni, V.S., Vetta, A.: Sink equilibria and convergence. In: *46th Conference on Foundations of Computer Science (FOCS)*, pp. 123–131 (2005)
- Goemans, M., Queyranne, M., Schulz, A., Skutella, M., Wang, Y.: Single machine scheduling with release dates. *SIAM J. Discret. Math.* **15**, 165–192 (2002)
- Goemans, M.X.: Minimum bounded degree spanning trees. In: *Proceedings of the 47th Annual IEEE Symposium on Foundations of Computer Science (FOCS 2006)*, 2006, pp. 273–282
- Goemans, M.X., Goldberg, A.V., Plotkin, S.A., Shmoys, D.B., Tardos, É., Williamson, D.P.: Improved Approximation Algorithms for Network Design Problems. In: *Proceedings of the Fifth Annual ACM-SIAM Symposium on Discrete Algorithms (SODA)*, pp. 223–232. (1994)
- Goemans, M.X., Skutella, M.: Cooperative Facility Location Games. *J. Algorithms* **50**, 194–214 (2004)
- Goemans, M.X., Williamson, D.P.: A general approximation technique for constrained forest problems. *SIAM J. Comput.* **24**(2), 296–317 (1995)
- Goemans, M.X., Williamson, D.P.: Approximation algorithms for MAX-3-CUT and other problems via complex semidefinite programming. *STOC 2001 Special Issue of J. Comput. Syst. Sci.* **68**, 442–470 (2004)
- Goemans, M.X., Williamson, D.P.: Improved approximation algorithms for maximum cut and satisfiability problems using semidefinite programming. *J. ACM* **42**(6), 1115–1145 (1995)
- Goemans, M.X., Williamson, D.P.: New 3/4-approximation algorithms for the maximum satisfiability problem. *SIAM J. Discret. Math.* **7**, 656–666 (1994)
- Goemans, M.X., Williamson, D.P.: The primal-dual method for approximation algorithms and its application to network design problems. In: Hochbaum, D. (ed.) *Approximation Algorithms for NP-Hard Problems*, Chapter 4, pp. 144–191. PWS Publishing Company, Boston (1996)
- Goerd, A.: A threshold for unsatisfiability. *J. Comput. Syst. Sci.* **33**, 469–486 (1996)
- Goerd, A.: Random regular graphs with edge faults: Expansion through cores. *Theor. Comput. Sci.* **264**(1), 91–125 (2001)
- Goerd, A.: The giant component threshold for random regular graphs with edge faults. In: *Proceedings of Mathematical Foundations of Computer Science '97 (MFCS'97)*, pp. 279–288. (1997)
- Gold, E.M.: Language identification in the limit. *Inform. Control* **10**(5), 447–474 (1967)
- Goldberg, A.: Selecting problems for algorithm evaluation. In: *Proc. 3rd Workshop on Algorithm Engineering (WAE'99)*. LNCS, vol. 1668. London, United Kingdom, July 19–21, pp. 1–11 (1999)
- Goldberg, A., Kaplan, H., Werneck, R.: Better landmarks within reach. In: *9th DIMACS Implementation Challenge Workshop: Shortest Paths*. DIMACS Center, Piscataway, NJ, 13–14 Nov 2006
- Goldberg, A.V., Hartline, J.D.: Envy-free auctions for digital goods. In: *Proceedings of the 4th ACM Conference on Electronic Commerce (EC-03)*, New York, 9–12 June 2003, pp. 29–35. ACM Press, New York (2003)
- Goldberg, A.V.: AVG Lab. <http://www.avglab.com/andrew/>
- Goldberg, A.V.: Scaling algorithms for the shortest path problem. *SIAM J. Comput.* **21**, 140–150 (1992)
- Goldberg, A.V.: Scaling algorithms for the shortest paths problem. *SIAM J. Comput.* **24**(3), 494–504 (1995)
- Goldberg, A.V.: Shortest path algorithms: Engineering aspects. In: *Proc. 12th Int'l Symp. on Algorithms and Computation (ISAAC)*. LNCS, vol. 2223, pp. 502–513. Springer, Berlin (2001)
- Goldberg, A.V., Grigoriadis, M.D., Tarjan, R.E.: Use of Dynamic Trees in a Network Simplex Algorithm for the Maximum Flow Problem. *Math. Program.* **50**(3), 277–290 (1991)
- Goldberg, A.V., Harrelson, C.: Computing the Shortest Path: A* Search Meets Graph Theory. In: *Proc. 16th ACM-SIAM Sympo-*

- sium on Discrete Algorithms – SODA, pp. 156–165. ACM, New York and SIAM, Philadelphia (2005)
- Goldberg, A.V., Hartline, J.D.: Competitive auctions for multiple digital goods. In: auf der Heide, F.M. (ed.) *Algorithms – ESA 2001*, 9th Annual European Symposium, Aarhus, Denmark, 28–31 Aug 2001. *Lecture Notes in Computer Science*, vol. 2161, pp. 416–427. Springer, Berlin (2001)
- Goldberg, A.V., Hartline, J.D., Karlin, A.R., Wright, A.: Competitive auctions. *Games Econ. Behav.* **55**(2), 242–269 (2006)
- Goldberg, A.V., Hartline, J.D., Wright, A.: Competitive Auctions and Digital Goods. In: *Proceedings of SODA'01*, pp. 735–744. Washington D.C., 7–9 January 2001
- Goldberg, A.V., Hartline, J.D., Wright, A.: Competitive auctions and digital goods. In: *Proceedings of the Twelfth Annual ACM-SIAM Symposium on Discrete Algorithms (SODA-01)*, New York, 7–9 January 2001, pp. 735–744. ACM Press, New York (2001)
- Goldberg, A.V., Kaplan, H., Werneck, R.: Reach for A*: efficient point-to-point shortest path algorithms. In: *Proc. 8th Workshop on Algorithm Engineering and Experiments (ALENEX)*, 2006
- Goldberg, A.V., Radzik, T.: A Heuristic Improvement of the Bellman–Ford Algorithm. *Appl. Math. Lett.* **6**(3), pp. 3–6 (1993)
- Goldberg, A.V., Rao, S.: Beyond the Flow Decomposition Barrier. *J. ACM* **45**(5), 783–797 (1998)
- Goldberg, A.V., Tarjan, R.E.: Solving minimum cost flow problem by successive approximation. In: *Proc. ACM Symposium on the Theory of Computing*, pp. 7–18 (1987). Full paper in: *Math. Oper. Res.* **15**, 430–466 (1990)
- Goldberg, A.V., Tsioutsoulis, K.: Cut Tree Algorithms: An Experimental Study. *J. Algorithms* **38**(1), 51–83 (2001)
- Goldberg, A.W., Tarjan, R.E.: A New Approach to the Maximum Flow Problem. *J. SIAM* **35**, 921–940 (1988)
- Goldberg, L.A., Paterson, M., Srinivasan, A., Sweedyk, E.: Better approximation guarantees for job-shop scheduling. *SIAM J. Discret. Math.* **14**, 67–92 (2001)
- Goldberg, P.W., Golumbic, M.C., Kaplan, H., Shamir, R.: Four strikes against physical mapping of DNA. *J. Comput. Biol.* **2**(1), 139–152 (1995)
- Goldman, S., Kearns, M., Schapire, R.: Exact identification of read-once formulas using fixed points of amplification functions. *SIAM J. Comput.* **22**(4), 705–726 (1993)
- Goldreich, O.: *Foundations of Cryptography*, vol. 1–2. Cambridge University Press, UK (2001) (2004)
- Goldreich, O.: *Foundations of Cryptography*, Volumes 1 and 2. Cambridge University Press, Cambridge (2001), (2004)
- Goldreich, O.: *Foundations of Cryptography: Basic Tools*. Cambridge University Press (2001)
- Goldreich, O.: *The Foundations of Cryptography – Volume 1*. Cambridge University Press, Cambridge, UK (2001)
- Goldreich, O., Levin, L.: A hard-core predicate for all one-way functions. In: *Proceedings of the 21st ACM Symposium on Theory of Computing*, pp. 25–32 Seattle, 14–17 May 1989
- Goldreich, O., Petrank, E.: The Best of Both Worlds: Guaranteeing Termination in Fast Randomized Agreement Protocols. *Inf. Process. Lett.* **36**(1), 45–49 (1990)
- Goldschlager, L.M., Shaw, R.A., Staples, J.: The maximum flow problem is log-space complete for P. *Theor. Comput. Sci.* **21**, 105–111 (1982)
- Goldstein, A.J.: An efficient and constructive algorithm for testing whether a graph can be embedded in the plane. In: *Graph and Combinatorics Conf.* (1963)
- Goldwasser, M.H., Kao, M.-Y., Lu, H.-I.: Linear-time algorithms for computing maximum-density sequence segments with bioinformatics applications. *J. Comput. Syst. Sci.* **70**, 128–144 (2005)
- Golubchik, L., Khanna, S., Khuller, S., Thurimella, R., Zhu, A.: Approximation algorithms for data placement on parallel disks. In: *Symposium on Discrete Algorithms*, pp. 223–232. Society for Industrial and Applied Mathematics, Philadelphia (2000)
- Golubchik, L., Khuller, S., Kim, Y., Shargorodskaya, S., Wan, Y.: Data migration on parallel disks. In: *12th Annual European Symposium on Algorithms (ESA)* (2004)
- Golumbic, M.C.: Combinatorial Merging. *IEEE Trans. Comput.* **C-25**, 1164–1167 (1976)
- Golynski, A.: Optimal lower bounds for rank and select indexes. In: *Proc. ICALP 2006, Part I. LNCS*, vol. 4051, pp. 370–381 (2006)
- Golynski, A., Munro, J.I., Rao, S.S.: Rank/select operations on large alphabets: a tool for text indexing. In: *Proceedings of the 17th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA)*, pp. 368–373. ACM, SIAM (2006)
- Gomory, R.E., Hu, T.C.: Multi-terminal network flows. *J. Soc. Indust. Appl. Math.* **9**(4), 551–570 (1961)
- Gonnet, G.: Expected length of the longest probe sequence in hash code searching. *J. Assoc. Comput. Mach.* **28**(2), 289–304 (1981)
- Gonnet, G., Baeza-Yates, R., Snider, T.: New indices for text: PAT trees and PAT arrays. In: *Frakes, W.B., Baeza-Yates, R. (eds.) Information Retrieval: Data Structures & Algorithms*. pp. 66–82 Prentice-Hall, Englewood Cliffs (1992)
- Gonnet, G.H.: Efficient searching of text and pictures. Tech. Report OED-88-02, University of Waterloo (1988)
- González, R., Navarro, G.: Statistical encoding of succinct data structures. In: *Proc. CPM 2006. LNCS*, vol. 4009, pp. 294–305. Springer, Berlin (2006)
- Gonzalez, T., Zheng, S.Q.: Bounds for partitioning rectilinear polygons. In: *Proc. 1st Symp. on Computational Geometry* (1985)
- Gonzalez, T., Zheng, S.Q.: Improved bounds for rectangular and guillotine partitions. *J. Symb. Comput.* **7**, 591–610 (1989)
- Gonzalez, T.F.: *Handbook of Approximation Algorithms and Metaheuristics*. Chapman & Hall/CRC Computer & Information Science Series (2007)
- Gordon, D.: Discrete logarithms in $GF(p)$ using the number field sieve. *SIAM J. Discret. Math.* **6**(1), 124–139 (1993)
- Gormley, T., Reingold, N., Torng, E., Westbrook, J.: Generating adversaries for request-answer games. In: *Proc. of the 11th Symposium on Discrete Algorithms. (SODA2000)*, pp. 564–565 (2000)
- Gotoh, O.: An improved algorithm for matching biological sequences. *J. Mol. Biol.* **162**, 705–708 (1982)
- Gottesman, D.: Class of quantum error-correcting codes saturating the quantum Hamming bound. *Phys. Rev. A* **54**, 1862–1868 (1996)
- Gottesman, D.: Stabilizer codes and quantum error correction, Ph.D. thesis, Caltech. (1997) See also: arXiv preprint quant-ph/9705052
- Gottlob, G., Scarcello, F., Sideri, M.: Fixed-parameter complexity in AI and nonmonotonic reasoning. *Artif. Intell.* **138**, 55–86 (2002)
- Gottlob, G., Szeider, S.: Fixed-parameter algorithms for artificial intelligence, constraint satisfaction, and database problems. *Comput. J.*, Special Issue on Parameterized Complexity, Advanced Access (2007)
- Gowland, P., Lester, D.: A survey of exact arithmetic implementations. In: *Blank, J., Brattka, V., Hertling, P. (eds.) Computability and Complexity in Analysis*, pp. 30–47. Springer, 4th Interna-

- tional Workshop, CCA 2000, Swansea, UK, September 17–19, (2000), Selected Papers. Lecture Notes in Computer Science, No. 2064
- Gable, D.A., Panconesi, A.: Fast distributed algorithms for Brooks–Vizing colorings. *J. Algorithms* **37**, 85–120 (2000)
- Graefe, G.: B-tree indexes for high update rates. *SIGMOD RECORD* **35**, 39–44 (2006)
- Graham, R.L.: Bounds for certain multiprocessing anomalies. *Bell Syst. Techn. J.* **45**, 1563–1581 (1966)
- Graham, R.L.: Bounds on multiprocessing timing anomalies. *SIAM J. Appl. Math.* **17**, 263–269 (1969)
- Graham, R.L., Hell, P.: On the history of the minimum spanning tree problem. *Ann. Hist. Comput.* **7**(1), 43–57 (1985)
- Graham, R.L., Lawler, E.L., Lenstra, J.K., Rinnooy Kan, A.H.G.: Optimization and approximation in deterministic sequencing and scheduling: a survey. *Ann. Discret. Math.* **5**, 287–326 (1979)
- Gramm, J., Guo, J., Hüffner, F., Niedermeier, R.: Automated generation of search tree algorithms for hard graph modification problems. *Algorithmica* **39**, 321–347 (2004)
- Gramm, J., Guo, J., Hüffner, F., Niedermeier, R.: Graph-modeled data clustering: Exact algorithms for clique generation. *Theor. Comput. Syst.* **38**, 373–392 (2005)
- Gramm, J., Niedermeier, R.: Faster exact solutions for Max2Sat. In: *Proceedings of CIAC*. LNCS, vol. 1767, pp. 174–186. Springer, Berlin (2000)
- Grandoni, F.: Exact Algorithms for Hard Graph Problems. Ph.D. thesis, Università di Roma “Tor Vergata”, Roma, Italy (2004)
- Granol, D., Granot, F., Zhu, W.R.: Characterization Sets for the Nucleolus. *Int. J. Game Theory* **27**, 359–374 (1998)
- Grantson, M.: Fixed-parameter algorithms and other results for optimal partitions. *Lecentiate Thesis*, Department of Computer Science, Lund University (2004)
- Grantson, M., Borgelt, C., Levkopoulos, C.: A fixed parameter algorithm for minimum weight triangulation: Analysis and experiments. *Tech. Rep. 154*, Department of Computer Science, Lund University (2005)
- Grantson, M., Borgelt, C., Levkopoulos, C.: Fixed parameter algorithms for the minimum weight triangulation problem. *Tech. Rep. 158*, Department of Computer Science, Lund University (2006)
- Grantson, M., Borgelt, C., Levkopoulos, C.: Minimum weight triangulation by cutting out triangles. In: Deng, X., Du, D.-Z. (eds.) *Proceedings of the 16th Annual International Symposium on Algorithms and Computation (ISAAC)*. Lecture Notes in Computer Science, vol. 3827, pp. 984–994. Springer, New York (2005)
- Grantson, M., Borgelt, C., Levkopoulos, C.: Minimum Weight Triangulation by Cutting Out Triangles. In: *Proceedings 16th Annual International Symposium on Algorithms and Computation, ISAAC 2005*, Sanya, China, pp. 984–994. Lecture Notes in Computer Science, vol. 3827. Springer, Heidelberg (2005)
- Grantson, M., Levkopoulos, C.: A fixed parameter algorithm for the minimum number convex partition problem. In: Akiyama, J., Kano, M., Tan, X. (eds.) *Proceedings of Japanese Conference on Discrete and Computational Geometry (JDCG 2004)*. Lecture Notes in Computer Science, vol. 3742, pp. 83–94. Springer, New York (2005)
- Graunke, G., Thakkar, S.: Synchronization algorithms for shared-memory multiprocessors. *IEEE Comput.* **28**(6), 69–69 (1990)
- Gray, J.: A Comparison of the Byzantine Agreement Problem and the Transaction Commit Problem. In: *Fault-Tolerant Distributed Computing [Asilomar Workshop 1986]*. LNCS, vol. 448, pp. 10–17. Springer, Berlin (1990)
- Grebinski, V., Kucherov, G.: Optimal Query Bounds for Reconstructing a Hamiltonian Cycle in Complete Graphs. *Proc. 5th Israeli Symposium on Theoretical Computer Science*, pp. 166–173. (1997)
- Grebinski, V., Kucherov, G.: Reconstructing a Hamiltonian Cycle by Querying the Graph: Application to DNA Physical Mapping. *Discret. Appl. Math.* **88**, 147–165 (1998)
- Greene, D.H., Yao, F.F.: Finite-resolution computational geometry. *IEEE Found. Comput. Sci.* **27**, 143–152 (1986)
- Griffith, J., Robins, G., Salowe, J.S., Zhang, T.: Closing the gap: Near-optimal steiner trees in polynomial time. *IEEE Transac. Comput. Aided Des.* **13**, 1351–1365 (1994)
- Griggs, J., Liu, D.: Minimum Span Channel Assignments. In: *Recent Advances in Radio Channel Assignments*, Invited Minisymposium, *Discrete Mathematics* (1998)
- Grigoriadis, M.D., Khachiyan, L.G.: Coordination complexity of parallel price-directive decomposition. *Mathematics of Operations Research*, **21**, 321–340. (1996)
- Grigoriadis, M.D., Khachiyan, L.G.: Fast approximation schemes for convex programs with many blocks and coupling constraints. *SIAM J. Optim.* **4**, 86–107 (1994)
- Grigoriev, A., Sviridenko, M., Uetz, M.: Machine scheduling with resource dependent processing times. *Math. Program.* **110**(1B), 209–228 (2002)
- Grigoriev, D.: Testing Shift-Equivalence of Polynomials by Deterministic, Probabilistic and Quantum Machines. *Theor. Comput. Sci.* **180**, 217–228 (1997)
- Grishman, R., Yangarber, R.: Private Communication. NYU (1995)
- Grodstein, J., Lehman, E., Harkness, H., Grundmann, B., Watanabe, Y.: A delay model for logic synthesis of continuously sized networks. In: *Proceedings of the 1995 International Conference on Computer-Aided Design*, pp. 458–462. November 1995
- Grohe, M.: Local tree-width, excluded minors, and approximation algorithms. *Combinatorica* **23**(4), 613–632 (2003)
- Gromov, M.: Structures Métriques des Variétés Riemanniennes. *Textes Math. CEDIX*, vol. 1. F. Nathan, Paris (1981)
- Gropp, W., Lusk, E., Doss, N., Skjellum, A.: A high-performance, portable implementation of the MPI message passing interface standard. Technical report, Argonne National Laboratory, Argonne, IL, (1996) www.mcs.anl.gov/mpich/
- Grossglauser, M., Tse, D.N.C.: Mobility increases the capacity of ad hoc wireless networks. *IEEE/ACM Trans. Netw.* **10**(4), 477–486 (2002)
- Grossi, R., Gupta, A., Vitter, J.: High-order entropy-compressed text indexes. In: *Proc. 14th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA)*, Baltimore, 12–14 January, pp. 841–850 (2003)
- Grossi, R., Gupta, A., Vitter J.S.: High-order entropy-compressed text indexes. In: Farach-Colton, M. (ed) *Proceedings of the 14th Annual ACM-SIAM Symposium on Discrete Algorithms*, SIAM, pp. 841–850, Philadelphia (2003)
- Grossi, R., Italiano, G.F.: Efficient techniques for maintaining multi-dimensional keys in linked data structures. In: *Proceedings of the 26th International Colloquium on Automata, Languages and Programming (ICALP '99)*. LNCS, vol. 1644, pp. 372–381. Springer, Prague (1999)

- Grossi, R., Vitter, J.: Compressed suffix arrays and suffix trees with applications to text indexing and string matching. *SIAM J. Comput.* **35**(2), 378–407 (2006)
- Grossi, R., Vitter, J.S.: Compressed suffix arrays and suffix trees with applications to text indexing and string matching. In: *Proceedings of Symposium on Theory of Computing*, 2000, pp. 397–406
- Grotschel, M., Lovász, L., Schrijver, A.: Geometric algorithms and combinatorial optimization. *Algorithms and Combinatorics*, vol. 2, 2nd edn. Springer (1993)
- Grötschel, M., Lovász, L., Schrijver, A.: The ellipsoid method and its consequences in combinatorial optimization. *Combinatorica* **1**, 169–197 (1981)
- Grötschel, M., Monma, C.L., Stoer, M.: Computational results with a cutting plane algorithm for designing communication networks with low-connectivity constraints. *Oper. Res.* **40**(2), 309–330 (1992)
- Grötschel, M., Monma, C.L., Stoer, M.: Design of survivable networks. In: *Handbooks in Operations Research and Management Science*, vol. 7, Network Models, chapter 10, pp. 617–672. North-Holland, Amsterdam (1995)
- Grover, L.K.: A fast quantum mechanical algorithm for database search. In: *Proceedings of the 28th ACM Symposium on the Theory of Computing*, pp. 212–219, Philadelphia, PA, USA, 22–24 May 1996
- Grover, L.K.: A framework for fast quantum mechanical algorithms. In: *Proc. 30th ACM Symp. on Theory of Computing (STOC)*, pp. 53–62. Dallas, 23–26 May 1998
- Grover, L.K.: Fixed-point quantum search. *Phys. Rev. Lett.* **95**, 150501 (2005)
- Grüne, A.: Geometric Dilation and Halving Distance. Ph.D. thesis, Institut für Informatik I, Universität Bonn (2006)
- Gu, Q.P., Peng, S., Sudborough, H.: A 2-approximation algorithm for genome rearrangements by reversals and transpositions. *Theor. Comput. Sci.* **210**, 327–339 (1999)
- Gu, Q.P., Tamaki, H.: Branch-width, parse trees, and monadic second-order logic for matroids. *J. Combin. Theor. Ser. B* **96**, 325–351 (2006)
- Gu, Q.P., Tamaki, H.: Optimal branch-decomposition of planar graphs in $O(n^3)$ time. In: *Proceedings of the 32nd International Colloquium on Automata, Languages and Programming (ICALP 2005)*. *Lecture Notes Computer Science*, vol. 3580, pp. 373–384. Springer, Berlin (2005)
- Guan, X.Y.: Face traversal routing on edge dynamic graphs. In: *Proceedings of the Nineteenth International Parallel and Distributed Processing Symposium*, Denver, Colorado, April 2005
- Gubbala, P., Raghavachari, B.: A 4/3-approximation algorithm for minimum 3-edge-connectivity. In: *Proceedings of the Workshop on Algorithms and Data Structures (WADS) August 2007*, pp. 39–51. Halifax (2007)
- Gubbala, P., Raghavachari, B.: Approximation algorithms for the minimum cardinality two-connected spanning subgraph problem. In: Jünger, M., Kaibel, V. (eds.) *IPCO. Lecture Notes in Computer Science*, vol. 3509, pp. 422–436. Springer, Berlin (2005)
- Gudmundsson, J., Levkopoulos, C.: A Parallel Approximation Algorithm for Minimum Weight Triangulation. *Nordic J. Comput.* **7**(1), 32–57 (2000)
- Gudmundsson, J., Levkopoulos, C., Narasimhan, G.: Fast greedy algorithms for constructing sparse geometric spanners. *SIAM J. Comput.* **31**, 1479–1500 (2002)
- Gudmundsson, J., Levkopoulos, C., Narasimhan, G., Smid, M.: Approximate distance oracles for geometric graphs. In: *Proceedings of the 13th ACM-SIAM Symposium on Discrete Algorithms*, pp. 828–837. ACM Press, New York (2002)
- Gudmundsson, J., Levkopoulos, C., Narasimhan, G., Smid, M.: Approximate distance oracles for geometric spanners, *ACM Trans. Algorithms* (2008). To Appear
- Gudmundsson, J., Levkopoulos, C., Narasimhan, G., Smid, M.: Approximate distance oracles revisited. In: *Proceedings of the 13th International Symposium on Algorithms and Computation*. *Lecture Notes in Computer Science*, vol. 2518, Berlin, pp. 357–368. Springer, London (2002)
- Gudmundsson, J., Narasimhan, G., Smid, M.: Fast pruning of geometric spanners. In: *Proceedings of the 22nd Symposium on Theoretical Aspects of Computer Science*. *Lecture Notes in Computer Science*, vol. 3404, Berlin, pp. 508–520. Springer, London (2005)
- Guerraoui, R.: Indulgent algorithms. In: *Proceedings of the 19th Annual ACM Symposium on Principles of Distributed Computing*, Portland, Oregon, USA, pp. 289–297, ACM, July 2000
- Guerraoui, R., Herlihy, M., Pochon, B.: A topological treatment of early-deciding set-agreement. In: *OPDIS*, pp. 20–35, (2006)
- Guerraoui, R., Herlihy, M., Pochon, B.: Polymorphic contention management. In: *Proc. 19th Annual International Symposium on Distributed Computing*, 2005
- Guerraoui, R., Herlihy, M., Pochon, B.: Toward a theory of transactional contention managers. In: *Proc. 24th Annual ACM Symposium on Principles of Distributed Computing*, 2005, pp. 258–264
- Guerraoui, R., Kapalka, M., Kouznetsov, P.: The weakest failure detector to boost obstruction freedom. In: *Proc. 20th Annual International Symposium on Distributed Computing*, 2006
- Guerraoui, R., Ruppert, E.: Anonymous and fault-tolerant shared-memory computing. *Distrib. Comput.* **20**(3) 165–177 (2007)
- Guestrin, C., Koller, D., Parr, R., Venkataraman, S.: Efficient solution algorithms for factored mdps. *J. Artif. Intell. Res.* **19**, 399–468 (2003)
- Guha, S., Khuller, S.: Approximation algorithms for connected dominating sets. *Algorithmica* **20**, 374–387 (1998)
- Guha, S., Khuller, S.: Greedy strikes back: Improved facility location algorithms. In: *Proceedings of the 9th ACM-SIAM Symposium on Discrete Algorithms (SODA)*, pp. 228–248. SIAM, Philadelphia (1998)
- Guha, S., Khuller, S.: Greedy strikes back: Improved facility location algorithms. *J. Algorithms* **31**, 228–248 (1999)
- Guha, S., Meyerson, A., Munagala, K.: A constant factor approximation for the single sink edge installation problem. In: *Proceedings of the 33rd Annual ACM Symposium on Theory of Computing (STOC)*, pp. 383–388. ACM Press, New York (2001)
- Guha, S., Meyerson, A., Munagala, K.: Hierarchical placement and network design problems. In: *Proceedings of the 41st Annual IEEE Symposium on Foundations of Computer Science (FOCS)*, pp. 603–612. IEEE Computer Society, Los Alamitos, CA, USA (2000)
- Guha, S., Khuller, S.: Improved methods for approximating node weighted Steiner trees and connected dominating sets. *Inf. Comput.* **150**, 57–74 (1999)
- Gui, H., Muller, R., Vohra, R.V.: Characterizing dominant strategy mechanisms with multi-dimensional types (2004). Working paper

- Guibas, L.: Kinetic data structures: A state of the art report. In: Proc. 3rd Workshop on Algorithmic Foundations of Robotics, pp. 191–209 (1998)
- Guibas, L.: Modeling Motion. In: Goodman, J., O'Rourke, J. (eds), *Handbook of Discrete and Computational Geometry*. CRC Press, 2nd ed. (2004)
- Guibas, L., Ngyuen, A., Russel, D., Zhang, L.: Collision detection for deforming necklaces. In: Proc. 18th ACM Symposium on Computational Geometry, 2002, pp. 33–42
- Guibas, L., Salesin, D., Stolfi, J.: Epsilon geometry: building robust algorithms from imprecise computations. *ACM Symp Comput. Geometr.* **5**, 208–217 (1989)
- Guillemot, S., Berry, V.: Fixed-parameter tractability of the maximum agreement supertrees. In: Proceedings of the 18th Annual Symposium on Combinatorial Pattern Matching (CPM 2007). Lecture Notes in Computer Science. Springer, (2007)
- Guillemot, S., Nicolas, F.: Solving the maximum agreement subtree and the maximum compatible tree problems on many bounded degree trees. In: Lewenshtein, M., Valiente, G. (eds.) Proc. of the 17th Combinatorial Pattern Matching Symposium (CPM'06). LNCS, vol. 4009, pp. 165–176. Springer, Berlin (2006)
- Gummadi, K., Gummadi, R., Gribble, S., Ratnasamy, S., Shenker, S., Stoica, I.: The impact of DHT routing geometry on resilience and proximity. In: Proceedings of the 2003 conference on Applications, technologies, architectures, and protocols for computer communications, pp. 381–394. ACM Press (2003)
- Gummadi, K.P., Dunn, R.J., Saroiu, S., Gribble, S.D., Levy, H.M., Zahorjan, J.: Measurement, modeling, and analysis of a peer-to-peer file-sharing workload. In: Proceedings of the nineteenth ACM symposium on Operating systems principles, pp. 314–329. ACM Press (2003)
- Gunopoulous, D., Khardon, R., Mannila, H., Saluja, S., Toivonen, H., Sharma, R.S.: Discovering All Most Specific Sentences. *ACM Trans. Database Syst.* **28**, 140–174 (2003)
- Guo, J., Gramm, J., Hüffner, F., Niedermeier, R., Wernicke, S.: Compression-based fixed-parameter algorithms for Feedback Vertex Set and Edge Bipartization. *J. Comp. Syst. Sci.* **72**(8), 1386–1396 (2006)
- Guo, J., Niedermeier, R.: Invitation to data reduction and problem kernelization. *ACM SIGACT News* **38**(1), 31–45 (2007)
- Guo, J., Niedermeier, R.: Linear problem kernels for NP-hard problems on planar graphs. In: Proc. 34th ICALP. LNCS, vol. 4596, pp. 375–386. Springer, Berlin (2007)
- Guo, J., Niedermeier, R., Wernicke, S.: Fixed-parameter tractability results for full-degree spanning tree and its dual. In: Proc. 2nd IWPEC. LNCS, vol. 4196, pp. 203–214. Springer, Berlin (2006)
- Guo, P.N., Cheng, C.K., Yoshimura, T.: An O-tree representation of non-slicing floorplan and its applications. In: 36th DAC., June 1998, pp. 268–273
- Guo, W., Liu, Z., Wu, G.: An Energy-Balanced Transmission Scheme for Sensor Networks. In: 1st ACM International Conference on Embedded Networked Sensor Systems (ACM SenSys 2003), Poster Session, Los Angeles, CA, November 2003
- Gupta, A.: Formal Hardware Verification Methods: A Survey. *Formal Method Syst. Des.* **1**, 151–238 (1993)
- Gupta, A.: Improved bandwidth approximation for trees and chordal graphs. *J. Algorithms* **40**(1), 24–36 (2001)
- Gupta, A.: Steiner points in tree metrics don't (really) help. In: SODA '01: Proceedings of the twelfth annual ACM-SIAM symposium on Discrete algorithms, Philadelphia, PA, USA, Society for Industrial and Applied Mathematics, pp. 220–227. (2001)
- Gupta, A., Hajiaghayi, M.T., Räcke, H.: Oblivious network design. In: SODA '06: Proceedings of the seventeenth annual ACM-SIAM symposium on Discrete algorithm, pp. 970–979. ACM Press, New York (2006)
- Gupta, A., Hon, W.K., Shah, R., Vitter, J.S.: Compressed data structures: Dictionaries and data-aware measures. In: Storer, J.A., Cohn, M. (eds) Proc. 16th IEEE Data Compression Conference, pp. 213–222, IEEE, Snowbird, Utah, March 2006 Computer Society, Los Alamitos, CA
- Gupta, A., Kumar, A., Pál, M., Roughgarden, T.: Approximation via cost-sharing: a simple approximation algorithm for the multicommodity rent-or-buy problem. In: Proc. of the 44th Annual IEEE Symposium on Foundations of Computer Science, pp. 606–617., IEEE Computer Society, Washington (2003)
- Gupta, A., Kumar, A., Pál, M., Roughgarden, T.: Approximation via cost-sharing: simpler and better approximation algorithms for network design. *J. ACM* **54**(3), Article 11 (2007)
- Gupta, A., Pál, M., Ravi, R., Sinha, A.: Boosted sampling: approximation algorithms for stochastic optimization. In: Proceedings of the 36th Annual ACM Symposium on Theory of Computing (STOC), pp. 417–426. ACM, New York (2004)
- Gupta, A., Talwar, K.: Approximating unique games. In: SODA '06: Proceedings of the seventeenth annual ACM-SIAM symposium on Discrete algorithm, New York, NY, USA, pp. 99–106. ACM Press, New York (2006)
- Gupta, P., Kumar, P.R.: The Capacity of Wireless Networks. *IEEE Trans. Inf. Theory*, IT-**46**(2), 388–404 (2000)
- Guruswami, V.: Algorithmic Results in List Decoding. In: Foundations and Trends in Theoretical Computer Science, vol. 2, issue 2, NOW publishers, Hanover (2007)
- Guruswami, V.: List Decoding of Error-Correcting Codes. Lecture Notes in Computer Science, vol. 3282. Springer, Berlin (2004)
- Guruswami, V., Indyk, P.: Linear-time encodable/decodable codes with near-optimal rate. *IEEE Trans. Inf. Theory* **51**(10), 3393–3400 (2005)
- Guruswami, V., Khanna, S.: On the hardness of 4-coloring a 3-colorable graph. In: Proceedings of the 15th annual IEEE Conference on Computational Complexity (2000) pp. 188–197.
- Guruswami, V., Khanna, S., Rajaraman, R., Shepherd, F.B., Yannakakis, M.: Near-Optimal Hardness Results and Approximation Algorithms for Edge-Disjoint Paths and Related Problems. *J. CSS* **67**, 473–496 (2003). Preliminary version in Proc. of ACM STOC 1999
- Guruswami, V., Patthak, A.: Correlated Algebraic-Geometric codes: Improved list decoding over bounded alphabets. In: Proceedings of the 47th Annual IEEE Symposium on Foundations of Computer Science (FOCS), pp. 227–236, Berkeley, October 2006
- Guruswami, V., Raghavendra, P.: Hardness of Learning Halfspaces with Noise. In: Proceedings of FOCS, pp. 543–552 (2006)
- Guruswami, V., Rudra, A.: Explicit capacity-achieving list-decodable codes. In: Proceedings of the 38th Annual ACM Symposium on Theory of Computing, pp. 1–10. Seattle, May 2006
- Guruswami, V., Rudra, A.: Explicit codes achieving list decoding capacity: Error-correction with optimal redundancy. *IEEE Trans. Inform. Theor.* **54**(1), 135–150 (2008)
- Guruswami, V., Rudra, A.: Limits to list decoding Reed–Solomon codes. *IEEE Trans. Inf. Theory.* **52**(8), 3642–3649 (2006)
- Guruswami, V., Sudan, M.: Improved decoding of Reed–Solomon and algebraic-geometric codes. *IEEE Trans. Inf. Theory.* **45**(6), 1757–1767 (1999)

- Guruswami, V., Vardy A.: Maximum Likelihood Decoding of Reed–Solomon codes is NP-hard. *IEEE Trans. Inf. Theory*. **51**(7), 2249–2256 (2005)
- Gusfield, D. Orzack, S.H.: Haplotype inference. In: Aluru S. (ed) *Handbook of Computational Molecular Biology*, pp. 1–28. Champman and Hall/CRC-press, Boca Raton (2005)
- Gusfield, D.: *Algorithms on Strings, Trees and Sequences*. Cambridge University Press, Cambridge (1997)
- Gusfield, D.: *Algorithms on Strings, Trees, and Sequences: Computer Science and Computational Biology*. Cambridge University Press, New York (1997)
- Gusfield, D.: Efficient methods for multiple sequence alignment with guaranteed error bounds. *Bull. Math. Biol.* **55**(1), 141–154 (1993)
- Gusfield, D.: Haplotyping as perfect phylogeny: Conceptual framework and efficient solutions. In: Myers, G., Hannenhalli, S., Istrail, S., Pevzner, P., Waterman, M. (eds.) *Proceedings of the Annual International Conference on Computational Molecular Biology (RECOMB)*, New York, 2002, pp. 166–175. ACM Press (2002)
- Gusfield, D.: The structure of the stable roommate problem: efficient representation and enumeration of all stable assignments. *SIAM J. Comput.* **17**(4), 742–769 (1988)
- Gusfield, D.: Three fast algorithms for four problems in stable marriage. *SIAM J. Comput.* **16**(1), 111–128 (1987)
- Gusfield, D.: Very Simple Methods for All Pairs Network Flow Analysis. *SIAM J. Comput.* **19**(1), 143–155 (1990)
- Gusfield, D., Eddhu, S., Langley, C.: Efficient reconstruction of phylogenetic networks with constrained recombination. In: *Proc. of Computational Systems Bioinformatics (CSB2003)*, 2003 pp. 363–374
- Gusfield, D., Irving, R.W.: *The Stable Marriage Problem. Structure and Algorithms*. MIT Press, Cambridge (1989)
- Gusfield, D. and Stoye, J.: Linear time algorithms for finding and representing all the tandem repeats in a string. *J. Comput. Syst. Sci.* **69**(4), 525–546 (2004)
- Gusfield, D.M.: Efficient algorithms for inferring evolutionary trees. *Networks* **21**, 19–28 (1991)
- Gutman, R.: Reach-based Routing: A New Approach to Shortest Path Algorithms Optimized for Road Networks. In: *Algorithm Engineering and Experiments – ALENEX (SIAM, 2004)*, pp. 100–111. SIAM, Philadelphia (2004)
- Guttman, A.: R-trees: A dynamic index structure for spatial searching. In: *Proc. SIGMOD International Conference on Management of Data*, 1984, pp. 47–57
- Gyárfás, A., Lehel, J.: Effective on-line coloring of P_5 -free graphs. *Combinatorica* **11**(2), 181–184 (1991)
- Hadzilacos, V., Toueg, S.: Fault-tolerant broadcasts and related problems. In: Mullender, S. (ed.) *Distributed Systems*, 2nd edn., pp. 97–146. ACM Press Books, Addison-Wesley (1993). Extended version appeared as Cornell Univ. TR 94-1425
- Hagen, L., Kahng, A.B.: Fast Spectral Methods for Ratio Cut Partitioning and Clustering. In: *Proc. IEEE Int. Conf. on Computer-Aided Design*, November 1991, pp. 10–13
- Hagerup, T.: Improved shortest paths on the word RAM. In: *Proc. 27th Int'l Colloq. on Automata, Languages, and Programming (ICALP)*. LNCS vol. 1853, pp. 61–72. Springer, Berlin (2000)
- Hahne, E.: Round Robin Scheduling for Max-min Fairness in Data Networks. *IEEE J. Sel. Areas Commun.* **9**(7), 1024–1039 (1991)
- Hajiaghayi, M., Kleinberg, R., Parkes, D.: Adaptive limited-supply on-line auctions. In: *Proc. of the 6th ACM Conference on Electronic Commerce (EC'04)*, 2004
- Hajiaghayi, M., Mahdian, M., Mirrokni, V.S.: The facility location problem with general cost functions. *Netw.* **42**(1), 42–47 (2003)
- Hajiaghayi, M.T., Kim, J.H., Leighton, T., Räcke, H.: Oblivious routing in directed graphs with random demands. In: *Proceedings of the 37th Annual ACM Symposium on Theory of Computing*, 2005, pp. 193–201
- Hajiaghayi, M.T., Kleinberg, R.D., Leighton, T., Räcke, H.: Oblivious routing on node-capacitated and directed graphs. In: *Proceedings of the 16th Annual ACM-SIAM Symposium on Discrete Algorithms*, 2005, pp. 782–790
- Hakimi, S.L., Yau, S.S.: Distance matrix of a graph and its realizability. *Quarterly Appl. Math.* **22**, 305–317 (1964)
- Haldar, S., Vidyasankar, K.: Constructing 1-writer multireader multivalued atomic variables from regular variables. *J. ACM* **42**(1), 186–203 (1995)
- Haldar, S., Vitanyi, P.: Bounded concurrent timestamp systems using vector clocks. *J. Assoc. Comp. Mach.* **49**(1), 101–126 (2002)
- Hale, W. K.: Frequency assignment: Theory and applications. *Proc. IEEE*. **68**(12), 1497–1513 (1980)
- Hale, W.K.: *Frequency Assignment: Theory and Applications*. In: *Proceedings of the IEEE*, vol. 68, number 12, pp. 1497–1514 (1980)
- Hales, L., Hallgren, S.: An improved quantum Fourier transform algorithm and applications. In: *Proceedings of the 41st Annual IEEE Symposium on Foundations of Computer Science*, pp. 515–525 (2000)
- Hall, J., Hartline, J., Karlin, A., Saia, J., Wilkes, J.: On algorithms for efficient data migration. In: *SODA*, pp. 620–629. Society for Industrial and Applied Mathematics, Philadelphia (2001)
- Hall, L.A., Schulz, A.S., Shmoys, D.B., Wein, J.: Scheduling to minimize average completion time: off-line and on-line approximation algorithms. *Math. Oper. Res.* **22**(3), 513–544 (1997)
- Halldorsson, B.V., Bafna, V., Edwards, N., Lippert, R., Yooseph, S., Istrail, S.: A survey of computational methods for determining haplotypes. In: *Computational methods for SNP and haplotype inference: DIMACS/RECOMB satellite workshop. Lecture Notes in Computer Science*, vol. 2983, pp. 26–47. Springer, Berlin (2004)
- Halldorsson, M.: A still better performance guarantee for approximate graph coloring. *Inf. Process. Lett.* **45**, 19–23 (1993)
- Halldorsson, M., Karlsson, R.: Strip graphs: Recognition and scheduling. In: *Proc. 32nd International Workshop on Graph-Theoretic Concepts in Computer Science (WG)*. *Lecture Notes in Computer Science*, vol. 4271, pp. 137–146. Springer, Berlin (2006)
- Halldorsson, M.M., Irving, R.W., Iwama, K., Manlove, D.F., Miyazaki, S., Morita, Y., Scott, S.: Approximability results for stable marriage problems with ties. *Theor. Comput. Sci.* **306**, 431–447 (2003)
- Halldorsson, M.M., Iwama, K., Miyazaki, S., Yanagisawa, H.: Improved approximation of the stable marriage problem. *Proc. ESA 2003. LNCS 2832*, pp. 266–277. (2003)
- Halldorsson, M.M., Iwama, K., Miyazaki, S., Yanagisawa, H.: Randomized approximation of the stable marriage problem. *Theor. Comput. Sci.* **325**(3), 439–465 (2004)
- Hallgren, S.: Fast quantum algorithms for computing the unit group and class group of a number field. In: *Proceedings of the 37th ACM Symposium on Theory of Computing*. (2005)

- Hallgren, S.: Polynomial-time quantum algorithms for Pell's equation and the principal ideal problem. *J. ACM* **54**(1), 1–19 (2007)
- Halperin, D., Leiserowitz, E.: Controlled perturbation for arrangements of circles. *Int. J. Comput. Geom. Appl.* **14**(4–5), 277–310 (2004)
- Halperin, E., Nathaniel, R., Zwick, U.: Coloring k -colorable graphs using smaller palettes. *J. Algorithms* **45**, 72–90 (2002)
- Halperin, E., Zwick, U.: A unified framework for obtaining improved approximation algorithms for maximum graph bisection problems. *Random Struct. Algorithms* **20**(3), 382–402 (2002)
- Halperin, S., Zwick, U.: Linear time deterministic algorithm for computing spanners for unweighted graphs. unpublished manuscript (1996)
- Halpern, J.Y., Megiddo, N., Munshi, A.A.: Optimal precision in the presence of uncertainty. *J. Complex.* **1**, 170–196 (1985)
- Hamdy, S., Maurer, M.: Feige-fiat-shamir identification based on real quadratic fields, Tech. Report TI-23/99. Technische Universität Darmstadt, Fachbereich Informatik, <http://www.informatik.tu-darmstadt.de/TI/Veroeffentlichung/TR/> (1999)
- Hamel, A.M., Steel, M.A.: Finding a maximum compatible tree is NP-hard for sequences and trees. *Appl. Math. Lett.* **9**(2), 55–59 (1996)
- Hamming, R.: Error detecting and error correcting codes. *Bell Syst. Tech. J.* **29**, 147–160 (1950)
- Han, Y.: Deterministic sorting in $O(n \log \log n)$ time and linear space. *J. Algorithms* **50**(1), 96–105 (2004). Announced at STOC'02
- Han, Y.: Improved fast integer sorting in linear space. *Inf. Comput.* **170**(8), 81–94 (2001). Announced at STACS'00 and SODA'01
- Han, Y.: Improving the Efficiency of Sorting by Reversals, Proceedings of The 2006 International Conference on Bioinformatics and Computational Biology. Las Vegas, Nevada, USA (2006)
- Han, Y., Thorup, M.: Integer sorting in $O(n \sqrt{\log \log n})$ expected time and linear space. In: Proceedings of the 43rd Annual Symposium on Foundations of Computer Science (FOCS '02), pp. 135–144. IEEE Computer Society Press, Vancouver (2002)
- Hancart, C.: On Simon's string searching algorithm. *Inf. Process. Lett.* **47**(2), 95–99 (1993)
- Hancock, T., Jiang, T., Li, M., Tromp, J.: Lower bounds on learning decision lists and trees. In: 12th Annual Symposium on Theoretical Aspects of Computer Science, pp. 527–538 (1995)
- Hanisch, D., Zimmer, R., Lengauer, T.: ProML – the Protein Markup Language for specification of protein sequences, structures and families. In: *Silico Biol.* **2**, 0029 (2002). <http://www.bioinfo.de/isb/2002/02/0029/>
- Hankerson, D., Menezes, A., Vanstone, S.: Guide to Elliptic Curve Cryptography. Springer, New York (2004)
- Hannenhalli, S., Pevzner, P.: Transforming cabbage into turnip (polynomial algorithm for sorting signed permutations by reversals). *J. ACM* **46**, 1–27 (1999)
- Hannenhalli, S., Pevzner, P.A.: Transforming cabbage into turnip (polynomial algorithm for sorting signed permutations by reversals). In: Proc. 27th Ann. Symp. Theory of Computing (STOC95), pp. 178–189. ACM, Las Vegas, NV (1995)
- Hansen, P., Thise, J.F.: Outcomes of voting and planning: condorcet, weber and rawls locations. *J. Publ. Econ.* **16**, 1–15 (1981)
- Haran, I., Halperin, D.: An experimental study of point location in general planar arrangements. In: Proceedings of 8th Workshop on Algorithm Engineering and Experiments, pp. 16–25 (2006)
- Harary, F.: Graph Theory. Addison-Wesley, Reading (1969)
- Harary, F., Moser, L.: The theory of round robin tournaments. *Am. Math. Mon.* **73**(3), 231–246 (1966)
- Harel, D., Tarjan, R.E.: Fast algorithms for finding nearest common ancestors. *SIAM J. Comput.* **13**(2), 338–355 (1984)
- Hariharan, R., Kavitha, T., Panigrahi, D.: Efficient Algorithms for Computing All Low s - t Edge Connectivities and Related Problems. In: Proc. of the 18th Annual ACM-SIAM Symposium on Discrete Algorithms, 2007, pp. 127–136
- Harrelson, C., Hildrum, K., Rao, S.: A polynomial-time tree decomposition to minimize congestion. In: Proceedings of the 15th annual ACM Symposium on Parallel Algorithms and Architectures, pp. 34–43 (2003)
- Harrison, J.M.: Brownian models of queueing networks with heterogeneous customer populations. In: Fleming, W., Lions, P.L. (eds.) *Stochastic Differential Systems, Stochastic Control Theory and Applications*. Proceedings of the International Mathematics Association, pp. 147–186. Springer, New York (1988)
- Harrow, A., Hayden, P., Leung, D.: Superdense coding of quantum states. *Phys. Rev. Lett.* **92**, 187901 (2004)
- Harrow, A.W.: Coherent communication of classical messages. *Phys. Rev. Lett.* **92**, 097902 (2004)
- Hartline, J., McGrew, R.: From optimal limited to unlimited supply auctions. In: Proc. of the 7th ACM Conference on Electronic Commerce (EC'05), 2005
- Hartman, T., Shamir, R.: A simpler and faster 1.5-approximation algorithm for sorting by transpositions. *Inf. Comput.* **204**, 275–290 (2006)
- Hartman, T., Sharan, R.: A 1.5-approximation algorithm for sorting by transpositions and transreversals. In: Proceedings of the 4th Workshop on Algorithms in Bioinformatics (WABI'04), pp. 50–61. Bergen, Norway, 17–21 Sep (2004)
- Harvey, N.: Algebraic Structures and Algorithms for Matching and Matroid Problems. In: Proceedings of the 47th Annual IEEE Symposium on Foundations of Computer Science (FOCS), 2006
- Harvey, N.J.A., Jones, M.B., Saroiu, S., Theimer, M., Wolman, A.: Skipnet: A scalable overlay network with practical locality properties. In: Proceedings of Fourth USENIX Symposium on Internet Technologies and Systems (USITS '03), March 2003
- Håstad, J.: A slight sharpening of LMN. *J. Comput. Syst. Sci.* **63**(3), 498–508 (2001)
- Håstad, J.: Clique is hard to approximate within $n^{1-\epsilon}$. *Acta Math.* **182**(1), 105–142 (1999)
- Hastad, J.: Some optimal inapproximability results. *J. ACM* **48**(4), 798–859 (2001)
- Hastad, J., Wigderson, A.: Simple analysis of graph tests for linearity and pcp. *Random Struct. Algorithms* **22**(2), 139–160 (2003)
- Hastie, T., Rosset, S., Tibshirani, R., Zhu, J.: The entire regularization path for the support vector machine. *J. Mach. Learn. Res.* **5**, 1391–1415 (2004)
- Hausssler, D.: Applying valiants learning framework to ai concept learning problems. In: Michalski, R., Kodratoff, Y. (eds.) *Machine Learning: An Artificial Intelligence Approach*. Morgan Kaufmann
- Hausssler, D.: Decision theoretic generalizations of the PAC model for neural net and other learning applications. *Inf. Comput.* **100**(1), 78–150 (1992)
- Hausssler, D.: Probably approximately correct learning and decision-theoretic generalizations. In: Smolensky, P., Mozer, M., Rumelhart, D. (eds.) *Mathematical Perspectives on Neural Networks*, pp. 651–718. L. Erlbaum Associates, Mahwah, New Jersey (1996)

- Haveliwala, T., Kamvar, S., Jeh, G.: An Analytical Comparison of Approaches to Personalizing PageRank. In: Technical Report. Stanford University, Stanford (2003)
- Haynes, T.W., Hedetniemi, S.T., Slater, P.J.: Domination in Graphs: Advanced Topics. Pure and Applied Mathematics, vol. 209. Marcel Dekker, New York (1998)
- Haynes, T.W., Hedetniemi, S.T., Slater, P.J.: Fundamentals of Domination in Graphs. Pure and Applied Mathematics, vol. 208. Marcel Dekker, New York (1998)
- Hayrapetyan, A., Swamy, C., Tardos, É.: Network design for information networks. In: SODA '05: Proceedings of the sixteenth annual ACM-SIAM symposium on Discrete algorithms, Philadelphia, PA, USA, Society for Industrial and Applied Mathematics, pp. 933–942. (2005)
- Hazay, C., Lewenstein, M., Sokol, D.: Approximate parameterized matching. *ACM Trans. Algorithms* **3**(3) (2007)
- Hazay, C., Lewenstein, M., Tsur, D.: Two dimensional parameterized matching. In: Proc. of 16th Symposium on Combinatorial Pattern Matching (CPM), 2005, pp. 266–279
- H.B.H. Ill, Marathe, M.V., Radhakrishnan, V., Ravi, S.S., Rosenkrantz, D.J., Stearns, R.E.: NC-approximation schemes for NP- and PSPACE-hard problems for geometric graphs. *J. Algorithms* **26**(2), 238–274 (1998)
- He, M., Munro, J.I., Rao, S.S.: Succinct ordinal trees based on tree covering. In: Proc. 34th International Colloquium on Algorithms, Language and Programming (ICALP). LNCS n. 4596, pp. 509–520. Springer, Wrocław, Poland (2007)
- He, Y.-J., Huynh, T.N.D., Jansson, J., Sung, W.-K.: Inferring phylogenetic relationships avoiding forbidden rooted triplets. *J. Bioinform. Comput. Biol.* **4**(1), 59–74 (2006)
- Hedetniemi, S.M., Hedetniemi, S.T., Liestman, A.: A survey of gossiping and broadcasting in communication networks. *Networks* **18**, 129–134 (1988)
- Hegedüs, T.: Generalized teaching dimensions and the query complexity of learning. In: COLT '95 Proceedings of the 8th Annual Conference on Computational Learning Theory, pp. 108–117 (1995)
- Heggernes, P., Telle, J.A., Villanger, Y.: Computing minimal triangulations in time $O(n^\alpha \log n) = o(n^{2.376})$. *SIAM J. Discret. Math.* **19**(4), 900–913 (2005)
- Hein, J.: A heuristic method to reconstruct the history of sequences subject to recombination. *J. Mol. Evol.* **36**, 396–405 (1993)
- Hein, J.: An optimal algorithm to reconstruct trees from additive distance data. *Bull. Math. Biol.* **51**, 597–603 (1989)
- Hein, J.: Reconstructing evolution of sequences subject to recombination using parsimony. *Math. Biosci.* **98**(2), 185–200 (1990)
- Hein, J., Jensen, J., Pedersen, C.: Recursions for statistical multiple alignment. *PNAS* **100**, 14,960–14,965 (2003)
- Hein, J., Jiang, T., Wang, L., Zhang, K.: On the complexity of comparing evolutionary trees. *Discrete Appl. Math.* **71**(1–3), 153–169 (1996)
- Heinzelman, W., Chandrakasan, A., Balakrishnan, H.: Energy-efficient communication protocol for wireless microsensor networks. In: Proceedings of the 33rd IEEE Hawaii International Conference on System Sciences (HICSS 2000). 2000
- Held, M.: VRONI: An engineering approach to the reliable and efficient computation of Voronoi diagrams of points and line segments. *Comput. Geom. Theor. Appl.* **18**(2), 95–123 (2001)
- Held, M., Karp, R.M.: The traveling salesman problem and minimum spanning trees. *Oper. Res.* **18**, 1138–1162 (1970)
- Hellerstein, L., Pillaipakkamnatt, K., Raghavan, V., Wilkins, D.: How many queries are needed to learn? *J. ACM.* **43**(5), 840–862 (1996)
- Hellerstein, L., Raghavan, V.: Exact learning of dnf formulas using dnf hypotheses. *J. Comput. Syst. Sci.* **70**(4), 435–470 (2005)
- Helman, D.R., JáJá, J.: Sorting on clusters of SMP's. In: Proc. 12th Int'l Parallel Processing Symp., pp. 1–7, Orlando, FL, March/April 1998
- Helmbold, D., Mayr, E.: Two processor scheduling is in NC. *SIAM J. Comput.* **16**(4), 747–756 (1987)
- Helmuth, L.: Genome research: Map of the human genome 3.0. *Science* **293**(5530), 583–585 (2001)
- Helsgaun, K.: An effective implementation of the Lin-Kernighan traveling salesman heuristic. *Eur. J. Oper. Res.* **126**(1), 106–130 (2000)
- Hennessy, J.L., Patterson, D.A.: Computer Architecture: A Quantitative Approach, 2nd edn. Morgan Kaufmann, San Francisco, CA (1996)
- Henzinger, M., King, V.: Fully dynamic biconnectivity and transitive closure. In: Proc. 36th IEEE Symposium on Foundations of Computer Science (FOCS'95). IEEE Computer Society, pp. 664–672. Los Alamos (1995)
- Henzinger, M.R.: Fully dynamic biconnectivity in graphs. *Algorithmica* **13**(6), 503–538 (1995)
- Henzinger, M.R.: Improved data structures for fully dynamic biconnectivity. *SIAM J. Comput.* **29**(6), 1761–1815 (2000)
- Henzinger, M.R., Fredman, M.L.: Lower bounds for fully dynamic connectivity problems in graphs. *Algorithmica* **22**(3), 351–362 (1998)
- Henzinger, M.R., King, V.: Maintaining minimum spanning forests in dynamic graphs. *SIAM J. Comput.* **31**(2), 364–374 (2001)
- Henzinger, M.R., King, V.: Randomized fully dynamic graph algorithms with polylogarithmic time per operation. In: Proceedings of the 27th Annual ACM Symposium on Theory of Computing (STOC), pp. 519–527 (1997)
- Henzinger, M.R., King, V.: Randomized fully dynamic graph algorithms with polylogarithmic time per operation. *J. ACM* **46**(4), 502–516 (1999)
- Henzinger, M.R., King, V., Warnow, T.: Constructing a tree from homeomorphic subtrees, with applications to computational evolutionary biology. *Algorithmica* **24**(1), 1–13 (1999)
- Henzinger, M.R., Klein, P.N., Rao, S., Subramanian, S.: Faster Shortest-Path Algorithms for Planar Graphs. *J. Comput. Syst. Sci.* **55**, 3–23 (1997)
- Henzinger, M.R., Thorup, M.: Sampling to provide or to bound: With applications to fully dynamic graph algorithms. *Random Struct. Algorithms* **11**(4), 369–379 (1997) (presented at ICALP 1996)
- Herlihy, M.: A methodology for implementing highly concurrent data objects. *ACM Trans. Program. Lang. Syst.* **15**(5), 745–770 (1993)
- Herlihy, M.: Wait-free synchronization. *ACM Trans. Program. Lang. Syst. (TOPLAS)* **13**(1), 124–149 (1991)
- Herlihy, M., Luchangco, V., Moir, M.: Obstruction-free mechanism for atomic update of multiple non-contiguous locations in shared memory. US Patent Application 20040034673 (2002)
- Herlihy, M., Luchangco, V., Moir, M.: Obstruction-free synchronization: Double-ended queues as an example. In: Proceedings of the 23rd International Conference on Distributed Computing Systems, 2003

- Herlihy, M., Luchangco, V., Moir, M., Scherer III, W.: Software transactional memory for supporting dynamic-sized data structures. In: Proc. 22th Annual ACM Symposium on Principles of Distributed Computing, 2003, pp. 92–101
- Herlihy, M., Moss, J.E.B.: Transactional memory: Architectural support for lock-free data structures. In: Proc. 20th Annual International Symposium on Computer Architecture, 1993, pp. 289–300
- Herlihy, M., Rajsbaum, S.: A classification of wait-free loop agreement tasks. *Theor. Comput. Sci.* **291**(1), 55–77 (2003)
- Herlihy, M., Rajsbaum, S.: Algebraic spans. *Math. Struct. Comput. Sci.* **10**(4), 549–573 (2000)
- Herlihy, M., Rajsbaum, S.: Set consensus using arbitrary objects. In: Proceedings of the 13th Annual ACM Symposium on Principles of Distributed Computing, pp. 324–333, August (1994)
- Herlihy, M., Rajsbaum, S.: The decidability of distributed decision tasks (extended abstract). In: STOC '97: Proceedings of the twenty-ninth annual ACM symposium on Theory of computing, pp. 589–598. ACM Press, New York (1997)
- Herlihy, M., Rajsbaum, S., Tuttle, M.R.: Unifying synchronous and asynchronous message-passing models. In: PODC '98: Proceedings of the seventeenth annual ACM symposium on Principles of distributed computing, pp. 133–142. ACM Press, New York (1998)
- Herlihy, M.P., Penso, L.D.: Tight Bounds for k -Set Agreement with Limited Scope Accuracy Failure Detectors. *Distrib. Comput.* **18**(2), 157–166 (2005)
- Herlihy, M.P., Shavit, N.: The asynchronous computability theorem for t -resilient tasks. In: Proceedings 25th Annual ACM Symposium on Theory of Computing, 1993, pp. 111–120
- Herlihy, M.P., Shavit, N.: The Topological Structure of Asynchronous Computability. *J. ACM* **46**(6), 858–923 (1999)
- Herlihy, M.P., Wing, J.M.: Linearizability: a correctness condition for concurrent objects. *ACM Trans. Program. Lang. Syst. (TOPLAS)* **12**(3), 463–492 (1990)
- Hershberger, J., Suri, M.R., Suri, S.: Data structures for two-edge connectivity in planar graphs. *Theor. Comput. Sci.* **130**(1), 139–161 (1994)
- Hertz, G., Stormo, G.: Identification of consensus patterns in unaligned DNA and protein sequences: a large-deviation statistical basis for penalizing gaps. In: Proc. 3rd Int'l Conf. Bioinformatics and Genome Research, pp. 201–216. (1995)
- Herzog, S., Shenker, S., Estrin, D.: Sharing the “cost” of multicast trees: an axiomatic analysis. *IEEE/ACM Trans. Netw.* **5**, 847–860 (1997)
- High Performance Fortran Forum. High Performance Fortran Language Specification, 1.0 edition, May 1993
- Hillar, C.J., Rhea, D.L. A Result about the Density of Iterated Line Intersections. *Comput. Geom.: Theory Appl.* **33**(3), 106–114 (2006)
- Hipke, C., Icking, C., Klein, R., Langetepe, E.: How to find a point on a line within a fixed distance. *Discret. Appl. Math.* **93**, 67–73 (1999)
- Hirsch, E.A.: A $2^{m/4}$ -time Algorithm for Max 2-SAT: Corrected Version. Electronic Colloquium on Computational Complexity Report TR99-036 (2000)
- Hirsch, E.A.: New worst-case upper bounds for SAT. *J. Autom. Reason.* **24**(4), 397–420 (2000)
- Hjelle, Ø., Dæhlen, M.: Triangulations and Applications. In: Mathematics and Visualization, vol. IX. Springer, Heidelberg (2006). ISBN 978-3-540-33260-2
- Ho, J.M., Vijayan, G., Wong, C.K.: New algorithms for the rectilinear steiner tree problem. *IEEE Transac. Comput. Aided Des.* **9**, 185–193 (1990)
- Hoang, V.T., Sung, W.K.: Fixed Parameter Polynomial Time Algorithms for Maximum Agreement and Compatible Supertrees. In: Albers, S., Weil, P., 25th International Symposium on Theoretical Aspects of Computer Science (STACS 2008). Dagstuhl, Germany (2007)
- Hoare, C.A.R.: Quicksort. *Comput. J.* **5**(1), 10–15 (1962)
- Hochbaum, D.S.: Approximation algorithms for the set covering and vertex cover problems. *SIAM J. Comput.* **11**(3), 555–556 (1982)
- Hochbaum, D.S.: Heuristics for the fixed cost median problem. *Math. Program.* **22**(2), 148–162 (1982)
- Hochbaum, D.S., Maass, W.: Approximation schemes for covering and packing problems in image processing and VLSI. *J. ACM* **32**(1), 130–136 (1985)
- Hochbaum, D.S., Shmoys, D.B.: A best possible approximation algorithm for the k -center problem. *Math. Oper. Res.* **10**, 180–184 (1985)
- Hochbaum, D.S., Shmoys, D.B.: A polynomial approximation scheme for scheduling on uniform processors: using the dual approximation approach. *SIAM J. Comput.* **17**(3), 539–551 (1988)
- Hochbaum, D.S., Shmoys, D.B.: Using dual approximation algorithms for scheduling problems: theoretical and practical results. *J. ACM* **34**(1), 144–162 (1987)
- Hoefer, M.: Experimental comparison of heuristic and approximation algorithms for uncapacitated facility location. In: Proceedings of the 2nd International Workshop on Experimental and Efficient Algorithms (WEA). Lecture Notes in Computer Science, vol. 2647, pp. 165–178. Springer, Berlin (2003)
- Hoeffding, W.: On the distribution of the number of successes in independent trials. *Ann. Math. Stat.* **27**, 713–721 (1956)
- Hofacker, I.L., Stadler, P.F.: Memory efficient folding algorithms for circular RNA secondary structures. *Bioinformatics* **22**, 1172–1176 (2006)
- Hoffmann, F., Icking, C., Klein, R., Kriegel, K.: The polygon exploration problem. *SIAM J. Comput.* **31**(2), 577–600 (2001)
- Hoffmann, M., Okamoto, Y.: The minimum weight triangulation problem with few inner points. *Comput. Geom. Theory Appl.* **34**, 149–158 (2006)
- Hofmeister, T., Schöning, U., Schuler, R., Watanabe, O.: A probabilistic 3-SAT algorithm further improved. In: STACS 2002. LNCS, vol. 2285, pp. 192–202. Springer, Berlin (2002)
- Hofmeister, T., Schöning, U., Schuler, R., Watanabe, O.: Probabilistic 3-SAT algorithm further improved. Proceedings 19th Symposium on Theoretical Aspects of Computer Science. LNCS **2285**, 193–202 (2002)
- Hofri, M.: A feedback-less distributed broadcast algorithm for multihop radio networks with time-varying structure. In: Computer Performance and Reliability, pp. 353–368. (1987)
- Holevo, A.S.: Bounds for the quantity of information transmitted by a quantum communication channel. *Problemy Peredachi Informatsii*, **9**, 3–11 (1973). English translation in: *Probl. Inf. Transm.* **9**, 177–183 (1973)
- Holm, J., de Lichtenberg, K., Thorup, M.: Poly-logarithmic deterministic fully-dynamic algorithms for connectivity, minimum spanning tree, 2-edge, and biconnectivity. *J. ACM* **48**, 723–760 (2001)

- Holmes, I.: Using guide trees to construct multiple-sequence evolutionary hmms. *Bioinform.* **19**, i147–i157 (2003)
- Holmes, I., Bruno, W.J.: Evolutionary HMMs: a Bayesian approach to multiple alignment. *Bioinform.* **17**(9), 803–820 (2001)
- Holzer, M., Schulz, F., Wagner, D.: Engineering Multi-Level Overlay Graphs for Shortest-Path Queries. In: *Algorithm Engineering and Experiments – ALENEX (SIAM, 2006)*, pp. 156–170. SIAM, Philadelphia (2006)
- Hon, W., Sadakane, K., Sung, W.: Breaking a time-and-space barrier in constructing full-text indices. In: *Proc. of the 44th IEEE Symposium on Foundations of Computer Science (FOCS)*, 251–260, Cambridge, MA (2003)
- Hon, W.K., Kao, M.Y., Lam, T.W., Sung, W.K., Yiu, S.M.: Non-shared Edges and Nearest Neighbor Interchanges revisited. *Inf. Process. Lett.* **91**(3), 129–134 (2004)
- Hon, W.K., Lam, T.W.: Approximating the Nearest Neighbor Interchange Distance for Non-Uniform-Degree Evolutionary Trees. *Int. J. Found. Comp. Sci.* **12**(4), 533–550 (2001)
- Hon, W.K., Lam, T.W., Yiu, S.M., Kao, M.Y., Sung, W.K.: Subtree Transfer Distance For Degree-D Phylogenies. *Int. J. Found. Comp. Sci.* **15**(6), 893–909 (2004)
- Hong, X., Dong, S., Ma, Y., Cai, Y., Cheng, C.K., Gu, J.: Corner Block List: An efficient topological representation of non-slicing floorplan. In: *International Computer Aided Design (ICCAD) '00*, November 2000, pp. 8–12,
- Hoot, S.B., Palmer, J.D.: Structural rearrangements, including parallel inversions, within the chloroplast genome of *Anemone* and related genera. *J. Mol. Evol.* **38**, 274–281 (1994)
- Hopcroft, J., Tarjan, R.: Efficient planarity testing. *J. ACM* **21**, pp. 549–568 (1974)
- Hopcroft, J., Ullman, J.: *Introduction to Automata, Languages, and Computation*. Addison-Wesley, Reading, MA (1979)
- Hopcroft, J.E., Karp, R.M.: An $O(n^{5/2})$ Algorithm for Maximum Matchings in Bipartite Graphs. *SIAM J. Comput.* **2**, 225–231 (1973)
- Horn, W.: Minimizing average flow time with parallel machines. *Oper. Res.* **21**, 846–847 (1973)
- Horton, J.D.: A Polynomial-time algorithm to find the shortest cycle basis of a graph. *SIAM J. Comput.* **16**(2), 358–366 (1987)
- Hou, T., Li, V.: Transmission Range Control in Multihop Packet Radio Networks. *IEEE Tran. Commun.* **34**, 38–44 (1986)
- Howard, P.G., Vitter, J.S.: Fast and efficient lossless image compression. In: *Proceedings of the IEEE Data Compression Conference, Snowbird, Utah, March 1993*, pp. 351–360
- Howard, P.G., Vitter, J.S.: Parallel lossless image compression using Huffman and arithmetic coding. In: *Proceedings of the IEEE Data Compression Conference, Snowbird, Utah, March 1992*, pp. 299–308
- Howard, P.G., Vitter, J.S.: Practical implementations of arithmetic coding. In: Storer, J.A. (ed.) *Images and Text Compression*. Kluwer Academic Publishers, Norwell, Massachusetts (1992)
- Høyer, P.: Conjugated operators in quantum algorithms. *Phys. Rev. A* **59**(5), 3280–3289 (1999)
- Høyer, P., Mosca, M., de Wolf, R.: Quantum search on bounded-error inputs. In: *Proceedings of the 30th International Colloquium on Automata, Languages and Programming. Lecture Notes in Computer Science*, vol. 2719, pp. 291–299, Eindhoven, The Netherlands, 30 June – 4 July 2003
- Hromkovic, J., Klasing, R., Monien, B., Peine, R.: Dissemination of information in interconnection networks (broadcasting and gossiping). In: Du, D.Z., Hsu, F. (eds.) *Combinatorial Network Theory*, pp. 125–212. Kluwer Academic Publishers, Dordrecht (1996)
- Hsu, W.L., McConnell, R.M.: PC trees and circular-ones arrangements. *Theor. Comput. Sci.* **296**(1), 99–116 (2003)
- <http://www.carms.ca> (Canadian Resident Matching Service website)
- <http://www.jrmp.jp> (Japan Resident Matching Program website)
- <http://www.nes.scot.nhs.uk/sfas/> (Scottish Foundation Allocation Scheme website)
- <http://www.nrmp.org/> (National Resident Matching Program website)
- Hu, B., Marek-Sadowska, M.: Multilevel fixed-point-addition-based VLSI placement. *IEEE Trans. CAD* **24**(8), 1188–1203 (2005)
- Hu, T.C.: Multi-commodity network flows. *Operations Research*, **11**(3), 344–360. (1963)
- Hu, T.C., Moerder, K.: Multiterminal Flows in a Hypergraph. In: Hu, T.C., Kuh, E.S. (eds.) *VLSI Circuit Layout: Theory and Design*, pp. 87–93. IEEE Press (1985)
- Huang, X.: An algorithm for identifying regions of a DNA sequence that satisfy a content requirement. *Comput. Appl. Biosci.* **10**, 219–225 (1994)
- Huang, X., Pan, V.Y.: Fast rectangular matrix multiplications and applications. *J. Complex.* **14**, 257–299 (1998)
- Huddleston, S., Mehlhorn, K.: A new data structure for representing sorted lists. *Acta Inform.* **17**, 157–184 (1982)
- Hudson, R.: Gene genealogies and the coalescent process. *Oxf. Surv. Evol. Biol.* **7**, 1–44 (1990)
- Hudson, R.: Generating samples under the wright-fisher neutral model of genetic variation. *Bioinformatics* **18**(2), 337–338 (2002)
- Huffman, D.A.: A method for the construction of minimum redundancy codes. *Proceedings of the Institute of Radio Engineers*, **40**, pp. 1098–1101 (1952)
- Hüffner, F.: *Graph Modification Problems and Automated Search Tree Generation*. Diplomarbeit, Wilhelm-Schickard-Institut für Informatik, Universität Tübingen (2003)
- Hüffner, F., Wernicke, S., Zichner, T.: Algorithm engineering for Color Coding to facilitate Signaling Pathway Detection. In: *Proceedings of the 5th Asia-Pacific Bioinformatics Conference (APBC)*, pp. 277–286 (2007)
- Hunt, E., Atkinson, M., Irving, R.: Database indexing for large DNA and protein sequence collections. *Int. J. Very Large Data Bases* **11**, 256–271 (2002)
- Husfeldt, T., Rauhe, T.: New lower bound techniques for dynamic partial sums and related problems. *SIAM J. Comput.* **32**, 736–753 (2003). See also ICALP'98
- Huson, D.H., Bryant, D.: Application of phylogenetic networks in evolutionary studies. *Mol. Biol. Evol.* **23**(2), 254–267 (2006)
- Huson, D.H., Nettles, S., Warnow, T.: Disk-covering, a fast-converging method for phylogenetic tree reconstruction. *J. Comput. Biol.* **6**, 369–386 (1999)
- Huson, D.H., Nettles, S., Warnow, T.: Obtaining highly accurate topology estimates of evolutionary trees from very short sequences. In: *RECOMB*, 1999, pp. 198–207
- Hutchinson, D.A., Sanders, P., Vitter, J.S.: Duality between prefetching and queued writing with parallel disks. *SIAM J. Comput.* **34**, 1443–1463 (2005)
- Huynh, T.N.D., Hon, W.K., Lam, T.W., Sung, W.K.: Approximate string matching using compressed suffix arrays. In: *Proceedings of Symposium on Combinatorial Pattern Matching*, 2004, pp. 434–444

- Hwang, F.K.: On Steiner minimal trees with rectilinear distance. *SIAM J. Appl. Math.* **30**, 104–114 (1976)
- Hwang, F.K., Richards, D.S., Winter, P.: The Steiner Tree Problem. North-Holland, Amsterdam (1992)
- Hylland, A., Zeckhauser, R.: The efficient allocation of individuals to positions. *J. Polit. Econ.* **87**(2), 293–314 (1979)
- Iacono, J.: Key-independent optimality. *Algorithmica* **42**(1), 3–10 (2005)
- Ibarra, O.H., Kim, C.E.: Fast approximation algorithms for the knapsack and sum of subset problem. *J. ACM* **22**, 463–468 (1975)
- Idury, R.M., Schäffer, A.A.: Dynamic dictionary matching with failure functions. In: Proc. 3rd Annual Symposium on Combinatorial Pattern Matching, 1992, pp. 273–284
- Idury, R.M., Schäffer, A.A.: Multiple matching of parametrized patterns. *Theor. Comput. Sci.* **154**(2), 203–224 (1996)
- Ieong, S., Kao, M.-Y., Lam, T.-W., Sung, W.-K., Yiu, S.-M.: Predicting RNA secondary structures with arbitrary pseudoknots by maximizing the number of stacking pairs. In: Proceedings of the 2nd Symposium on Bioinformatics and Bioengineering, 2001, pp. 183–190
- Ilie, L.: A simple proof that a word of length n has at most $2n$ distinct squares. *J. Combin. Theory, Ser. A* **112**(1), 163–164 (2005)
- Ilie, L., Navarro, G., Yu, S.: On NFA reductions. In: Karhumäki, J. et al. (eds.) *Theory is Forever. Lect. Notes Comput. Sci.* **3113**, 112–124 (2004)
- Iliopoulos, C., Moore, D., Smyth, W.F.: A characterization of the squares in a Fibonacci string. *Theor. Comput. Sci.* **172**, 281–291 (1997)
- Imahori, S.: Private communication, December 2005
- Iman, S., Pedram, M., Fabian, C., Cong, J.: Finding Uni-Directional Cuts Based on Physical Partitioning and Logic Restructuring. In: 4th ACM/SIGDA Physical Design Workshop, April 1993
- Impagliazzo, R., Paturi, R.: Which problems have strongly exponential complexity? *J. Comput. Syst. Sci.* **63**, 512–530 (2001)
- Indyk, P.: Explicit constructions of selectors and related combinatorial structures, with applications. In: Proc. 13th Annual ACM-SIAM Symposium on Discrete Algorithms, pp. 697–704, San Francisco, USA (2002)
- Indyk, P., Matousek, J.: Low-distortion embeddings of finite metric spaces. In: Goodman, J.E., O'Rourke, J. (eds.) *Handbook of Discrete and Computational Geometry*. CRC Press, Inc., Chap. 8 (2004), To appear
- Indyk, P., Motwani, R.: Approximate Nearest Neighbors: Towards Removing the Curse of Dimensionality. *Proc. ACM STOC* 604–613 (1998)
- Intanagonwiwat, C., Govindan, R., Estrin, D.: Directed Diffusion: A Scalable and Robust Communication Paradigm for Sensor Networks. In: Proc. 6th ACM/IEEE International Conference on Mobile Computing, MOBICOM'2000
- Ion, A., Kropatsch, W.G., Haxhimusa, Y.: Considerations regarding the minimum spanning tree pyramid segmentation method. In: Proc. 11th Workshop Structural, Syntactic, and Statistical Pattern Recognition (SSPR). LNCS, vol. 4109, pp. 182–190. Springer, Berlin (2006)
- Irani, S.: Page replacement with multi-size pages and applications to Web caching. *Algorithmica* **33**(3), 384–409 (2002)
- Irani, S.: Two results on the list update problem. *Inf. Proc. Lett.* **38**, 301–306 (1991)
- Irani, S., Karlin, A.R., Phillips, S.: Strongly competitive algorithms for paging with locality of reference. *SIAM J. Comput.* **25**(3), 477–497 (1996)
- Irani, S., Pruhs, K.: Algorithmic Problems in Power Management. *ACM SIGACT News* **36**(2), 63–76. New York, NY, USA (2005)
- Irani, S., Seiden, S.S.: Randomized algorithms for metrical task systems. *Theor. Comput. Sci.* **194**, 163–182 (1998)
- Irving, R.W.: An efficient algorithm for the stable roommates problem. *J. Algorithms* **6**, 577–595 (1985)
- Irving, R.W.: Matching medical students to pairs of hospitals: a new variation on a well-known theme. *Proc. ESA 98. LNCS* 1461, pp. 381–392. (1998)
- Irving, R.W.: Stable marriage and indifference. *Discret. Appl. Math.* **48**, 261–272 (1994)
- Irving, R.W., Kavitha, T., Mehlhorn, K., Michail, D., Paluch, K.: Rank-maximal matchings. In: Proceedings of the 15th ACM-SIAM Symposium on Discrete Algorithms, pp. 68–75. SIAM, New Orleans (2004)
- Irving, R.W., Leather, P.: The complexity of counting stable marriages. *SIAM J. Comput.* **15**(3), 655–667 (1986)
- Irving, R.W., Leather, P., Gusfield, D.: An efficient algorithm for the “optimal stable” marriage. *J. ACM* **34**(3), 532–543 (1987)
- Irving, R.W., Manlove, D.F.: The stable roommates problem with ties. *J. Algorithms* **43**, 85–105 (2002)
- Irving, R.W., Manlove, D.F., O'Malley, G.: Stable marriage with ties and bounded length preference lists. *Proc. the 2nd Algorithms and Complexity in Durham workshop, Texts in Algorithmics*, College Publications (2006)
- Irving, R.W., Manlove, D.F., Scott, S.: Strong stability in the Hospitals/Residents problem. In: Proceedings of STACS 2003: the 20th Annual Symposium on Theoretical Aspects of Computer Science. *Lecture Notes in Computer Science*, vol. 2607, pp. 439–450. Springer, Berlin (2003)
- Irving, R.W., Manlove, D.F., Scott, S.: The Hospitals/Residents problem with Ties. In: Proceedings of SWAT 2000: the 7th Scandinavian Workshop on Algorithm Theory. *Lecture Notes in Computer Science*, vol. 1851, pp. 259–271. Springer, Berlin (2000)
- Irving, R.W., Scott, S.: The stable fixtures problem – a many-to-many extension of stable roommates. *Discret. Appl. Math.* **155**, 2118–2129 (2007)
- Ismailescu, D., Radoičić, R.: A Dense Planar Point Set from Iterated Line Intersections. *Comput. Geom. Theory Appl.* **27**(3), 257–267 (2004)
- Israeli, A., Jalfon, M.: Token Management Schemes and Random Walks Yield Self-Stabilizing Mutual Exclusion. In: Proceedings of the 9th Annual ACM Symposium on Principles of Distributed Computing, pp. 119–131, Quebec City, August 1990
- Israeli, A., Li, M.: Bounded time-stamps. *Distrib. Comput.* **6**(4), 205–209 (1993)
- Israeli, A., Shaham, A.: Optimal multi-writer multireader atomic register. In: Proc. 11th ACM Symp. Principles Distr. Comput., pp. 71–82. Vancouver, British Columbia, Canada, 10–12 August 1992
- Itai, A., Konheim, A.G., Rodeh, M.: A sparse table implementation of priority queues. In: Automata, Languages and Programming, 8th Colloquium. LNCS, vol. 115, pp. 417–431. Springer, Berlin (1981)
- Itai, A., Rodeh, M.: Finding a Minimum Circuit in a Graph. *SIAM J. Comput.* **7**(4), 413–423 (1978)
- Italiano, G.F., La Poutré, J.A., Rauch, M.: Fully dynamic planarity testing in planar embedded graphs. 1st Annual European Symposium on Algorithms, Bad Honnef, Germany, 30 September–2 October 1993

- Iwama, K., Manlove, D.F., Miyazaki, S., Morita, Y.: Stable marriage with incomplete lists and ties. *Proc. ICALP 99. LNCS 1644*, pp. 443–452. (1999)
- Iwama, K., Miyazaki, S., Yamauchi, N.: A 1.875-approximation algorithm for the stable marriage problem. *Proc. SODA 2007*, pp. 288–297. (2007)
- Iwama, K., Tamaki, S.: Improved upper bounds for 3-SAT. In: *Proceedings of the fifteenth annual ACM-SIAM symposium on Discrete algorithms*, 2004, pp. 328–329
- Iwasaki, A., Yokoo, M., Terada, K.: A robust open ascending-price multi-unit auction protocol against false-name bids. *Decis. Support. Syst.* **39**, 23–39 (2005)
- Iyer, R., Karger, D., Rahul, H., Thorup, M.: An experimental study of poly-logarithmic fully-dynamic connectivity algorithms. *J. Exp. Algorithmics* **6**(4) (2001) (presented at ALENEX 2000)
- Jaakkola, T.S., Haussler, D.: Probabilistic kernel regression models. In: *Proceedings of the 1999 Conference on AI and Statistics Fort Lauderdale* (1999)
- Jackson, D.: *Software Abstractions: Logic, Language, and Analysis*. MIT Press (2006)
- Jackson, J.: An efficient membership-query algorithm for learning DNF with respect to the uniform distribution. *J. Comput. Syst. Sci.* **55**, 414–440 (1997)
- Jackson, J., Klivans, A., Servedio, R.: Learnability beyond AC^0 . In: *Proceedings of the 34th ACM Symposium on Theory of Computing*, pp. 776–784, Montréal, 23–25 May 2002
- Jackson, J., Shamir, E., Schwartzman, C.: Learning with queries corrupted by classification noise. *Discret. Appl. Math.* **92**, 157–175 (1999)
- Jackson, J., Shamir, E., Schwartzman, C.: Learning with queries corrupted by classification noise. In: *Proceedings of the Fifth Israel Symposium on the Theory of Computing Systems*, pp. 45–53 (1997)
- Jackson, J.C.: An efficient membership-query algorithm for learning DNF with respect to the uniform distribution. In: *35th Annual Symposium on Foundations of Computer Science*, pp. 42–53. IEEE Computer Society Press, Los Alamitos, CA, USA (1994)
- Jackson, J.C.: *The Harmonic Sieve: A Novel Application of Fourier Analysis to Machine Learning Theory and Practice*. Ph. D. thesis, Carnegie Mellon University (1995)
- Jacobsen, L., Larsen, K.S., Nielsen, M.N.: On the existence of non-extreme (a, b) -trees. *Inform. Process. Lett.* **84**, 69–73 (2002)
- Jacobson, G.: Space-efficient static trees and graphs. In: *Proc. 30th IEEE Symposium on Foundations of Computer Science (FOCS)*, pp. 549–554. Triangle Park, USA (1989)
- Jacobson, H., Stockmayer, W.H.: Intramolecular reaction in polycondensations. I. the theory of linear systems. *J. Chem. Phys.* **18**, 1600–1606 (1950)
- Jaeger, F., Vertigan, D., Welsh, D.: On the computational complexity of the Jones and Tutte polynomials. *Math. Proc. Cambridge Philos. Soc.* **108**(1), 35–53 (1990)
- Jaffe, J.: Bottleneck Flow Control. *IEEE Trans. Commun.* **29**(7), 954–962 (1981)
- Jain, K.: A factor 2 approximation for the generalized Steiner network problem. *Combinatorica* **21**(1), 39–60 (2001)
- Jain, K.: A polynomial time algorithm for computing the Arrow-Debreu market equilibrium for linear utilities. In: *Proceeding of FOCS'04*, pp. 286–294. IEEE Computer Society, Rome (2004)
- Jain, K., Mahdian, M., Markakis, E., Saberi, A., Vazirani, V.V.: Approximation algorithms for facility location via dual fitting with factor-revealing LP. *J. ACM* **50**(6), 795–824 (2003)
- Jain, K., Mahdian, M., Markakis, E., Saberi, A., Vazirani, V.V.: Greedy facility location algorithms analyzed using dual fitting with factor-revealing LP. *J. ACM* **50**(6), 795–824 (2003)
- Jain, K., Mahdian, M., Saberi, A.: A new greedy approach for facility location problems. In: *Proceedings of the 34th Annual ACM Symposium on Theory of Computing (STOC)* pp. 731–740, ACM Press, New York (2002)
- Jain, K., Padhye, J., Padmanabhan, V.N., Qiu, L.: Impact of interference on multi-hop wireless network performance. In: *Proc. ACM MOBIKOM 2003*, pp. 66–80
- Jain, K., Vazirani, V.V.: An approximation algorithm for the fault tolerant metric facility location problem. In: *Approximation Algorithms for Combinatorial Optimization, Proceedings of APPROX (2000)*, vol. (1913) of *Lecture Notes in Computer Science*, pp. 177–183. Springer, Berlin (2000)
- Jain, K., Vazirani, V.V.: Applications of approximation algorithms to cooperative games. In: *Proc. of the 33rd Annual ACM Symposium on Theory of Computing, Association for Computing Machinery*, New York, pp. 364–372 (2001)
- Jain, K., Vazirani, V.V.: Approximation algorithms for metric facility location and k-median problems using the primal-dual schema and lagrangian relaxation. *J. ACM* **48**(2), 274–296 (2001)
- Jain, R.: Resource requirements of private quantum channels and consequence for oblivious remote state preparation. Technical report (2005). arXiv:quant-ph/0507075
- Jain, S., Shah, R., Brunette, W., Borriello, G., Roy, S.: Exploiting mobility for energy efficient data collection in wireless sensor networks. *J. Mobile Netw. Appl.* **11**(3), 327–339 (2006)
- Jájá, J.: *An Introduction to Parallel Algorithms*. Addison-Wesley (1992)
- Jamin, S., Jin, C., Jin, Y., Raz, D., Shavitt, Y., Zhang, L.: On the placement of internet instrumentations. In: *Proceedings of the 19th Annual Joint Conference of the IEEE Computer and Communications Societies (INFOCOM)*, vol. 1, pp. 295–304. IEEE Computer Society, Los Alamitos, CA, USA (2000)
- Jampala, H., Zeh, N.: Cache-oblivious planar shortest paths. In: *Proc. 32nd International Colloquium on Automata, Languages, and Programming. LNCS*, vol. 3580, pp. 563–575. Springer, Berlin (2005)
- Jannink, J.: Implementing deletions in B^+ -trees. *SIGMOD RECORD* **24**, 33–38 (1995)
- Jansen, K., Woeginger, G.J.: The complexity of detecting crossing-free configurations in the plane. *BIT* **33**, 580–595 (1993)
- Janson, S.: Large Deviation Inequalities for Sums of Indicator Variables. Technical Report No. 34, Department of Mathematics, Uppsala University (1994)
- Jansson, J., Joseph, H., Ng, K., Sadakane, K., Sung, W.-K.: Rooted maximum agreement supertrees. *Algorithmica* **43**(4), 293–307 (2005)
- Jansson, J., Nguyen, N.B., Sung, W.-K.: Algorithms for combining rooted triplets into a galled phylogenetic network. *SIAM J. Comput.* **35**(5), 1098–1121 (2006)
- Jansson, J., Sadakane, K., Sung, W.: Ultra-succinct representation of ordered trees. In: *Proc. 18th ACM-SIAM Symposium on Discrete Algorithms (SODA)*, pp. 575–584. New Orleans, USA (2007)
- Jansson, J., Sung, W.-K.: Inferring a level-1 phylogenetic network from a dense set of rooted triplets. In: *Proc. 10th International Computing and Combinatorics Conference (COCOON 2004)*, 2004

- Japanese Resident Matching Program (JRMP) <http://www.jrmp.jp/>
- Jarry, A., Leone, P., Powell, O., Rolim, J.: An Optimal Data Propagation Algorithm for Maximizing the Lifespan of Sensor Networks. In: Second International Conference, DCOSS 2006, San Francisco, CA, USA, June 2006. Lecture Notes in Computer Science, vol. 4026, pp. 405–421. Springer, Berlin (2006)
- Jawor, W.: Three dozen papers on online algorithms. SIGACT News **36**(1), 71–85 (2005)
- Jayanti, P.: An optimal multi-writer snapshot algorithm. In: Proc. 37th ACM Symposium on Theory of Computing. Baltimore, May 2005, pp. 723–732. ACM, New York (2005)
- Jech, T.: The ranking of incomplete tournaments: A mathematician's guide to popular sports. Am. Math. Mon. **90**(4), 246–266 (1983)
- Jeng-Fung, C.: Unrelated parallel machine scheduling with secondary resource constraints. Int. J. Adv. Manuf. Technol. **26**, 285–292 (2005)
- Jermaine, C., Pol, A., Arumugam, S.: Online maintenance of very large random samples. In: SIGMOD '04: Proceedings of the 2004 ACM SIGMOD international conference on Management of data, New York, pp. 299–310. ACM Press (2004)
- Jerrum, M.: A very simple Algorithm for Estimating the Number of k -colourings of a Low Degree Graph. Random Struct. Algorithms **7**, 157–165 (1994)
- Jerrum, M.R., Valiant, L.G., Vazirani, V.V.: Random Generation of Combinatorial Structures from a Uniform Distribution. Theor. Comput. Sci. **43**, 169–188 (1986)
- Jia, L., Rajaraman, R., Suel, R.: An Efficient Distributed Algorithm for Constructing Small Dominating Sets. In: PODC, Newport, Rhode Island, USA, August 2001
- Jiang, M.: A 2-approximation for the preceding-and-crossing structured 2-interval pattern problem, J. Combin. Optim. **13**, 217–221 (2007)
- Jiang, M.: A PTAS for the weighted 2-interval pattern problem over the preceding-and-crossing model. In: Y.X. A.W.M. Dress, B. Zhu (eds.) Proc. 1st Annual International Conference on Combinatorial Optimization and Applications (COCO), Xi'an, China, Lecture Notes in Computer Science, vol. 4616, pp. 378–387. Springer (2007)
- Jiang, M.: Improved approximation algorithms for predicting RNA secondary structures with arbitrary pseudoknots. In: Proc. 3rd International Conference on Algorithmic Aspects in Information and Management (AAIM), Portland, OR, USA, Lecture Notes in Computer Science, vol. 4508, pp. 399–410. Springer (2007)
- Jiang, T., Kearney, P., Li, M.: A polynomial time approximation scheme for inferring evolutionary trees from quartet topologies and its application. SIAM J. Comput. **30**(6), 1942–1961 (2001)
- Jiang, T., Ravikumar, B.: Minimal NFA problems are hard. SIAM J. Comput. **22**(6), 1117–1141 (1993)
- Jiang, T., Wang, L., Zhang, K.: Alignment of trees – an alternative to tree edit. Theor. Comput. Sci. **143**(1), 137–148 (1995)
- Joachims, T.: Text categorization with support vector machines. In: Proceedings of European Conference on Machine Learning (ECML) Chemnitz (1998)
- Johansen, K.E., Jorgensen, U.L., Nielsen, S.H.: A distributed spanning tree algorithm. In: Proc. 2nd Int. Workshop on Distributed Algorithms (DISC). Lecture Notes in Computer Science, vol. 312, pp. 1–12. Springer, Berlin Heidelberg (1987)
- Johansson, Ö.: Simple distributed $(\Delta + 1)$ -coloring of graphs. Inf. Process. Lett. **70**, 229–232 (1999)
- Johnson, D.: Efficient algorithms for shortest paths in sparse networks. J. Assoc. Comput. Mach. **24**, 1–13 (1977)
- Johnson, D., Papadimitriou, C.H., Yannakakis, M.: How easy is local search? J. Comp. Syst. Sci. **37**, 79–100 (1988)
- Johnson, D.B., Metaxas, P.: Connected Components in $O(\lg^{3/2} |V|)$ Parallel Time for the CREW PRAM. In: Proceedings of the 32nd Annual IEEE Symposium on Foundations of Computer Science, 1991, pp. 688–697
- Johnson, D.B., Venkatesan, S.M.: Parallel algorithms for minimum cuts and maximum flows in planar networks. J. ACM **34**, 950–967 (1987)
- Johnson, D.S.: A theoretician's guide to the experimental analysis of algorithms. In: Goodrich, M.H., Johnson, D.S., McGeoch, C.C. (eds.) Data Structures, Near Neighbors Searches, and Methodology: Fifth and Sixth DIMACS Implementation Challenges, DIMACS Series in Discrete Mathematics and Theoretical Computer Science, vol. 59. American Mathematical Society, Providence (2002)
- Johnson, D.S.: Approximation algorithms for combinatorial problems. J. Comput. Syst. Sci. **9**, 256–278 (1974)
- Johnson, D.S.: Near-Optimal Bin Packing Algorithms. Ph.D. thesis, Massachusetts Institute of Technology, Department of Mathematics, Cambridge (1973)
- Johnson, D.S., Demers, A., Ullman, J.D., Garey, M.R., Graham, R.L.: Worst-case performance bounds for simple one-dimensional packing algorithms. SIAM J. Comput. **3**, 299–325 (1974)
- Johnson, D.S., Leighton, F.T., Shor, P.W., Weber, R.R.: The expected behavior of FFD, BFD, and optimal bin packing under $U(0, \alpha)$ distributions (in preparation)
- Johnson, D.S., McGeoch, L.A.: Experimental analysis of heuristics for the STSP. In: Gutin, G., Punnen, A.P. (eds.) The Traveling Salesman Problem and its Variations. Kluwer, Dordrecht (2002)
- Johnson, D.S., McGeoch, L.A.: The traveling salesman problem: A case study. In: Aarts, E., Lenstra, J.K. (eds.) Local Search in Combinatorial Optimization, pp. 215–310. Wiley, Chichester (1997)
- Johnson, N.L., Kotz, S.: Urn Models and Their Applications. Wiley, New York (1977)
- Johnson, W., Lindenstrauss, J.: Extensions of Lipschitz Mappings into a Hilbert Space. Contemp. Math. **26**, 189–206 (1984)
- Jones, C.K.: A network model for foreign exchange arbitrage, hedging and speculation. Int. J. Theor. Appl. Finance **4**(6), 837–852 (2001)
- Jones, V.F.R.: A polynomial invariant for knots via von Neumann algebras. Bull. Am. Math. Soc. **12**(1), 103–111 (1985)
- Jordan, S., Shor, P.: Estimating Jones polynomials is a complete problem for one clean qubit. <http://arxiv.org/abs/0707.2831> (2007)
- Joseph, D., Meidanis, J., Tiwari, P.: Determining DNA sequence similarity using maximum independent set algorithms for interval graphs. In: Proc. 3rd Scandinavian Workshop on Algorithm Theory (SWAT). Lecture Notes in Computer Science, pp. 326–337. Springer, Berlin (1992)
- Joswig, M.: Software. In: Goodman, J.E., O'Rourke, J. (eds.) Handbook of Discrete and Computational Geometry, 2nd edn., chap. 64, pp. 1415–1433. Chapman & Hall/CRC, Boca Raton (2004)

- Jothi, R., Raghavachari, B., Varadarajan, S.: A 5/4-approximation algorithm for minimum 2-edge-connectivity. In: SODA, 2003, pp. 725–734
- Joux, A., Stern, J.: Lattice reduction: A toolbox for the cryptanalyst. *J. Cryptology* **11**(3), 161–185 (1998)
- Jozsa, R.: Notes on Hallgren's efficient quantum algorithm for solving Pell's equation, tech. report, quant-ph/0302134 (2003)
- Jukes, T.H., Cantor, C.R.: Evolution of Protein Molecules. In: Munro, H.N. (ed.), *Mammalian Protein Metabolism*, pp. 21–132, Academic Press, New York (1969)
- Jurdziński, T., Stachowiak, G.: Probabilistic Algorithms for the Wakeup Problem in Single-Hop Radio Networks. In: Proc. of the 13th Annual International Symposium on Algorithms and Computation (ISAAC), pp. 535–549 (2002)
- Jutla, C., Patthak, A., Rudra, A., Zuckerman, D.: Testing low-degree polynomials over prime fields. In: Proceedings of the Forty-Fifth Annual Symposium on Foundations of Computer Science, pp. 423–432. IEEE, New York (2004)
- Juurlink, B.H.H., Wijshoff, H.A.G.: A quantitative comparison of parallel computation models. *ACM Trans. Comput. Syst.* **13**(3), 271–318 (1998)
- Kaashoek, F., Karger, D.R.: Koorde: A simple degree-optimal hash table. In: 2nd International Workshop on Peer-to-Peer Systems (IPTPS '03), 2003
- Kachirski, O., Guha, R.: Intrusion detection using mobile agents in wireless ad hoc networks. In: Proceedings of IEEE Workshop on Knowledge Media Networking, Kyoto, 10–12 July 2002
- Kahn, J.M., Katz, R.H., Pister, K.S.J.: Next Century Challenges: Mobile Networking for Smart Dust. In: Proc. 5th ACM/IEEE International Conference on Mobile Computing, pp. 271–278, Sept. 1999
- Kahng, A., Robins, G.: A new family of Steiner tree heuristics with good performance: the iterated 1-Steiner approach. In: Proceedings of IEEE Int. Conf. on Computer-Aided Design, Santa Clara, pp. 428–431 (1990)
- Kahng, A.B., Mandoiu, I.I., Zelikovsky, A.: Highly scalable algorithms for rectilinear and octilinear steiner trees. In: Proc. Asia and South Pacific Design Automation Conference, Kitakyushu, Japan, (2003) pp. 827–833
- Kahng, A.B., Robins, G.: A new class of iterative steiner tree heuristics with good performance. *IEEE Transac. Comput. Aided Des.* **11**, 893–902 (1992)
- Kahng, A.B., Wang, Q.: Implementation and extensibility of an analytic placer. *IEEE Trans. CAD* **24**(5), 734–747 (2005)
- Kajitani, Y.: Theory of placement by Single-Sequence Realized with DAG, SP, BSG, and O-tree. In: International Symposium on Circuits and Systems, May 2006
- Kakade, S.: On the Sample Complexity of Reinforcement Learning. Ph.D. thesis, University College London (2003)
- Kaklamanis, C., Krizanc, D., Rao, S.: Hot-potato routing on processor arrays. In: Proceedings of the 5th Annual ACM, Symposium on Parallel Algorithms and Architectures, pp. 273–282, Velen (1993)
- Kaklamanis, C., Krizanc, D., Tsantilas, T.: Tight bounds for oblivious routing in the hypercube. In: Proceedings of the 3rd annual ACM Symposium on Parallel Algorithms and Architectures, pp. 31–36 (1991)
- Kalai, A., Klivans, A., Mansour, Y., Servedio, R.: Agnostically learning halfspaces. In: Proceedings of the 46th IEEE Symposium on Foundations of Computer Science (FOCS), pp. 11–20, Pittsburgh, PA, USA, 23–25 October 2005
- Kalai, E., Zemel, E.: Generalized Network Problems Yielding Totally Balanced Games. *Oper. Res.* **30**, 998–1008 (1982)
- Kalai, E., Zemel, E.: Totally Balanced Games and Games of Flow. *Math. Oper. Res.* **7**, 476–478 (1982)
- Kallahalla, M., Varman, P.J.: Optimal read-once parallel disk scheduling. *Algorithmica* **43**, 309–343 (2005)
- Kalyanasundaram, B., Pruhs, K.: Minimizing flow time nonclairvoyantly. In: Proceedings of the 38th Symposium on Foundations of Computer Science, October 1997
- Kalyanasundaram, B., Pruhs, K.: Minimizing flow time nonclairvoyantly. *J. ACM* **50**(4), 551–567 (2003)
- Kalyanasundaram, B., Pruhs, K.: Speed is as powerful as clairvoyance. In: Proceedings of the 36th Symposium on Foundations of Computer Science, October 1995, pp. 214–221
- Kalyanasundaram, B., Pruhs, K.: Speed is as powerful as clairvoyance. *J. ACM* **47**(4), 617–643 (2000)
- Kamath, A., Motwani, R., Spirakis, P., Palem, K.: Tail bounds for occupancy and the satisfiability threshold conjecture. *J. Random Struct. Algorithms* **7**(1), 59–80 (1995)
- Kamel, I., Faloutsos, C.: Hilbert R-tree: An improved R-tree using fractals. In: Proc. International Conference on Very Large Databases, 1994, pp. 500–509
- Kamel, I., Faloutsos, C.: On packing R-trees. In: Proc. International Conference on Information and Knowledge Management, 1993, pp. 490–499
- Kamphans, T., Langetepe, E.: Optimal competitive online ray search with an error-prone robot. In: 4th International Workshop on Experimental and Efficient Algorithms, pp. 593–596 (2005)
- Kanj, I.A., Nakhleh, L., Xia, G.: Reconstructing evolution of natural languages: Complexity and parametrized algorithms. In: Proceedings of the 12th Annual International Computing and Combinatorics Conference (COCOON 2006). Lecture Notes in Computer Science, vol. 4112, pp. 299–308. Springer, Berlin (2006)
- Kannan, R.: Annual reviews of computer science, vol. 2, chap. "Algorithmic geometry of numbers", pp. 231–267. Annual Review Inc., Palo Alto, California (1987)
- Kannan, R.: Minkowski's convex body theorem and integer programming. *Math. Oper. Res.* **12**(3), 415–440 (1987)
- Kannan, R., Theobald, T.: Games of fixed rank: A hierarchy of bimatrix games. In: Proceedings of the ACM-SIAM Symposium on Discrete Algorithms, New Orleans, 7–9 January 2007
- Kannan, S., Lawler, E., Warnow, T.: Determining the evolutionary tree using experiments. *J. Algorithms* **21**(1), 26–50 (1996)
- Kannan, S., Sweedyk, Z., Mahaney, S.: Counting and random generation of strings in regular languages. In: *Proceedings of the 6th ACM-SIAM Symposium on Discrete Algorithms*, San Francisco, California, pp. 551–557. ACM Press, New York (1995)
- Kannan, S., Warnow, T.: A fast algorithm for the computation and enumeration of perfect phylogenies. *SIAM J. Comput.* **26**, 1749–1763 (1997)
- Kannan, S., Warnow, T.: Inferring evolutionary history from DNA sequences. *SIAM J. Comput.* **23**, 713–737 (1994)
- Kanth, K.V.R., Singh, A.K.: Optimal dynamic range searching in non-replicating index structures. In: Proc. International Conference on Database Theory. LNCS, vol. 1540, pp. 257–276 (1999)
- Kao, M.-Y.: Tree contractions and evolutionary trees. *SIAM J. Comput.* **27**(6), 1592–1616 (1998)
- Kao, M.-Y., Lam, T.-W., Sung, W.-K., Ting, H.-F.: An even faster and more unifying algorithm for comparing trees via unbalanced bipartite matchings. *J. Algorithms* **40**(2), 212–233 (2001)

- Kao, M.-Y., Li, X.-Y., Wang, W.: Output truthful versus input truthful: a new concept for algorithmic mechanism design (2006)
- Kao, M.-Y., Li, X.-Y., Wang, W.: Towards truthful mechanisms for binary demand games: A general framework. In: ACM EC, pp. 213–222, Vancouver, Canada (2005)
- Kao, M.-Y., Littman, M.L.: Algorithms for informed cows. In: AAAI-97 Workshop on On-Line Search, pp. 55–61 (1997)
- Kao, M.-Y., Reif, J.H., Tate, S.R.: Searching in an unknown environment: an optimal randomized algorithm for the cow-path problem. *Inf. Comput.* **131**(1), 63–79 (1996) Preliminary version in SODA '93, pp. 441–447
- Kao, M., Ma, Y., Sipser, M., Yin, Y.: Optimal constructions of hybrid algorithms. In: Proceedings 5th ACM-SIAM Symposium on Discrete Algorithms (SODA) pp. 372–381 (1994)
- Kaplan, H., Landau, S., Verbin, E.: A simpler analysis of Burrows-Wheeler-based compression. *Theoretical Computer Science* **387**(3): 220–235 (2007)
- Kaplan, H., Shafir, N.: The greedy algorithm for shortest superstrings. *Inform. Proc. Lett.* **93**(1), 13–17 (2005)
- Kaplan, H., Shamir, R., Tarjan, R.E.: Faster and simpler algorithm for sorting signed permutations by reversals. *SIAM J. Comput.* **29**, 880–892 (1999)
- Kaplan, H., Verbin, E.: Efficient data structures and a new randomized approach for sorting signed permutations by reversals. In: Proceedings of the 14th Annual Symposium on Combinatorial Pattern Matching (CPM'03), pp. 170–185. Morelia, Michocán, Mexico, 25–27 Jun (2003)
- Kaporis, A., Spirakis, P.G.: Stackelberg games on arbitrary networks and latency functions. In: 18th ACM Symposium on Parallelism in Algorithms and Architectures (2006)
- Kaporis, A.C., Kiriou, L.M., Lalas, E.G.: The probabilistic analysis of a greedy satisfiability algorithm. *Random Struct. Algorithms* **28**(4), 444–480 (2006)
- Karakostas, G.: Faster approximation schemes for fractional multi-commodity flow problems. In: SODA '02: Proceedings of the thirteenth annual ACM-SIAM symposium on Discrete algorithms, pp. 166–173. Society for Industrial and Applied Mathematics, Philadelphia (2002)
- Karakostas, G., Kolliopoulos, G.: Stackelberg strategies for selfish routing in general multicommodity networks. Technical report, Advanced Optimization Laboratory, McMaster University (2006) AdvOL2006/08, 2006-06-27
- Karchmer, M.: Communication Complexity: A New Approach to Circuit Depth. MIT Press (1989)
- Karger, D.: A Randomized Fully Polynomial Time Approximation Scheme for the All-Terminal Network Reliability Problem. *SIAM J. Comput.* **29**, 492–514 (1999)
- Karger, D., Lehman, E., Leighton, F.T., Levine, M., Lewin, D., Panigrahy, R.: Consistent hashing and random trees: Distributed caching protocols for relieving hot spots on the world wide web. In: Proceedings of the 29th Annual ACM Symposium on Theory of Computing (STOC), 1997, pp. 654–663 1997
- Karger, D., Levine, M.: Random Sampling in Residual Graphs. In: Proc. of the 34th Annual ACM Symposium on Theory of Computing 2002, pp. 63–66
- Karger, D., Minkoff, M.: Building Steiner trees with incomplete global knowledge. In: Proceedings of the 41st Annual IEEE Symposium on Foundations of Computer Science (FOCS), IEEE Computer Society, pp. 613–623. Los Alamitos (2000)
- Karger, D., Motwani, R., Sudan, M.: Approximate graph coloring by semidefinite programming. *J. ACM* **45**(2), 246–265 (1998)
- Karger, D.R.: Minimum cuts in near-linear time. *J. ACM* **47**(1), 46–76 (2000)
- Karger, D.R.: Random sampling in Graph Optimization Problems. Ph.D. thesis, Department of Computer Science, Stanford University (1995)
- Karger, D.R., Klein, P., Stein, C., Thorup, M., Young, N.E.: Rounding algorithms for a geometric embedding of minimum multiway cut. *Math. Oper. Res.* **29**(3), 436–461 (2004). Preliminary version in STOC 1999
- Karger, D.R., Klein, P.N., Tarjan, R.E.: A randomized linear-time algorithm for finding minimum spanning trees. *J. ACM* **42**(2), 321–329 (1995)
- Karger, D.R., Stein, C.: An $\tilde{O}(n^2)$ algorithm for minimum cut. In: Proceeding of 25th Annual ACM Symposium on Theory of Computing (STOC), 1993, pp. 757–765
- Kärkkäinen, J.: Fast BWT in small space by blockwise suffix sorting. *Theor. Comput. Sci.* **387**, 249–257 (2007)
- Kärkkäinen, J., Navarro, G., Ukkonen, E.: Approximate string matching on Ziv–Lempel compressed text. *J. Discret. Algorithms* **1**(3–4), 313–338 (2003)
- Kärkkäinen, J., Sanders, P.: Simple linear work suffix array construction. In: Proceedings of the 30th International Colloquium on Automata, Languages, and Programming, ICALP 2003. LNCS, vol. 2719, pp. 943–955. Springer, Berlin (2003)
- Kärkkäinen, J., Sanders, P., Burkhardt, S.: Linear work suffix array construction. *J. ACM* **53**(6), 918–936 (2006)
- Kärkkäinen, J., Ukkonen, E.: Two- and higher-dimensional pattern matching in optimal expected time. *SIAM J. Comput.* **29**, 571–589 (1999)
- Karl, H., Willig, A.: Protocols and Architectures for Wireless Sensor Networks. Wiley, West Sussex (2005)
- Karlin, A., Yao, A.C.: Probabilistic lower bounds for the byzantine generals problem. Unpublished manuscript
- Karlin, A.R., Manasse, M.S., McGeoch, L.A., Owicki, S.S.: Competitive Randomized Algorithms for Nonuniform Problems. *Algorithmica* **11**(6), 542–571 (1994) (Conference version: SODA 1990, pp. 301–309)
- Karlin, A.R., Manasse, M.S., Rudolph, L., Sleator, D.D.: Competitive Snoopy Caching. *Algorithmica* **3**, 77–119 (1988) (Conference version: FOCS 1986, pp. 244–254)
- Karlin, A.R., Phillips, S.J., Raghavan, P.: Markov paging. *SIAM J. Comput.* **30**(3), 906–922 (2000)
- Karloff, H.: A Las Vegas RNC algorithm for maximum matching. *Combinatorica* **6**, 387–391 (1986)
- Karloff, H., Rabani, Y., Ravid, Y.: Lower bounds for randomized k -server and motion-planning algorithms. *SIAM J. Comput.* **23**(2), 293–312 (1994)
- Karloff, H.J.: How good is the Goemans-Williamson MAX CUT algorithm? *SIAM J. Comput.* **29**(1), 336–350 (1999)
- Karmarkar, N.: A new polynomial-time algorithm for linear programming. *Combinatorica* **4**, 373–395 (1984)
- Karmarkar, N., Karp, R.M.: An efficient approximation scheme for the one-dimensional bin packing problem. In: Proc. of the 23rd Annual Symposium on Foundations of Computer Science, pp. 312–320. IEEE Computer Soc, Los Alamitos, CA (1982)
- Karnaugh, M.: The map method for synthesis of combinational logic circuits. *Trans. AIEE, Commun. Electron.* **72**, 593–599 (1953)
- Karóński, M., Scheinerman, E.R., Singer-Cohen, K.: On Random Intersection Graphs: The Subgraph Problem. *Comb. Probab. Comput.* **8**, 131–159 (1999)

- Karp, B., Kung, H.: GPSR: Greedy Perimeter Stateless Routing for Wireless Networks. In: Proc. 6th Annual Int. Conf. on Mobile Computing and Networking (MobiCom), 2000, pp 243–254
- Karp, R. Raghavan, P.: From a personal communication cited in [14]
- Karp, R.: A $2k$ -competitive algorithm for the circle. Manuscript (1989)
- Karp, R., Pippenger, N., Sipser, M.: A Time-Randomness tradeoff. In: Proc. Conference on Probabilistic Computational Complexity, AMS, 1985, pp. 150–159
- Karp, R.M.: Reducibility among combinatorial problems. In: Miller, R.E., Thatcher, J.W. (eds.) Complexity of Computer Computations, pp. 85–103. Plenum Press, New York (1972)
- Karp, R.M., Lipton, R.J.: Some Connections Between Nonuniform and Uniform Complexity Classes. In: Proc. 12th Ann. ACM Symposium on Theory of Computing, 1980, pp. 302–309
- Karp, R.M., Miller, R.E., Rosenberg, A.L.: Rapid identification of repeated patterns in strings, trees and arrays. In: Proc. 4th Annual ACM Symposium on Theory of Computing, pp. 125–136. ACM Press, New York (1972)
- Karp, R.M., Ramachandran, V.: Parallel Algorithms for Shared-Memory Machines. In: Van Leeuwen Ed, J. (ed) Handbook of Theoretical Computer Science, vol. A, pp. (869–941). MIT Press, Massachusetts (1990)
- Karp, R.M., Upfal, E., Wigderson, A.: Constructing a perfect matching is in Random NC. *Combin.* **6**, 35–48 (1986)
- Karzanov, A.V., Timofeev, E. A.: Efficient algorithm for finding all minimal edge cuts of a nonoriented graph. *Cybernetics* **22**, 156–162 (1986)
- Kasai, T., Lee, G., Arimura, H., Arikawa, S., Park, K.: Linear-time longest-common-prefix computation in suffix arrays and its applications. In: Proc. 12th Annual Symposium on Combinatorial Pattern Matching, vol. (2089) of LNCS. pp. 181–192. Springer, Berlin/Heidelberg (2001)
- Kashyap, S., Khuller, S.: Algorithms for non-uniform size data placement on parallel disks. In: Conference on FST&TCS Conference. LNCS, vol. 2914, pp. 265–276. Springer, Heidelberg (2003)
- Kashyap, S., Khuller, S., Wan, Y-C., Golubchik, L.: Fast reconfiguration of data placement in parallel disks. In: Workshop on Algorithm Engineering and Experiments (2006)
- Kato, A.: Complexity of the sex-equal stable marriage problem. *Jpn. J. Ind. Appl. Math.* **10**, 1–19 (1993)
- Katriel, I., Sanders, P., Träff, J.L.: A practical minimum spanning tree algorithm using the cycle property. In: Proc. 11th Annual European Symposium on Algorithms. LNCS, vol. 2832, pp. 679–690. Springer, Berlin (2003)
- Katz, J., Koo, C.: On Expected Constant-Round Protocols for Byzantine Agreement. In: Proceedings of Advances in Cryptology–CRYPTO 2006, Santa Barbara, California, August 2006, pp. 445–462. Springer, Berlin Heidelberg New York (2006)
- Katz, J., Trevisan, L.: On the efficiency of local decoding procedures for error-correcting codes. In: Proceedings of STOC’00, pp. 80–86
- Katz, R.: Contemporary logic design. Benjamin/Cummings Pub. Co. (1993)
- Kauffman, L.: State models and the Jones polynomial. *Topology* **26**, 395–407 (1987)
- Kauffman, L., Lomonaco, S.: Topological Quantum Computing and the Jones Polynomial, arXiv.org:quant-ph/0605004 (2006)
- Kaufman, L., Rousseeuw, P.J.: Finding Groups in Data: An Introduction to Cluster Analysis. Wiley, New York (1990)
- Kaufman, T., Litsyn, S.: Almost orthogonal linear codes are locally testable. In: Proceedings of the Forty-Sixth Annual Symposium on Foundations of Computer Science, pp. 317–326. IEEE, New York (2005)
- Kaufman, T., Litsyn, S., Xie, N.: Breaking the ϵ -soundness bound of the linearity test over $gf(2)$. Electronic Colloquium on Computational Complexity, Report TR07–098, October 2007
- Kaufman, T., Ron, D.: Testing polynomials over general fields. In: Proceedings of the Forty-Fifth Annual Symposium on Foundations of Computer Science, pp. 413–422. IEEE, New York (2004)
- Kautz, H., Selman, B.: Ten Challenges Redux: Recent Progress in Propositional Reasoning and Search. Proceedings 9th International Conference on Principles and Practice of Constraint Programming, pp. 1–18. Kinsale, Ireland (2003)
- Kavitha, T., Mehlhorn, K., Michail, D., Paluch, K.: Strongly stable matchings in time $O(nm)$ and extension to the Hospitals-Residents problem. In: Proceedings of STACS 2004: the 21st International Symposium on Theoretical Aspects of Computer Science. Lecture Notes in Computer Science, vol. 2996, pp. 222–233. Springer, Berlin (2004)
- Kavvadias, D., Pantziou, G., Spirakis, P., Zaroliagis, C.: Efficient Sequential and Parallel Algorithms for the Negative Cycle Problem. In: Algorithms and Computation – ISAAC’94. Lect. Notes Comput. Sci., vol. 834, pp.270–278. Springer, Heidelberg (1994)
- Kay, R., Buechev, G., Pileggi, L.: EWA: Efficient Wire-Sizing Algorithm. In: Proc. Intl. Symp. on Physical Design, pp. 178–185. ACM, New York (1997)
- Kaye, P., Laflamme, R., Mosca, M.: An Introduction to Quantum Computation. Oxford University Press, Oxford (2007)
- Kearney, P.: Phylogenetics and the quartet method. In: Jiang, T., Xu, Y., Zhang, M.Q. (eds.) Current Topics in Computational Molecular Biology. The MIT Press, Massachusetts, pp. 111–133 (2002)
- Kearns, M.: Efficient noise-tolerant learning from statistical queries. *J. ACM* **45**(6), 983–1006 (1998)
- Kearns, M., Li, M.: Learning in the presence of malicious errors. In: Proc. 20th ACM Symp. Theory of Computing, pp. 267–280, Chicago, 2–4 May 1988
- Kearns, M., Li, M.: Learning in the presence of malicious errors. *SIAM J. Comput.* **22**, 807–837 (1993)
- Kearns, M., Schapire, R., Sellie, L.: Toward efficient agnostic learning. *Mach. Learn.* **17**(2–3), 115–141 (1994)
- Kearns, M., Singh, S.: Near-optimal reinforcement learning in polynomial time. *Mach. Learn.* **49**(2–3), 209–232 (2002)
- Kearns, M., Valiant, L.: Cryptographic limitations on learning boolean formulae and finite automata. *J. ACM* **41**(1), 67–95 (1994)
- Kearns, M., Vazirani, U.: An introduction to computational learning theory. MIT Press, Cambridge (1994)
- Keidar, I., Rajsbaum, S.: On the cost of fault-tolerant consensus when there are no faults—a tutorial. In: Tutorial 21th ACM Symposium on Principles of Distributed Computing, July 2002
- Keil, J.M., Gutwin, C.A.: Classes of graphs which approximate the complete Euclidean graph. *Discrete Comput. Geom.* **7**, 13–28 (1992)
- Keil, J.M., Gutwin, C.A.: The Delaunay Triangulation Closely Approximates the Complete Euclidean Graph. *Discret. Comput. Geom.* **7**, 13–28 (1992)
- Keller, O., Kopelowitz, T., Lewenstein, M.: Parameterized LCS and edit distance are NP-Complete. Manuscript

- Kellerer, H., Pferschy, U.: A new fully polynomial time approximation scheme for the knapsack problem. *J. Comb. Optim.* **3**, 59–71 (1999)
- Kellerer, H., Pferschy, U.: Improved dynamic programming in connection with an FPTAS for the knapsack problem. *J. Comb. Optim.* **8**, 5–11 (2004)
- Kellerer, H., Pisinger, D., Pferschy U.: *Knapsack Problems*. Springer, Berlin (2004)
- Kellerer, H., Tautenhahn, T., Woeginger, G.J.: Approximability and nonapproximability results for minimizing total flow time on a single machine. In: *Proceedings of 28th Annual ACM Symposium on the Theory of Computing (STOC '96)*, 1996, pp. 418–426
- Kellerer, H., Tautenhahn, T., Woeginger, G.J.: Approximability and Nonapproximability Results for Minimizing Total Flow Time on a Single Machine. *SIAM J. Comput.* **28**(4), 1155–1166 (1999)
- Kelly, F.P.: Charging and rate control for elastic traffic. *Eur. Trans. Telecommun.* **8**, 33–37 (1997)
- Kempe, J.: Discrete quantum walks hit exponentially faster. In: *Proc. RANDOM* (2003)
- Kempe, J.: Quantum random walks – an introductory overview. *Contemp. Phys.* **44**(4), 302–327 (2003)
- Kendon, V., Tregenna, B.: Decoherence can be useful in quantum walks. *Phys. Rev. A* **67**, 42–315 (2003)
- Kennings, A., Markov, I.L.: Smoothing max-terms and analytical minimization of half-perimeter wirelength. *VLSI Design* **14**(3), 229–237 (2002)
- Kennings, A., Vorwerk, K.: Force-directed methods for generic placement. *IEEE Trans. CAD* **25**(10), 2076–2087 (2006)
- Kent, K., Skorin-Kapov, D.: Population monotonic cost allocation on mst's. In: *Proc. of the 6th International Conference on Operational Research, Croatian Operational Research Society, Zagreb*, pp. 43–48 (1996)
- Kern, W., Paulusma, D.: Matching Games: The Least Core and the Nucleolus. *Math. Oper. Res.* **28**, 294–308 (2003)
- Kernighan, B.W., Lin, S.: An efficient heuristic procedure for partitioning graphs. *Bell Syst. Tech. J.* **49**(2), 291–307 (1970)
- Kesselman, A., Lotker, Z., Mansour, Y., Patt-Shamir, B., Schieber, B., Sviridenko, M.: Buffer overflow management in QoS switches. *SIAM J. Comput.* **33**(3), 563–583 (2004)
- Kesselman, A., Mansour, Y., van Stee, R.: Improved competitive guarantees for QoS buffering. In: Di Battista, G., Zwick, U. (eds.) *Algorithms – ESA 2003, Proceedings Eleventh Annual European Symposium. Lecture Notes in Computer Science*, vol. 2380, pp. 361–373. Springer, Berlin (2003)
- Kettner, L., Näher, S.: Two computational geometry libraries: LEDA and CGAL. In: Goodman, J.E., O'Rourke, J. (eds.) *Handbook of Discrete and Computational Geometry*, Chapter 65, pp. 1435–1463, 2nd edn. Chapman & Hall/CRC, Boca Raton (2004)
- Keutzer, K.: DAGON: Technology Binding and Local Optimizations by DAG Matching. In: *Proc. of the 24th Design Automation Conference* **28**(1), pp. 341–347. Miami Beach, June 1987
- Khachiyan, L.G.: A polynomial algorithm for linear programming. *Soviet Math. Doklady* **20**, 191–194 (1979)
- Khandekar, R., Rao, S., Vazirani, U.: Graph partitioning using single commodity flows. In: *STOC '06: Proceedings of the thirty-eighth annual ACM symposium on Theory of computing*, pp. 385–390. ACM Press, New York (2006)
- Khanna, S., Linial, N., Safra, S.: On the hardness of approximating the chromatic number. *Combinatorica* **20**, 393–415 (2000)
- Khargon, R., Roth, D., Servedio, R.A.: Efficiency versus convergence of boolean kernels for on-line learning algorithms. *J. Artif. Intell. Res.* **24**, 341–356 (2005)
- Kharitonov, M.: Cryptographic hardness of distribution-specific learning. In: *Proceedings of the 25th Annual Symposium on Theory of Computing*, pp. 372–381. (1993)
- Khot, S.: Hardness of Approximating the Shortest Vector Problem in Lattices. *J. ACM* **52**(5), 789–808 (2005). Preliminary version in FOCS 2004
- Khot, S.: Improved inapproximability results for max clique, chromatic number and approximate graph coloring. In: *Proceedings of the 42nd annual IEEE Symposium on Foundations of Computer Science* (2001) pp. 600–609.
- Khot, S.: On the power of unique 2-prover 1-round games. In: *Proceedings of the 34th Annual Symposium on the Theory of Computing (STOC)*, Montreal 2002, pp. 767–775
- Khot, S.: Ruling out PTAS for graph Min-Bisection, Densest Subgraph and Bipartite Clique. In: *45th Annual IEEE Symposium on Foundations of Computer Science*, pp. 136–145, Georgia Inst. of Technol., Atlanta 17–19 Oct. 2004
- Khot, S., Kindler, G., Mossel, E., O'Donnell, R.: Optimal inapproximability results for MAX CUT and other 2-variable CSPs? In: *Proceedings of the 45th Annual IEEE Symposium on Foundations of Computer Science (FOCS)*, Rome 2004, pp. 146–154
- Khot, S., Vishnoi, N.: The Unique Games Conjecture, Integrality Gap for Cut Problems and the Embeddability of Negative-Type Metrics into ℓ_1 . In: *Proceedings of the 46th IEEE Symposium on Foundations of Computer Science (FOCS)*, Pittsburgh, October 2005, pp. 53–62
- Khuller, S.: Approximation algorithms for finding highly connected subgraphs. In: Hochbaum, D. (ed.) *Approximation Algorithms for NP-Hard Problems*, Chapter 6, pp. 236–265. PWS Publishing Company, Boston (1996)
- Khuller, S., Kim, Y., Malekian, A.: Improved algorithms for data migration. In: *9th International Workshop on Approximation Algorithms for Combinatorial Optimization Problems* (2006)
- Khuller, S., Kim, Y., Wan, Y.-C.: Algorithms for data migration with cloning. *SIAM J. Comput.* **33**(2), 448–461 (2004)
- Khuller, S., Moss, A., Naor, J.: The budgeted maximum coverage problem. *Inform. Process. Lett.* **70**(1), 39–45 (1999)
- Khuller, S., Raghavachari, B.: Improved approximation algorithms for uniform connectivity problems. *J. Algorithms* **21**(2), 434–450 (1996)
- Khuller, S., Raghavachari, B., Young, N.: Low-degree spanning trees of small weight. *SIAM J. Comput.* **25**(2), 355–368 (1996)
- Khuller, S., Vishkin, U.: Biconnectivity approximations and graph carvings. *J. ACM* **41**(2), 214–235 (1994)
- Kida, T., Matsumoto, T., Shibata, Y., Takeda, M., Shinohara, A., Arikawa, S.: Collage systems: a unifying framework for compressed pattern matching. *Theor. Comput. Sci.* **298**(1), 253–272 (2003)
- Kida, T., Takeda, M., Shinohara, A., Miyazaki, M., Arikawa, S.: Multiple pattern matching in LZW compressed text. *J. Discret. Algorithms* **1**(1), 133–158 (2000)
- Kierstead, H.A.: The linearity of first-fit coloring of interval graphs. *SIAM J. Discret. Math.* **1**(4), 526–530 (1988)
- Kierstead, H.A., Trotter, W.T.: An extremal problem in recursive combinatorics. *Congr. Numerantium* **33**, 143–153 (1981)
- Kim, D.K., Kim, Y.A., Park, K.: Constructing suffix arrays for multi-dimensional matrices. In: *Proceedings of the 9th Symposium on Combinatorial Pattern Matching*, 1998, pp. 249–260

- Kim, D.K., Kim, Y.A., Park, K.: Generalizations of suffix arrays to multi-dimensional matrices. *Theor. Comput. Sci.* **302**, 401–416 (2003)
- Kim, D.K., Na, J.C., Kim, J.E., Park, K.: Efficient implementation of Rank and Select functions for succinct representation. In: *Proc. WEA 2005. LNCS*, vol. 3505, pp. 315–327 (2005)
- Kim, D.K., Park, K.: Linear-time construction of two-dimensional suffix trees. In: *Proceedings of the 26th International Colloquium on Automata, Languages, and Programming, 1999*, pp. 463–372
- Kim, D.K., Sim, J.S., Park, H., Park, K.: Constructing suffix arrays in linear time. *J. Discret. Algorithms* **3**, 126–142 (2005)
- Kim, J.-H.: On Brook's Theorem for sparse graphs. *Combin. Probab. Comput.* **4**, 97–132 (1995)
- Kim, J.W., Amir, A., Landau, G.M., Park, K.: Computing Similarity of Run-Length Encoded Strings with Affine Gap Penalty. In: *Proc. 12th Symposium on String Processing and Information Retrieval (SPIRE'05). LNCS*, vol. 3772, pp. 440–449 (2005)
- Kim, S.K.: Linear-time algorithm for finding a maximum-density segment of a sequence. *Inf. Process. Lett.* **86**, 339–342 (2003)
- Kim, Y.J., Govindan, R., Karp, B., Shenker, S.: Geographic Routing Made Practical. In: *Proceedings of the Second USENIX/ACM Symposium on Networked System Design and Implementation (NSDI 2005)*, Boston, Massachusetts, USA, May 2005
- Kim, Y.J., Govindan, R., Karp, B., Shenker, S.: Lazy cross-link removal for geographic routing. In: *Embedded Networked Sensor Systems*. ACM, New York (2006)
- Kim, Y.J., Govindan, R., Karp, B., Shenker, S.: On the Pitfalls of Geographic Face Routing. In: *Proc. of the ACM Joint Workshop on Foundations of Mobile Computing (DIALM-POMC)*, Cologne, Germany, September 2005
- Kimbrel, T., Sinha, R.K.: A probabilistic algorithm for verifying matrix products using $O(n^2)$ time and $\log_2 n + O(1)$ random bits. *Inf. Proc. Lett.* **45**(2), 107–110 (1993)
- Kinber, E.B., Stephan, F.: Language Learning from Texts: Mind-changes, Limited Memory, and Monotonicity. *Inform. Comput.* **123**(2), 224–241 (1995)
- King, V.: A simpler minimum spanning tree verification algorithm. *Algorithmica* **18**(2), 263–270 (1997)
- King, V.: Fully dynamic algorithms for maintaining all-pairs shortest paths and transitive closure in digraphs. In: *Proc. 40th IEEE Symposium on Foundations of Computer Science (FOCS'99)*, pp. 81–99. IEEE Computer Society, New York, USA (1999)
- King, V., Sagert, G.: A fully dynamic algorithm for maintaining the transitive closure. *J. Comp. Syst. Sci.* **65**(1), 150–167 (2002)
- King, V., Thorup, M.: A space saving trick for dynamic transitive closure and shortest path algorithms. In: *Proceedings of the 7th Annual International Conference of Computing and Combinatorics*, vol. 2108/2001, pp. 269–277. *Lect. Notes Comp. Sci. COCOON* Springer, Heidelberg (2001)
- King, V., Zhang, L., Zhou, Y.: On the complexity of distance-based evolutionary tree construction. In: *Proceedings of the 14th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA 2003)*, pp. 444–453 (2003)
- Kirkpatrick, S., Gelatt, C.D., Vecchi, M.P.: Optimization by Simulated Annealing. *Science* **4598**, 671–680 (1983)
- Kirousis, L., Stamatiou, Y., Zito, M.: The unsatisfiability threshold conjecture: the techniques behind upper bound improvements. In: A. Percus, G. Istrate, C. Moore (eds.) *Computational Complexity and Statistical Physics*, Santa Fe Institute Studies in the Sciences of Complexity, pp. 159–178. Oxford University Press, New York (2006)
- Kirousis, L.M., Kranakis, E., Vitányi, P.M.B.: Atomic multireader register. In: *Proc. Workshop Distributed Algorithms. Lect. Notes Comput. Sci*, vol 312, pp. 278–296. Springer, Berlin (1987)
- Kirousis, L.M., Spirakis, P., Tsigas, P.: Simple atomic snapshots: A linear complexity solution with unbounded time-stamps. *Inf. Process. Lett.* **58**, 47–53 (1996)
- Kis, T., Kopolnai, R.: Approximations and auctions for scheduling batches on related machines. *Operat. Res. Let.* **35**(1), 61–68 (2006)
- Kitaev, A.: Quantum measurements and the Abelian Stabilizer Problem. quant-ph/9511026, <http://arxiv.org/abs/quant-ph/9511026> (1995) and in: *Electronic Colloquium on Computational Complexity (ECCC) 3*, Report TR96-003, <http://eccc.hpi-web.de/eccc-reports/1995/TR96-003/> (1996)
- Kitaev, A.Y.: Quantum computations: algorithms and error correction. *Russ. Math. Surv.* **52**(6), 1191–1249 (1997)
- Kitts, B., Leblanc, B.: Optimal bidding on keyword auctions. *Electronic Markets*, Special issue: Innovative Auction Markets **14**(3), 186–201 (2004)
- Kivinen, J., Warmuth, M.K.: Exponentiated gradient versus gradient descent for linear predictors. *Inf. Comp.* **132**(1), 1–64 (1997)
- Kiwi, M., Magniez, F., Santha, M.: Approximate testing with error relative to input size. *J. CSS* **66**(2), 371–392 (2003)
- Kiwi, M., Magniez, F., Santha, M.: Exact and approximate testing/correcting of algebraic functions: A survey. *Theoretical Aspects Computer Science, LNCS* **2292**, 30–83 (2001)
- Klasing, R., Navarra, A., Papadopoulos, A., Perennes, S.: Adaptive broadcast consumption (ABC), a new heuristic and new bounds for the minimum energy broadcast routing problem. In: *Proceeding of the 3rd IFIP-TC6 international networking conference (NETWORKING)*, pp. 866–877 (2004)
- Kleene, S.C.: Representation of events in nerve sets. In: Shannon, C.E., McCarthy, J. (eds.) *Automata Studies*, pp. 3–40. Princeton Univ. Press, Princeton (1956)
- Klein, M., Ralya, T., Pollak, B., Odenza, R., Harbour, M.G.: *A Practitioner's Handbook for Real-Time Analysis: Guide to Rate Monotonic Analysis for Real-Time Systems*. Kluwer Academic Publishers, Boston (1993)
- Klein, P., Agrawal, A., Ravi, R., Rao, S.: Approximation through multicommodity flow. In: *Proceedings of the 31st IEEE Symposium on Foundations of Computer Science (FOCS)*, pp. 726–737 (1990)
- Klein, P., Plotkin, S.A., Rao, S.: Excluded minors, network decomposition, and multicommodity flow. In: *25th Annual ACM Symposium on Theory of Computing*, pp. 682–690, San Diego, 1993 May 16–18
- Klein, P., Ravi, R.: A nearly best-possible approximation algorithm for node-weighted Steiner trees. *J. Algorithms* **19**(1), 104–115 (1995)
- Klein, P.N.: A linear-time approximation scheme for TSP for planar weighted graphs. In: *Proceedings of the 46th IEEE Symposium on Foundations of Computer Science*, 2005, pp. 146–155
- Klein, P.N.: A subset spanner for planar graphs, with application to subset TSP. In: *Proceedings of the 38th ACM Symposium on Theory of Computing*, 2006, pp. 749–756
- Klein, P.N.: Multiple-source shortest paths in planar graphs. In: *Proceedings, 16th ACM-SIAM Symposium on Discrete Algorithms*, pp. 146–155 (2005)
- Klein, P.N., Krishnan, R., Raghavachari, B., Ravi, R.: Approximation algorithms for finding low-degree subgraphs. *Networks* **44**(3), 203–215 (2004)

- Klein, P.N., Plotkin, S.A., Stein, C., Tardos, É.: Faster approximation algorithms for the unit capacity concurrent flow problem with applications to routing and finding sparse cuts. *SIAM J. Comput.* **23**(3), 466–487 (1994)
- Klein, R., Kutz, M.: The Density of Iterated Plane Intersection Graphs and a Gap Result for Triangulations of Finite Point Sets. In: Proc. 22nd ACM Symp. Comp. Geom. (SoCG), Sedona (AZ), 2006, pp. 264–272
- Klein, S.T., Shapira, D.: Compressed pattern matching in jpeg images. In: Proceeding Prague Stringology conference, 2005, pp. 125–134
- Klein, S.T., Wiseman, Y.: Parallel huffman decoding with applications to jpeg files. *Comput. J.* **46**(5), 487–497 (2003)
- Kleinberg, J.: The small-world phenomenon: An algorithmic perspective. In: Proc. 32nd ACM Symposium on Theory of Computing (STOC 2000), 2000, pp. 163–170
- Kleinberg, J., Rabani, Y., Tardos, E.: Allocating Bandwidth for Bursty Connections. *SIAM J. Comput.* **30**, 191–217 (2000)
- Kleinberg, J., Rabani, Y., Tardos, É.: Fairness in routing and load balancing. In: Proceedings of the 40th Annual IEEE Symposium on Foundations of Computer Science, pp. 568–578, October 1999
- Kleinberg, J.M.: An Approximation Algorithm for the Disjoint Paths Problem in Even-Degree Planar Graphs. *Proc. of IEEE FOCS*, 2005, pp. 627–636
- Kleinberg, J.M.: Approximation algorithms for disjoint paths problems. Ph.D. thesis, MIT, Cambridge, MA (1996)
- Kleinberg, J.M.: The localization problem for mobile robots. In: Proceedings of the 35th Symposium on Foundations of Computer Science (FOCS'94), 1994, pp. 521–531
- Kleinrock, L., Silvester, J.: Optimum transmission radii for packet radio networks or why six is a magic number. In: Proceedings of the IEEE National Telecommunications Conference, pp. 431–435, Birmingham, 4–6 December 1978
- Kleitman, D.J., West, D.B.: Spanning trees with many leaves. *SIAM J. Discret. Math.* **4**, 99–106 (1991)
- Klimov, G.P.: Time-sharing service systems I. *Theory Probab. Appl.* **19**, 532–551 (1974)
- Klivans, A., O'Donnell, R., Servedio, R.: Learning intersections and thresholds of halfspaces. *J. Comput. Syst. Sci.* **68**(4), 808–840 (2004)
- Klivans, A., Servedio, R.: Learning DNF in time $2^{\tilde{O}(n^{1/3})}$. In: Proceedings of the 33rd Annual Symposium on Theory of Computing, 2001
- Klivans, A., Sherstov, A.: Cryptographic hardness results for learning intersections of halfspaces. In: Proceedings of the 47th Annual Symposium on Foundations of Computer Science, pp. 553–562, Berkeley, 22–24 October 2006
- Klivans, A.R., Servedio, R.A.: Toward attribute efficient learning of decision lists and parities. *J. Mach. Learn. Res.* **7**(Apr), 587–602 (2006)
- Klivans, A.R., Servedio, R.A.: Boosting and hard-core set construction. *Mach. Learn.* **51**, 217–238 (2003)
- Klivans, A.R., Servedio, R.A.: Learning DNF in Time $2^{\tilde{O}(n^{1/3})}$. *J. Comput. Syst. Sci.* **68**, 303–318 (2004)
- Kloks, T., Kratochvíl, J., Müller, H.: Computing the branchwidth of interval graphs. *Discret. Appl. Math.* **145**, 266–275 (2005)
- Kloks, T., Kratsch, D., Spinrad, J.: On treewidth and minimum fill-in of asteroidal triple-free graphs. *Theor. Comput. Sci.* **175**, 309–335 (1997)
- Knauer, C., Spillner, A.: A fixed-parameter algorithm for the minimum weight triangulation problem based on small graph separators. In: Proceedings of the 32nd International Workshop on Graph-Theoretic Concepts in Computer Science (WG). Lecture Notes in Computer Science, vol. 4271, pp. 49–57. Springer, New York (2006)
- Knauer, C., Spillner, A.: Fixed-parameter algorithms for finding crossing-free spanning trees in geometric graphs. Tech. Rep. 06–07, Department of Computer Science, Friedrich-Schiller-Universität Jena (2006)
- Kneis, J., Mölle, D., Richter, S., Rossmanith, P.: Algorithms Based on the Treewidth of Sparse Graphs. In: Proc. Workshop on Graph Theoretic Concepts in Computer Science. LNCS, vol. 3787, pp. 385–396. Springer, Berlin (2005)
- Knill, E.: Quantum computing with realistically noisy devices. *Nature* **434**, 39–44 (2005)
- Knill, E., Laflamme, R.: Theory of quantum error-correcting codes. *Phys. Rev. A* **55**, 900–911 (1997)
- Knill, E., Laflamme, R., Martinez, R., Negrevergne, C.: Benchmarking quantum computers: the five-qubit error correcting code. *Phys. Rev. Lett.* **86**, 5811–5814 (2001)
- Knödel, W.: A bin packing algorithm with complexity $O(n \log n)$ in the stochastic limit. In: Proc. 10th Symp. on Mathematical Foundations of Computer Science. LNCS, vol. 118, pp. 369–378. Springer, Berlin (1981)
- Knopp, S., Sanders, P., Schultes, D., Schulz, F., Wagner, D.: Computing many-to-many shortest paths using highway hierarchies. In: Proceedings 9th Workshop on Algorithm Engineering and Experiments (ALENEX), 2007
- Knuth, D.: Marriage Stables et leurs relations avec d'autres problèmes Combinatoires. Les Presses de l'Université de Montréal (1976)
- Knuth, D.: The Art of Computer Programming, vol. 2 : Seminumerical Algorithms, 2nd edn. Addison-Wesley Publishing Company, Reading (1981)
- Knuth, D., Plass, M.: Breaking paragraphs into lines. *Software-Practice Exp.* **11**, 1119–1184 (1981)
- Knuth, D.E.: Mariages Stables. Les Presses de L'Université de Montréal, Montréal (1976)
- Knuth, D.E.: Optimum binary search trees. *Acta Informatica* **1**, 14–25 (1971)
- Knuth, D.E.: Sorting and Searching. The Art of Computer Programming, vol. 3, 2nd edn. Addison-Wesley, Reading (1998)
- Knuth, D.E., Morris, J.H. Jr., Pratt, V.R.: Fast pattern matching in strings. *SIAM J. Comput.* **6**(1), 323–350 (1977)
- Ko, P., Aluru, S.: Optimal self-adjusting trees for dynamic string data in secondary storage. In: Symposium on String Processing and Information Retrieval (SPIRE). LNCS, vol. 4726, pp. 184–194. Springer, Berlin (2007)
- Ko, P., Aluru, S.: Space efficient linear time construction of suffix arrays. *J. Discret. Algorithms* **3**, 143–156 (2005)
- Köbler, J., Lindner, W.: Oracles in sP_2 are sufficient for exact learning. *Int. J. Found. Comput. Sci.* **11**(4), 615–632 (2000)
- Köbler, J., Schöning, U., Torán, J.: The Graph Isomorphism Problem: its structural complexity. Birkhäuser, Boston (1993)
- Köbler, J., Watanabe, O.: New Collapse Consequences of NP Having Small Circuits. *SIAM J. Comput.* **28**, 311–324 (1998)
- Kodama, C., Fujiyoshi, K.: Selected Sequence-Pair: An efficient decodable packing representation in linear time using Sequence-Pair. In: Proc. ASP-DAC 2003, pp. 331–337
- Koenig, S., Mudgal, A., Tovey, C.: A near-tight approximation lower bound and algorithm for the kidnapped robot problem. In:

- Proceedings of the 17th ACM-SIAM Symposium on Discrete Algorithms (SODA'06), 2006, pp. 133–142.
- Koetter, R., Vardy, A.: Algebraic soft-decision decoding of Reed–Solomon codes. *IEEE Trans. Inf. Theory*. **49**(11), 2809–2825 (2003)
- Koetter, R., Vontobel, P.: Graph covers and iterative decoding of finite-length codes. In: *Proc. 3rd International Symposium on Turbo Codes and Related Topics*, pp. 75–82, September 2003. Brest, France (2003)
- Köhler, E., Möhring, R., Schilling, H.: Fast point-to-point shortest path computations with arc-flags. In: *9th DIMACS Implementation Challenge Workshop: Shortest Paths*, DIMACS Center, Piscataway, NJ, 13–14 Nov 2006
- Kojevnikov, A., Kulikov, A.S.: A New Approach to Proving Upper Bounds for Max 2-SAT. In: *Proc. of the Seventeenth Annual ACM-SIAM Symposium on Discrete Algorithms*, pp. 11–17 (2006)
- Kojima, F., Unver, Ü.: Random paths to pairwise stability in many-to-many matching problems: A study on market equilibration. *Intern. J. Game Theor.* (2006)
- Kolchin, V.F., Sevastyanov, B.A., Chistyakov, V.P.: *Random Allocations*. Wiley, New York (1978)
- Kolliopoulos, S.G.: Edge Disjoint Paths and Unsplittable Flow. In: *Handbook on Approximation Algorithms and Metaheuristics*, Chapman & Hall/CRC Press Computer & Science Series, vol 13. Chapman Hall/CRC Press, May 2007
- Kolliopoulos, S.G., Stein, C.: Approximating Disjoint-Path Problems Using Greedy Algorithms and Packing Integer Programs. *Math. Program.* **A 99**, 63–87 (2004). Preliminary version in *Proc. of IPCO 1998*
- Kolliopoulos, S.G., Stein, C.: Finding Real-Valued Single-Source Shortest Paths in $o(n^3)$ Expected Time. *J. Algorithms* **28**, pp. 125–141 (1998)
- Kolliopoulos, S.G., Young, N.E.: Tight approximation results for general covering integer programs. In: *Proceedings of the forty-second annual IEEE Symposium on Foundations of Computer Science*, pp. 522–528 (2001)
- Kolpakov, R., Bana, G., Kucherov, G.: *mreps*: efficient and flexible detection of tandem repeats in DNA. *Nucl. Acids Res.* **31**(13), 3672–3678 (2003)
- Kolpakov, R., Kucherov, G.: Finding approximate repetitions under Hamming distance. *Theoret. Comput. Sci.* **33**(1), 135–156, (2003)
- Kolpakov, R., Kucherov, G.: Finding maximal repetitions in a word in linear time. In: *Proceedings of the 40th Symposium on Foundations of Computer Science*, pp. 596–604. IEEE Computer Society Press, Los Alamitos (1999)
- Kolpakov, R., Kucherov, G.: Identification of periodic structures in words. In: Berstel, J., Perrin, D. (eds.) *Applied combinatorics on words*. Encyclopedia of Mathematics and its Applications. Lothaire books, vol. 104, pp. 430–477. Cambridge University Press (2005)
- Komlós, J.: Linear verification for spanning trees. *Combinatorica* **5**(1), 57–65 (1985)
- Komlós, J., Szemerédi, E.: Limit Distributions for the existence of Hamilton cycles in a random graph. *Discret. Math.* **43**, 55–63 (1983)
- Könemann, J., Leonardi, S., Schäfer, G.: A group-strategyproof mechanism for Steiner forests. In: *Proc. of the 16th Annual ACM-SIAM Symposium on Discrete Algorithms*, pp. 612–619. Society for Industrial and Applied Mathematics, Philadelphia (2005)
- Könemann, J., Ravi, R.: A matter of degree: Improved approximation algorithms for degree-bounded minimum spanning trees. *SIAM J. Comput.* **31**(6), 1783–1793 (2002)
- Könemann, J., Ravi, R.: Primal-dual meets local search: Approximating MSTs with nonuniform degree bounds. *SIAM J. Comput.* **34**(3), 763–773 (2005)
- Kontogiannis, S., Panagopoulou, P.N., Spirakis, P.G.: Polynomial algorithms for approximating Nash equilibria of bimatrix games. In: *Proceedings of the 2nd Workshop on Internet and Network Economics (WINE'06)*, pp. 286–296. Patras, 15–17 December 2006
- Kontogiannis, S., Spirakis, P.G.: Efficient Algorithms for Constant Well Supported Approximate Equilibria in Bimatrix Games. In: *Proceedings of the 34th International Colloquium on Automata, Languages and Programming (ICALP'07, Track A: Algorithms and Complexity)*, Wrocław, 9–13 July 2007
- Kopelowitz, A.: Computation of the Kernels of Simple Games and the Nucleolus of n -person Games. RM-31, Math. Dept., The Hebrew University of Jerusalem (1967)
- Korach, E., Moran, S., Zaks, S.: The optimality of distributive constructions of minimum weight and degree restricted spanning trees in a complete network of processors. In: *Proc. 4th Symp. on Principles of Distributed Computing (PODC)*, pp. 277–286. ACM, USA (1985)
- Korach, E., Moran, S., Zaks, S.: Tight upper and lower bounds for some distributed algorithms for a complete network of processors. In: *Proc. 3rd Symp. on Principles of Distributed Computing (PODC)*, pp. 199–207. ACM, USA (1984)
- Korilis, Y.A., Lazar, A.A., Orda, A.: Achieving network optima using stackelberg routing strategies. *IEEE/ACM Trans. Netw.* **5**(1), 161–173 (1997)
- Korshunov, A.D.: Solution of a problem of P. Erdős and A. Rényi on Hamilton Cycles in non-oriented graphs. *Metody Diskr. Anal. Teoriya Upr. Syst. Sb. Trubov Novosibirsk* **31**, 17–56 (1977)
- Korte, B., Schrader, R.: On the existence of fast approximation schemes. *Nonlinear Program.* **4**, 415–437 (1980)
- Korupolu, M.R., Plaxton, C.G., Rajaraman, R.: Analysis of a local search heuristic for facility location problems. In: *SODA '98: Proceedings of the ninth annual ACM-SIAM symposium on Discrete algorithms*, pp. 1–10. San Francisco, USA; 25–26 January 1998
- Kosaraju, R., Manzini, G.: Compression of low entropy strings with Lempel–Ziv algorithms. *SIAM J. Comput.* **29**, 893–911 (1999)
- Kosaraju, S.R.: Efficient tree pattern matching. In: *Proc. 20th IEEE Foundations of Computer Science (FOCS)*, pp. 178–183. Triangle Park, USA (1989)
- Kosaraju, S.R.: Faster algorithms for the construction of parameterized suffix trees. In: *Proc. 36th Annual Symposium on Foundations of Computer Science (FOCS)*, 1995, pp. 631–637
- Koster, A.M.C.A., Bodlaender, H.L., van Hoesel, S.P.M.: Treewidth: Computational experiments. In: Broersma, H., Faigle, U., Hurink, J., Pickl, S. (eds.) *Electronic Notes in Discrete Mathematics*, vol. 8, pp. 54–57. Elsevier, Amsterdam (2001)
- Kothari, A., Parkes, D., Suri, S.: Approximately-strategyproof and tractable multi-unit auctions. *Decis. Support Syst.* **39**, 105–121 (2005)
- Kouider, M., Vestergaard, P.D.: Generalized connected domination in graphs. *Discret. Math. Theor. Comput. Sci. (DMTCS)* **8**, 57–64 (2006)

- Koutsoupias, E.: Weak adversaries for the k -server problem. In: Proc. 40th Symp. Foundations of Computer Science (FOCS), IEEE, pp. 444–449 (1999)
- Koutsoupias, E., Mavronicolas, M., Spirakis, P.: Approximate equilibria and ball fusion. *Theor. Comput. Syst.* **36**(6), 683–693 (2003)
- Koutsoupias, E., Papadimitriou, C.: On the k -server conjecture. In: Proc. 26th Symp. Theory of Computing (STOC), pp. 507–511. ACM (1994)
- Koutsoupias, E., Papadimitriou, C.: The 2-evader problem. *Inf. Proc. Lett.* **57**, 249–252 (1996)
- Koutsoupias, E., Papadimitriou, C.: Worst-case equilibria. In: 16th Symposium on Theoretical Aspects in Computer Science, Trier, Germany. LNCS, vol. 1563, pp. 404–413. Springer (1999)
- Koutsoupias, E., Papadimitriou, C.H.: Beyond competitive analysis. In: Proceeding 35th Annual Symposium on Foundations of Computer Science, pp. 394–400, Santa Fe, NM (1994)
- Koutsoupias, E., Papadimitriou, C.H.: Beyond competitive analysis. *SIAM J. Comput.* **30**(1), 300–317 (2000)
- Koutsoupias, E., Papadimitriou, C.H.: On the greedy algorithm for satisfiability. *Inform. Process. Lett.* **43**(1), 53–55 (1992)
- Koutsoupias, E., Papadimitriou, C.H.: On the k -server conjecture. *J. ACM* **42**(5), 971–983 (1995)
- Koutsoupias, E., Papadimitriou, C.H.: Worst-case equilibria. In: Proc. of the 16th Annual Symposium on Theoretical Aspects of Computer Science (STACS), pp. 404–413. Springer, Trier (1999)
- Koutsoupias, E., Taylor, D.S.: The CNN problem and other k -server variants. *Theor. Comput. Sci.* **324**, 347–359 (2004)
- Kovács, A.: Fast Algorithms for Two Scheduling Problems. Ph.D. thesis, Universität des Saarlandes (2007)
- Kovács, A.: Fast monotone 3-approximation algorithm for scheduling related machines. In: Proc. 13th Annual European Symposium on Algorithms (ESA), 2005, pp. 616–627
- Kowalski, D.R., Pelc, A.: Broadcasting in undirected ad hoc radio networks. *Distrib. Comput.* **18**(1), 43–57 (2005)
- Kowalski, D.R., Pelc, A.: Deterministic broadcasting time in radio networks of unknown topology. In: FOCS '02: Proceedings of the 43rd Symposium on Foundations of Computer Science, Washington, DC, USA, pp. 63–72. IEEE Computer Society (2002)
- Kozlov, M.K., Tarasov, S.P., Khachiyan, L.G.: Polynomial solvability of convex quadratic programming. *Sov. Math. Dokl.* **20**, 1108–1111 (1979)
- Kozma, G., Lotker, Z., Sharir, M., Stupp, G.: Geometrically aware communication in random wireless networks. In: Proceedings of the twenty-third annual ACM symposium on Principles of distributed computing, 25–28 July 2004, pp. 310–319
- Kranakis, E., Krizanc, D., Markou, E.: Mobile Agent Rendezvous in a Synchronous Torus. In: Proceedings of LATIN 2006, 7th Latin American Symposium. Valdivia, March 20–24 2006. Correa, J., Hevia, A., Kiwi, M. SVLNCS **3887**, 653–664 (2006)
- Kranakis, E., Krizanc, D., Pelc, A.: Fault-tolerant broadcasting in radio networks. *J. Algorithms* **39**, 47–67 (2001)
- Kranakis, E., Krizanc, D., Santoro, N., Sawchuk, C.: Mobile Agent Rendezvous Search Problem in the Ring. In: Proc. International Conference on Distributed Computing Systems (ICDCS), pp. 592–599. Providence, Rhode Island 19–22 May 2003
- Kranakis, E., Singh, H., Urrutia, J.: Compass Routing on Geometric Networks. In: Proc. 11th Canadian Conference on Computational Geometry, Vancouver, August 1999, pp 51–54
- Krarup, J., Pruzan, P.M.: Ingredients of locational analysis. In: Mirchandani, P., Francis, R. (eds.) *Discrete Location Theory*, pp. 1–54. Wiley, New York (1990)
- Krarup, J., Pruzan, P.M.: The simple plant location problem: Survey and synthesis. *Eur. J. Oper. Res.* **12**, 38–81 (1983)
- Kratsch, D.: Algorithms. In: Haynes, T., Hedetniemi, S., Slater, P. (eds.) *Domination in Graphs: Advanced Topics*, pp. 191–231. Marcel Dekker, New York (1998)
- Kratsch, D., Spinrad, J.: Minimal fill in $O(n^{2.69})$ time. *Discret. Math.* **306**(3), 366–371 (2006)
- Krauthgamer, R., Lee, J.R., Mendel, M., Naor, A.: Measured descent: A new embedding method for finite metrics. *Geom. Funct. Anal.* **15**(4), 839–858 (2005)
- Krauthgamer, R., Linial, N., Magen, A.: Metric embeddings—beyond one-dimensional distortion. *Discrete Comput. Geom.* **31**(3), 339–356 (2004)
- Krauthgamer, R., Rabani, Y.: Improved lower bounds for embeddings into l_1 . In: SODA '06: Proceedings of the seventeenth annual ACM-SIAM symposium on Discrete algorithm, pp. 1010–1017. ACM Press, New York (2006)
- Kribs, D., Laflamme, R., Poulin, D.: Unified and generalized approach to quantum error correction. *Phys. Rev. Lett.* **94**(4), 180501 (2005)
- Krishnan, P., Vitter, J.: Optimal prediction for prefetching in the worst case. *SIAM J. Comput.* **27**, 1617–1636 (1998)
- Krithivasan, K., Sitalakshmi, R.: Efficient Two-Dimensional Pattern Matching in The Presence of Errors. *Inf. Sci.* **43**, 169–184 (1987)
- Krivelevich, M., Vilenchik, D.: Solving random satisfiable 3CNF formulas in expected polynomial time. In: SODA '06: Proceedings of the 17th annual ACM-SIAM symposium on Discrete algorithm. ACM, Miami, Florida (2006)
- Krysta, P.: Greedy approximation via duality for packing, combinatorial auctions and routing. In: Proc. 30th Int. Conference on Mathematical Foundations of Comput. Sci. (MFCS). Lecture Notes in Computer Science, vol. 3618, pp. 615–627 (2005)
- Krysta, P., Kumar, V.S.A.: Approximation algorithms for minimum size 2-connectivity problems. In: Ferreira, A., Reichel, H. (eds.) STACS. Lecture Notes in Computer Science, vol. 2010, pp. 431–442. Springer, Berlin (2001)
- Krzmaric, D., Levopoulos, C., Nilsson, B.J.: Minimum Spanning Trees in d Dimensions. *Nord. J. Comput.* **6**(4), 446–461 (1999)
- Kubicka, E., Kubicki, G., McMorris, F.R.: An algorithm to find agreement subtrees. *J. Classific.* **12**, 91–100 (1995)
- Kuehlmann, A., Krohm, F.: Equivalence Checking Using Cuts and Heaps. In: ACM Design Automation Conference (1997)
- Kuehn, A.A., Hamburger, M.J.: A heuristic program for locating warehouses. *Management Sci.* **9**(4), 643–666 (1963)
- Kuhn, F., Moscibroda, T., Nieberg, T., Wattenhofer, R.: Fast deterministic distributed maximal independent set computation on growth-bounded graphs. In: Proc. of the 19th Int. Conference on Distributed Computing (DISC), pp. 273–287 (2005)
- Kuhn, F., Moscibroda, T., Nieberg, T., Wattenhofer, R.: Local approximation schemes for ad hoc and sensor networks. In: Proc. of the 3rd Joint Workshop on Foundations of Mobile Computing (DIALM-POMC), pp. 97–103 (2005)
- Kuhn, F., Moscibroda, T., Wattenhofer, R.: Initializing Newly Deployed Ad Hoc and Sensor Networks. In: Proc. of the 10th Annual International Conference on Mobile Computing and Networking (MOBICOM), pp. 260–274 (2004)
- Kuhn, F., Moscibroda, T., Wattenhofer, R.: On the locality of bounded growth. In: Proc. of the 24th ACM Symposium on Principles of Distributed Computing (PODC), pp. 60–68 (2005)

- Kuhn, F., Moscibroda, T., Wattenhofer, R.: The price of being near-sighted. In: Proc. of the 17th ACM-SIAM Symposium on Discrete Algorithms (SODA), pp. 980–989 (2006)
- Kuhn, F., Moscibroda, T., Wattenhofer, R.: What cannot be computed locally! In: Proc. of the 23rd ACM Symp. on Principles of Distributed Computing (PODC), pp. 300–309 (2004)
- Kuhn, F., Wattenhofer, R.: Constant-time distributed dominating set approximation. *Distrib. Comput.* **17**(4), 303–310 (2005)
- Kuhn, F., Wattenhofer, R.: Constant-Time Distributed Dominating Set Approximation. In: PODC, Boston, Massachusetts, USA, July 2003
- Kuhn, F., Wattenhofer, R., Zhang, Y., Zollinger, A.: Geometric ad-hoc routing: of theory and practice. In: Principles of Distributed Computing. ACM, New York (2003)
- Kuhn, F., Wattenhofer, R., Zhang, Y., Zollinger, A.: Geometric ad-hoc routing: Of theory and practice. In: Proceedings of the Twenty-Second ACM Symposium on the Principles of Distributed Computing, Boston, Massachusetts, July 2003, pp. 63–72
- Kuhn, F., Wattenhofer, R., Zollinger, A.: Ad-Hoc Networks Beyond Unit Disk Graphs. In: 1st ACM Joint Workshop on Foundations of Mobile Computing (DIALM-POMC), San Diego, California, USA, September 2003
- Kuhn, F., Wattenhofer, R., Zollinger, A.: Asymptotically Optimal Geometric Mobile Ad-Hoc Routing. In: Proc. 6th Int. Workshop on Discrete Algorithms and Methods for Mobile Computing and Communications (Dial-M), pp 24–33. ACM Press, New York (2002)
- Kuhn, F., Wattenhofer, R., Zollinger, A.: Worst-case optimal and average-case efficient geometric ad-hoc routing. In: Proceedings of the Fourth ACM International Symposium on Mobile Ad Hoc Networking and Computing, Annapolis, Maryland, June 2003, pp. 267–278
- Kuhn, H.: The Hungarian method for the assignment problem. *Naval Res. Logist. Quart.* **2**, 83–97 (1955)
- Kuhner, M., Felsenstein, J.: A simulation comparison of phylogeny algorithms under equal and unequal evolutionary rates. *Mol. Biol. Evol.* **11**(3), 459–468 (1994)
- Kulikov, A.: Automated Generation of Simplification Rules for SAT and MAXSAT. Proceedings of the Eighth International Conference on Theory and Applications of Satisfiability Testing (SAT 2005). Lecture Notes in Computer Science, vol. 3569, pp. 430–436. Springer, Berlin (2005)
- Kulla, F., Sanders, P.: Scalable parallel suffix array construction. In: Proc. 13th European PVM/MPI User's Group Meeting. LNCS, vol. 4192, pp. 22–29. Springer, Berlin/Heidelberg (2006)
- Kullmann, O.: New methods for 3-SAT decision and worst-case analysis. *Theor. Comp. Sci.* **223**(1–2), 1–72 (1999)
- Kullmann, O., Luckhardt, H.: Algorithms for SAT/TAUT decision based on various measures, preprint, 71 pages, <http://cs-svr1.swan.ac.uk/cslover/papers.html> (1998)
- Kumar, S., Lai, T.H., Balogh, J.: On k -coverage in a mostly sleeping sensor network. In: Proceedings of the 10th Annual International Conference on Mobile Computing and Networking (MobiCom'04), 26 Sept–1 Oct 2004
- Kumar, V.S.A., Marathe, M.V.: Improved results for stackelberg scheduling strategies. In: 29th International Colloquium, Automata, Languages and Programming. LNCS, pp. 776–787. Springer (2002)
- Kumar, V.S.A., Marathe, M.V., Parthasarathy, S., Srinivasan, A.: Algorithmic aspects of capacity in wireless networks. In: Proc. ACM SIGMETRICS 2005, pp. 133–144
- Kumar, V.S.A., Marathe, M.V., Parthasarathy, S., Srinivasan, A.: End-to-end packet-scheduling in wireless ad-hoc networks. In: Proc. ACM-SIAM symposium on Discrete algorithms 2004, pp. 1021–1030
- Kumar, V.S.A., Marathe, M.V., Parthasarathy, S., Srinivasan, A.: Scheduling on unrelated machines under tree-like precedence constraints. In: APPROX-RANDOM, pp. 146–157 (2005)
- Kuo, T.-W., Mok, A.K.: Load adjustment in adaptive real-time systems. In: Proceedings of the IEEE Real-Time Systems Symposium, pp. 160–171. San Antonio, December 1991
- Kuperberg, K., Kuperberg, W., Matousek, J., Valtr, P.: Almost Tiling the Plane with Ellipses. *Discrete Comput. Geom.* **22**(3), 367–375 (1999)
- Kurose, J.F., Simha, R.: A Microeconomic Approach to Optimal Resource Allocation in Distributed Computer Systems. *IEEE Trans. Comput.* **38**(5), 705–717 (1989)
- Kurtz, S.: Reducing the space requirements of suffix trees. *Softw. Pract. Exp.* **29**, 1149–1171 (1999)
- Kushilevitz, E.: A simple algorithm for learning $O(\log n)$ -term DNF. In: Proc. of 9th Annu. ACM Conf. on Comput. Learning Theory, pp 266–269, ACM Press, New York (1996). Journal version: *Inform. Process. Lett.* **61**(6), 289–292 (1997)
- Kushilevitz, E., Mansour, Y.: An $\Omega(d \log(n/d))$ lower bound for broadcast in radio networks. In: PODC, 1993, pp. 65–74
- Kushilevitz, E., Mansour, Y.: Learning decision trees using the Fourier spectrum. *SIAM J. Comput.* **22**(6), 1331–1348 (1993)
- Kusner, R.B., Sullivan, J.M.: On Distortion and Thickness of Knots. In: Whittington, S.G. et al. (eds.) *Topology and Geometry in Polymer Science*. IMA Volumes in Math. and its Applications, vol. 103, pp. 67–78. Springer, New York (1998)
- Kutin, S.: Quantum lower bound for the collision problem with small range. *Theor. Comput.* **1**, 29–36 (2005)
- Kutten, S., Patt-Shamir, B.: Time-Adaptive Self Stabilization. In: Proceedings of the 16th Annual ACM Symposium on Principles of Distributed Computing, pp. 149–158, Santa Barbara, August 1997
- Kutznellig, R.: Bipartite Random Graphs and Cuckoo Hashing. In: Proc. Fourth Colloquium on Mathematics and Computer Science, Nancy, France, 18–22 September 2006
- Kuttschebauch, T., Stok, L.: Congestion Aware Layout Driven Logic Synthesis. In: Proc. of the IEEE/ACM International Conference on Computer-Aided Design, 2001, pp. 216–223
- Kwon, W., Kim, T.: Optimal Voltage Allocation Techniques for Dynamically Variable Voltage Processors. *ACM Trans. Embed. Comput. Syst.* **4**(1), 211–230. New York, NY, USA (2005)
- Kyasanur, P., Vaidya, N.: Capacity of multi-channel wireless networks: Impact of number of channels and interfaces. In: Proc. ACM MOBICOM, pp. 43–57. 2005
- La Poutré, J.A.: Maintenance of 2- and 3-edge-connected components of graphs II. *SIAM J. Comput.* **29**(5), 1521–1549 (2000)
- La Poutré, J.A.: Maintenance of triconnected components of graphs. In: Proc. 19th Int. Colloquium on Automata, Languages and Programming. Lecture Notes in Computer Science, vol. 623, pp. 354–365. Springer, Berlin (1992)
- La Poutré, J.A., van Leeuwen, J., Overmars, M.H.: Maintenance of 2- and 3-connected components of graphs, part I: 2- and 3-edge-connected components. *Discret. Math.* **114**, 329–359 (1993)
- La Poutré, J.A., Westbrook, J.: Dynamic two-connectivity with backtracking. In: Proc. 5th ACM-SIAM Symp. Discrete Algorithms, 1994, pp. 204–212

- Ladner, R.E., Fix, J.D., LaMarca, A.: Cache performance analysis of traversals and random accesses. In: Proc. of 10th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA 1999), pp. 613–622 Society for Industrial and Applied Mathematics, Philadelphia (1999)
- Ladner, R.E., Fortna, R., B.-Nguyen, H.: A comparison of cache aware and cache oblivious static search trees using program instrumentation. In: Experimental Algorithmics. LNCS, vol. 2547, pp. 78–92. Springer, Berlin (2000)
- Laffont, J.-J., Robert, J.: Optimal auction with financially constrained buyers. *Econ. Lett.* **52**, 181–186 (1996)
- Lagergren, J.: Combining polynomial running time and fast convergence for the disk-covering method. *J. Comput. Syst. Sci.* **65**(3), 481–493 (2002)
- Laird, P.: Learning from good and bad data. Kluwer Academic Publishers (1988)
- Lake, J.A.: Reconstructing evolutionary trees from DNA and protein sequences: paralinear distances. *Proc. Natl. Acad. Sci. USA* **91**, 1455–1459 (1994)
- Lakshmanan, K.B., Thulasiraman, K., Comeau, M.A.: An efficient distributed protocol for finding shortest paths in networks with negative cycles. *IEEE Trans. Softw. Eng.* **15**, 639–644 (1989)
- Lam, T.W., Sung, W.K., Wong, S.S.: Improved approximate string matching using compressed suffix data structures. In: Proceedings of International Symposium on Algorithms and Computation, 2005, pp. 339–348
- Lamport, L.: A fast mutual exclusion algorithm. *ACM Trans. Comput. Syst.* **5**(1), 1–11 (1987)
- Lamport, L.: A new solution of Dijkstra's concurrent programming problem. *Commun. ACM* **17**(8), 453–455 (1974)
- Lamport, L.: How to make a multiprocessor computer that correctly executes multiprocess programs. *IEEE Trans. Comput.* **C-28**(9), 690 (1979)
- Lamport, L.: On interprocess communication. Part I: Basic formalism. *Distrib. Comput.* **1**, 77–85 (1986)
- Lamport, L.: On interprocess communication—Part I: Basic formalism, Part II: Algorithms. *Distrib. Comput.* **1**(2), 77–101 (1986)
- Lamport, L.: On interprocess communication, Part II: Algorithms. *Distrib. Comput.* **1**(2), 86–101 (1986)
- Lamport, L.: The implementation of reliable distributed multiprocess systems. *Comput. Netw.* **2**, 95–114 (1978)
- Lamport, L.: The mutual exclusion problem. Part I: A theory of interprocess communication. *J. ACM* **33**(2), 313–326 (1986)
- Lamport, L.: The Mutual Exclusion Problem: Part II-Statement and Solutions. *J. ACM* **33**(2), 327–348 (1986)
- Lamport, L.: The Part-Time parliament. *ACM Trans. Comput. Syst.* **16**(2), 133–169 (1998)
- Lamport, L.: Time, clocks, and the ordering of events in a distributed system. *Commun. ACM* **21**(7), 558–565 (1978)
- Lamport, L., Shostak, R., Pease, M.: The Byzantine generals problem. *ACM Trans. Program. Lang. Syst.* **4**(3), 382–401 (1982)
- Lancia, G.: The phasing of heterozygous traits: Algorithms and complexity. *Comput. Math. Appl.* **55**(5), 960–969 (2008)
- Lanckriet, G.R.G., Cristianini, N., Bartlett, P., El Ghaoui, L., Jordan, M.I.: Learning the Kernel Matrix with Semidefinite Programming. *J. Mach. Learn. Res.* **5**, 27–72 (2004)
- Lanctot, J.K.: Li, M., Ma, B., Wang, S., Zhang, L.: Distinguishing String Search Problems. *Inf. Comput.* **185**, 41–55 (2003)
- Lanctot, K., Li, M., Ma, B., Wang, S., Zhang, L.: Distinguishing string selection problems. In: Proc. 10th ACM-SIAM Symp. on Discrete Algorithms, pp. 633–642. (1999)
- Landau, G., Vishkin, U.: Fast parallel and serial approximate string matching. *J. Algorithms* **10**, 157–169 (1989)
- Landau, G.M., Myers, E.W., Schmidt, J.P.: Incremental string comparison. *SIAM J. Comput.* **27**(2), 557–582 (1998)
- Landau, G.M., Schmidt, J.P., Sokol, D.: An algorithm for approximate tandem repeats. *J. Comput. Biol.* **8**, 1–18 (2001)
- Landau, G.M., Vishkin, U.: Fast string matching with k differences. *J. Comput. Syst. Sci.* **37**(1), 63–78 (1988)
- Landau, G.M., Vishkin, U.: Pattern matching in a digitized image. *Algorithmica* **12**(3/4), 375–408 (1994)
- Lang, K., Rao, S.: Finding near-optimal cuts: an empirical evaluation. In: SODA '93: Proceedings of the fourth annual ACM-SIAM Symposium on Discrete algorithms, pp. 212–221. Society for Industrial and Applied Mathematics, Philadelphia (1993)
- Lange, S., Grieser, G., Zeugmann, T.: Inductive inference of approximations for recursive concepts. *Theor. Comput. Sci.* **348**(1), 15–40 (2005)
- Langville, A.N., Meyer, C.D.: Deeper Inside PageRank. *Internet Math.* **1**(3), 335–380 (2004)
- Larsson, N.J., Sadakane, K.: Faster suffix sorting. *Theor. Comput. Sci.* **387**, 258–272 (2006)
- Lauritzen, S.J., Spiegelhalter, D.J.: Local computations with probabilities on graphical structures and their application to expert systems. *J. Royal Stat. Soc. Ser. B (Methodological)* **50**, 157–224 (1988)
- Lauther, U.: A Min-Cut Placement Algorithm for General Cell Assemblies Based on a Graph Representation. *J. Digital Syst.* **4**, 21–34 (1980)
- Lauther, U.: An experimental evaluation of point-to-point shortest path calculation on roadnetworks with precalculated edge-flags. In: 9th DIMACS Implementation Challenge Workshop: Shortest Paths, DIMACS Center, Piscataway, NJ, 13–14 Nov 2006
- Lavi, R., Mu'alem, A., Nisan, N.: Towards a characterization of truthful combinatorial auctions. In: Proc. of the 44rd Annual Symposium on Foundations of Computer Science (FOCS'03), 2003
- Lavi, R., Nisan, N.: Competitive analysis of incentive compatible online auctions. *Theor. Comput. Sci.* **310**, 159–180 (2004)
- Lavi, R., Nisan, N.: Online ascending auctions for gradually expiring items. In: Proc. of the 16th Symposium on Discrete Algorithms (SODA), 2005
- Lavi, R., Swamy, C.: Truthful and near-optimal mechanism design via linear programming. In: Proc. 46th Annual Symposium on Foundations of Computer Science (FOCS), 2005, pp. 595–604
- Lavi, R., Swamy, C.: Truthful mechanism design for multi-dimensional scheduling via cycle monotonicity (2007). Working paper
- Lawler, E.L.: Combinatorial Optimization: Networks and Matroids. Holt, Rinehart and Winston, New York (1976)
- Lawler, E.L.: Fast approximation algorithms for knapsack problems. *Math. Oper. Res.* **4**, 339–356 (1979)
- Lawler, E.L., Lenstra, J.K., Rinnooy Kan, A.H.G., Shmoys, D.B. (eds.): The Traveling Salesman Problem. A Guided Tour of Combinatorial Optimization. Wiley, Chichester (1985)
- Lawler, E.L., Lenstra, J.K., Rinnooy Kan, A.H.G., Shmoys, D.B.: Sequencing and Scheduling: Algorithms and Complexity. In: Graves, S.C., Rinnooy Kan, A.H.G., Zipkin, P.H. (eds.) Logistics of Production and Inventory. Handbooks in Operations Research and Management Science, vol. 4, pp. 445–522. North-Holland, Amsterdam (1993)

- Lawler, E.L., Levitt, K.N., Turner, J.: Module clustering to minimize delay in digital networks. *IEEE Trans. Comput.* **C-18**, 47–57 (1966)
- Lawrence, C., Reilly, A.: An expectation maximization (EM) algorithm for the identification and characterization of common sites in unaligned biopolymer sequences. *Proteins* **7**, 41–51 (1990)
- Le Gall, F.: Exponential separation of quantum and classical on-line space complexity. In: *Proc. ACM Symp. on Parallel Algorithms and Architectures (SPAA)*, Cambridge, 30 July–1 August (2006)
- LeCun, Y., Jackel, L.D., Bottou, L., Brunot, A., Cortes, C., Denker, J.S., Drucker, H., Guyon, I., Muller, U.A., Sackinger, E., Simard, P., Vapnik, V.: Comparison of learning algorithms for handwritten digit recognition. In: Fogelman-Soulie F., Gallinari P. (eds.), *Proceedings International Conference on Artificial Neural Networks (ICANN)* **2**, 5360. EC2 (1995)
- Lee, A.W.: Diamonds are a plane graph's best friend. Master's thesis, School of Computer Science, Carleton University, Ottawa (2004)
- Lee, C.-M., Hung, L.-J., Chang, M.-S., Tang, C.-Y.: An improved algorithm for the maximum agreement subtree problem. *BIBE*, p. 533 (2004)
- Lee, C.C., Lee, D.T.: A simple on-line packing algorithm. *J. ACM* **32**, 562–572 (1985)
- Lee, C.C., Lee, D.T.: Robust on-line bin packing algorithms. Tech. Rep. Department of Electrical Engineering and Computer Science, Northwestern University, Evanston, IL (1987)
- Lee, J.R.: Volume distortion for subsets of Euclidean spaces. In: *Proceedings of the 22nd Annual Symposium on Computational Geometry*, ACM, Sedona, AZ 2006, pp. 207–216.
- Lee, S., Bhattacharjee, B., Banerjee, S.: Efficient geographic routing in multihop wireless networks. In *MobiHoc '05: Proceedings of the 6th ACM international symposium on Mobile ad hoc networking and computing*, pp. 230–241. ACM, New York (2005)
- Lehman, E., Watanabe, Y., Grodstein, J., Harkness, H.: Logic Decomposition during Technology Mapping. *IEEE Trans. Comput.-Aided Des. Integr. Circuits Syst.* **16**(8), 813–834, (1997)
- Lehmann, B., Lehmann, D., Nisan, N.: Combinatorial auctions with decreasing marginal utilities. *Games Econom. Behav.* **55**(2), 270–296 (2006)
- Lehmann, D., O'Callaghan, L., Shoham, Y.: Truth revelation in approximately efficient combinatorial auctions. *J. ACM* **49**(5), 577–602 (2002)
- Lehmann, D.J., O'Callaghan, L.I., Shoham, Y.: Truth revelation in approximately efficient combinatorial auctions. In: *Proc. 1st ACM Conference on Electronic Commerce (EC)*, pp. 96–102 (1999)
- Lehoczky, J., Sha, L., Ding, Y.: The rate monotonic scheduling algorithm: Exact characterization and average case behavior. In: *Proceedings of the Real-Time Systems Symposium* – 1989, Santa Monica, December 1989. IEEE Computer Society Press, pp. 166–171
- Leighton, F.T.: Introduction to Parallel Algorithms and Architectures: Arrays – Trees – Hypercubes. Morgan Kaufmann, San Mateo (1992)
- Leighton, F.T., Maggs, B.M., Rao, S.B.: Packet routing and job-shop scheduling in $O(\text{congestion} + \text{dilation})$ steps. *Combinatorica* **14**(2), 167–180 (1994)
- Leighton, F.T., Maggs, B.M., Richa, A.W.: Fast algorithms for finding $O(\text{congestion} + \text{dilation})$ packet routing schedules. *Combinatorica* **19**(3), 375–401 (1999)
- Leighton, F.T., Makedon, F., Plotkin, S.A., Stein, C., Tardos, É., Tragoudas, S.: Fast approximation algorithms for multicommodity flow problems. *J. Comp. Syst. Sci.* **50**(2), 228–243 (1995)
- Leighton, T., Rao, S.: An approximate max-flow min-cut theorem for uniform multicommodity flow problems with applications to approximation algorithms. In: *Proceedings of the 29th Annual Symposium on Foundations of Computer Science*, pp. 422–431, IEEE Computer Society (1988)
- Leighton, T., Rao, S.: Multicommodity max-flow min-cut theorems and their use in designing approximation algorithms. *J. ACM* **46**(6), 787–832, 29th FOCS, 1988 (1999)
- Leighton, T., Shor, P.: Tight bounds for minimax grid matching with applications to the average case analysis of algorithms. *Combinatorica* **9** 161–187 (1989)
- Leiserson, C.E., Saxe, J.B.: Retiming synchronous circuitry. *Algorithmica* **6**, 5–35 (1991)
- Lemke, C.E., Howson, J.T.: Equilibrium points of bimatrix games. *J. Soc. Indust. Appl. Math.* **12**, 413–423 (1964)
- Lempel, A., Even, S., Cederbaum, I.: An algorithm for planarity testing of graphs. In: Rosentieh, P. (ed.) *Theory of Graphs: International Symposium*. New York, Gordon and Breach, pp. 215–232 (1967)
- Lenstra, A., Lenstra, H. (eds.): *The Development of the Number Field Sieve*. Lecture Notes in Mathematics, vol. 1544. Springer (1993)
- Lenstra, A.K., Lenstra, H.W. Jr., Manasse, M.S., Pollard, J.M.: The number field sieve. In: *Proceedings of the Twenty Second Annual ACM Symposium on Theory of Computing*, Baltimore, Maryland, 14–16 May 1990, pp. 564–572
- Lenstra, A.K., Lenstra, Jr., H.W., Lovász, L.: Factoring polynomials with rational coefficients. *Math Ann.* **261**, 513–534 (1982)
- Lenstra, J.K., Shmoys, D., Tardos, E.: Approximation algorithms for scheduling unrelated parallel machines. *Math. Program.* **46**(3A), 259–271 (1990)
- Lenstra Jr, H.W.: Solving the Pell equation. *Not. Am. Math. Soc.* **49**, 182–192 (2002)
- Lenstra Jr, H.W.: Integer programming with a fixed number of variables. *Math. Oper. Res.* **8**(4), 538–548 (1983)
- Leonardi, S.: A simpler proof of preemptive flow-time approximation. *Approximation and On-line Algorithms*. In: Bampis, E. (ed.) *Lecture Notes in Computer Science*. Springer, Berlin (2003)
- Leonardi, S.: On-line network routing. In: Fiat, A., Woeginger, G. (eds.) *Online Algorithms – The State of the Art*. Chap. 11, pp. 242–267. Springer, Heidelberg (1998)
- Leonardi, S., Raz, D.: Approximating total flow time on parallel machines. In: *Proceedings of the Annual ACM Symposium on the Theory of Computing STOC*, 1997, pp. 110–119
- Leonardi, S., Vitaletti, A.: Randomized lower bounds for online path coloring. In: *Proc. of the second International Workshop on Randomization and Approximation Techniques in Computer Science (RANDOM'98)*, pp. 232–247. (1998)
- Leone, P., Rolim, J., Nikolettseas, S.: An Adaptive Blind Algorithm for Energy Balanced Data Propagation in Wireless Sensor Networks. In: *Proc. of the IEEE International Conference on Distributed Computing in Sensor Networks (DCOSS)*. Lecture Notes in Computer Science (LNCS), vol. 3267, pp. 35–48. Springer (2005)
- Leong, B., Liskov, B., Morris, R.: Geographic Routing without Planarization. In: *3rd Symposium on Networked Systems Design & Implementation (NSDI)*, San Jose, California, USA, May 2006
- Leong, B., Mitra, S., Liskov, B.: Path Vector Face Routing: Geographic Routing with Local Face Information. In: *13th IEEE Interna-*

- tional Conference on Network Protocols (ICNP), Boston, Massachusetts, USA, November 2005
- Leong, T., Shor, P., Stein, C.: Implementation of a combinatorial multicommodity flow algorithm. In: Johnson, D.S., McGeoch, C.C. (eds.) *Network flows and matching*. DIMACS Series in Discrete Mathematics and Theoretical Computer Science, vol. 12, pp. 387–406. AMS, Providence (1991)
- Leung, J., Whitehead, J.: On the complexity of fixed-priority scheduling of periodic, real-time tasks. *Perform. Eval.* **2**, 237–250 (1982)
- Leutenegger, S.T., Lopez, M.A., Edington, J.: STR: A simple and efficient algorithm for R-tree packing. In: *Proc. 13th IEEE International Conference on Data Engineering*, 1997, pp. 497–506
- Levcopoulos, C., Krznaric, D.: Quasi-Greedy Triangulations Approximating the Minimum Weight Triangulation. *J. Algorithms* **27**(2), 303–338 (1998)
- Levcopoulos, C., Krznaric, D.: The Greedy Triangulation can be Computed from the Delaunay Triangulation in Linear Time. *Comput. Geom.* **14**(4), 197–220 (1999)
- Levcopoulos, C., Lingas, A.: On Approximation Behavior of the Greedy Triangulation for Convex Polygons. *Algorithmica* **2**, 15–193 (1987)
- Levcopoulos, C., Lingas, A.: There are planar graphs almost as good as the complete graphs and almost as cheap as minimum spanning trees. *Algorithmica* **8**(3), 251–256 (1992)
- Levcopoulos, C., Narasimhan, G., Smid, M.: Improved algorithms for constructing fault-tolerant spanners. *Algorithmica* **32**, 144–156 (2002)
- Levenshtein, V.I.: Binary codes capable of correcting deletions, insertions, and reversals. *Doklady Akademii Nauk SSSR* **163**(4):845–848 (1965) (Russian). *Soviet Physics Doklady* **10**(8), 707–710 (1966) (English translation)
- Levin, L.A.: Universal enumeration problems. *Probl. Pereda. Inf.* **9**(3), 115–116 (1973)
- Levin, L.A.: Universal Search Problems. *Проблемы передачи информации* **9**(3), 265–266, (1973). In Russian. English translation in: Trakhtenbrot, B.A.: *A Survey of Russian Approaches to Perebor (Brute-force Search) Algorithms*. *Annals of the History of Computing* **6**(4), 384–400 (1984)
- Li, B., Golin, M., Italiano, G., Deng, X., Sohaby, K.: On the optimal placement of web proxies in the internet. In: *Proceedings of the 18th Annual Joint Conference of the IEEE Computer and Communications Societies (INFOCOM)*, pp. 1282–1290. IEEE Computer Society, Los Alamitos (1999)
- Li, C., Pion, S., Yap, C.K.: Recent progress in Exact Geometric Computation. *J. Log. Algebr. Program.* **64**(1), 85–111 (2004)
- Li, J., Jannotti, J., De Couto, D.S.J., Karger, D.R., Morris, R.: A scalable location service for geographic ad hoc routing. In: *Proceedings of the Sixth International Conference on Mobile Computing and Networking*, Boston, Massachusetts, Aug 2000, pp. 120–130
- Li, L., Halpern, J.Y., Bahl, P., Wang, Y.-M., Wattenhofer, R.: Analysis of a cone-based distributed topology control algorithms for wireless multi-hop networks. In: *PODC: ACM Symposium on Principle of Distributed Computing*, Newport, 26–29 August 2001
- Li, M., Chen, X., Li, X., Ma, B., Vitányi, P.M.B.: The similarity metric. *IEEE Trans. Inf. Theory* **50**, 3250–3264 (2004)
- Li, M., Lu, X.C., Peng, W.: Dynamic delaunay triangulation for wireless ad hoc network. In: *Proceedings of the Sixth International Workshop on Advanced Parallel Processing Technologies*, Hong Kong, China, Oct 2005, pp. 382–389
- Li, M., Ma, B., Wang, L.: Finding similar regions in many sequences. *J. Comput. Syst. Sci.* (1999)
- Li, M., Ma, B., Wang, L.: Finding similar regions in many strings. In: *Proceedings of the Thirty-first Annual ACM Symposium on Theory of Computing*, pp. 473–482. Atlanta (1999)
- Li, M., Ma, B., Wang, L.: On the Closest String and Substring Problems. *J. ACM* **49**(2), 157–171 (2002)
- Li, M., Tromp, J., Vitányi, P.M.B.: How to share concurrent wait-free variables. *J. ACM* **43**(4), 723–746 (1996) (Preliminary version: Li, M., Vitányi, P.M.B. A very simple construction for atomic multi-writer register. *Tech. Rept. TR-01-87*, Computer Science Dept., Harvard University, Nov. 1987)
- Li, M., Tromp, J., Zhang, L.: Some Notes on the Nearest Neighbour Interchange Distance. *J. Theor. Biol.* **26**(182), 463–467 (1996)
- Li, M., Yao, A.C., Yao, F.F.: Discrete and Continuous Min-Energy Schedules for Variable Voltage Processors, *Proceedings of the National Academy of Sciences USA*, 103, pp. 3983–3987. National Academy of Science of the United States of America, Washington, DC, USA (2005)
- Li, M., Yao, F.F.: An Efficient Algorithm for Computing Optimal Discrete Voltage Schedules. *SIAM J. Comput.* **35**(3), 658–671. Society for Industrial and Applied Mathematics, Philadelphia, PA, USA (2005)
- Li, N., Hou, J.C., Sha, L.: Design and analysis of a MST-based distributed topology control algorithm for wireless ad-hoc networks. In: *22nd Annual Joint Conference Of The IEEE Computer And Communications Societies (INFOCOM 2003)*, vol. 3, 1–3 April 2003, pp. 1702–1712
- Li, Q., Rus, D.: Communication in disconnected ad hoc networks using message relay. *Journal of Parallel and Distributed Computing (JPDC)* **63**(1), 75–86 (2003). Special Issue on Wireless and Mobile Ad-hoc Networking and Computing, edited by A Boukerche
- Li, W.-H., Gu, X.: The size distribution of insertions and deletions in human and rodent pseudogenes suggests the logarithmic gap penalty for sequence alignment. *J. Mol. Evol.* **40**, 464–473 (1995)
- Li, X.-Y.: Approximate MST for UDG locally. In: *COCOON, Big Sky*, 25–28 July 2003
- Li, X.-Y., Wan, P.-J.: Theoretically good distributed CDMA/OVSF code assignment for wireless ad hoc networks. In: *Proceedings of 11th International Computing and Combinatorics Conference (COCOON)*, Kunming, 16–19 August 2005
- Li, X.-Y., Wan, P.-J., Wang, Y., Frieder, O.: Sparse power efficient topology for wireless networks. In: *IEEE Hawaii Int. Conf. on System Sciences (HICSS)*, Big Island, 7–10 January 2002
- Li, X.-Y., Wang, Y.: Efficient construction of low weighted bounded degree planar spanner. *Int. J. Comput. Geom. Appl.* **14**, 69–84 (2004)
- Li, X.-Y., Wang, Y., Song, W.-Z., Wan, P.-J., Frieder, O.: Localized minimum spanning tree and its applications in wireless ad hoc networks. In: *IEEE INFOCOM, Hong Kong*, 7–11 March 2004
- Li, X.Y.: Applications of computational geometry in wireless ad hoc networks. In: Cheng, X.Z., Huang, X., Du, D.Z. (eds.) *Ad Hoc Wireless Networking*, pp. 197–264. Kluwer, Dordrecht (2003)
- Li, X.Y., Calinescu, G., Wan, P.J.: Distributed Construction of a Planar Spanner and Routing for Ad Hoc Wireless Networks. In: *IEEE INFOCOM 2002*, New York, NY, 23–27 June 2002
- Li, X.Y., Teng, S.H., Üngör, A.: Biting: Advancing front meets sphere packing. *Int. J. Num. Methods Eng.* **49**(1–2), 61–81 (2000)
- Li, W.-H.: *Molecular Evolution*. Sinauer, Sunderland (1997)

- Libman, L., Orda, A.: Atomic Resource Sharing in Noncooperative Networks. *Telecommun. Syst.* **17**(4), 385–409 (2001)
- Liefke, H., Suciu, D.: XMILL: An efficient compressor for XML data. In: *Proceedings of the 2000 ACM SIGMOD Int. Conf. on Management of Data*, pp. 153–164. ACM, New York, USA (2000)
- Lifshits, Y., Mozes, S., Weimann, O., Ziv-Ukelson, M.: Speeding up HMM decoding and training by exploiting sequence repetitions. *Algorithmica* to appear doi:10.1007/s00453-007-9128-0
- Lillis, J., Cheng, C.-K., Lin, T.-T.: Optimal and efficient buffer insertion and wire sizing. In: *Proc. of Custom Integrated Circuits Conf.*, pp. 259–262. IEEE Press, Piscataway (1995)
- Lin, G.H., Xue, G.: Signed genome rearrangements by reversals and transpositions: models and approximations. *Theor. Comput. Sci.* **259**, 513–531 (2001)
- Lin, J.-H., Vitter, J.: ϵ -approximations with minimum packing constraint violation. In: *24th ACM STOC*, pp. 771–782 (1992)
- Lin, Y.-L., Huang, X., Jiang, T., Chao, K.-M.: MAVG: locating non-overlapping maximum average segments in a given sequence. *Bioinformatics* **19**, 151–152 (2003)
- Lin, Y.-L., Jiang, T., Chao, K.-M.: Efficient algorithms for locating the length-constrained heaviest segments with applications to biomolecular sequence analysis. *J. Comput. Syst. Sci.* **65**, 570–586 (2002)
- Lin, Y.L., Skiena, S.: Algorithms for Square Roots of Graphs. *SIAM J. Discret. Math.* **8**, 99–118 (1995)
- Lingas, A.: Heuristics for minimum edge length rectangular partitions of rectilinear figures. In: *Proc. 6th GI-Conference*, Dortmund, January 1983. Springer
- Lingas, A.: Subexponential-time algorithms for minimum weight triangulations and related problems. In: *Proceedings 10th Canadian Conference on Computational Geometry (CCCG)*, McGill University, Montreal, Quebec, 10–12 August 1998
- Lingas, A., Pinter, R.Y., Rivest, R.L., Shamir, A.: Minimum edge length partitioning of rectilinear polygons. In: *Proc. 20th Allerton Conf. on Comm. Control and Comput.*, Illinois (1982)
- Linial, N.: Finite metric-spaces—combinatorics, geometry and algorithms. In: *Proceedings of the International Congress of Mathematicians*, vol. III, Beijing, 2002, pp. 573–586. Higher Ed. Press, Beijing (2002)
- Linial, N.: Locality in distributed graph algorithms. *SIAM J. Comput.* **21**(1), 193–201 (1992)
- Linial, N., London, E., Rabinovich, Y.: The geometry of graphs and some of its algorithmic applications. *Combinatorica* **15**(2), 215–245 (1995). Also in *Proc. 35th FOCS*, pp. 577–591 (1994)
- Linial, N., London, E., Rabinovich, Y.: The geometry of graphs and some of its algorithmic applications. In: *IEEE Symposium on Foundations of Computer Science*, pp. 577–591 (1994)
- Linial, N., Mansour, Y., Nisan, N.: Constant depth circuits, Fourier transform and learnability. *J. ACM* **40**(3), 607–620 (1993)
- Lipton, R., Rose, D., Tarjan, R.E.: Generalized nested dissection. *SIAM J. Numer. Anal.* **16**, 346–358 (1979)
- Lipton, R.J., Markakis, E., Mehta, A.: Playing large games using simple strategies. In: *Proceedings of the 4th ACM Conference on Electronic Commerce (EC'03)*, pp. 36–41. San Diego, 9–13 June 2003
- Lipton, R.J., Tarjan, R.E.: A separator theorem for planar graphs. *SIAM J. Appl. Math.* **36**(2), 177–189 (1979)
- Lipton, R.J., Tarjan, R.E.: Applications of a planar separator theorem. *SIAM J. Comput.* **9**(3), 615–627 (1980)
- Liskov, B.: Practical uses of synchronized clocks in distributed systems. *Distrib. Comput.* **6**, 211–219 (1993). Invited talk at the 9th Annual ACM Symposium on Principles of Distributed Computing, Quebec City 22–24 August 1990
- Littlestone, N.: Learning quickly when irrelevant attributes abound: A new linear threshold algorithm. *Mach. Learn.* **2**(4), 285–318 (1988)
- Littlestone, N., Warmuth, M.K.: The weighted majority algorithm. *Inf. Comp.* **108**(2), 212–261 (1994)
- Liu, C., Layland, J.: Scheduling algorithms for multiprogramming in a hard real-time environment. *J. ACM* **20**, 46–61 (1973)
- Liu, D., Prabhakaran, M.: On randomized broadcasting and gossiping in radio networks. In: *Proc. 8th Annual International Computing Combinatorics Conference*, pp. 340–349, Singapore (2002)
- Liu, H.-F., Chao, K.-M.: Algorithms for Finding the Weight-Constrained k Longest Paths in a Tree and the Length-Constrained k Maximum-Sum Segments of a Sequence. *Theoret. Comput. Sci.* in revision (2008)
- Liu, H.-F., Chao, K.-M.: On locating disjoint segments with maximum sum of densities. In: *Proceedings of the 17th Annual International Symposium on Algorithms and Computation*. LNCS, vol. 4288, pp. 300–307 (2006)
- Liu, H., Wong, D.F.: Network-Flow-based Multiway Partitioning with Area and Pin Constraints. *IEEE Trans. CAD Integr. Circuits Syst.* **17**(1), 50–59 (1998)
- Lo, H.-K.: Classical communication cost in distributed quantum information processing – a generalization of quantum communication complexity. *Phys. Rev. A* **62**, 012313 (2000)
- Lo, H.-K., Chau, H.F.: Unconditional security of quantum key distribution over arbitrarily long distances. *Science* **283**, 2050–2056 (1999)
- Lo, W.-K., Hadzilacos, V.: Using failure detectors to solve consensus in asynchronous shared memory systems. In: *Proceedings of the 8th International Workshop on Distributed Algorithms*, LNCS 857, pp. 280–295, September 1994
- Lockhart, P.J., Steel, M.A., Hendy, M.D., Penny, D.: Recovering evolutionary trees under a more realistic model of sequence evolution. *Mol. Biol. Evol.* **11**, 605–612 (1994)
- Lomonosov, M.: Bernoulli Scheme with Closure. *Probl. Inf. Transm.* **10**, 73–81 (1974)
- Lopez-Ortiz, A.: On-Line Target Searching in Bounded and Unbounded Domains: Ph.D. Thesis, Technical Report CS-96-25, Dept. of Computer Sci., Univ. of Waterloo (1996)
- Lopez-Ortiz, A., Schuierer, S.: The Ultimate Strategy to Search on m Rays? *Theor. Comput. Sci.* **261**(2), 267–295 (2001)
- Lopresti, D.P., Tomkins, A.: Block Edit Models for Approximate String Matching. *Theoretical. Comput. Sci.* **181**(1), 159–179 (1997)
- Lothaire, M. (ed.): *Algebraic Combinatorics on Words*. Cambridge University Press, Cambridge (2002)
- Lothaire, M. (ed.): *Applied Combinatorics on Words*. Cambridge University Press, Cambridge (2005)
- Lotker, Z., Patt-Shamir, B.: Nearly optimal FIFO buffer management for DiffServ. In: *Proceedings of the 21st ACM Symposium on Principles of Distributed Computing (PODC 2002)*, pp. 134–142. ACM, New York (2002)
- Lotker, Z., Patt-Shamir, B.: Nearly optimal FIFO buffer management for two packet classes. *Comput. Netw.* **42**(4), 481–492 (2003)
- Lotker, Z., Patt-Shamir, B., Pavlov, E., Peleg, D.: Minimum-weight spanning tree construction in $O(\log \log n)$ communication rounds. *SIAM J. Comput.* **35**(1), 120–131 (2005)

- Lotker, Z., Patt-Shamir, B., Peleg, D.: Distributed MST for constant diameter graphs. *Distrib. Comput.* **18**(6), 453–460 (2006)
- Loubal, P.: A network evaluation procedure. *Highway Res. Rec.* **205**, 96–109 (1967)
- Lovász, L.: On Determinants, Matchings and Random Algorithms. In: Budach, L. (ed.) *Fundamentals of Computation Theory, FCT'79*, pp. 565–574. Akademie-Verlag, Berlin (1979)
- Lovász, L.: On the ratio of optimal integral and fractional covers. *Discret. Math.* **13**, 383–390 (1975)
- Lovász, L.: On the Shannon capacity of a graph. *IEEE Trans. Inf. Theor.* **25**, 2–13 (1979)
- Lovász, L., Plummer, M.D.: *Matching Theory*. Akadémiai Kiadó – North Holland, Budapest (1986)
- Lu, C., Alvarez, G.A., Wilkes, J.: Aqueduct: online data migration with performance guarantees. In: *Proceedings of the Conference on File and Storage Technologies* (2002)
- Lu, H.-I., Ravi, R.: Approximating maximum leaf spanning trees in almost linear time. *J. Algorithm* **29**, 132–141 (1998)
- Lu, H.-I., Yeh, C.-C.: Balanced parentheses strike back. Accepted to *ACM Trans. Algorithms* (2007)
- Luby, M.: A Simple Parallel Algorithm for the Maximal Independent Set Problem. *SIAM J. Comput.* **15**, 1036–1053 (1986)
- Luby, M.: Removing randomness in parallel without processor penalty. *J. Comput. Syst. Sci.* **47**(2), 250–286 (1993)
- Luccio, F., Pagli, L.: On the upper bound on the rotation distance of binary trees. *Inf. Process. Lett.* **31**(2), 57–60 (1989)
- Luchangco, V., Moir, M., Shavit, N.: On the uncontended complexity of consensus. In: *Proc. 17th Annual International Symposium on Distributed Computing*, 2005
- Lueker, G.S.: An average-case analysis of bin packing with uniformly distributed item sizes. Tech. Rep. Report No 181, Dept. of Information and Computer Science, University of California, Irvine, CA (1982)
- Lund, C., Yannakakis, M.: On the hardness of approximating minimization problems. *J. ACM* **41**(5), 960–981 (1994)
- Lund, C., Yannakakis, M.: The approximation of maximum subgraph problems. In: *Proc. 20th ICALP. LNCS*, vol. 700, pp. 40–51. Springer, Berlin (1993)
- Lundelius, J., Lynch, N.: A new fault-tolerant algorithm for clock synchronization. *Inf. Comput.* **77**, 1–36 (1988)
- Lunter, G., Miklós, I., Drummond, A., Jensen, J., Hein, J.: Bayesian co-estimation of phylogeny and sequence alignment. *BMC Bioinformatics* (2005)
- Lunter, G., Miklós, I., Drummond, A., Jensen, J., Hein, J.: Bayesian phylogenetic inference under a statistical indel model. In: *Lecture Notes in Bioinformatics, Proceedings of WABI2003*, vol. 2812, pp. 228–244 (2003)
- Lunter, G.A., Miklós, I., Song, Y.S., Hein, J.: An efficient algorithm for statistical multiple alignment on arbitrary phylogenetic trees. *J. Comp. Biol.* **10**(6), 869–889 (2003)
- Luo, J., Hubaux, J.-P.: Joint Mobility and Routing for Lifetime Elongation in Wireless Networks. In: *Proc. 24th INFOCOM* (2005)
- Luo, J., Panchard, J., Piórkowski, M., Grossglauser, M., Hubaux, J.P.: Mobiroute: Routing towards a mobile sink for improving lifetime in sensor networks. In: Gibbons, P.B., Abdelzaher, T., Aspnes, J., Rao, R. (eds.) *2nd IEEE/ACM International Conference on Distributed Computing in Sensor Systems (DCOSS 2005)*. Lecture Notes in Computer Science (LNCS), vol. 4026, pp. 480–497. Springer, Berlin (2006)
- Lusena, C., Goldsmith, J., Mundhenk, M.: Nonapproximability results for partially observable markov decision processes. *J. Artif. Intell. Res.* **14**, 83–103 (2001)
- Lynch, N.A.: *Distributed Algorithms*. Morgan Kaufmann, CA (1996)
- Lyngsø, R.B.: Complexity of pseudoknot prediction in simple models. In: *Proceedings of the 31th International Colloquium on Automata, Languages and Programming (ICALP)*, 2004, pp. 919–931
- Lyngsø, R.B., Pedersen, C.N.S.: RNA pseudoknot prediction in energy based models. *J. Comput. Biol.* **7**, 409–428 (2000)
- Lyngsø, R.B., Zuker, M., Pedersen, C.N.S.: Fast evaluation of internal loops in RNA secondary structure prediction. *Bioinformatics* **15**, 440–445 (1999)
- Ma, B.: A polynomial time approximation scheme for the closest substring problem. In: *Proc. 11th Annual Symposium on Combinatorial Pattern Matching*, Montreal, pp. 99–107. (2000)
- Ma, B., Tromp, J., Li, M.: PatternHunter: Faster and More Sensitive Homology Search. *Bioinformatics* **18**, 440–445 (2002)
- Ma, B., Zhang, K., Lajoie, G., Doherty-Kirby, A., Hendrie, C., Liang, C., Li, M.: PEAKS: Powerful software for peptide de novo sequencing by tandem mass spectrometry. *Rapid Commun. Mass Spectrom.* **17**(20), 2337–2342 (2003)
- Ma, B., Zhang, K., Liang, C.: An effective algorithm for the peptide de novo sequencing from MS/MS spectrum. *J. Comput. Syst. Sci.* **70**, 418–430 (2005)
- Ma, Y., Plotkin, S.: Improved lower bounds for load balancing of tasks with unknown duration. *Inf. Process. Lett.* **62**, 31–34 (1997)
- Maaß, M.G., Nowak, J.: Text indexing with errors. In: *Proceedings of Symposium on Combinatorial Pattern Matching*, 2005, pp. 21–32
- MacWilliams, F.J., Sloane, N.J.A.: *The Theory of Error-Correcting Codes*. North-Holland, Amsterdam (1977)
- MacWilliams, F.J., Sloane, N.J.A.: *The Theory of Error Correcting Codes*. North-Holland, Amsterdam (1981)
- Madduri, K., Bader, D., Berry, J., Crobak, J.: Parallel shortest path algorithms for solving large-scale instances. In: *9th DIMACS Implementation Challenge Workshop: Shortest Paths*, DIMACS Center, Piscataway, NJ, 13–14 Nov 2006
- Maekawa, M.: A \sqrt{n} algorithm for mutual exclusion in decentralized systems. *ACM Trans. Comput. Syst.* **3**(2), 145–159 (1985)
- Magazine, M.J., Oguz, O.: A fully polynomial approximation algorithm for the 0–1 knapsack problem. *Eur. J. Oper. Res.* **8**, 270–273 (1981)
- Maggs, B.M., Miller, G.L., Parekh, O., Ravi, R., Woo, S.L.M.: Finding effective support-tree preconditioners. In: *Symposium on Parallel Algorithms and Architectures*, pp. 176–185 (2005)
- Magniez, F.: Multi-linearity self-testing with relative error. *Theory Comput. Syst.* **38**(5), 573–591 (2005)
- Magniez, F., Nayak, A.: Quantum complexity of testing group commutativity. *Algorithmica* **48**(3), 221–232 (2007) Preliminary version in *Proc. ICALP* (2005) quant-ph/0506265
- Magniez, F., Nayak, A.: Quantum complexity of testing group commutativity. In: *Proceedings of the International Colloquium Automata, Languages and Programming (ICALP'05)*, 2005, pp. 1312–1324
- Magniez, F., Nayak, A., Roland, J., Santha, M.: Search via quantum walk. quant-ph/0608026. In: *Proc. of 39th ACM Symp. on Theory of Computing (STOC)*, San Diego, 11–13 June, pp. 575–584 (2007)

- Magniez, F., Santha, M., Szegedy, M.: Quantum algorithms for the triangle problem. *SIAM J. Comput.* **37**(2), 413–424 (2007) Preliminary version in Proc. SODA 2005
- Mahajan, M., Raman, V.: Parameterizing above Guaranteed Values: MAXSAT and MAXCUT. *J. Algorithms* **31**(2), 335–354 (1999)
- Mahajan, R., Hariharan, R.: Derandomizing semidefinite programming based approximation algorithms. In: Proceedings of the 36th Annual IEEE Symposium on Foundations of Computer Science (FOCS), Milwaukee 1995, pp. 162–169
- Mahdian, M.: Facility Location and the Analysis of Algorithms through Factor-Revealing Programs. Ph.D. thesis, MIT, Cambridge (2004)
- Mahdian, M.: Random popular matchings. In: Proceedings of the 7th ACM Conference on Electronic Commerce (EC), pp. 238–242 Venice, July 10–14 2006
- Mahdian, M., Pál, M.: Universal facility location. In: European Symposium on Algorithms, pp. 409–421. Budapest, Hungary, September 16–19 2003
- Mahdian, M., Pál, M.: Universal facility location. In: Proceedings of the 11th Annual European Symposium on Algorithms (ESA). Lecture Notes in Computer Science, vol. 2832, pp. 409–421. Springer, Berlin (2003)
- Mahdian, M., Ye, Y., Zhang, J.: Approximation algorithms for metric facility location problems. *SIAM J. Comput.* **36**(2), 411–432 (2006)
- Maheshwari, N., Sapatnekar, S.S.: Efficient retiming of large circuits, IEEE Transactions on Very Large-Scale Integrated Systems. **6**, 74–83 (1998)
- Main, M.G.: Detecting leftmost maximal periodicities. *Discret. Appl. Math.* **25**, 145–153 (1989)
- Main, M.G., Lorentz, R.J.: An $O(n \log n)$ algorithm for finding all repetitions in a string. *J. Algorithms* **5**(3), 422–432 (1984)
- Mäkinen, E.: On the rotation distance of binary trees. *Inf. Process. Lett.* **26**(5), 271–272 (1988)
- Mäkinen, V., Navarro, G.: Dynamic Entropy-Compressed Sequences and Full-Text Indexes. In: Proc. 17th Symposium on Combinatorial Pattern Matching (CPM). LNCS, vol. 4009, pp. 307–318. Springer, Berlin (2006)
- Mäkinen, V., Navarro, G.: Succinct suffix arrays based on run-length encoding. *Nord. J. Comput.* **12**(1), 40–66 (2005)
- Mäkinen, V., Navarro, G., Ukkonen, E.: Approximate matching of run-length compressed strings. *Algorithmica* **35**(4), 347–369 (2003)
- Mäkinen, V., Navarro, G., Ukkonen, E.: Approximate Matching of Run-Length Compressed Strings. In: Proc. 12th Symposium on Combinatorial Pattern Matching (CPM'01). LNCS, vol. 2089, pp. 31–49 (2001)
- Mäkinen, V., Ukkonen, E.: Local Similarity Based Point-Pattern Matching. In: Proc. 13th Annual Symposium on Combinatorial Pattern Matching (CPM 2002). LNCS, vol. 2373, pp. 115–132. Springer, Berlin (2002)
- Malhotra, V.S.: On the stability of multiple partner stable marriages with ties. In: Proceedings of ESA '04: the 12th Annual European Symposium on Algorithms. Lecture Notes in Computer Science, vol. 3221, pp. 508–519. Springer, Berlin (2004)
- Malik, S., Wang, A.R., Brayton, R.K., Sangiovanni-Vincentelli, A.: Logic Verification using Binary Decision Diagrams in a Logic Synthesis Environment. In: IEEE International Conference on Computer-Aided Design, pp. 6–9. (1988)
- Malkhi, D., Naor, M., Ratajczak, D.: Viceroy: A scalable and dynamic emulation of the butterfly. In: Proceedings of the 21st ACM Symposium on Principles of Distributed Computing (PODC '02), 2002, pp. 183–192
- Malkhi, D., Reiter, M.: Byzantine quorum systems. *Distrib. Comput.* **11**(4), 203–213 (1998)
- Malkhi, D., Reiter, M., Wool, A., Wright, R.: Probabilistic quorum systems. *Inf. Comput. J.* **170**, 184–206 (2001)
- Malkhi, D., Reiter, M.K.: An architecture for survivable coordination in large-scale systems. *IEEE Trans. Knowl. Data Engineer.* **12**, 187–202 (2000)
- Malony, A., Reed, D.: Visualizing Parallel Computer System Performance. In: Simmons, M., Koskela, R., Bucher, I. (eds.) Instrumentation for Future Parallel Computing Systems. ACM Press, New York (1989) pp. 59–90
- Manasse, M., McGeoch, L.A., Sleator, D.: Competitive algorithms for online problems. In: Proc. 20th Symp. Theory of Computing (STOC), pp. 322–333. ACM (1988)
- Manasse, M.S., McGeoch, L.A., Sleator, D.D.: Competitive algorithms for on-line problems. In: Proceeding 20th Annual ACM Symposium on the Theory of Computing, pp. 322–333, Chicago, IL (1988)
- Manasse, M.S., McGeoch, L.A., Sleator, D.D.: Competitive algorithms for server problems. *J. Algorithms* **11**, 208–230 (1990)
- Manber, U.: A text compression scheme that allows fast searching directly in the compressed file. *ACM Trans. Inf. Syst.* **15**(2), 124–136 (1997)
- Manber, U., Myers, G.: Suffix arrays: a new method for on-line string searches. *SIAM J. Comput.* **22**(5), 935–948 (1993)
- Mandoiu, I.I., Vazirani, V.V., Ganley, J.L.: A new heuristic for rectilinear Steiner trees. In: Proc. Intl. Conf. on Computer-Aided Design, San Jose, (1999)
- Maniscalco, M.A., Puglisi, S.J.: Faster lightweight suffix array construction. In: Proc. 17th Australasian Workshop on Combinatorial Algorithms, pp. 16–29. Univ. Ballarat, Ballarat (2006)
- Manku, G.S., Bawa, M., Raghavan, P.: Symphony: Distributed hashing in a small world. In: Proc. 4th USENIX Symposium on Internet Technologies and Systems (USITS 2003) 2003, pp. 127–140
- Manlove, D., Sng, C.: Popular matchings in the capacitated house allocation problem. In: Proceedings of the 14th Annual European Symposium on Algorithms (ESA), pp. 492–503 (2006)
- Manlove, D.F.: private communication (2006)
- Manlove, D.F.: Stable marriage with ties and unacceptable partners. Technical Report TR-1999-29, University of Glasgow, Department of Computing Science, January (1999)
- Manlove, D.F., Irving, R.W., Iwama, K., Miyazaki, S., Morita, Y.: Hard variants of stable marriage. *Theor. Comput. Sci.* **276**(1–2), 261–279 (2002)
- Manne, A.S.: Plant location under economies-of-scale – decentralization and computation. *Manag. Sci.* **11**, 213–235 (1964)
- Manolopoulos, Y., Nanopoulos, A., Papadopoulos, A.N., Theodoridis, Y.: R-trees: Theory and Applications. Springer, London (2005)
- Mansour, Y.: Randomized interpolation and approximation of sparse polynomials. *SIAM J. Comput.* **24**, 357–368 (1995)
- Mansour, Y., Patt-Shamir, B., Lapid, O.: Optimal smoothing schedules for real-time streams. In: Proc. 19th Symp. on Principles of Distributed Computing (PODC), pp. 21–29. ACM, New York (2000)
- Mansour, Y., Sahar, S.: Implementation Issues in the Fourier Transform Algorithm. *Mach. Learn.* **40**(1), 5–33 (2000)
- Manzini, G.: An analysis of the Burrows–Wheeler transform. *J. ACM* **48**, 407–430 (2001)

- Manzini, G.: Two space saving tricks for linear time LCP array computation. In: Proc. 9th Scandinavian Workshop on Algorithm Theory. LNCS, vol. 3111, pp. 372–383. Springer, Berlin/Heidelberg (2004)
- Manzini, G., Ferragina, P.: Engineering a lightweight suffix array construction algorithm. *Algorithmica* **40**, 33–50 (2004)
- Marathe, M.V., Breu, H., Hunt III, H.B., Ravi, S.S., Rosenkrantz, D.J.: Simple Heuristics for Unit Disk Graphs. *Networks* **25**, 59–68 (1995)
- Marathe, V., Scherer, W., Scott, M.: Adaptive software transactional memory. In: Proc. 19th Annual International Symposium on Distributed Computing, 2005
- Marathe, V.J., Moir, M.: Toward high performance nonblocking software transactional memory. In: Proceedings of the 13th ACM SIGPLAN Symposium on Principles and practice of parallel programming, pp. 227–236, ACM, New York, USA (2008)
- Marczewski, E.: Sur deux propriétés des classes d'ensembles. *Fund. Math.* **33**, 303–307 (1945)
- Marple, D.P.: Performance Optimization of Digital VLSI Circuits. Technical Report CSL-TR-86-308, Stanford University, October 1986
- Marple, D.P.: Transistor Size Optimization in the Tailor Layout System. In: Proceedings of the 26th ACM/IEEE Design Automation Conference, pp. 43–48. June 1989
- Martello, S., Toth, P. *Knapsack Problems: Algorithms and Computer Implementations*. Wiley, Chichester (1990)
- Martin, R.K., Sethares, W.A., Williamson, R.C., Johnson, Jr., C.R.: Exploiting sparsity in adaptive filters. *IEEE Trans. Signal Process.* **50**(8), 1883–1894 (2002)
- Marx, D.: The Closest Substring problem with small distances. In: Proceedings of the 46th FOCS, pp 63–72. IEEE Press, (2005)
- Mas-Colell, A., Whinston, M.D., Green, J.R.: *Microeconomic Theory*. Oxford University Press, Oxford (1995)
- Masek, W., Paterson, M.: A faster algorithm for computing string edit distances. *J. Comput. Syst. Sci.* **20**, 18–31 (1980)
- Maskin, E.S.: Auctions, development, and privatization: Efficient auctions with liquidity-constrained buyers. *Eur. Econ. Rev.* **44**(4–6), 667–681 (2000)
- Massey, J.L., Mathys, P.: The collision channel without feedback. *IEEE Trans. Inf. Theor.* **31**, 192–204 (1985)
- Mathews, D.H., Sabina, J., Zuker, M., Turner, D.H.: Expanded sequence dependence of thermodynamic parameters improves prediction of RNA secondary structure. *J. Mol. Biol.* **288**, 911–940 (1999)
- Matias, Y., Şahinalp, C.: On the optimality of parsing in dynamic dictionary based data compression. In: Proceedings 10th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA '99), pp. 943–944 (1999)
- Matias, Y., Segal, E., Vitter, J.S.: Efficient bundle sorting. *SIAM J. Comput.* **36**(2), 394–410 (2006)
- Matousek, J.: *Lectures on Discrete Geometry*. Springer, New York (2002)
- Matsumoto: Competitive Analysis of the Round Robin Algorithm. in: 3rd International Symposium on Algorithms and Computation, 1992, pp. 71–77
- Mattern, F.: Virtual time and global states of distributed systems. In: Cosnard, M., Quinton, P. (eds.) *Parallel and Distributed Algorithms*, pp.215–226. North-Holland, Amsterdam (1989)
- Mattle, K., Weinfurter, H., Kwiat, P.G., Zeilinger, A.: Dense coding in experimental quantum communication. *Phys. Rev. Lett.* **76**, 4656–4659 (1996)
- Mavrides, M.: *Triangular arbitrage in the foreign exchange market – inefficiencies, technology and investment opportunities*. Quorum Books, London (1992)
- Mavronicolas, M., Spirakis, P.G.: The price of selfish routing. In: Proc. on 33rd Annual ACM Symposium on Theory of Computing (STOC), pp. 510–519. ACM, Heraklion (2001)
- Mayers, D.: Quantum key distribution and string oblivious transfer in noisy channels. In: *Advances in Cryptology – CRYPTO '96*. Lecture Notes in Computer Science, vol. 1109, pp. 343–357. Springer (1996)
- Maymounkov, P., Mazières, D.: Kademlia: A peer-to-peer information system based on the XOR metric. In: Proc. 1st Intl. Workshop on Peer-to-Peer Systems (IPTPS 2002), 2002, pp. 53–65
- Mazoit, F.: The branch-width of circular-arc graphs. In: 7th Latin American Symposium on Theoretical Informatics (LATIN 2006), 2006, pp. 727–736
- McCaskill, J.S.: The equilibrium partition function and base pair binding probabilities for RNA secondary structure. *Biopolymers* **29**, 1105–1119 (1990)
- McCluskey, E.J.: Minimization of Boolean functions. *Bell Syst. Tech. J.* **35**(6), 1417–1444 (1956)
- McCreight, E.M.: A space-economical suffix tree construction algorithm. *J. ACM* **23**, 262–272 (1976)
- McCreight, E.M.: Priority search trees. *SIAM J. Comput.* **14**, 257–276 (1985)
- McGeoch, C.: A bibliography of algorithm experimentation. In: *Data Structures, Near Neighbor Searches, and Methodology: Fifth and Sixth DIMACS Implementation Challenges*. DIMACS Series in Discrete Mathematics and Theoretical Computer Science, 59, 251–254. American Mathematical Society, Providence, RI (2002)
- McGeoch, C.C.: Toward an experimental method for algorithm simulation. *INFORMS J. Comp.* **1**(1), 1–15 (1996)
- McGeoch, L., Sleator, D.: A strongly competitive randomized paging algorithm. *Algorithmica* **6**(6), 816–825 (1991)
- McGlynn, M.J., Borbash, S.A.: Birthday Protocols for Low Energy Deployment and Flexible Neighborhood Discovery in Ad Hoc Wireless Networks. In: Proc. of the 2nd ACM Int. Symposium on Mobile Ad Hoc Networking & Computing (MOBIHOC), (2001)
- McIlroy, P.M., Bostic, K., McIlroy, M.D.: Engineering radix sort. *Comput. Syst.* **6**, 5–27 (1993)
- McKay, B.D.: Hadamard equivalence via graph isomorphism. *Discret. Math.* **27**, 213–214 (1979)
- McKay, B.D.: Practical graph isomorphism. *Congr. Numer.* **30**, 45–87 (1981)
- McKay, B.D., Meynert, A., Myrvold, W.: Small Latin squares, quasi-groups and loops. *J. Comb. Des.* **15**, 98–119 (2007)
- McMillan, K.L.: *Symbolic Model Checking*. Kluwer Academic Publishers (1993)
- McMorris, F.R.: On the compatibility of binary qualitative taxonomic characters. *Bull. Math. Biol.* **39**, 133–138 (1977)
- McNaughton, R., Yamada, H.: Regular expressions and state graphs for automata. *IRE Trans. Elect. Comput.* **9**(1), 39–47 (1960)
- McVitie, D., Wilson, L.B.: The stable marriage problem. *Commun. ACM* **14**, 486–490 (1971)
- Mead, C.A., Conway, L.: *Introduction to VLSI Systems*. Addison-Wesley, (1980)
- Mecke, S., Wagner, D.: Solving geometric covering problems by data reduction. In: Proceedings of the 12th Annual European Symposium on Algorithms (ESA '04). LNCS, vol. 3221, pp. 760–771. Springer, Berlin (2004)

- Megiddo, N.: Computational Complexity and the Game Theory Approach to Cost Allocation for a Tree. *Math. Oper. Res.* **3**, 189–196 (1978)
- Megiddo, N.: Cost allocation for Steiner trees. *Networks* **8**(1), 1–6 (1978)
- Megiddo, N., Papadimitriou, C.H.: On total functions, existence theorems and computational complexity. *Theor. Comp. Sci.* **81**, 317–324 (1991)
- Mehlhorn, K.: A best possible bound for the weighted path length of binary search trees. *SIAM J. Comput.* **6**(2), 235–239 (1977)
- Mehlhorn, K.: Data Structures and Algorithms 1: Sorting and Searching. EATCS Monographs on Theoretical Computer Science, vol. 1. Springer, Berlin (1984)
- Mehlhorn, K.: Dynamic binary search. *SIAM J. Comput.* **8**(2), 175–198 (1979)
- Mehlhorn, K., Mutzel, P., Näher, S.: An implementation of the hopcroft and tarjan planarity test. Tech. Rep. MPI-I-93-151, Saarbrücken (1993)
- Mehlhorn, K., Näher, S.: LEDA: A Platform for Combinatorial and Geometric Computing. Cambridge University Press, Cambridge (1999)
- Mehlhorn, K., Näher, S.: LEDA: A Platform for Combinatorial and Geometric Computing. *Commun. ACM.* **38**(1), 96–102 (1995)
- Mehlhorn, K., Sanders, P.: Scanning multiple sequences via cache memory. *Algorithmica* **35**, 75–93 (2003)
- Melideo, G., Varricchio, S.: Learning unary output two-tape automata from multiplicity and equivalence queries. In: ALT '98. Lecture Notes in Computer Science, vol. 1501, pp. 87–102. Springer, Berlin (1998)
- Mellor-Crummey, J.M., Scott, M.L.: Algorithms for scalable synchronization on shared-memory multiprocessors. *ACM Trans. Comput. Syst.* **9**(1), 21–65 (1991)
- Mendel, M., Naor, A.: Ramsey partitions and proximity data structures. *J. Eur. Math. Soc.* **9**(2), 253–275 (2007)
- Mendelson, R., Tarjan, R., Thorup, M., Zwick, U.: Melding priority queues. *ACM TALG* **2**(4), 535–556 (2006). Announced at SODA'04
- Mendonca, D., Raghavachari, M.: Comparing the efficacy of ranking methods for multiple round-robin tournaments. *Eur. J. Oper. Res.* **123**, 593–605 (1999)
- Menezes, A., van Oorschot, P., Vanstone, S.: Handbook of Applied Cryptography. CRC Press, Boca Raton (1997)
- Message Passing Interface Forum. MPI: A message-passing interface standard. Technical report, University of Tennessee, Knoxville, TN, June 1995. Version 1.1
- Messer, P.W., Arndt, P.F.: The majority of recent short DNA insertions in the human genome are tandem duplications. *Mol. Biol. Evol.* **24**(5), 1190–7 (2007)
- Mestre, J.: Weighted popular matchings. In: Proceedings of the 16th International Colloquium on Automata, Languages, and Programming (ICALP), pp. 715–726 (2006)
- Metzler, D., Fleißner, R., Wakolbringer, A., von Haeseler, A.: Assessing variability by joint sampling of alignments and mutation rates. *J. Mol. Evol.* **53**, 660–669 (2001)
- Meyer auf der Heide, F., Vöcking, B.: Shortest-Path Routing in Arbitrary Networks. *J. Algorithms* **31**(1), 105–131 (1999)
- Meyer, U., Sanders, P., Sibeyn, J.F. (eds.): Algorithms for Memory Hierarchies. LNCS, vol. 2625. Springer, Berlin (2003)
- Meyerson, A.: Online facility location. In: Proceedings of the 42nd Annual IEEE Symposium on Foundations of Computer Science (FOCS), pp. 426–431. IEEE Computer Society, Los Alamitos (2001)
- Micali, S., Vazirani, V.V.: An $O(\sqrt{VE})$ Algorithm for Finding Maximum Matching in General Graphs. In: Proceedings of the 21st Annual IEEE Symposium on Foundations of Computer Science (FOCS), 1980, pp. 17–27
- Micciancio, D., Goldwasser, S.: Complexity of Lattice Problems: A Cryptographic Perspective. The Kluwer International Series in Engineering and Computer Science, vol. 671. Kluwer Academic Publishers, Boston, Massachusetts (2002)
- Michael, M., Scott, M.: Nonblocking algorithms and preemption-safe locking on multiprogrammed shared memory multiprocessors. *J. Parall. Distrib. Comput.* **51**(1), 1–26 (1998)
- Michel, R., Corentin, T.: In search of the holy grail: Looking for the weakest failure detector for wait-free set agreement. Technical Report TR 06-1811, INRIA, August 2006
- Miklós, I., Meyer, I.M., Nagy, B.: Moments of the Boltzmann distribution for RNA secondary structures. *Bull. Math. Biol.* **67**, 1031–1047 (2005)
- Milchtaich, I.: Congestion games with player-specific payoff functions. *Games Econ. Behav.* **13**, 111–124 (1996)
- Milenkovic, V.J.: Densest translational lattice packing of non-convex polygons. *Proc. 16th ACM Annual Symp. on Computational Geometry*, 280–289 (2000)
- Miller, G., Naor, J.: Flow in planar graphs with multiple sources and sinks. *SIAM J. Comput.* **24**, 1002–1017 (1995)
- Miller, G.L.: Finding small simple cycle separators for 2-connected planar graphs. *J. Comput. Syst. Sci.* **32**, 265–279 (1986)
- Miller, G.L., Reif, J.H.: Parallel tree contraction and its applications. In: Proceedings of the 26th Annual IEEE Symposium on Foundations of Computer Science (FOCS), pp. 478–489 (1985)
- Miller, G.L., Teng, S.H., Vavasis, S.A.: A unified geometric approach to graph separators. In: Proc. 32nd Annu. IEEE Sympos. Found. Comput. Sci. 1991, pp. 538–547
- Miller, W., Myers, E.W.: Sequence comparison with concave weighting functions. *Bull. Math. Biol.* **50**(2), 97–120 (1988)
- Mills, D.L.: Computer Network Time Synchronization: The Network Time Protocol. CRC Press, Boca Raton (2006)
- Miltersen, P.B.: Cell probe complexity – a survey. In: 19th Conference on the Foundations of Software Technology and Theoretical Computer Science (FSTTCS), Advances in Data Structures Workshop, 1999
- Miltersen, P.B.: Lower bounds for Union-Split-Find related problems on random access machines. In: 26th ACM Symposium on Theory of Computing (STOC), 1994, pp. 625–634
- Miltersen, P.B., Nisan, N., Safra, S., Wigderson, A.: On data structures and asymmetric communication complexity. *J. Comput. Syst. Sci.* **57**(1), 37–49 (1998). See also STOC'95
- Miltersen, P.B., Subramanian, S., Vitter, J.S., Tamassia, R.: Complexity models for incremental computation. In: Ausiello, G., Italiano, G.F. (eds.) Special Issue on Dynamic and On-line Algorithms. *Theor. Comp. Sci.* **130**(1), 203–236 (1994)
- Min, M., Du, H., Jia, X., Huang, X., Huang, C.-H., Wu, W.: Improving construction for connected dominating set with Steiner tree in wireless sensor networks. *J. Glob. Optim.* **35**, 111–119 (2006)
- Min, M., Huang, S.C.-H., Liu, J., Shragowitz, E., Wu, W., Zhao, Y., Zhao, Y.: An Approximation Scheme for the Rectilinear Steiner Minimum Tree in Presence of Obstructions. *Fields Inst. Commun.* **37**, 155–164 (2003)
- Minsky, M., Papert, S.: Perceptrons. MIT Press, Cambridge (1969)

- Minsky, M., Papert, S.: *Perceptrons: An Introduction to Computational Geometry*. The MIT Press, (1969)
- Mirchandani, P.B., Francis, R.L.: *Discrete Location Theory*. Wiley, New York (1990)
- Mirroknii, V.S.: *Approximation Algorithms for Distributed and Selfish Agents*. Ph.D. thesis, Massachusetts Institute of Technology (2005)
- Mishchenko, A., Chatterjee, S., Brayton, R., Ciesielski, M.: An integrated technology mapping environment. *International Workshop on Logic Synthesis* (2005)
- Mitchell, D., Selman, B., Levesque, H.: Hard and easy distribution of sat problems. In: *10th National Conference on Artificial Intelligence*, pp. 459–465. AAAI Press, Menlo Park (1992)
- Mitchell, J.: A Geometric Shortest Path Problem, with Application to Computing a Longest Common Subsequence in Run-Length Encoded Strings. Technical Report, Dept. of Applied Mathematics, SUNY Stony Brook (1997)
- Mitchell, J.S.B.: Guillotine subdivisions approximate polygonal subdivisions: A simple new method for the geometric k -MST problem. In: *Proc. 7th ACM-SIAM Symposium on Discrete Algorithms*, 1996, pp. 402–408.
- Mitchell, J.S.B.: Guillotine subdivisions approximate polygonal subdivisions: A simple polynomial-time approximation scheme for geometric TSP, k -MST, and related problems. *SIAM J. Comput.* **28**(4), 1298–1309 (1999)
- Mitchell, J.S.B.: Guillotine subdivisions approximate polygonal subdivisions: Part II – A simple polynomial-time approximation scheme for geometric k -MST, TSP, and related problem. *SIAM J. Comput.* **29**(2), 515–544 (1999)
- Mitchell, J.S.B.: Guillotine subdivisions approximate polygonal subdivisions: Part III – Faster polynomial-time approximation scheme for geometric network optimization, manuscript, State University of New York, Stony Brook (1997)
- Mitchell, J.S.B., Blum, A., Chalasani, P., Vempala, S.: A constant-factor approximation algorithm for the geometric k -MST problem in the plane. *SIAM J. Comput.* **28**(3), 771–781 (1999)
- Mitchell, T.: *Machine Learning*. McGraw Hill (1997)
- Miyazaki, M., Shinohara, A., Takeda, M.: An improved pattern matching algorithm for strings in terms of straight-line programs. *J. Discret. Algorithms* **1**(1), 187–204 (2000)
- Miyazaki, T.: The complexity of McKay's canonical labelling algorithm. In: *Groups and Computation*, II. DIMACS Ser. Discret. Math. Theor. Comput. Sci., vol. 28, pp. 239–256. American Mathematical Society, Providence, RI (1997)
- Mo, Y.-Y., Chu, C.: A hybrid dynamic/quadratic programming algorithm for interconnect tree optimization. *IEEE Trans. Comput. Des.* **20**(5), 680–686 (2001)
- Moffat, A.: An improved data structure for cumulative probability tables. *Softw. Prac. Exp.* **29**, 647–659 (1999)
- Moffat, A., Anh, V.N.: Binary codes for locally homogeneous sequences. *Inf. Process. Lett.* **99**(5), 75–80 (2006) Source code available from www.cs.mu.oz.au/~alistair/rbuc/
- Moffat, A., Stuiver, L.: Binary interpolative coding for effective index compression. *Inf. Retr.* **3**(1), 25–47 (2000)
- Moffat, A., Turpin, A.: *Compression and Coding Algorithms*. Kluwer Academic Publishers, Boston (2002)
- Mohar, B., Poljak, S.: Eigenvalues and the max-cut problem. *Czechoslov Math. J.* **40**(115), 343–352 (1990)
- Molly, M., Reed, B.: *Graph Coloring and the Probabilistic method*. Springer (2002)
- Monasson, R., Zecchina, R.: Statistical mechanics of the random k -sat problem. *Phys. Rev. E* **56**, 1357–1361 (1997)
- Monderer, D., Shapley, L.: Potential games. *Games Econ. Behav.* **14**, 124–143 (1996)
- Monien, B.: How to find long paths efficiently. *Ann. Discret. Math.* **25**, 239–254 (1985)
- Monien, B., Speckenmeyer, E.: Solving satisfiability in less than 2^n steps. *Discret. Appl. Math.* **10**, 287–295 (1985)
- Monma, C.L., Shallcross, D.F.: Methods for designing communications networks with certain two-connected survivability constraints. *Operat. Res.* **37**(4), 531–541 (1989)
- Mony, H., Baumgartner, J., Paruthi, V., Kanzelman, R., Kuehlmann, A.: Scalable Automated Verification via Expert-System Guided Transformations. In: *Formal Methods in CAD*. (2004)
- Moore, C., Russell, A.: Quantum walks on the hypercube. In: *Proc. RANDOM* (2002)
- Moore, G.W., Goodman, M., Barnabas, J.: An iterative approach from the standpoint of the additive hypothesis to the dendrogram problem posed by molecular data sets. *J. Theor. Biol.* **38**, 423–457 (1973)
- Mor, T., Roychowdhury, V., Lloyd, S., Fernandez, J.M., Weinstein, Y.: Algorithmic cooling. US Patent 6,873,154 (2005)
- Moret, B.: Towards a discipline of experimental algorithmics. In: *Data Structures, Near Neighbor Searches, and Methodology: Fifth and Sixth DIMACS Implementation Challenges*. DIMACS Series in Discrete Mathematics and Theoretical Computer Science, 59, 197–214. American Mathematical Society, Providence, RI (2002)
- Moret, B.M.E., Bader, D.A., Warnow, T.: High-performance algorithm engineering for computational phylogenetics. *J. Supercomput.* **22**, 99–111 (2002) Special issue on the best papers from ICCS'01
- Moret, B.M.E., Bader, D.A., Warnow, T., Wyman, S.K., Yan, M.: GRAPPA: a highperformance computational tool for phylogeny reconstruction from gene-order data. In: *Proc. Botany*, Albuquerque, August 2001
- Moret, B.M.E., Shapiro, H.D.: Algorithms and experiments: The new (and old) methodology. *J. Univers. Comput. Sci.* **7**(5), 434–446 (2001)
- Moret, B.M.E., Shapiro, H.D.: An empirical assessment of algorithms for constructing a minimum spanning tree. In: *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, vol. 15, Am. Math. Soc., Providence, RI (1994)
- Moret, B.M.E., Tang, J., Warnow, T.: Reconstructing phylogenies from gene-content and gene-order data. In: Gascuel, O. (ed.) *Mathematics of Evolution and Phylogeny*. pp. 321–352, Oxford Univ. Press, USA (2005)
- Moret, B.M.E., Wyman, S., Bader, D.A., Warnow, T., Yan, M.: A new implementation and detailed study of breakpoint analysis. In: *Proc. 6th Pacific Symp. Biocomputing (PSB 2001)*, pp. 583–594, Hawaii, January 2001
- Morrison, M., Brillhart, J.: A method of factoring and the factorization of F_7
- Mosca, M., Ekert, A.: The Hidden Subgroup Problem and Eigenvalue Estimation on a Quantum Computer. In: *Proceedings 1st NASA International Conference on Quantum Computing & Quantum Communications*. Lecture Notes in Computer Science, vol. 1509, pp. 174–188. Springer, London (1998)
- Moscibroda, T.: *Locality, Scheduling, and Selfishness: Algorithmic Foundations of Highly Decentralized Networks*. Doctoral Thesis Nr. 16740, ETH Zurich (2006)

- Moscibroda, T., von Rickenbach, P., Wattenhofer, R.: Analyzing the Energy-Latency Trade-off during the Deployment of Sensor Networks. In: Proc. of the 25th Joint Conference of the IEEE Computer and Communications Societies (INFOCOM), (2006)
- Moscibroda, T., Wattenhofer, R.: Coloring Unstructured Radio Networks. In: Proc. of the 17th ACM Symposium on Parallel Algorithms and Architectures (SPAA), pp. 39–48 (2005)
- Moscibroda, T., Wattenhofer, R.: Maximal Independent Sets in Radio Networks. In: Proc. of the 23rd ACM Symposium on Principles of Distributed Computing (PODC), pp. 148–157 (2005)
- Moses, Y., Shimony, B.: A new proof of the GHS minimum spanning tree algorithm. In: Distributed Computing, 20th Int. Symp. (DISC), Stockholm, Sweden, September 18–20, 2006. Lecture Notes in Computer Science, vol. 4167, pp. 120–135. Springer, Berlin Heidelberg (2006)
- Moshkov, M.Y.: Conditional tests. *Probl. Kibern.* (in Russian) **40**, 131–170 (1983)
- Mossel, E., O'Donnell, R., Servedio, R.A.: Learning functions of k relevant variables. *J. Comp. Syst. Sci.* **69**(3), 421–434 (2004)
- Mostefaoui, A., Rajsbaum, S., Raynal, M.: The Combined Power of Conditions and Failure Detectors to Solve Asynchronous Set Agreement. In: Proc. 24th ACM Symposium on Principles of Distributed Computing (PODC'05), pp. 179–188. ACM Press, New York (2005)
- Mostéfaoui, A., Rajsbaum, S., Raynal, M., Roy, M.: Condition-based consensus solvability: a hierarchy of conditions and efficient protocols. *Distrib. Comput.* **17**, 1–20 (2004)
- Mostefaoui, A., Raynal, M.: k -Set Agreement with Limited Accuracy Failure Detectors. In: Proc. 19th ACM Symposium on Principles of Distributed Computing, pp. 143–152. ACM Press, New York (2000)
- Mostefaoui, A., Raynal, M.: Randomized Set Agreement. In: Proc. 13th ACM Symposium on Parallel Algorithms and Architectures (SPAA'01), Hersonissos (Crete) pp. 291–297. ACM Press, New York (2001)
- Motwani, R., Phillips, S., Torng, E.: Non-Clairvoyant Scheduling. *Theor. Comput. Sci.* **130**(1), 17–47 (1994)
- Motwani, R., Raghavan, P.: Randomized Algorithms. Cambridge University Press, New York (1995)
- Moulin, H.: Incremental cost sharing: Characterization by coalition strategy-proofness. *Social Choice and Welfare*, **16**, 279–320 (1999)
- Moulin, H., Shenker, S.: Strategyproof sharing of submodular costs: budget balance versus efficiency. *Econ. Theor.* **18**(3), 511–533 (2001)
- Mu'alem, A., Nisan, N.: Truthful approximation mechanisms for restricted combinatorial auctions. In: Proc. 18th Nat. Conf. Artificial Intelligence, pp. 379–384. AAAI (2002)
- Mu'alem, A., Schapira, M.: Setting lower bounds on truthfulness. In: Proc. 18th Symposium on Discrete Algorithms (SODA), 2007
- Mucha, M., Sankowski, P.: Maximum Matchings in Planar Graphs via Gaussian Elimination. *Algorithmica* **45**, 3–20 (2006)
- Mucha, M., Sankowski, P.: Maximum Matchings via Gaussian Elimination. In: Proceedings of the 45th Annual IEEE Symposium on Foundations of Computer Science (FOCS), 2004 pp. 248–255
- Müller-Hannemann, M., Schnee, M.: Finding all attractive train connections by multi-criteria pareto search. In: Geraets, F., Kroon, L.G., Schöbel, A., Wagner, D., Zaroliagis, C.D. (eds.) *Algorithmic Methods for Railway Optimization*, International Dagstuhl Workshop, Dagstuhl Castle, Germany, June 20–25, 2004, 4th International Workshop, ATMOS 2004, Bergen, September 16–17, 2004, Revised Selected Papers, Lecture Notes in Computer Science, vol. 4359, pp. 246–263. Springer, Berlin (2007)
- Müller-Hannemann, M., Schnee, M.: Paying less for train connections with MOTIS. In: Kroon, L.G., Möhring, R.H. (eds.) *Proceedings of the 5th Workshop on Algorithmic Methods and Models for Optimization of Railways (ATMOS'05)*, Dagstuhl, Germany, Internationales Begegnungs- und Forschungszentrum fuer Informatik (IBFI), Schloss Dagstuhl, Germany 2006. Dagstuhl Seminar Proceedings, no. 06901
- Müller-Hannemann, M., Schulz, F., Wagner, D., Zaroliagis, C.D.: Timetable information: Models and algorithms. In: Geraets, F., Kroon, L.G., Schöbel, A., Wagner, D., Zaroliagis, C.D. (eds.) *Algorithmic Methods for Railway Optimization*, International Dagstuhl Workshop, Dagstuhl Castle, Germany, June 20–25, 2004, 4th International Workshop, ATMOS 2004, Bergen, September 16–17, 2004, Revised Selected Papers, Lecture Notes in Computer Science, vol. 4359, pp. 67–90. Springer (2007)
- Mulmuley, K., Vazirani, U.V., Vazirani, V.V.: Matching is as easy as matrix inversion. In: *Proceedings of the 19th Annual ACM Conference on Theory of Computing*, pp. 345–354. ACM Press, New York (1987)
- Mulzer, W., Rote, G.: Minimum-weight triangulation is NP-hard. In: *Proceedings 22nd Annual ACM Symposium on Computational Geometry, SoCG'06*, Sedona, AZ, USA. ACM Press, New York, NY, USA (2006)
- Mundell, R.A.: Currency areas, exchange rate systems, and international monetary reform, paper delivered at Universidad del CEMA, Buenos Aires, Argentina. <http://www.robertmundell.net/pdf/Currency> (2000). Accessed 17 Apr 2000
- Mundell, R.A.: Gold Would Serve into the 21st Century. *Wall Street Journal*, 30 September 1981, pp. 33
- Munkres, J.: Algorithms for the assignment and transportation problems. *J. Soc. Ind. Appl. Math.* **5**, 32–38 (1957)
- Munro, I.: Tables. In: Proc. 16th Conference on Foundations of Software Technology and Theoretical Computer Science (FSTTCS). LNCS, vol. 1180, Hyderabad, 18–20 December, pp. 37–42 (1996)
- Munro, J.I., Raman, R., Raman, V., Rao, S.S.: Succinct representations of permutations. In: *Proceedings of the 30th International Colloquium on Automata, Languages and Programming (ICALP)*. Lecture Notes in Computer Science (LNCS), vol. 2719, pp. 345–356. Springer, Berlin (2003)
- Munro, J.I., Raman, V.: Succinct representation of balanced parentheses and static trees. *SIAM J. Comput.* **31**(3), 762–776 (2001)
- Munro, J.I., Raman, V., Rao, S.S.: Space efficient suffix trees. *J. Algorithms* **39**(2), 205–222 (2001)
- Munro, J.I., Raman, V., Storm, A.J.: Representing dynamic binary trees succinctly. In: Rao Kosaraju, S. (ed.) *Proceedings of the 12th Annual ACM-SIAM Symposium on Discrete Algorithms*, SIAM, pp. 529–536, Philadelphia (2001)
- Munro, J.I., Rao, S.S.: Succinct representations of functions. In: Díaz, J., Karhumäki, J., Lepistö, A., Sannella, D. (eds.) *Proceedings of the 31st International Colloquium on Automata, Languages and Programming*, pp. 1006–1015. Springer, Heidelberg (2004)
- Munro, J.I., Rao, S.S.: Succinct representations of functions. In: *Proceedings of the International Colloquium on Automata, Languages and Programming (ICALP)*. Lecture Notes in Computer Science (LNCS), vol. 3142, pp. 1006–1015. Springer, Berlin (2004)

- Munro, J.I., Srinivasa Rao, S.: Succinct representation of data structures. In: Mehta, D., Sahni, S. (eds.) *Handbook of Data Structures with Applications*, Chap 37. Chapman and Hall/CRC Press (2005)
- Murata, H., Fujiyoshi, K., Nakatake, S., Kajitani, Y.: A solution space of size $(n!)^2$ for optimal rectangle packing. In: 8th Karuizawa Workshop on Circuits and Systems, April 1995, pp. 109–114
- Murata, H., Nakatake, S., Fujiyoshi, K., Kajitani, Y.: VLSI Module placement based on rectangle-packing by Sequence-Pair. *IEEE Trans. Comput. Aided Design (TCAD)* **15**(12), 1518–1524 (1996)
- Murchland, J.: The effect of increasing or decreasing the length of a single arc on all shortest distances in a graph. Technical report, LBS-TNT-26, London Business School, Transport Network Theory Unit, London (1967)
- Murgai, R., Brayton, R.K., Sangiovanni-Vincentelli, A.: On clustering for minimum delay/area. In: *Proceedings of IEEE International Conference on Computer-Aided Design*, 1991, pp. 6–9
- Murota, K.: Discrete Convex Analysis. *Math. Program.* **83**, 313–371 (1998)
- Murota, K.: Discrete Convex Analysis. Soc. Ind. Appl. Math. Philadelphia (2003)
- Murphy, W., et al.: Dynamics of Mammalian Chromosome Evolution Inferred from Multispecies Comparative Maps. *Science* **309**, 613–617 (2005)
- Muthukrishnan, S.: Data streams: Algorithms and applications. *Found. Trends Theor. Comput. Sci.* **1**, pp.1–126 (2005)
- Muthukrishnan, S., Rajaraman, R., Shaheen, A., Gehrke, J.: Online Scheduling to Minimize Average Stretch. *SIAM J. Comput.* **34**(2), 433–452 (2004)
- Muthukrishnan, S., Sahinalp, S.C.: Approximate nearest neighbors and sequence comparison with block operations. *Proc. ACM STOC* 416–424 (2000)
- Myers, B.: Taxonomies of Visual Programming and Program Visualization. *J. Visual Lang. Comp.* **1**, 97–123 (1990)
- Myers, E.: A four Russians algorithm for regular expression pattern matching. *J. ACM* **39**(2), 430–448 (1992)
- Myers, E.G.: A sublinear algorithm for approximate keyword searching. *Algorithmica* **12**, 345–374 (1994)
- Myers, E.W.: Approximate matching of network expressions with spacers. *J. Comput. Biol.* **3**(1), 33–51 (1996)
- Myers, E.W., Miller, W.: Approximate matching of regular expressions. *Bullet. Math. Biol.* **51**, 7–37 (1989)
- Myers, E.W., Miller, W.: Optimal Alignments in Linear Space. *Bioinformatics* **4**, 11–17 (1988)
- Myers, G.: A fast bit-vector algorithm for approximate string matching based on dynamic programming. *J. ACM* **46**(3), 395–415 (1999)
- Myerson, R.B.: Optimal auction design. *Math. Oper. Res.* **6**, 58–73 (1981)
- Na, J.: Linear-time construction of compressed suffix arrays using $o(n \log n)$ -bit working space for large alphabets. In: *Proc. 16th Symposium on Combinatorial Pattern Matching (CPM)*. LNCS, vol. 3537, pp. 57–67. Springer, Berlin (2005)
- Na, J.C., Giancarlo, R., Park, K.: $O(n^2 \log n)$ time on-line construction of two-dimensional suffix trees. In: *Proceedings of the 11th International Computing and Combinatorics Conference*, 2005, pp. 273–282
- Nachtigall, K.: Time depending shortest-path problems with applications to railway networks. *Eur. J. Oper. Res.* **83**, 154–166 (1995)
- Nagamochi, H.: An improved bound on the one-sided minimum crossing number in two-layered drawings. *Discret. Comput. Geom.* **33**, 569–591 (2005)
- Nagamochi, H., Ibaraki, T.: A linear-time algorithm for finding a sparse k -connected spanning subgraph of a k -connected graph. *Algorithmica* **7**(5–6), 583–596 (1992)
- Nagel, W.E., Arnold, A., Weber, M., Hoppe, H.C., Solchenbach, K.: VAMPIR: visualization and analysis of MPI resources. *Supercomputer* **63**, 12(1), 69–80 (1996)
- Nakatake, S., Fujiyoshi, K., Murata, H., Kajitani, Y.: Module packing based on the BSG-structure and IC layout applications. *IEEE TCAD* **17**(6), 519–530 (1998)
- Nakatake, S., Murata, H., Fujiyoshi, K., Kajitani, Y.: Bounded Sliceline Grid (BSG) for module packing. *IEICE Technical Report*, October 1994, VLD94-66, vol. 94, no. 313, pp. 19–24 (in Japanese)
- Nakhleh, L., Warnow, T., Linder, C.R.: Reconstructing reticulate evolution in species – theory and practice. In: *Proc. 8th Annual International Conference on Research in Computational Molecular Biology (RECOMB 2004)*, 2004, pp. 337–346
- Nakhleh, L., Warnow, T., Ringe, D., Evans, S.N.: A comparison of phylogenetic reconstruction methods on an Indo-European dataset. *Trans. Philol. Soc.* **103**, 171–192 (2005)
- Naor, J., Naor, M.: Small-bias probability spaces: efficient constructions and applications. *SIAM J. Comput. Comput.* **22**(4), 838–856 (1993)
- Naor, J.S., Zosin, L.: A 2-Approximation Algorithm for the Directed Multiway Cut Problem. *SIAM J. Comput.* **31**(2), 477–492 (2001). Preliminary version in FOCS 1997
- Naor, M., Reingold, O.: Number-theoretic constructions of efficient pseudo-random functions. *J. ACM* **51**(2), 231–262 (2004)
- Naor, M., Stockmeyer, L.: What can be computed locally? In: *Proc. of the 25th Annual ACM Symposium on Theory of Computing (STOC)*, pp. 184–193 (1993)
- Naor, M., Wieder, U.: Novel architectures for p2p applications: the continuous-discrete approach. In: *The Fifteenth Annual ACM Symposium on Parallelism in Algorithms and Architectures (SPAA '03)*, 2003
- Naor, M., Wool, A.: The load, capacity and availability of quorum systems. *SIAM J. Comput.* **27**, 423–447 (1998)
- Narasimhan, G., Smid, M.: Geometric spanner networks. Cambridge University Press, New York (2006)
- Narasimhan, G., Smid, M.: Geometric Spanner Networks. Cambridge University Press, New York (2007)
- Narasimhan, G., Zachariasen, M.: Geometric Minimum Spanning Trees via Well-Separated Pair Decompositions. *ACM J. Exp. Algorithms* **6**, 6 (2001)
- Nash, J.F.: Equilibrium point in n -person games. In: *Proceedings of the National Academy of the USA*, vol. 36, issue 1, pp. 48–49 (1950)
- Nash, J.F.: Equilibrium point in n -person games. *Proc. Natl. Acad. Sci. USA* **36**(1), 48–49 (1950)
- Nash, J.F.: Non-cooperative games. *Ann. Math.* **54**, 268–295 (1951)
- Navarra, A.: 3-d minimum energy broadcasting. In: *Proceedings of the 13th Colloquium on Structural Information and Communication Complexity (SIROCCO)*, pp. 240–252 (2006)
- Navarra, A.: Tighter bounds for the minimum energy broadcasting problem. In: *Proceedings of the 3rd International Symposium on Modeling and Optimization in Mobile, Ad-hoc and Wireless Networks (WiOpt)*, pp. 313–322 (2005)
- Navarro, G.: A guided tour to approximate string matching. *ACM Comput. Surv.* **33**(1), 31–88 (2001)

- Navarro, G.: Approximate regular expression searching with arbitrary integer weights. *Nord. J. Comput.* **11**(4), 356–373 (2004)
- Navarro, G.: Indexing text using the Ziv–Lempel trie. *J. Discret. Algorithms* **2**, 87–114 (2004)
- Navarro, G.: Nr-grep: a fast and flexible pattern matching tool. *Softw. Pr. Exp.* **31**, 1265–1312 (2001)
- Navarro, G.: Regular expression searching on compressed text. *J. Discret. Algorithms* **1**(5–6), 423–443 (2003)
- Navarro, G., Baeza-Yates, R.: A hybrid indexing method for approximate string matching. *J. Discret. Algorithms* **1**, 21–49 (2000)
- Navarro, G., Baeza-Yates, R.: Very fast and simple approximate string matching. *Inf. Proc. Lett.* **72**, 65–70 (1999)
- Navarro, G., Baeza-Yates, R.A., Sutinen, E., Tarhio, J.: Indexing methods for approximate string matching. *IEEE Data Eng. Bull.* **24**(4), 19–27 (2001)
- Navarro, G., Chávez, E.: A metric index for approximate string matching. *Theor. Comput. Sci.* **352**(1–3), 266–279 (2006)
- Navarro, G., Mäkinen, V.: Compressed full text indexes. *ACM Comput. Surv.* **39**(1) (2007)
- Navarro, G., Paredes, R.: Practical construction of metric t -spanners. In: *Proceedings of the 5th Workshop on Algorithm Engineering and Experiments*, pp. 69–81, 11 January 2003. SIAM Press, Baltimore
- Navarro, G., Raffinot, M.: Fast and flexible string matching by combining bit-parallelism and suffix automata. *ACM J. Exp. Algorithm* **5**, 4 (2000)
- Navarro, G., Raffinot, M.: Fast and simple character classes and bounded gaps pattern matching, with applications to protein searching. *J. Comput. Biol.* **10**(6), 903–923 (2003)
- Navarro, G., Raffinot, M.: *Flexible Pattern Matching in Strings – Practical on-line search algorithms for texts and biological sequences*. Cambridge University Press, Cambridge (2002)
- Navarro, G., Raffinot, M.: New techniques for regular expression searching. *Algorithmica* **41**(2), 89–116 (2004)
- Navarro, G., Tarhio, J.: LZgrep: A Boyer–Moore string matching tool for Ziv–Lempel compressed text. *Softw. Pract. Exp.* **35**(12), 1107–1130 (2005)
- Nayak, A., Vishwanath, A.: Quantum walk on the line. *quant-ph/0010117*
- Needleman, S.B., Wunsch, C.D.: A General Method Applicable to the Search for Similarities in the Amino Acid Sequence of Two Proteins. *J. Mol. Biol.* **48**, 443–453 (1970)
- Nekrutenko, A., Li, W.H.: Assessment of compositional heterogeneity within and between eukaryotic genomes. *Genome Res.* **10**, 1986–1995 (2000)
- Nemhauser, G.L., Trotter, L.E.: Vertex packing: structural properties and algorithms. *Math. Program.* **8**, 232–248 (1975)
- Nemhauser, G.L., Wolsey, L.A.: *Integer and Combinatorial Optimization*. Wiley, Hoboken (1999)
- Nemhauser, G.L., Wolsey, L.A.: *Integer and Combinatorial Optimization*. Wiley, New York (1988)
- Nemhauser, G.L., Wolsey, L.A.: *Integer and Combinatorial Optimization*. Wiley, New York (1990)
- Nenakhov, E., Primak, M.: About one algorithm for finding the solution of the Arrow–Debreu Model. *Kibernetika* **3**, 127–128 (1983)
- Newman, A.: A note on polyhedral relaxations for the maximum cut problem (2004). Unpublished manuscript
- Neyman, J.: Molecular studies of evolution: a source of novel statistical problems. In: Gupta, S.S., Yackel, J. (eds) *Statistical Decision Theory and Related Topics*, pp. 1–27. Academic Press, New York (1971)
- Ng, A.Y.: Feature selection, L_1 vs. L_2 regularization, and rotational invariance. In: Greiner, R., Schuurmans, D. (eds.) *Proceedings of the 21st International Conference on Machine Learning*, pp. 615–622. The International Machine Learning Society, Princeton (2004)
- Ng, A.Y., Coates, A., Diel, M., Ganapathi, V., Schulte, J., Tse, B., Berger, E., Liang, E.: Inverted autonomous helicopter flight via reinforcement learning. In: *International Symposium on Experimental Robotics*, 2004
- Ng, C., Hirschberg, D.S.: Lower bounds for the stable marriage problem and its variants. *SIAM J. Comput.* **19**, 71–77 (1990)
- Ng, M.P., Wormald, N.C.: Reconstruction of rooted trees from subtrees. *Discrete Appl. Math.* **69**(1–2), 19–31 (1996)
- Ng, R.T., Han, J.: Efficient and effective clustering methods for spatial data mining. In: *Proc. Symp. on Very Large Data Bases (VLDB)*, pp. 144–155. Santiago de Chile, 12–15 September 1994
- Nguyen, P., Stern, J.: The two faces of lattices in cryptology. In: J. Silverman (ed.) *Cryptography and lattices conference – CaLC 2001*, Providence, RI, USA, March 2001. *Lecture Notes in Computer Science*, vol. 2146, pp. 146–180. Springer, Berlin (2001)
- Nieberg, T., Hurink, J.L.: A PTAS for the Minimum Dominating Set Problem in Unit Disk Graphs. *LNCS*, vol. 3879, pp. 296–306. Springer, Berlin (2006)
- Niedermeier, R.: *Invitation to Fixed-Parameter Algorithms*. Oxford Lecture Series in Mathematics and Its Applications, vol. 31. Oxford University Press, Oxford (2006)
- Niedermeier, R., Rossmanith, P.: New upper bounds for maximum satisfiability. *J. Algorithms* **26**, 63–88 (2000)
- Nielsen, M.A., Chuang, I.L.: *Quantum Computation and Quantum Information*. Cambridge University Press, Cambridge (2000)
- Nielsen, M.A., Knill, E., Laflamme, R.: Complete quantum teleportation using nuclear magnetic resonance. *Nature* **396**(6706), 52–55 (1998)
- Nikolietseas, S., Chatzigiannakis, I., Antoniou, A., Efthymiou, C., Kinalis, A., Mylonas, G.: Energy Efficient Protocols for Sensing Multiple Events in Smart Dust Networks. In: *Proc. 37th Annual ACM/IEEE Simulation Symposium (ANSS’04)*, pp. 15–24. IEEE Computer Society Press (2004)
- Nikolietseas, S., Palem, K., Spirakis, P., Yung, M.: Connectivity Properties in Random Regular Graphs with Edge Faults. In: *Special Issue on Randomized Computing of the International Journal of Foundations of Computer Science (IJFCS)*, vol. 11 no. 2, pp. 247–262. World Scientific Publishing Company (2000)
- Nikolietseas, S., Palem, K., Spirakis, P., Yung, M.: Short Vertex Disjoint Paths and Multiconnectivity in Random Graphs: Reliable Network Computing. In: *Proc. 21st International Colloquium on Automata, Languages and Programming (ICALP)*, pp. 508–515. Jerusalem (1994)
- Nikolietseas, S., Pantziou, G., Psycharis, P., Spirakis, P.: On the reliability of fat-trees. In: *Proc. 3rd International European Conference on Parallel Processing (Euro-Par)*, pp. 208–217, Passau, Germany (1997)
- Nikolietseas, S., Raptopoulos, C., Spirakis, P.: Expander Properties and the Cover Time of Random Intersection Graphs. In: *Proc of the 32nd MFCS*, pp. 44–55. Springer, Berlin/Heidelberg (2007)
- Nikolietseas, S., Raptopoulos, C., Spirakis, P.: The existence and Efficient construction of Large Independent Sets in General Random Intersection Graphs. In: *Proc. of the 31st ICALP*. LNCS, vol. 3142, pp. 1029–1040. Springer, Berlin/Heidelberg (2004)
- Nikolietseas, S., Spirakis, P.: Expander Properties in Random Regular Graphs with Edge Faults. In: *Proc. 12th Annual Symposium on*

- Theoretical Aspects of Computer Science (STACS), pp.421–432, München (1995)
- Nisan, N., Ronen, A.: Algorithmic mechanism design. In: Proceedings of the 31st Annual ACM Symposium on Theory of Computing (STOC-99), pp. 129–140. Association for Computing Machinery, New York (1999)
- Nisan, N.: Bidding and Allocation in Combinatorial Auctions. In: Proceedings of EC'00, pp. 1–12. Minneapolis, 17–20 October 2000
- Nisan, N., Ronen, A.: Algorithmic mechanism design. *Game. Econ. Behav.* **35**, 166–196 (2001)
- Nisan, N., Ronen, A.: Algorithmic mechanism design. In: Proc. 31st Annual Symposium on Theory of Computing (STOC99), Atlanta, 1–4 May 1999, pp. 129–140 (1999)
- Nisan, N., Ronen, A.: Computationally feasible vcg mechanisms. In: Proc. of the 2nd ACM Conference on Electronic Commerce (EC'00), 2000
- Nishimura, N., Ragde, P., Szeider, S.: Detecting backdoor sets with respect to Horn and binary clauses. In: Informal proceedings of SAT 2004, 7th International Conference on Theory and Applications of Satisfiability Testing, Vancouver, BC, Canada, 10–13 May 2004, pp. 96–103
- Nishimura, N., Ragde, P., Szeider, S.: Solving SAT using vertex covers. *Acta Inf.* **44**(7–8), 509–523 (2007)
- Nodine, M.H., Vitter, J.S.: Deterministic distribution sort in shared and distributed memory multiprocessors. In: Proceedings of the ACM Symposium on Parallel Algorithms and Architectures, June–July 1993, vol. 5, pp. 120–129, ACM Press, New York (1993)
- Nodine, M.H., Vitter, J.S.: Greed Sort: An optimal sorting algorithm for multiple disks. *J. ACM* **42**(4), 919–933 (1995)
- Noga, J., Seiden, S.S.: An optimal online algorithm for scheduling two machines with release times. *Theor. Comput. Sci.* **268**(1), 133–143 (2001)
- Novikoff, A. B. J.: On convergence proofs on perceptrons. In: Proceedings of the Symposium on the Mathematical Theory of Automata, volume XII, pp. 615–622, (1962)
- Nussinov, R., Jacobson, A.B.: Fast algorithm for predicting the secondary structure of single-stranded RNA. *Proc. Natl. Acad. Sci. USA* **77**, 6309–6313 (1980)
- Nussinov, R., Pieczenik, G., Griggs, J., Kleitman, D.: Algorithms for loop matchings. *SIAM J. Appl. Math.* **35**, 68–82 (1978)
- Nutt, G.: Operating System Projects Using Windows NT. Addison-Wesley, Reading (1999)
- O'Donnell, R., Servadio, R.: Learning monotone decision trees in polynomial time. In: Proceedings of the 21st Conference on Computational Complexity (CCC), pp. 213–225, Prague, 16–20 July 2006
- Ogurtsov, A.Y., Shabalina, S.A., Kondrashov, A.S., Roytberg, M.A.: Analysis of internal loops within the RNA secondary structure in almost quadratic time. *Bioinformatics* **22**, 1317–1324 (2006)
- Ohnishi, H., Seki, H., Kasami, T.: A polynomial time learning algorithm for recognizable series. *IEICE Transactions on Information and Systems*, **E77-D**(10)(5), 1077–1085 (1994)
- Ohta, T.: Near-neutrality in evolution of genes and gene regulation. *Proc. Natl. Acad. Sci. USA* **99**, 16134–16137 (2002)
- Okanohara, D., Sadakane, K.: Practical entropy-compressed rank/select dictionary. In: Proc. 9th ACM-SIAM Workshop on Algorithm Engineering and Experiments (ALENEX '07), SIAM, to appear (2007)
- Olariu, S., Stojmenovic, I.: Design guidelines for maximizing lifetime and avoiding energy holes in sensor networks with uniform distribution and uniform reporting. In: IEEE INFOCOM, Barcelona, Spain, April 24–25 2006
- Olken, F.: Random Sampling from Databases. Ph.D. thesis, Department of Computer Science, University of California, Berkeley (1993)
- Olmstead, R.G., Palmer, J.D.: Chloroplast DNA systematics: a review of methods and data analysis. *Am. J. Bot.* **81**, 1205–1224 (1994)
- OpenMP Architecture Review Board. OpenMP: A proposed industry standard API for shared memory programming. www.openmp.org, October 1997
- Ostrovsky, R., Patt-Shamir, B.: Optimal and efficient clock synchronization under drifting clocks. In: Proceedings of the 18th Annual Symposium on Principles of Distributed Computing, pp. 3–12, Atlanta, May (1999)
- Ostrovsky, R., Rabani, Y.: Universal $O(\text{congestion} + \text{dilation} + \log^{1+\varepsilon} N)$ Local Control Packet Switching Algorithm. In: Proceedings of The Twenty-Ninth ACM Symposium on Theory of Computing, pp. 644–653 (1997)
- Otten, R.H.J.M.: Automatic Floorplan Design. In: Proceedings of the 19th Design Automation Conference, pp. 261–267 (1982)
- Ouchi, K.: Real/Expr: Implementation of an exact computation package. Master's thesis, New York University, Department of Computer Science, Courant Institute, January (1997). URL <http://cs.nyu.edu/exact/doc/>
- Oum, S.I., Seymour, P.: Approximating clique-width and branch-width. *J. Combin. Theor. Ser. B* **96**, 514–528 (2006)
- Owen, G.: On the Core of Linear Production Games. *Math. Program.* **9**, 358–370 (1975)
- Ozery-Flato, M., Shamir, R.: Two notes on genome rearrangement. *J. Bioinf. Comput. Biol.* **1**, 71–94 (2003)
- Page, L., Brin, S., Motwani, R., Winograd, T.: The PageRank Citation Ranking: Bringing Order to the Web. In: Technical Report. Stanford University, Stanford (1998)
- Pagh, A., Pagh, R., Thorup, M.: On adaptive integer sorting. In: Proc. 12th ESA, 2004, pp. 556–579
- Pagh, R.: A trade-off for worst-case efficient dictionaries. *Nord. J. Comput.* **7**, 151–163 (2000). See also SWAT'00
- Pagh, R.: Low redundancy in static dictionaries with constant query time. *SIAM J. Comput.* **31**, 353–363 (2001)
- Pagh, R.: Low redundancy in static dictionaries with $O(1)$ lookup time. In: Proceedings of ICALP '99. LNCS, vol. 1644, pp. 595–604. Springer, Berlin (1999)
- Pagh, R.: On the cell probe complexity of membership and perfect hashing. In: Proceedings of the 33rd Annual ACM Symposium on Theory of Computing (STOC '01), pp. 425–432. ACM Press, New York (2001)
- Pagh, R., Rodler, F.F.: Cuckoo hashing. *J. Algorithms* **51**, 122–144 (2004)
- Pál, M., Tardos, É., Wexler, T.: Facility location with nonuniform hard capacities. In: Proceedings of the 42nd Annual Symposium on Foundations of Computer Science, pp. 329–338. Las Vegas, 14–17 October 2001
- Palmer, J.D.: Chloroplast and mitochondrial genome evolution in land plants. In: Herrmann, R. (ed.) *Cell Organelles*, pp. 99–133. Springer, Vienna (1992)
- Palmer, J.D., Herbon, L.A.: Tricircular mitochondrial genomes of Brassica and Raphanus: reversal of repeat configurations by inversion. *Nucleic Acids Res.* **14**, 9755–9764 (1986)
- Pan, P.: Continuous retiming: Algorithms and applications. In: Proc. Intl. Conf. Comput. Design, pp. 116–121. IEEE Press, Los Alamitos (1997)

- Pan, P., Karandikar, A.K., Liu, C.L.: Optimal clock period clustering for sequential circuits with retiming. *IEEE Trans. Comput.-Aided Des. Integr. Circuits Syst.* **17**, 489–498 (1998)
- Pan, P., Lin, C.C.: A New Retiming-based Technology Mapping Algorithm for LUT-based FPGAs. *ACM International Symposium on Field-Programmable Gate Arrays* (1998)
- Pan, P., Liu, C.L.: Area Minimization for Floorplans. In: *IEEE Trans. Comput. Aided Des.* **14**(1), 123–132 (1995)
- Pan, P., Liu, C.L.: Optimal Clock Period FPGA Technology Mapping for Sequential Circuits. *ACM Trans. on Des. Autom. of Electron. Syst.*, **3**(3), 437–462 (1998)
- Pan, P., Liu, C.L.: Optimal Clock Period FPGA Technology Mapping for Sequential Circuits. *ACM/IEEE Design Automation Conference*, June (1996)
- Pan, P., Shi, W., Liu, C.L.: Area Minimization for Hierarchical Floorplans. In: *Algorithmica* **15**(6), 550–571 (1996)
- Panagiotou, K., Souza, A.: On adequate performance measures for paging. In: *STOC '06: Proceedings of the thirty-eighth annual ACM symposium on Theory of computing*, pp. 487–496. *ACM Press*, New York, NY, USA (2006)
- Panagopoulou P., Spirakis P.: Algorithms for pure Nash Equilibrium in weighted congestion games. *ACM J. Exp. Algorithms* **11**, 2.7 (2006)
- Panaite, P., Pelc, A.: Exploring unknown undirected graphs. *J. Algorithms* **33**, 281–295 (1999)
- Panigrahy, R.: Efficient hashing with lookups in two memory accesses. In: *Proceedings of the 16th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA '05)*, pp. 830–839. *SIAM*, Vancouver, 23–25 January 2005
- Papa, D.A., Markov, I.L.: Hypergraph partitioning and clustering. In: Gonzalez, T. (ed.) *Handbook of algorithms*. Taylor & Francis Group, Boca Raton, CRC Press, pp. 61–1 (2007)
- Papadimitriou, C.: *Computational Complexity*. Addison-Wesley, Reading (1994)
- Papadimitriou, C., Steiglitz, K.: *Combinatorial Optimization: Algorithms and Complexity*. Prentice-Hall, Englewood Cliffs (1982)
- Papadimitriou, C., Yannakakis, M.: Linear programming without the matrix. In: *Proc. of the 25th ACM Symposium on Theory of Computing (STOC)*, pp. 121–129 (1993)
- Papadimitriou, C.H.: Algorithms, games, and the internet. In: *Proc. on 33rd Annual ACM Symposium on Theory of Computing (STOC)*, pp. 749–753. *ACM*, Heraklion (2001)
- Papadimitriou, C.H.: On inefficient proofs of existence and complexity classes. In: *Proceedings of the 4th Czechoslovakian Symposium on Combinatorics 1990*, Prachatice (1991)
- Papadimitriou, C.H.: On selecting a satisfying truth assignment. *Proceedings 32nd Annual Symposium on Foundations of Computer Science*, pp. 163–169. San Juan, Puerto Rico (1991)
- Papadimitriou, C.H.: On the complexity of the parity argument and other inefficient proofs of existence. *J. Comput. Syst. Sci.* **48**, 498–532 (1994)
- Papadimitriou, C.H.: The Euclidean travelling salesman problem is NP-complete. *Theor. Comput. Sci.* **4**, 237–244 (1977)
- Papadimitriou, C.H.: The NP-completeness of the bandwidth minimization problem. *Computing* **16**(3), 263–270 (1976)
- Papadimitriou, C.H., Schaffer, A., Yannakakis, M.: On the complexity of local search. In: *22nd Symp. on Theory of Computing (STOC)*, pp. 438–445 (1990)
- Papadimitriou, C.H., Wolfe, D.: The complexity of facets resolved. *J. Comput. Syst. Sci.* **37**, 2–13 (1988)
- Papadimitriou, C.H., Yannakakis, M.: On limited nondeterminism and the complexity of the V-C dimension. *J. Comput. Syst. Sci.* **53**(2), 161–170 (1996)
- Papadimitriou, C.H., Yannakakis, M.: Shortest Paths without a Map. *Theor. Comput. Sci.* **84**, 127–150 (1991) Preliminary version in *ICALP '89*
- Papadimitriou, C.H., Tsitsiklis, J.N.: The complexity of markov decision processes. In: *Mathematics of Operations Research*, 1987, pp. 441–450.
- Papaefthymiou, M.C.: Asymptotically Efficient Retiming under Setup and Hold Constraints. In: *Proceedings of the IEEE/ACM International Conference on Computer-Aided Design*, pp. 288–295, November 1998
- Park, K., Galil, Z.: Truly alphabet-independent two-dimensional pattern matching. In: *Proceeding 33rd IEEE FOCS*, 1992, pp. 247–256
- Parkes, D.C.: Chapter 2: Iterative Combinatorial Auctions. Ph. D. thesis, University of Pennsylvania (2004)
- Parra, A., Scheffler, P.: Characterizations and algorithmic applications of chordal graph embeddings. *Discret. Appl. Math.* **79**, 171–188 (1997)
- Parvaresh, F., Vardy, A.: Correcting errors beyond the Guruswami–Sudan radius in polynomial time. In: *Proceedings of the 46th Annual IEEE Symposium on Foundations of Computer Science*, pp. 285–294. Pittsburgh, 2005
- Parvédy, P.R., Raynal, M.: Optimal Early Stopping Uniform Consensus in Synchronous Systems with Process Omission Failures. In: *Proc. 16th Annual ACM Symposium on Parallel Algorithms (SPAA)*, pp. 302–310, Spain, June 2004
- Pasco, R.: *Source Coding Algorithms for Fast Data Compression*, Ph. D. thesis, Stanford University (1976)
- Pascoal, M.: Implementations and empirical comparison of k shortest loopless path algorithms. In: *9th DIMACS Implementation Challenge Workshop: Shortest Paths*, DIMACS Center, Piscataway, NJ, 13–14 Nov 2006
- Pătraşcu, M., Demain, E.D.: Lower Bounds for Dynamic Connectivity. In: *Proc. 36th ACM Symposium on Theory of Computing (STOC)*, 2004, pp. 546–553
- Pătraşcu, M., Demaine, E.: Logarithmic Lower Bounds in the Cell-Probe Model. *SIAM J. Comput.* **35**(4), 932–963 (2006) (presented at ACM STOC 2004)
- Pătraşcu, M., Tarniță, C.: On dynamic bit-probe complexity. *Theor. Comput. Sci.* **380**, 127–142 (2007). See also *ICALP'05*
- Pătraşcu, M., Tarniță, C.: On Dynamic Bit-Probe Complexity, Theoretical Computer Science, Special Issue on *ICALP'05*. In: Italiano, G.F., Palamidessi, C. (eds.) vol. 380, pp. 127–142 (2007) A preliminary version in *Proc. 32nd International Colloquium on Automata, Languages and Programming (ICALP'05)*, 2005, pp. 969–981
- Pătraşcu, M., Thorup, M.: Randomization does not help searching predecessors. In: *Proc. 18th ACM/SIAM Symposium on Discrete Algorithms (SODA)*, 2007
- Pătraşcu, M., Thorup, M.: Time-space trade-offs for predecessor search. In: *Proc. 38th ACM Symposium on Theory of Computing (STOC)*, 2006, pp. 232–240
- Patt-Shamir, B., Rajsbaum, S.: A theory of clock synchronization. In: *Proceedings of the 26th Annual ACM Symposium on Theory of Computing*, pp. 810–819, Montreal 23–25 May 1994
- Pattengale, N.D., Moret, B.M.E.: A Sublinear-Time Randomized Approximation Scheme for the Robinson–Foulds Metric. In: *Proceedings of the Tenth ACM Annual International Conference*

- on Research in Computational Molecular Biology (RECOMB), pp. 221–230. Venice, Italy, April 2–5 2006
- Paturi, R., Pudlák, P., Saks, M., Zane, F.: An Improved Exponential-time Algorithm for k -SAT. *J. ACM* **52**(3), 337–364 (2005) (An earlier version presented in Proceedings of the 39th Annual IEEE Symposium on Foundations of Computer Science, 1998, pp. 628–637)
- Paturi, R., Pudlák, P., Saks, M.E., Zane, F.: An improved exponential-time algorithm for k -SAT. Proceedings 39th Annual Symposium on Foundations of Computer Science, pp. 628–637. Palo Alto, USA (1998) Also, *J. ACM* **52**(3), 337–364 (2006)
- Paturi, R., Pudlák, P., Zane, F.: Satisfiability Coding Lemma. In: Proceedings of the 38th Annual IEEE Symposium on Foundations of Computer Science, 1997, pp. 566–574. Chicago *J. Theor. Comput. Sci.* (1999), <http://cjcs.cs.uchicago.edu/>
- Paul, C., Proskurowski, A., Telle, J.A.: Generating graphs of bounded branchwidth. In: Proceedings of the 32nd Workshop on Graph Theoretic Concepts in Computer Science (WG 2006). Lecture Notes Computer Science, vol. 4271, pp. 205–216. Springer, Berlin (2006)
- Paul, C., Telle, J.A.: New tools and simpler algorithms for branchwidth. In: Proceedings of the 13th Annual European Symposium on Algorithms (ESA 2005), 2005 pp. 379–390
- Paul, J., Simon, W.: Decision trees and random access machines. In: Symposium über Logik und Algorithmik. (1980) See also Mehlhorn, K.: Sorting and Searching, pp. 85–97. Springer, Berlin (1984)
- Pearl, J.: Capacity and error-estimates for boolean classifiers with limited complexity. *IEEE Trans. on Pattern Recognition and Machine Intelligence*, PAMI-1(4), 350–356 (1979)
- Pearl, J.: Heuristics: Intelligent Search Strategies for Computer Problem Solving. Addison-Wesley, Reading, MA (1984)
- Pearson, W.R., Lipman, D.J.: Improved Tools for Biological Sequence Comparison. *Proc. Natl. Acad. Sci. USA* **85**, 2444–2448 (1988)
- Pease, M.C., Shostak, R.E., Lamport, L.: Reaching Agreement in the Presence of Faults. *J. ACM* **27**(2), 228–234 (1980)
- Pelc, A., Peleg, D.: Feasibility and complexity of broadcasting with random transmission failures. *Proc. 24th Ann. ACM Symposium on Principles of Distributed Computing (PODC)*, pp. 334–341, Las Vegas, July 17–20 2005
- Peleg, D.: Distributed Computing: A Locality-Sensitive Approach. In: *SIAM Monographs on Discrete Mathematics and Applications* 5 (2000)
- Peleg, D., Schäffer, A.A.: Graph spanners. *J. Graph Theory* **13**, 99–116 (1989)
- Peleg, D., Ullman, J.D.: An optimal synchronizer for the hypercube. *SIAM J. Comput.* **18**, 740–747 (1989)
- Peleg, D., Upfal, E.: A trade-off between space and efficiency for routing tables. *J. Assoc. Comput. Mach.* **36**(3), 510–530 (1989)
- Peleg, D., Wool, A.: Crumbling walls: A class of practical and efficient quorum systems. *Distrib. Comput.* **10**, 87–98 (1997)
- Peleg, D., Wool, A.: The availability of quorum systems. *Inf. Comput.* **123**, 210–223 (1995)
- Pemmaraju, S., Raman, R., Varadarajan, K.: Buffer minimization using max-coloring. In: *Proc. of the Fifteenth Annual ACM-SIAM Symposium on Discrete Algorithms (SODA 2004)*, pp. 562–571. (2004)
- Pennebaker, W.B., Mitchell, J.L., Langdon, G.G., Arps, R.B.: An overview of the basic principles of the Q-coder adaptive binary arithmetic coder. *IBM J. Res. Develop.* **32**, 717–726 (1988)
- Penrose, M.: On k -connectivity for a geometric random graph. *Random. Struct. Algorithms* **15**(2), 145–164 (1999)
- Penrose, M.: *Random Geometric Graphs*. Oxford University Press, Oxford (2003)
- Penrose, M.: The longest edge of the random minimal spanning tree. *Ann. Appl. Probab.* **7**(2), 340–361 (1997)
- Pereira, F., Riley, M.: Speech recognition by composition of weighted finite automata. In: *Finite-State Language Processing*, pp. 149–173. MIT Press, Cambridge (1997)
- Perkins, C.E.: *Ad Hoc Networking*. Addison-Wesley, Boston (2001)
- Perry, K.J., Toueg, S.: Distributed Agreement in the Presence of Processor and Communication Faults. *IEEE Trans. Softw. Eng.* **12**(3), 477–482 (1986)
- Peters, J.G., Rudolph, L.: Parallel approximation schemes for subset sum and knapsack problems. *Acta Inform.* **24**, 417–432 (1987)
- Peterson, G.L.: Concurrent reading while writing. *ACM Trans. Program. Lang. Syst.* **5**(1), 56–65 (1983)
- Peterson, G.L., Burns, J.E.: Concurrent reading while writing II: The multiwriter case. In: *Proc. 28th IEEE Symp. Found. Comput. Sci.*, pp. 383–392. Los Angeles, 27–29 October 1987
- Peterson, W.W.: Encoding and error-correction procedures for Bose-Chaudhuri codes. *IEEE Trans. Inf. Theory*. **6**, 459–470 (1960)
- Pettie, S., Ramachandran, V.: An Optimal Minimum Spanning Tree Algorithm. *J. ACM* **49**(1), 16–34 (2002)
- Pettie, S.: A new approach to all-pairs shortest paths on real-weighted graphs. *Theor. Comput. Sci.* **312**(1), 47–74 (2004)
- Pettie, S.: Low-Distortion Spanners. In: *34th International Colloquium on Automata Languages and Programm.* Wroclaw, July 2007, pp. 78–89
- Pettie, S.: On the comparison-addition complexity of all-pairs shortest paths. In: *Proc. 13th Int'l Symp. on Algorithms and Computation (ISAAC)*, 2002, pp. 32–43
- Pettie, S.: On the shortest path and minimum spanning tree problems. Ph.D. thesis, The University of Texas, Austin, August 2003
- Pettie, S.: Towards a final analysis of pairing heaps. In: *Proc. 46th Annual Symposium on Foundations of Computer Science (FOCS)*, 2005, pp. 174–183
- Pettie, S., Ramachandran, V.: A randomized time-work optimal parallel algorithm for finding a minimum spanning forest. *SIAM J. Comput.* **31**(6), 1879–1895 (2002)
- Pettie, S., Ramachandran, V.: A shortest path algorithm for real-weighted undirected graphs. *SIAM J. Comput.* **34**(6), 1398–1431 (2005)
- Pettie, S., Ramachandran, V.: Minimizing randomness in minimum spanning tree, parallel connectivity and set maxima algorithms. In: *Proc. 13th ACM-SIAM Symp. on Discrete Algorithms (SODA)*, 2002, pp. 713–722
- Pettie, S., Ramachandran, V.: New randomized minimum spanning tree algorithms using exponentially fewer random bits. *ACM Trans. Algorithms*. **4**(1), article 5 (2008)
- Pettie, S., Ramachandran, V., Sridhar, S.: Experimental evaluation of a new shortest path algorithm. In: *Proc. 4th Workshop on Algorithm Engineering and Experiments (ALENEX)*, 2002, pp. 126–142
- Pevsner, J.: *Bioinformatics and functional genomics*. Wiley, New York (2003)
- Pevtsov, S., Fedulova, I., Mirzaei, H., Buck, C., Zhang, X.: Performance evaluation of existing de novo sequencing algorithms. *J. Proteome Res.* **5**(11), 3018–3028 (2006) ASAP Article 10.1021/pr060222h

- Pevzner, P., Tesler, G.: Human and mouse genomic sequences reveal extensive breakpoint reuse in mammalian evolution. *PNAS* **100**, 7672–7677 (2003)
- Pevzner, P.A.: Computational molecular biology: an algorithmic approach. MIT Press, Cambridge, MA (2000)
- Pevzner, P.A.: Multiple alignment, communication cost, and graph matching. *SIAM J. Appl. Math.* **52**, 1763–1779 (1992)
- Pevzner, P.A., Sze, S.H.: Combinatorial approaches to finding subtle signals in DNA sequences. In: Proc. of 8th ISMB, pp. 269–278. AAAI Press, (2000)
- Pinedo, M.: Scheduling: Theory, Algorithms and Systems, 2nd ed. Prentice Hall, Englewood Cliffs (2002)
- Pion, S., Yap, C.: Constructive root bound method for k-ary rational input numbers, September, (2002). Extended Abstract. Submitted, (2003) ACM Symposium on Computational Geometry
- Pitt, L.: Inductive inference, DFAs, and computational complexity. In: Analogical and Inductive Inference, 2nd International Workshop, Reinhardtsbrunn Castle, GDR. Lecture Notes in Computer Science, vol. 397, pp. 18–44. Springer, Berlin (1989)
- Pitt, L., Valiant, L.: Computational limitations on learning from examples. *J. ACM* **35**(4), 965–984 (1988)
- Platt, J.: Fast training of support vector machines using sequential minimal optimization. In: Schölkopf, B., Burges, C.J.C., Smola, A.J. (eds.) *Advances in Kernel Methods Support Vector Learning*. pp 185–208. MIT Press, Cambridge (1999)
- Plaxton, C., Rajaraman, R., Richa, A.: Accessing nearby copies of replicated objects in a distributed environment. In: Proceedings of the Ninth Annual ACM Symposium on Parallel Algorithms and Architectures (SPAA 97), 1997, pp. 311–320
- Plehn, J., Voigt, B.: Finding minimally weighted subgraphs. *Lect. Notes Comput. Sci.* **484**, 18–29 (1990)
- Plotkin, S.A., Shmoys, D.B., Tardos, É.: Fast approximation algorithms for fractional packing and covering problems. In: Proceedings of 32nd Annual IEEE Symposium on Foundations of Computer Science (FOCS), 1991, pp. 495–504
- Plotkin, S.A., Shmoys, D.B., Tardos, É.: Fast approximation algorithms for fractional packing and covering problems. *Math. Oper. Res.* **20**(2) 257–301 (1995). Preliminary version appeared in [6]
- Podtelezhnikov, A., Cozzarelli, N., Vologodskii, A.: Equilibrium distributions of topological states in circular DNA: interplay of supercoiling and knotting. (English. English summary) *Proc. Natl. Acad. Sci. USA* **96**(23), 12974–12979 (1999)
- Polischuk, A., Spielman, D.: Nearly linear-size holographic proofs. In: Proceedings of the Twenty-Sixth Annual ACM Symposium on the Theory of Computing, pp. 194–203. ACM, New York (1994)
- Poljak, S.: Polyhedral and eigenvalue approximations of the max-cut problem. *Sets, Graphs and Numbers. Colloquia Mathematica Societatis Janos Bolyai* **60**, 569–581 (1992)
- Poljak, S., Rendl, F.: Node and edge relaxations of the max-cut problem. *Comput.* **52**, 123–137 (1994)
- Poljak, S., Rendl, F.: Nonpolyhedral relaxations of graph-bisection problems. *SIAM J. Opt.* **5**, 467–487 (1995)
- Poljak, S., Rendl, F.: Solving the max-cut using eigenvalues. *Discret. Appl. Math.* **62**(1–3), 249–278 (1995)
- Poljak, S., Tuza, Z.: Maximum cuts and large bipartite subgraphs. *DIMACS Ser. Discret. Math. Theor. Comput. Sci.* **20**, 181–244 (1995)
- Pomerance, C.: Factoring. In: Pomerance, C. (ed.) *Cryptology and Computational Number Theory, Proceedings of Symposia in Applied Mathematics*, vol. 42, p. 27. American Mathematical Society
- Poon, C.K., Ramachandran, V.: A randomized linear-work EREW PRAM algorithm to find a minimum spanning forest. *Algorithmica* **35**(3), 257–268 (2003)
- Popper, K.: *The Logic of Scientific Discovery*. Harper & Row, New York (1959)
- Posada, D., Crandall, K.A.: Intraspecific gene genealogies: trees grafting into networks. *TRENDS Ecol. Evol.* **16**(1), 37–45 (2001)
- Potts, R.: Some generalized order - disorder transformations, *Proc. Camb. Phil. Soc.* **48**, 106–109 (1952)
- Powell, O., Leone, P., Rolim, J.: Energy Optimal Data Propagation in Sensor Networks. *J. Parallel Distrib. Comput.* **67**(3), 302–317 (2007) <http://arxiv.org/abs/cs/0508052>
- Powell, O., Nikolestas, S.: Simple and efficient geographic routing around obstacles for wireless sensor networks. In: WEA 6th Workshop on Experimental Algorithms, Rome, Italy. Springer, Berlin (2007)
- Preparata, F.P., Shamos, M.I.: *Computational Geometry: an Introduction*. Springer, New York (1985)
- Price, B., Baecker, R., Small, I.: A Principled Taxonomy of Software Visualization. *J. Visual Lang. Comp.* **4**, 211–266 (1993)
- Prieto-Rodriguez, E.: Systematic kernelization in FPT algorithm design. Dissertation, School of Electrical Engineering and Computer Science, University of Newcastle, Australia (2005)
- Prokop, H.: Cache-oblivious algorithms. Master's thesis, Massachusetts Institute of Technology, Dept. of Electrical Engineering and Computer Science (1999)
- Proll, L.G.: A simple method of assigning projects to students. *Oper. Res. Q.* **23**(23), 195–201 (1972)
- Pruhs, K., Sgall, J., Torng, E.: Online scheduling. In: *Handbook on Scheduling: Algorithms, Models and Performance Analysis*, CRC press (2004). Symposium on Theory of Computing (STOC), pp. 110–119. (1997)
- Pruhs, K., Uthaisombut, P., Woeginger, G.: Getting the Best Response for Your Erg. In: *Scandinavian Workshop on Algorithms and Theory*, 2004
- Przytycka, T.M.: Transforming rooted agreement into unrooted agreement. *J. Comput. Biol.* **5**(2), 335–349 (1998)
- Pudlák, P.: Satisfiability – algorithms and logic. In: *Proceedings of the 23rd International Symposium on Mathematical Foundations of Computer Science, MFCS'98. Lecture Notes in Computer Science*, vol. 1450, pp. 129–141. Springer, Berlin (1998)
- Pugh, W.: Skip lists: A probabilistic alternative to balanced trees. *Commun. ACM* **33**, 668–676 (1990)
- Pugh, W.: Skip lists: A probabilistic alternative to balanced trees. In: *Workshop on Algorithms and Data Structures*, 1989, pp. 437–449
- Puglisi, S., Smyth, W., Turpin, A.: A taxonomy of suffix array construction algorithms. *ACM Comput. Surv.* **39**(2), Article 4, 31 pages (2007)
- Puterman, M.: *Markov Decision Processes*. Wiley-Interscience, New York (1994)
- Pyrga, E., Schulz, F., Wagner, D., Zaroliagis, C.: Efficient Models for Timetable Information in Public Transportation Systems. *ACM J. Exp. Algorithmic* **12**(2.4), 1–39 (2007)
- Pyrga, E., Schulz, F., Wagner, D., Zaroliagis, C.: Experimental comparison of shortest path approaches for timetable information. In: *Proceedings 6th Workshop on Algorithm Engineering and Experiments (ALENEX), Society for Industrial and Applied Mathematics*, 2004, pp. 88–99

- Pyrga, E., Schulz, F., Wagner, D., Zaroliagis, C.: Towards realistic modeling of time-table information through the time-dependent approach. In: Proceedings of the 3rd Workshop on Algorithmic Methods and Models for Optimization of Railways (AT-MOS'03), 2003, [1], pp. 85–103
- Qiu, L., Padmanabhan, V.N., Voelker, G.: On the placement of web server replicas. In: Proceedings of the 20th Annual Joint Conference of the IEEE Computer and Communications Societies (INFOCOM), pp. 1587–1596. IEEE Computer Society, Los Alamitos (2001)
- Quine, W.V.: A way to simplify truth functions. *Am. Math. Mon.* **62**(9), 627–631 (1955)
- Quine, W.V.: The problem of simplifying truth functions. *Am. Math. Mon.* **59**(8), 521–531 (1952)
- Rabani, Y., Tardos, E.: Distributed Packet Switching in Arbitrary Networks. In: the 28th ACM Symposium on Theory of Computing, pp. 366–376 (1996)
- Rabin, M.: Randomized Byzantine Generals. In: Proc. 24th Annual ACM Symposium on Foundations of Computer Science, 1983, pp. 403–409
- Rabin, M.O., Vazirani, V.V.: Maximum Matchings in General Graphs Through Randomization. *J. Algorithms* **10**, 557–567 (1989)
- Rabinovich, Y., Raz, R.: Lower bounds on the distortion of embedding finite metric spaces in graphs. *Discret. Comput. Geom.* **19**, 79–94 (1998)
- Räcke, H.: Minimizing congestion in general networks. In: Proceedings of the 43rd Annual Symposium on the Foundations of Computer Science, pp. 43–52 (2002)
- Raghavachari, B.: Algorithms for finding low degree structures. In: Hochbaum, D.S. (ed.) *Approximation Algorithms for NP-Hard Problems*. pp. 266–295. PWS Publishing Company, Boston (1995)
- Raghavan, P., Thompson, C.D.: Randomized rounding: a technique for provably good algorithms and algorithmic proofs. *Combinatorica* **7**, 365–374 (1987)
- Rahman, N., Cole, R., Raman, R.: Optimised predecessor data structures for internal memory. In: Proc. Algorithm Engineering, 5th International Workshop, WAE. LNCS, vol. 2141, pp. 67–78. Springer, Berlin (2001)
- Rahman, N., Raman, R.: Adapting radix sort to the memory hierarchy. *ACM J. Exp. Algorithmics* **6**, Article 7 (2001)
- Rahman, N., Raman, R.: Analysing cache effects in distribution sorting. *ACM J. Exp. Algorithmics* **5**, Article 14 (2000)
- Rahman, N., Raman, R.: Cache analysis of non-uniform distribution sorting algorithms. (2007) <http://www.citebase.org/abstract?id=oai:arXiv.org:0706.2839> Accessed 13 August 2007 Preliminary version in: Proc. of 8th Annual European Symposium on Algorithms (ESA 2000). LNCS, vol. 1879, pp. 380–391. Springer, Berlin Heidelberg (2000)
- Raipin Parvedy, P., Raynal, M., Travers, C.: Early-stopping k -set agreement in synchronous systems prone to any number of process crashes. In: Proc. 8th Int'l Conference on Parallel Computing Technologies (PaCT'05). LNCS, vol. 3606, pp. 49–58. Springer, Berlin (2005)
- Raipin Parvedy, P., Raynal, M., Travers, C.: Strongly-terminating early-stopping k -set agreement in synchronous systems with general omission failures. In: Proc. 13th Colloquium on Structural Information and Communication Complexity (SIROCCO'06). LNCS, vol. 4056, pp. 182–196. Springer, Berlin (2006)
- Rajagopalan, S., Vazirani, V.V.: On the bidirected cut relaxation for the metric Steiner tree problem. In: 10th ACM-SIAM Symposium on Discrete Algorithms, Baltimore, (1999), pp. 742–751
- Rajan, V., Ghosh, R., Gupta, P.: An efficient parallel algorithm for random sampling. *Inf. Process. Lett.* **30**, 265–268 (1989)
- Rajaraman, R., Wong, D.F.: Optimum clustering for delay minimization. *IEEE Trans. Comput.-Aided Des. Integr. Circ. Syst.* **14**, 1490–1495 (1995)
- Rajkumar, R.: Synchronization In Real-Time Systems – A Priority Inheritance Approach. Kluwer Academic Publishers, Boston (1991)
- Ramalingam, G.: Bounded incremental computation. In: Lecture Notes in Computer Science, vol. 1089. Springer, New York (1996)
- Ramalingam, G.: Bounded incremental computation. *Lect. Note Comp. Sci.* 1089 (1996)
- Ramalingam, G., Reps, T.: An incremental algorithm for a generalization of the shortest path problem. *J. Algorithm* **21**, 267–305 (1996)
- Ramalingam, G., Reps, T.: On the computational complexity of dynamic graph problems. *Theor. Comp. Sci.* **158**, 233–277 (1996)
- Raman, R., Raman, V., Rao, S.S.: Succinct indexable dictionaries with applications to encoding k -ary trees and multisets. In: Proc. 13th ACM-SIAM Symposium on Discrete Algorithms (SODA), pp. 233–242. San Francisco, USA (2002)
- Raman, R., Rao, S. S.: Succinct dynamic dictionaries and trees. In: Baeten, J.C.M., Lenstra, J.K., Parrow J., Woeginger, G.J. (eds.) *Proceedings of the 30th International Colloquium on Automata, Languages and Programming*, pp. 357–368. Springer, Heidelberg (2003)
- Ramanathan, S., Loyd, E.R.: The Complexity of Distance 2-Coloring. In: Proceedings of the 4th International Conference of Computing and Information, pp. 71–74 (1992)
- Ramasubramanian, V., Sirer, E.G.: Beehive: $O(1)$ lookup performance for power-law query distributions in peer-to-peer overlays. In: Proceedings of Networked System Design and Implementation (NSDI), 2004
- Ramasubramanian, V., Sirer, E.G.: The design and implementation of a next generation name service for the internet. In: Proceedings of SIGCOMM, 2004
- Randerath, B., Schiermeyer, I.: Exact algorithms for MINIMUM DOMINATING SET. Technical Report, zaik-469, Zentrum für Angewandte Informatik Köln (2004)
- Ranjan, R., Aziz, A., Brayton, R., Plessier, B., Pixley, C.: Efficient BDD Algorithms for FSM Synthesis and Verification. In: Proceedings of the International Workshop on Logic Synthesis, May 1995
- Rao, S.: Small distortion and volume preserving embeddings for planar and Euclidean metrics. In: Proceedings of the 15th Annual Symposium on Computational Geometry, pp. 300–306. ACM, New York (1999)
- Rao, S., Smith, W.D.: Approximating geometrical graphs via spanners and banyans. In: Proceedings of the 30th ACM Symposium on Theory of Computing, pp. 540–550. Dallas, 23–26 May 1998
- Rao, S.B.: Faster algorithms for finding small edge cuts in planar graphs (extended abstract). In: Proceedings of the Twenty-Fourth Annual ACM Symposium on the Theory of Computing, pp. 229–240, May (1992)
- Rappaport, T.S.: *Wireless Communications: Principles and Practices*. Prentice Hall, IEEE Press, Piscataway (1996)
- Raptopoulos, C., Spirakis, P.: Simple and efficient greedy algorithms for hamiltonian cycles in random intersection graphs. In: Pro-

- ceedings of the 16th International Symposium on Algorithms and Computation (ISAAC), pp 493–504. Springer, Berlin Heidelberg (2005)
- Rastegari, B., Condon, A.: Linear time algorithm for parsing RNA secondary structure. In: Casadio, R., Myers, E.: (eds.) Proc. 5th Workshop Algs. in Bioinformatics (WABI'05). Lecture Notes in Computer Science, vol. 3692, pp. 341–352. Springer, Mallorca, Spain (2005)
- Rastegari, B., Condon, A.: Parsing nucleic acid pseudoknotted secondary structure: algorithm and applications. *J. Comput. Biol.* **14**(1), 16–32 (2007)
- Ratnasamy, S., Francis, P., Handley, M., Karp, R., Shenker, S.: A scalable content-addressable network. In: Proceedings of the ACM SIGCOMM 2001 Technical Conference, 2001
- Raubeson, L.A., Jansen, R.K.: Chloroplast DNA evidence on the ancient evolutionary split in vascular land plants. *Science* **255**, 1697–1699 (1992)
- Ravi, R., Singh, M.: Delegate and conquer: An LP-based approximation algorithm for minimum degree MSTs. In: Proceedings of the 33rd International Colloquium on Automata, Languages and Programming (ICALP 2006) Part I. LNCS, vol. 4051, pp. 169–180. Springer, Berlin (2006)
- Ravi, R., Sinha, A.: Hedging uncertainty: Approximation algorithms for stochastic optimization problems. *Math. Program.* **108**(1), 97–114 (2006)
- Ravi, R., Sinha, A.: Integrated logistics: Approximation algorithms combining facility location and network design. In: Proceedings of the 9th Conference on Integer Programming and Combinatorial Optimization (IPCO). Lecture Notes in Computer Science, vol. 2337, pp. 212–229. Springer, Berlin (2002)
- Ravi, R., Sinha, A.: Multicommodity facility location. In: Proceedings of the 15th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA), pp. 342–349. SIAM, Philadelphia (2004)
- Ravishanker, K., Singh, S.: Broadcasting on $[0, L]$. *Discret. Appl. Math.* **53**, 299–319 (1994)
- Raynal, M.: Algorithms for mutual exclusion. MIT Press, Cambridge (1986). Translation of: Algorithmique du parallélisme, (1984)
- Raynal, M.: Consensus in Synchronous Systems: A Concise Guided Tour. In: Proc. 9th Pacific Rim International Symposium on Dependable Computing (PRDC), pp. 221–228, Japan, December 2002
- Raynal, M., Singhal, M.: Capturing causality in distributed systems. *IEEE Comput.* **29**, 49–56 (1996)
- Raynal, M., Travers, C.: Synchronous set agreement: a concise guided tour (including a new algorithm and a list of open problems). In: Proc. 12th Int'l IEEE Pacific Rim Dependable Computing Symposium (PRDC'2006), pp. 267–274. IEEE Society Computer Press, Los Alamitos (2006)
- Raz, R., Safra, S.: A sub-constant error-probability low-degree test, and a sub-constant error-probability pcp characterization of np. In: Proceedings of the Twenty-Ninth Annual ACM Symposium on the Theory of Computing, pp. 475–484. ACM, New York (1997)
- Razborov, A.: On the Distributional Complexity of Disjointness. *Theor. Comput. Sci.* **106**(2), 385–390 (1992)
- Razborov, A.A.: Quantum communication complexity of symmetric predicates. *Izvestiya of the Russian Academy of Science, Mathematics*, **67**, 145–159 (2002)
- Reda, S., Chowdhary, A.: Effective linear programming based placement methods. In: ACM Press, San Jose, 9–12 Apr 2006
- Reed, B., Smith, K., Vetta, A.: Finding odd cycle transversals. *Oper. Res. Lett.* **32**(4), 299–301 (2004)
- Reed, B.A.: Algorithmic aspects of tree width, pp. 85–107. CMS Books Math. Ouvrages Math. SMC, 11. Springer, New York (2003)
- Reed, B.A.: Tree width and tangles, a new measure of connectivity and some applications, LMS Lecture Note Series, vol. 241, pp. 87–162. Cambridge University Press, Cambridge (1997)
- Reed, D.A., Aydt, R.A., Noe, R.J., Roth, P.C., Shields, K.A., Schwartz, B., Tavera, L.F.: Scalable performance analysis: The Pablo performance analysis environment. In: Skjellum, A., (ed) Proc. Scalable Parallel Libraries Conf., pp. 104–113, Mississippi State University, October 1993. IEEE Computer Society Press
- Reeder, J., Giegerich, R.: Design, implementation and evaluation of a practical pseudoknot folding algorithm based on thermodynamics. *BMC Bioinform.* **5**, 104 (2004)
- Regev, O.: New Lattice-Based Cryptographic Constructions. *J. ACM* **51**, 899–942 (2004)
- Régnier, M., Rostami, L.: A unifying look at d-dimensional periodicities and space coverings. In: 4th Symp. on Combinatorial Pattern Matching, 15, 1993
- Reichardt, B.W.: Error-detection-based quantum fault tolerance against discrete Pauli noise. Ph. D. thesis, University of California, Berkeley (2006). quant-ph/0612004
- Reichardt, B.W., Grover, L.K.: Quantum error correction of systematic errors using a quantum search framework. *Phys. Rev. A* **72**, 042326 (2005)
- Reingold, N., Westbrook, J., Sleator, D.D.: Randomized Competitive Algorithms for the List Update Problem. *Algorithmica* **11**(1), 15–32 (1994) (Conference version included author Irani, S.: SODA 1991, pp. 251–260)
- Remy, J., Steger, A.: A Quasi-Polynomial Time Approximation Scheme for Minimum Weight Triangulation. In: Proceedings 38th ACM Symposium on Theory of Computing (STOC'06). ACM Press, New York, NY, USA (2006)
- Ren, J., Rastegari, B., Condon, A., Hoos, H.: HotKnots: Heuristic prediction of rna secondary structure including pseudoknots. *RNA* **11**, 1194–1504 (2005)
- Renner, R.: Security of Quantum Key Distribution. Ph.D. thesis, Swiss Federal Institute of Technology (ETH) Zurich, Also available at <http://arxiv.org/abs/quant-ph/0512258> (2005)
- Renner, R., König, R.: Universally composable privacy amplification against quantum adversaries. In: Second Theory of Cryptography Conference TCC. Lecture Notes in Computer Science, vol. 3378, pp. 407–425. Springer, Berlin (2005). Also available at <http://arxiv.org/abs/quant-ph/0403133>
- Reussner, R., Sanders, P., Träff, J.: SKaMPI: A comprehensive benchmark for public benchmarking of MPI. Scientific Programming, 2001. accepted, conference version with Prechelt, L., Müller, M. In: Proc. EuroPVM/MPI (1998)
- Reyzin, L., Srivastava, N.: On the longest path algorithm for reconstructing trees from distance matrices. *Inf. Process. Lett.* **101**, 98–100 (2007)
- Rhea, S., Geels, D., Roscoe, T., Kubiawicz, J.: Handling churn in a dht. Tech. Report Technical Report UCB//CSD-03-1299, The University of California, Berkeley, December 2003
- Riany, Y., Shavit, N., Touitou, D.: Towards a practical snapshot algorithm. *Theor. Comput. Sci.* **269**, 163–201 (2001)
- Richardson, D.: How to recognize zero. *J. Symb. Comput.* **24**, 627–645 (1997)

- Richter, P.C.: Quantum speedup of classical mixing processes. *Phys. Rev. A* **76**, 042306 (2007)
- Riess, B.M., Doll, K., Frank, M.J.: Partitioning Very Large Circuits Using Analytical Placement Techniques. In: *Proc. 31th ACM/IEEE Design Automation Conf.*, 1994, pp. 646–651
- Rissanen, J.: Modeling by Shortest Data Description. *Automatica* **14**, 465–471 (1978)
- Rivas, E., Eddy, S.: A dynamic programming algorithm for RNA structure prediction including pseudoknots. *J. Mol. Biol.* **285**, 2053–2068 (1999)
- Rivas, E., Eddy, S.R.: Secondary structure alone is generally not statistically significant for the detection of noncoding RNAs. *Bioinformatics* **16**, 583–605 (2000)
- Rivest, R.: On self-organizing sequential search heuristics. *Commun. ACM* **19**, 63–67 (1976)
- Robert, J., Schabanel, N.: Non-Clairvoyant Batch Sets Scheduling: Fairness is Fair enough. *Personal Correspondence* (2007)
- Roberts, K.: The characterization of implementable choice rules. In: Laffont, J.J. (ed.) *Aggregation and Revelation of Preferences*, pp. 321–349. North-Holland (1979)
- Robertson, N., Seymour, P.D.: Graph minors. X. Obstructions to tree-decomposition. *J. Combin. Theor. Ser. B* **52**, 153–190 (1991)
- Robertson, N., Seymour, P.D.: Graph minors. XII. Distance on a surface. *J. Combin. Theor. Ser. B* **64**, 240–272 (1995)
- Robertson, N., Seymour, P.: Graph minors. II. Algorithmic aspects of tree-width. *J. Algorithms* **7**, 309–322 (1986)
- Robertson, N., Seymour, P.D.: Graph Minors XIII. The Disjoint Paths Problem. *J. Comb. Theor. B* **63**(1), 65–110 (1995)
- Robertson, N., Seymour, P.D., Thomas, R.: Quickly excluding a planar graph. *J. Combin. Theor. Ser. B* **62**, 323–348 (1994)
- Robin, G., Zelikovskiy, A.: Improved Steiner trees approximation in graphs. In: *SIAM-ACM Symposium on Discrete Algorithms (SODA)*, San Francisco, CA, pp. 770–779. January (2000)
- Robins, G., Salowe, J.S.: Low-degree minimum spanning tree. *Discret. Comput. Geom.* **14**, 151–165 (1995)
- Robinson, D.F.: Comparison of Labeled Trees with Valency Three. *J. Comb. Theor.* **11**, 105–119 (1971)
- Robinson, D.F., Foulds, L.R.: Comparison of Phylogenetic Trees. *Math. Biosci.* **53**, 131–147 (1981)
- Rodeh, M., Pratt, V., Even, S.: Linear algorithm for data compression via string matching. *J. Assoc. Comput. Mach.* **28**(1), 16–24 (1981)
- Rodionov, V.: The parametric problem of shortest distances. *USSR Comp. Math. Math. Phys.* **8**(5), 336–343 (1968)
- Roditty, L.: A faster and simpler fully dynamic transitive closure. In: *Proceedings of the 14th Annual ACM-SIAM Symposium on Discrete Algorithms. ACM IEEE SODA*, pp. 404–412. ACM, Baltimore (2003)
- Roditty, L., Zwick, U.: A fully dynamic reachability algorithm for directed graphs with an almost linear update time. In: *Proceedings of the 36th ACM Symposium on Theory of Computing. ACM STOC*, pp. 184–191. ACM, Chicago (2004)
- Roditty, L., Zwick, U.: Dynamic approximate all-pairs shortest paths in undirected graphs. In: *Proc. of Symp. on Foundations of Computer Science, Rome*, Oct. 2004, pp. 499–508
- Roditty, L., Zwick, U.: Improved dynamic reachability algorithms for directed graphs. In: *Proceedings of 43th Annual IEEE Symposium on Foundations of Computer Science (FOCS)*, Vancouver (2002), pp. 679–688
- Roditty, L., Zwick, U.: On Dynamic Shortest Paths Problems. In: *Proceedings of the 12th Annual European Symposium on Algorithms (ESA)*, Bergen (2004), pp. 580–591
- Rødland, E.A.: Pseudoknots in RNA secondary structure: Representation, enumeration, and prevalence. *J. Comput. Biol.* **13**, 1197–1213 (2006)
- Rodrigues, R., Liskov, B.: Rosebud: A scalable byzantine-fault tolerant storage architecture. In: *Proceedings of the 18th ACM Symposium on Operating System Principles*, San Francisco, USA (2003)
- Rogers, H.: *Theory of Recursive Functions and Effective Computability*. McGraw-Hill, New York (1967)
- Rohe, A.: *Sequential and Parallel Algorithms for Local Routing*. Ph.D. thesis, Bonn University, Bonn, Germany, Dec. (2001)
- Rohnert, H.: A dynamization of the all-pairs least cost problem. In: *Proc. 2nd Annual Symposium on Theoretical Aspects of Computer Science, (STACS'85)*. LNCS, vol. 182, pp. 279–286. Springer, Berlin (1985)
- Röhrig, H.: *Tree decomposition: A feasibility study*. Master's thesis, Max-Planck-Institut für Informatik, Saarbrücken, Germany (1998)
- Rolf, D.: $3\text{-SAT} \in \text{RTIME}(1.32971^n)$. In: *ECCC TR03-054*, 2003
- Rolf, D.: $3\text{-SAT} \in \text{RTIME}(O(1.32793^n))$. *ECCC TR03-054*. (2003)
- Rolf, D.: Improved Bound for the PPSZ/Schöningg-Algorithm for 3-SAT. *J. Satisf. Boolean Model. Comput.* **1**, 111–122 (2006)
- Roman, G., Cox, K.: A Declarative Approach to Visualizing Concurrent Computations. *Computer* **22**, 25–36 (1989)
- Roman, G., Cox, K.: A Taxonomy of Program Visualization Systems. *Computer* **26**, 11–24 (1993)
- Roman, G., Cox, K., Wilcox, C., Plun, J.: PAVANE: a System for Declarative Visualization of Concurrent Computations. *J. Visual Lang. Comp.* **3**, 161–193 (1992)
- Romani, F.: Shortest-path problem is not harder than matrix multiplications. *Info. Proc. Lett.* **11**, 134–136 (1980)
- Romero-Medina, A.: Implementation of stable solutions in a restricted matching market. *Rev. Economic. Des.* **3**(2), 137–147 (1998)
- Ronen, A.: On approximating optimal auctions (extended abstract). In: *Proc. 3rd ACM Conference on Electronic Commerce (EC)*, pp. 11–17 (2001)
- Ronen, A., Saberi, A.: On the hardness of optimal auctions. In: *Proc. 43rd Ann. IEEE Symp. on Foundations of Comput. Sci. (FOCS)*, pp. 396–405 (2002)
- Ronn, E.: NP-complete stable matching problems. *J. Algorithms* **11**, 285–304 (1990)
- Rose, D., Tarjan, R.E., Lueker, G.: Algorithmic aspects of vertex elimination on graphs. *SIAM J. Comput.* **5**, 146–160 (1976)
- Rosenberg, A.L., Heath, L.S.: *Graph separators, with applications*. Frontiers of Computer Science. Kluwer Academic/Plenum Publishers, New York (2001)
- Rosenblatt, F.: The perceptron: A probabilistic model for information storage and organization in the brain. *Psychol. Rev.* **65**, 386–407 (1958)
- Rosenthal, R.W.: A class of games possessing pure-strategy Nash equilibria. *Int. J. Game Theor.* **2**, 65–67 (1973)
- Ross, S.: *Stochastic Processes*. Wiley (1995)
- Roth, A., Sönmez, T., Ünver, U.: Kidney Exchange. *Quarter. J. Econ.* **119**, 457–488 (2004)
- Roth, A., Sotomayor, M.: *Two-Sided Matching*. Cambridge University Press, Cambridge (1990)

- Roth, A.E.: The evolution of the labor market for medical interns and residents: a case study in game theory. *J. Polit. Econ.* **92**(6), 991–1016 (1984)
- Roth, A.E., Postlewaite, A.: Weak versus strong domination in a market with indivisible goods. *J. Math. Econ.* **4**, 131–137 (1977)
- Roth, A.E., Sotomayor, M.A.O.: Two-sided matching: a study in game-theoretic modeling and analysis. *Econometric Society Monographs*, vol. 18. Cambridge University Press, Cambridge, UK (1990)
- Roth, A.E., Vande Vate, J.H.: Random paths to stability in two-sided matching. *Econometrica* **58**(6), 1475–1480 (1990)
- Roth-Korostensky, C.: Algorithms for building multiple sequence alignments and evolutionary trees. Ph.D. Thesis, ETH Zürich, Institute of Scientific Computing (2000)
- Rothkopf, M.: Scheduling with Random Service Times. *Manag. Sci.* **12**, 707–713 (1966)
- Roughgarden, T.: Designing networks for selfish users is hard. In: 42nd IEEE Annual Symposium of Foundations of Computer Science, pp. 472–481 (2001)
- Roughgarden, T.: Selfish Routing and the Price of Anarchy. The MIT Press, Cambridge (2005)
- Roughgarden, T.: Selfish Routing. Dissertation, Cornell University, USA, May 2002, <http://theory.stanford.edu/~tim/>
- Roughgarden, T.: Stackelberg scheduling strategies. In: 33rd ACM Annual Symposium on Theory of Computing, pp. 104–113 (2001)
- Roughgarden, T., Tardos, E.: Bounding the inefficiency of equilibria in nonatomic congestion games. *Games Econ. Behav.* **47**, 389–403 (2004)
- Roughgarden, T., Tardos, E.: How bad is selfish routing? In: 41st IEEE Annual Symposium of Foundations of Computer Science, pp. 93–102. *J. ACM* **49**(2), pp 236–259, 2002, ACM, New York (2000)
- Rowstron, A., Druschel, P.: Pastry: Scalable, distributed object location and routing for large-scale peer-to-peer systems. In: IFIP/ACM International Conference on Distributed Systems Platforms (Middleware), 2001, pp. 329–350
- Roy, J.A., Adya, S.N., Papa, D.A., Markov, I.L.: Min-cut floorplacement. *IEEE Trans. CAD* **25**(7), 1313–1326 (2006)
- Ruan, J., Stormo, G., Zhang, W.: An iterated loop matching approach to the prediction of RNA secondary structures with pseudoknots. *Bioinformatics* **20**, 58–66 (2004)
- Ruan, L., Du, H., Jia, X., Wu, W., Li, Y., Ko, K.-I.: A greedy approximation for minimum connected dominating set. *Theor. Comput. Sci.* **329**, 325–330 (2004)
- Ruan, L., Wu, W.: Broadcast routing with minimum wavelength conversion in WDM optical networks. *J. Comb. Optim.* **9**, 223–235 (2005)
- Rubinfeld, R.: On the robustness of functional equations. *SIAM J. Comput.* **28**(6), 1972–1997 (1999)
- Rubinfeld, R., Sudan, M.: Robust characterization of polynomials with applications to program testing. *SIAM J. Comput.* **25**(2), 252–271 (1996)
- Rubinstein, A.: Ranking the participants in a tournament. *SIAM J. Appl. Math.* **38**(1), 108–111 (1980)
- Rudell, R.: Logic Synthesis for VLSI Design. Ph.D. thesis, University of California at Berkeley, ERL Memo 89/49, April 1989
- Rudin III, J.F.: Improved bounds for the online scheduling problem. Ph.D. thesis, The University of Texas at Dallas (2001)
- Rudin III, J.F., Chandrasekaran, R.: Improved bounds for the online scheduling problem. *SIAM J. Comput.* **32**, 717–735 (2003)
- Ruf, N., Schöbel, A.: Set covering with almost consecutive ones property. *Discret. Optim.* **1**(2), 215–228 (2004)
- Rusinkó, M.: On the upper bound of the size of r -cover-free families. *J. Comb. Theory, Ser. A* **66**, 302–310 (1984)
- Ruzzo, W.L., Tompa, M.: A linear time algorithm for finding all maximal scoring subsequences. *Proceedings of the 7th International Conference on Intelligent Systems for Molecular Biology*, pp. 234–241 (1999)
- Rytter, W.: Application of Lempel–Ziv factorization to the approximation of grammar-based compression. *Theor. Comput. Sci.* **302**(1–3), 211–222 (2003)
- Rytter, W.: On maximal suffixes and constant-space linear-time versions of KMP algorithm. *Theor. Comput. Sci.* **299**(1–3), 763–774 (2003)
- Rytter, W.: The Number of Runs in a String: Improved Analysis of the Linear Upper Bound. In: *Proceedings of the 23rd Annual Symposium on Theoretical Aspects of Computer Science. Lecture Notes in Computer Science*, vol. 3884, pp. 184–195. Springer, Berlin (2006)
- Rytter, W.: The structure of subword graphs and suffix trees of Fibonacci words. In: *Implementation and Application of Automata, CIAA 2005. Lecture Notes in Computer Science*, vol. 3845, pp. 250–261. Springer, Berlin (2006)
- Sadakane, K.: Compressed suffix trees with full functionality. *Theor. Comput. Syst.* **41**, 589–607 (2007)
- Sadakane, K.: Compressed suffix trees with full functionality. *Theory Comput. Syst.* (2007) Online first. <http://dx.doi.org/10.1007/s00224-006-1198-x>
- Sadakane, K.: New text indexing functionalities of the compressed suffix arrays. *J. Algorithms* **48**(2), 294–313 (2003)
- Sadakane, K., Grossi, R.: Squeezing succinct data structures into entropy bounds. In: *Proc. 17th ACM-SIAM SODA*, pp. 1230–1239. ACM Press (2006)
- Sagot, M.F.: Spelling approximate repeated or common motifs using a suffix tree. In: *Proc. of the 3rd LATIN*, vol. 1380 in LNCS, pp. 111–127. Springer (1998)
- Şahinalp, C., Rajpoot, N.: Dictionary-based data compression: An algorithmic perspective. In: Sayood, K. (ed.) *Lossless Compression Handbook*, pp. 153–167. Academic Press, USA (2003)
- Sahinalp, S.C., Vishkin, U.: Efficient approximate and dynamic matching of patterns using a labeling paradigm. In: *Proc. of the Foundations of Computer Science (FOCS)*, 1996, pp. 320–328
- Sahinalp, S.C., Vishkin, U.: Symmetry breaking for suffix tree construction. *ACM STOC* 300–309 (1994)
- Sahni, S., Gonzalez, T.: P-complete approximation problems. *J. ACM* **23**(3), 555–565 (1976)
- Saitou, N., Nei, M.: The neighbor-joining method: A new method for reconstruction of phylogenetic trees. *Mol. Biol. Evol.* **4**, 406–425 (1987)
- Sakanushi, K., Kajitani, Y., Mehta, D.: The quarter-state-sequence floorplan representation. In: *IEEE TCAS-I* **50**(3), 376–386 (2003)
- Saks, M., Wigderson, A.: Probabilistic Boolean decision trees and the complexity of evaluating game trees. In: *Proc. of 27th IEEE Symp. on Foundation of Computer Science (FOCS)*, Toronto, 27–29 October, pp. 29–38 (1986)
- Saks, M., Yu, L.: Weak monotonicity suffices for truthfulness on convex domains. In: *Proc. 6th ACM Conference on Electronic Commerce (ACM-EC)*, 2005, pp. 286–293
- Saks, M., Zaharoglou, F.: Wait-free k -set agreement is impossible: The topology of public knowledge. In: *Proceedings of the 25th*

- ACM Symposium on Theory of Computing, pp. 101–110, ACM Press, May 1993
- Saks, M., Zaharoglou, F.: Wait-Free k -Set Agreement is Impossible: The Topology of Public Knowledge. *SIAM J. Comput.* **29**(5), 1449–1483 (2000)
- Salomon, D.: Data Compression: the Complete Reference, 3rd edn. Springer, New York (2004)
- Salomon, D.: Data Compression: the Complete Reference, 4th edn. Springer, London (2007)
- Salowe, J.D.: Construction of multidimensional spanner graphs, with application to minimum spanning trees. In: ACM Symposium on Computational Geometry, 1991, pp. 256–261
- Salowe, J.S.: Constructing multidimensional spanner graphs. *Int. J. Comput. Geom. Appl.* **1**(2), 99–107 (1991)
- Samer, M., Szeider, S.: Algorithms for propositional model counting. In: Proceedings of LPAR 2007, 14th International Conference on Logic for Programming, Artificial Intelligence and Reasoning, Yerevan, Armenia, 15–19 October 2007. Lecture Notes in Computer Science, vol. 4790, pp. 484–498. Springer, Berlin (2007)
- Samorodnitsky, A., Trevisan, L.: A PCP characterization of NP with optimal amortized query complexity. In: Proceedings of the Thirty-Second Annual ACM Symposium on the Theory of Computing, pp. 191–199. ACM, New York (2000)
- Samorodnitsky, A., Trevisan, L.: Gowers uniformity, influence of variables, and pcps. In: Thirty-Eighth ACM Symposium on Theory of Computing, pp. 11–20. ACM, New York (2006)
- Sampathkumar, E., Walikar, H.B.: The Connected Domination Number of a Graph. *J. Math. Phys. Sci.* **13**, 607–613 (1979)
- Sanchis, L.A.: Multiway Network Partitioning. *IEEE Trans. Comput.* **38**(1), 62–81 (1989)
- Sanders, P.: Fast priority queues for cached memory. *ACM J. Exp. Algorithmics* **5**, Article 7 (2000)
- Sanders, P., Schultes, D.: Engineering fast route planning algorithms. In: 6th Workshop on Experimental Algorithms. LNCS, vol. 4525, pp. 23–36. Springer, Berlin (2007)
- Sanders, P., Schultes, D.: Engineering highway hierarchies. In: 14th European Symposium on Algorithms. LNCS, vol. 4168, pp. 804–816. Springer, Berlin (2006)
- Sanders, P., Schultes, D.: Engineering Highway Hierarchies. In: Algorithms – ESA 2006. Lect. Note Comp. Sci. **4168**, 804–816 (2006)
- Sanders, P., Schultes, D.: Highway hierarchies hasten exact shortest path queries. In: 13th European Symposium on Algorithms. LNCS, vol. 3669, pp. 568–579. Springer, Berlin (2005)
- Sanders, P., Schultes, D.: Highway Hierarchies Hasten Exact Shortest Path Queries. In: Algorithms – ESA 2005. Lect. Note Comp. Sci. **3669**, 568–579 (2005)
- Sanders, P., Schultes, D.: Robust, almost constant time shortest-path queries in road networks. In: 9th DIMACS Implementation Challenge Workshop: Shortest Paths, DIMACS Center, Piscataway, NJ, 13–14 Nov 2006
- Sanderson, M.J., Purvis, A., Henze, C.: Phylogenetic supertrees: assembling the trees of life. *TRENDS in Ecology & Evolution*, **13**(3), 105–109 (1998)
- Sankoff, D., Blanchette, M.: Multiple genome rearrangement and breakpoint phylogeny. *J. Comp. Biol.* **5**, 555–570 (1998)
- Sankoff, D., Kruskal, J.B.: Time Warps, Strings Edits, and Macromolecules: The Theory and Practice of Sequence Comparison. Addison-Wesley (1983)
- Sankoff, D., Rousseau, P.: Locating the vertices of a Steiner tree in arbitrary metric space. *Math. Program.* **9**, 240–246 (1975)
- Sankoff, D.D.: Minimal mutation trees of sequences. *SIAM J. Appl. Math.* **28**, 35–42 (1975)
- Sankowski, P.: Dynamic transitive closure via dynamic matrix inverse. In: FOCS '04: Proceedings of the 45th Annual IEEE Symposium on Foundations of Computer Science (FOCS'04), pp. 509–517. IEEE Computer Society, Washington, DC (2004)
- Sankowski, P.: Processor Efficient Parallel Matching. In: Proceeding of the 17th ACM Symposium on Parallelism in Algorithms and Architectures (SPAA), 2005, pp. 165–170
- Sankowski, P.: Subquadratic algorithm for dynamic shortest distances. In: 11th Annual International Conference on Computing and Combinatorics (COCOON'05), Kunming (2005), pp. 461–470
- Sankowski, P.: Weighted Bipartite Matching in Matrix Multiplication Time. In: Proceedings of the 33rd International Colloquium on Automata, Languages and Programming, 2006, pp. 274–285
- Santha, M.: On the Monte Carlo decision tree complexity of read-once formulae. *Random Struct. Algorit.* **6**(1), 75–87 (1995)
- Santos, J.: K shortest path algorithms. In: 9th DIMACS Implementation Challenge Workshop: Shortest Paths, DIMACS Center, Piscataway, NJ, 13–14 Nov 2006
- Sapatnekar, S.S.: RC interconnect optimization under the Elmore delay model. In: Proc. ACM/IEEE Design Automation Conf., pp. 387–391. ACM, New York (1994)
- Sapatnekar, S.S., Deokar, R.B.: Utilizing the retiming-skew equivalence in a practical algorithm for retiming large circuits. *IEEE Trans. Comput. Aided Des.* **15**, 1237–1248 (1996)
- Sapatnekar, S.S., Rao, V.B., Vaidya, P.M., Kang, S.M.: An Exact Solution to the Transistor Sizing Problem for CMOS Circuits Using Convex Optimization. *IEEE Trans. Comput. Aided. Des.* **12**(11), 1621–1634 (1993)
- Sarkar, S., Tassioulas, L.: Fair distributed congestion control in multicast networks. *IEEE/ACM Trans. Netw.* **13**(1), 121–133 (2005)
- Savani, R., von Stengel, B.: Exponentially many steps for finding a nash equilibrium in a bimatrix game. In: Proceedings of the 45th Annual IEEE Symposium on Foundations of Computer Science (FOCS'04), pp. 258–267. Rome, 17–19 October 2004
- Savari, S.: Redundancy of the Lempel–Ziv incremental parsing rule. *IEEE Trans. Inf. Theor.* **43**, 9–21 (1997)
- Savojo, H.: Don't Cares in Multi-Level Network Optimization. Ph.D. thesis, University of California, Berkeley, Electronics Research Laboratory, College of Engineering. University of California, Berkeley, CA (1992)
- Sawchuk, C.: Mobile Agent Rendezvous in the Ring. Ph.D. thesis, Carleton University, Ottawa, Canada (2004)
- Schaetz T., Barrett, M.D., Leibfried, D., Chiaverini, J., Britton, J., Itano, W.M., Jost, J.D., Langer, C., Wineland, D.J.: Quantum Dense Coding with Atomic Qubits. *Phys. Rev. Lett.* **93**, 040505 (2004)
- Schaffer, A., Yannakakis, M.: Simple local search problems that are hard to solve. *SIAM J. Comput.* **20**(1), 56–87 (1991)
- Schapire, R.: The strength of weak learnability. *Mach. Learn.* **5**(2), 197–227 (1990)
- Schapire, R.E., Sellie, L.M.: Learning sparse multivariate polynomials over a field with queries and counterexamples. *J. Comput. Syst. Sci.* **52**(2), 201–213 (1996)
- Scheideler, C.: Universal Routing Strategies for Interconnection Networks. In: Lecture Notes in Computer Science, vol. 1390. Springer (1998)
- Scherer, W., Scott, M.: Advanced contention management for dynamic software transactional memory. In: Proc. 24th An-

- nual ACM Symposium on Principles of Distributed Computing, 2005
- Schieber, B., Moran, S.: Slowing sequential algorithms for obtaining fast distributed and parallel algorithms: Maximum matchings. In: Proc. of 5th ACM Symp. on Principles of Distributed Computing, Calgary, 11–13 Aug. 1986, pp. 282–292
- Schmeidler, D.: The Nucleolus of a Characteristic Function Game. *SIAM J. Appl. Math.* **17**, 1163–1170 (1969)
- Schmidt, A., Vollmer, U.: Polynomial time quantum algorithm for the computation of the unit group of a number field. In: Proceedings of the 37th ACM Symposium on Theory of Computing. (2005)
- Schmidt, J.P., Siegel, A.: The spatial complexity of oblivious k -probe hash functions. *SIAM J. Comput.* **19**(5), 775–786 (1990)
- Schmidt, M.: Packet buffering: randomization beats deterministic algorithms. In: Proc. 22nd Annual Symp. on Theoretical Aspects of Computer Science (STACS). LNCS, vol. 3404, 293–304 (2005)
- Schneider, F.B.: Implementing fault-tolerant services using the state machine approach: a tutorial. *ACM Comput. Surv.* **22**, 299–319 (1990)
- Schneider, F.B.: Replication Management using the State-Machine Approach. In: Sape Mullender, editor, *Distributed Systems*, pp. 169–197. ACM Press (1993)
- Schnorr, C.P.: Fast LLL-type lattice reduction. *Inform. Comput.* **204**(1), 1–25 (2006)
- Scholkopf, B., Smola, A.J.: *Learning with Kernels*. MIT Press, Cambridge (2002)
- Schönhage, A., Strassen, V.: Schnelle Multiplikation Großer Zahlen. *Computing* **7**, 281–292 (1971)
- Schöning, U.: A probabilistic algorithm for k -SAT and constraint satisfaction problems. *Proceedings 40th Annual Symposium on Foundations of Computer Science*, pp. 410–414. New York, USA (1999)
- Schöning, U.: A probabilistic algorithm for k -SAT based on limited local search and restart. *Algorithmica* **32**, 615–623 (2002) (An earlier version appeared in 40th Annual Symposium on Foundations of Computer Science (FOCS '99), pp. 410–414)
- Schöning, U., Pruim, R.: *Gems of Theoretical Computer Science*. Springer (1998)
- Schrage, L.: A proof of the optimality of the shortest remaining processing time discipline. *Oper. Res.* **16**(1), 687–690 (1968)
- Schrijver, A.: *Combinatorial Optimization: Polyhedra and Efficiency*. Springer, Berlin (2003)
- Schrijver, A.: *Theory of Linear and Integer Programming*. Wiley, New York (1986)
- Schuijser, S.: A lower bound for randomized searching on m rays. In: *Computer Science in Perspective*, pp. 264–277 (2003)
- Schuijser, S.: Lower bounds in on-line geometric searching. *Comput. Geom.* **18**, 37–53 (2001)
- Schuler, R.: An algorithm for the satisfiability problem of formulas in conjunctive normal form. *J. Algorithms* **54**(1), 40–44 (2005)
- Schulman, L.J., Mor, T., Weinstein, Y.: Physical limits of heat-bath algorithmic cooling. *Phys. Rev. Lett.* **94**, 120501, pp. 1–4 (2005)
- Schulman, L.J., Mor, T., Weinstein, Y.: Physical limits of heat-bath algorithmic cooling. *SIAM J. Comput.* **36**, 1729–1747 (2007)
- Schulman, L.J., Vazirani, U.: Molecular scale heat engines and scalable quantum computation. *Proc. 31st ACM STOC, Symp. Theory of Computing*, pp. 322–329 Atlanta, 01–04 May 1999
- Schultes, D., Sanders, P.: Dynamic highway-node routing. In: 6th Workshop on Experimental Algorithms. LNCS, vol. 4525, pp. 66–79. Springer, Berlin (2007)
- Schulz, F., Wagner, D., Weihe, K.: Dijkstra's Algorithm On-Line: An Empirical Case Study from Public Railroad Transport. *ACM J. Exp. Algorithmics* **5**(12), 1–23 (2000)
- Schulz, F., Wagner, D., Weihe, K.: Dijkstra's algorithm on-line: an empirical case study from public railroad transport. In: *Proc. 3rd Workshop on Algorithm Engineering (WAE'99)*, pp. 110–123. Notes in Computer Science 1668. London, UK (1999)
- Schulz, F., Wagner, D., Zariwaghi, C.: Using Multi-Level Graphs for Timetable Information in Railway Systems. In: *Algorithm Engineering and Experiments – ALENEX 2002. Lect. Note Comp. Sci.* **2409**, 43–59 (2002)
- Schummer, J., Vohra, R.V.: Strategy-proof location on a network. *J. Econ. Theor.* **104**, 405–428 (2002)
- Scott, A., Sorkin, G.: Faster Algorithms for MAX CUT and MAX CSP, with Polynomial Expected Time for Sparse Instances. In: *Proceedings of RANDOM-APPROX 2003*. LNCS, vol. 2764, pp. 382–395. Springer, Berlin (2003)
- Scott, J., Ideker, T., Karp, R.M., Sharan, R.: Efficient Algorithms for Detecting Signaling Pathways in Protein Interaction Networks. *J. Comput. Biol.* **13**(2), 133–144 (2006)
- Scott, S.: A study of stable marriage problems with ties. Ph.D. thesis, University of Glasgow, Department of Computing Science (2005)
- Sedgewick, R.: *Algorithms in Java, Parts 1–4*, 3rd edn. Addison-Wesley, (2003)
- Sedgewick, R., Bentley, J.: Fast algorithms for sorting and searching strings. In: *Proceedings of the 8th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA '97)*, ACM, ed., pp. 360–369. ACM Press, New Orleans (1997)
- Segall, A.: Distributed network protocols. *IEEE Trans. Inform. Theory* **29**, 23–35 (1983)
- Seidel, R.: On the all-pairs-shortest-path problem. In: *Proc. 24th ACM STOC* pp. 745–749. Association for Computing Machinery, New York, USA (1992) Also *JCSS* **51**, 400–403 (1995)
- Seiden, S.S.: On the online bin packing problem. *J. ACM* **49**, 640–671 (2002)
- Sellers, P.: The theory and computation of evolutionary distances: pattern recognition. *J. Algorithms* **1**, 359–373 (1980)
- Sellers, P.H.: On the Theory and Computation of Evolutionary Distances. *SIAM J. Appl. Math.* **26**, 787–793 (1974)
- Sellis, T., Roussopoulos, N., Faloutsos, C.: The R^+ -tree: A dynamic index for multi-dimensional objects. In: *Proc. International Conference on Very Large Databases*, 1987, pp. 507–518
- Sen, A., Huson, M. L.: A New Model for Scheduling Packet Radio Networks. *Proc. 15th Annual Joint Conference of the IEEE Computer and Communication Societies (IEEE INFOCOM'96)*, pp. 1116–1124, San Francisco, 24–28 March, 1996
- Sen, P., Venkatesh, S.: Lower bounds for predecessor searching in the cell probe model. *arXiv:cs.CC/0309033*. See also *ICALP'01, CCC'03*, 2003
- Sen, S., Chatterjee, S.: Towards a theory of cache-efficient algorithms. In: *Proc. of 11th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA 2000)*, pp. 829–838. Society for Industrial and Applied Mathematics (2000)
- Sentovich, E.M., Singh, K.J., Moon, C., Savoj, H., Sangiovanni-Vincentelli, A.: Sequential Circuit Design using Synthesis and Optimization. In: *Proc. of the IEEE International Conference on Computer Design: VLSI in Computers & Processors (ICCD)*, pp. 328–333. Cambridge, October 1992
- Servedio, R.: On learning monotone DNF under product distributions. *Inform Comput* **193**(1), 57–74 (2004)

- Servedio, R.A.: Smooth boosting and learning with malicious noise. *JMLR* **4**, 633–648 (2003)
- Setubal, J.C., Meidanis, J.: *Introduction to Computational Molecular Biology*. PWS, Boston (1997)
- Sevcik, K.C.: Scheduling for minimum total loss using service time distributions. *J. ACM* **21**, 66–75 (1974)
- Seymour, P.D.: Packing directed circuits fractionally. *Combinatorica* **15**, 281–288 (1995)
- Seymour, P.D., Thomas, R.: Call routing and the ratcatcher. *Combinatorica* **14**, 217–241 (1994)
- Sgall, J.: On-line scheduling. In: Fiat, A., Woeginger, G.J. (eds.) *Online Algorithms: The State of the Art*, pp. 196–231. Springer (1998)
- Shachnai, H., Tamir, T.: On two class-constrained versions of the multiple knapsack problem. *Algorithmica* **29**(3), 442–467 (2001)
- Shachnai, H., Tamir, T.: Polynomial time approximation schemes for class-constrained packing problems. *J. Sched.* **4**(6) 313–338 (2001)
- Shah, R., Varman, P.J., Vitter, J.S.: Online algorithms for prefetching and caching on parallel disks. In: *Proceedings of the ACM Symposium on Parallel Algorithms and Architectures*, pp. 255–264. ACM Press, New York (2004)
- Shahrokhi, F., Matula, D.W.: The maximum concurrent flow problem. *J. ACM* **37**(2), 318–334 (1990)
- Shalev-Shwartz, S., Singer, Y.: A new perspective on an old perceptron algorithm. In: *Proceedings of the Eighteenth Annual Conference on Computational Learning Theory*, (2005)
- Shannon, C.: Presentation of a Maze Solving Machine, in *Cybernetics, Circular, Causal and Feedback Machines in Biological and Social Systems*. In: von Feerster, H., Mead, M., Teuber, H.L. (eds.) *Trans. 8th Conf*, New York, March 15–16, 1951. pp. 169–181. Josiah Mary Jr. Foundation, New York (1952)
- Shannon, C.E.: A mathematical theory of communication. *Bell Syst. Tech. J.* **27**, 398–403 (1948)
- Shannon, C.E.: A theorem on colouring lines of a network. *J. Math. Phys.* **28**, 148–151 (1949)
- Shapley, L., Scarf, H.: On cores and indivisibility. *J. Math. Econ.* **1**, 23–37 (1974)
- Shapley, S.L., Shubik, M.: The Assignment Game I: The Core. *Int. J. Game. Theor.* **1**, 111–130 (1971)
- Sharan, R., Ideker, T.: Modeling cellular machinery through biological network comparison. *Nat. Biotechnol.* **24**, 427–433 (2006)
- Shavit, N., Touitou, D.: Software transactional memory. *Distrib. Comput., Special Issue* **10**, 99–116 (1997)
- Shawe-Taylor, J., Cristianini, N.: *Kernel Methods for Pattern Analysis*. Cambridge University Press, Cambridge. Book website: www.kernel-methods.net (2004)
- Shenoy, N., Rudell, R.: Efficient implementation of retiming. In *Proc. Intl. Conf. Computer-Aided Design*, pp. 226–233. IEEE Press, Los Alamitos (1994)
- Shenvi, N., Kempe, J., Whaley, K.B.: A quantum random walk search algorithm. *Phys. Rev. A* **67**, 52–307 (2003)
- Shepard, D.M., Ferris, M.C., Ove, R., Ma, L.: Inverse treatment planning for Gamma Knife radiosurgery. *Med. Phys.* **27**(12), 2748–2756 (2000)
- Shi, W.: A Fast Algorithm for Area Minimization of Slicing Floorplan. In: *IEEE Trans. Comput. Aided Des.* **15**(12), 1525–1532 (1996)
- Shibata, Y., Kida, T., Fukamachi, S., Takeda, M., Shinohara, A., Shinohara, T., Arikawa, S.: Speeding up pattern matching by text compression. In: *Proc. 4th Italian Conference on Algorithms and Complexity (CIAC'00)*. LNCS, vol. 1767, pp. 306–315. Springer, Heidelberg (2000)
- Shibata, Y., Matsumoto, T., Takeda, M., Shinohara, A., Arikawa, S.: A Boyer–Moore type algorithm for compressed pattern matching. In: *Proc. 11th Annual Symposium on Combinatorial Pattern Matching (CPM'00)*. LNCS, vol. 1848, pp. 181–194. Springer, Heidelberg (2000)
- Shigemizu, D., Maruyama, O.: Searching for regulatory elements of alternative splicing events using phylogenetic footprinting. In: *Proceedings of the Fourth Workshop on Algorithms for Bioinformatics*. Lecture Notes in Computer Science, pp. 147–158. Springer, Berlin (2004)
- Shih, W.-K., Hsu, W.-L.: A new planarity test. *Theor. Comput. Sci.* **223**, pp. 179–191 (1999)
- Shioura, A.: Fast Scaling Algorithms for M-convex Function Minimization with Application to the Resource Allocation Problem. *Discret. Appl. Math.* **134**, 303–316 (2004)
- Shiple, T.R., Hojati, R., Sangiovanni-Vincentelli, A.L., Brayton, R.K.: Heuristic Minimization of BDDs Using Don't Cares. In: *ACM Design Automation Conference*, San Diego, CA, June (1994)
- Shlomi, T., Segal, D., Ruppin, E., Sharan, R.: QPath: a method for querying pathways in a protein-protein interaction network. *BMC Bioinform.* **7**, 199 (2006)
- Shmoys, D., Tardos, E.: An approximation algorithm for the generalized assignment problem. *Math. Program.* **62**(3A), 461–474 (1993)
- Shmoys, D.B.: Approximation algorithms for facility location problems. In: Jansen, K., Khuller, S. (eds.) *Approximation Algorithms for Combinatorial Optimization*. Lecture Notes in Computer Science, vol. 1913, pp. 27–33. Springer, Berlin (2000)
- Shmoys, D.B.: Cut problems and their application to divide-and-conquer. In: Hochbaum, D.S. (ed.) *Approximation Algorithms for NP-hard Problems*, pp. 192–235. PWS Publishing, Boston (1997)
- Shmoys, D.B.: The design and analysis of approximation algorithms: Facility location as a case study. In: Thomas, R.R., Hosten, S., Lee, J. (eds) *Proceedings of Symposia in Appl. Mathematics*, vol. 61, pp. 85–97. AMS, Providence, RI, USA (2004)
- Shmoys, D.B., Stein, C., Wein, J.: Improved Approximation Algorithms for Shop Scheduling Problems. *SIAM J. Comput.* **23**(3), 617–632 (1994)
- Shmoys, D.B., Tardos, E., Aardal, K.: Approximation algorithms for facility location problems. In: *Proceedings of the 29th Annual ACM Symposium on Theory of Computing (STOC)*, pp. 265–274. ACM Press, New York (1997)
- Shmoys, D.B., Wein, J., Williamson, D.P.: Scheduling parallel machines on-line. *SIAM J. Comput.* **24**, 1313–1331 (1995)
- Shoikhet, K., Geiger, D.: A practical algorithm for finding optimal triangulations. In: *Proc. National Conference on Artificial Intelligence (AAAI '97)*, pp. 185–190. Morgan Kaufmann, San Francisco (1997)
- Shor, P.: Algorithms for Quantum Computation: Discrete Logarithms and Factoring. In: *Proceedings of the 35th Annual Symposium on Foundations of Computer Science*, pp. 124–134, Santa Fe, 20–22 November 1994
- Shor, P.: Polynomial-time algorithms for prime factorization and discrete logarithms on a quantum computer. *SIAM J. Comput.* **26**(5), 1484–1509 (1997)
- Shor, P.W.: Fault-tolerant quantum computation. In: *Proc. 37th Symp. on Foundations of Computer Science (FOCS)* (1996). quant-ph/9605011

- Shor, P.W.: Scheme for reducing decoherence in quantum computer memory. *Phys. Rev. A* **52**, R2493–R2496 (1995)
- Shor, P.W., Preskill, J.: Simple proof of security of the BB84 quantum key distribution protocol. *Phys. Rev. Lett.* **85**, 441 (2000)
- Shpilka, A., Wigderson, A.: Derandomizing homomorphism testing in general groups. In: *Proceedings of the Thirty-Sixth Annual ACM Symposium on the Theory of Computing*, pp. 427–435. ACM, NY, USA (2004)
- Shwartz, A., Weiss, A.: *Large Deviations for Performance Analysis*. Chapman-Hall, Boca Raton (1994)
- Shyu, J.M., Sangiovanni-Vincentelli, A.L., Fishburn, J.P., Dunlop, A.E.: Optimization-based Transistor Sizing. *IEEE J. Solid. State. Circuits*. **23**(2), 400–409 (1988)
- Siek, J., Lee, L.Q., Lumsdaine, A.: *The Boost Graph Library*. Addison-Wesley, Cambridge (2002)
- Siepel, A.C.: An algorithm to enumerate sorting reversals for signed permutations. *J. Comput. Biol.* **10**, 575–597 (2003)
- Simon, D.: On the power of quantum computation. In: *Proceedings of the 35th IEEE Symposium on the Foundations of Computer Science (FOCS)*, pp. 116–123, Santa Fe, 20–22 November 1994
- Simon, D.R.: On the power of quantum computation. *SIAM J. Comput.* **26**(5), 1474–1483 (1997)
- Singer-Cohen, K.B.: *Random Intersection Graphs*. Ph. D. thesis, John Hopkins University, Baltimore (1995)
- Singh, A.K., Anderson, J.H., Gouda, M.G.: The elusive atomic register. *J. ACM* **41**(2), 311–339 (1994) (Preliminary version in: *Proc. 6th ACM Symp. Principles Distrib. Comput.*, 1987)
- Singh, M., Lau, L.C.: Approximating minimum bounded degree spanning trees to within one of optimal. In: *Proceedings of the thirty-ninth Annual ACM Symposium on Theory of Computing (STOC 2007)*, New York, NY, 2007, pp. 661–670
- Singh, M., Prasanna, V.: Energy-Optimal and Energy-Balanced Sorting in a Single-Hop Wireless Sensor Network. In: *Proc. First IEEE International Conference on Pervasive Computing and Communications (PerCom '03)*, pp. 302–317, Fort Worth, 23–26 March 2003
- Singh, S., Raghavendra, C.S., Stepanek, J.: Power-Aware Broadcasting in Mobile Ad Hoc Networks. In: *Proceedings of IEEE PIMRC'99*, Osaka, September 1999
- Singhal, M.: A taxonomy of distributed mutual exclusion. *J. Parallel Distrib. Comput.* **18**(1), 94–101 (1993)
- Sinha, R., Zobel, J., Ring, D.: Cache-efficient string sorting using copying. *ACM J. Exp. Algorithmics*. **11** (2006)
- Sipser, M.: A complexity theoretic approach to randomness. In: *Proc. 15th Annual ACM Symposium on Theory of Computing*, 1983, pp. 330–334
- Sipser, M.: *Introduction to the Theory of Computation*, 2nd edn. Course Technology (2005)
- Sipser, M., Spielman, D.: Expander codes. *IEEE Trans. Inf. Theory* **42**, 1710–1722 (1996)
- Sitters, R.A., Stougie, L.: The generalized two-server problem. *J. ACM* **53**, 437–458 (2006)
- Skjærnaa, B.: *Exact Algorithms for Variants of Satisfiability and Colouring Problems*. Ph. D. thesis, University of Aarhus, Department of Computer Science (2004)
- Skutella, M.: Convex quadratic and semidefinite relaxations in scheduling. *J. ACM* **46**(2), 206–242 (2001)
- Skutella, M., Woeginger, G.J.: A PTAS for minimizing the weighted sum of job completion times on parallel machines. In: *Proc. of 31st Annual ACM Symposium on Theory of Computing (STOC '99)*, pp. 400–407 (1999)
- Slavik, P.: A tight analysis of the greedy algorithm for set cover. *J. Algorithms* **25**(2), 237–254 (1997)
- Sleator, D.D., Tarjan, R.E.: A data structure for dynamic trees. *J. Comput. Syst. Sci.* **26**(3), 362–391 (1983)
- Sleator, D.D., Tarjan, R.E.: Amortized efficiency of list update and paging rules. *Commun. ACM* **28**(2), 202–208 (1985)
- Sleator, D.D., Tarjan, R.E.: Self-adjusting binary search trees. *J. ACM* **32**(3), 652–686 (1985)
- Sleator, D.D., Tarjan, R.E., Thurston, W.P.: Rotation distance, triangulations, and hyperbolic geometry. In: *Proceedings 18th ACM Symposium on Theory of Computing (STOC)*, Berkeley, 1986, pp. 122–135
- Smith, D.R.: A new proof of the optimality of the shortest remaining processing time discipline. *Oper. Res.* **26**(1), 197–199 (1976)
- Smith, J.M., Lee, D.T., Liebman, J.S.: An $O(N \log N)$ heuristic for Steiner minimal tree problems in the Euclidean metric. *Networks* **11**, 23–39 (1981)
- Smith, T.F., Waterman, M.S.: Identification of Common Molecular Subsequences. *J. Mol. Biol.* **147**, 195–197 (1981)
- Smith, W.E.: Various optimizers for single-stage production. *Nav. Res. Log. Q.* **3**, pp. 59–66 (1956)
- Smyth, W.F.: *Computing patterns in strings*. Addison-Wesley, Boston, MA (2003)
- Smyth, W.F.: *Computing Patterns in Strings*. Addison Wesley Longman, Harlow, UK (2002)
- Smyth, W.F.: Repetitive perhaps, but certainly not boring. *Theor. Comput. Sci.* **249**(2), 343–355 (2000)
- Sokol, D., Benson, G., Tojeira, J.: Tandem repeats over the edit distance. *Bioinform.* **23**(2), e30–e35 (2006)
- Solis-Oba, R.: 2-approximation algorithm for finding a spanning tree with the maximum number of leaves. In: *Proceedings of the 6th Annual European Symposium on Algorithms (ESA'98)*. *Lecture Notes in Computer Science*, vol. 1461, pp. 441–452. Springer, Berlin (1998)
- Solymosi, T., Raghavan, T.E.S.: An Algorithm for Finding the Nucleolus of Assignment Games. *Int. J. Game Theory* **23**, 119–143 (1994)
- Somenzi, F.: Colorado University Decision Diagram Package. <http://vlsi.colorado.edu/~fabio/>
- Song, W.-Z., Wang, Y., Li, X.-Y., Frieder, O.: Localized algorithms for energy efficient topology in wireless ad hoc networks. In: *ACM Int. Symposium on Mobile Ad-Hoc Networking and Computing (MobiHoc)*, Tokyo, 24–26 May 2004
- Sørensen, O.W.: Polarization transfer experiments in high-resolution NMR spectroscopy. *Prog. Nuc. Mag. Res. Spect.* **21**, 503–569 (1989)
- Spielman, D., Teng, S.-H.: Nearly-linear time algorithm for graph partitioning, graph sparsification, and solving linear systems. In: *Proc. of the 36th Annual ACM Symp. on Theory of Computing, STOC'04*, Chicago, USA, June 2004, pp. 81–90
- Spielman, D.A., Teng, S.H.: Smoothed analysis of algorithms and heuristics: progress and open questions. In: Pardo, L.M., Pinkus, A., Süli, E., Todd, M.J. (eds.) *Foundations of Computational Mathematics*, pp. 274–342. Cambridge University Press, Cambridge, UK (2006)
- Spillner, A.: A faster algorithm for the minimum weight triangulation problem with few inner points. In: Broersma, H., Johnson, H., Szeider, S. (eds.) *Proceedings of the 1st ACiD Workshop. Texts in Algorithmics*, vol. 4, pp. 135–146. King's College, London (2005)

- Spillner, A.: Optimal convex partitions of point sets with few inner points. In: Proceedings of the 17th Canadian Conference on Computational Geometry (CCCG), 2005, pp. 34–37
- Spirakis, P.: PRAM models and fundamental parallel algorithm techniques: Part II. In: Gibbons, A., Spirakis, P. (eds.) *Lectures on Parallel Computation*, pp. 41–66. Cambridge University Press, New York (1993)
- Spirakis, P., Tsakalidis, A.: A Very Fast, Practical Algorithm for Finding a Negative Cycle in a Digraph. In *Proc. of 13th ICALP*, pp. 397–406 (1986)
- Spirakis, P.G., Raptopoulos, C.: Simple and Efficient Greedy Algorithms for Hamilton Cycles in Random Intersection Graphs. In: *Proc. of the 16th ISAAC. LNCS*, vol. 3827, pp. 493–504. Springer, Berlin/Heidelberg (2005)
- Spring, N., Mahajan, R., Wetherall, D.: Measuring ISP topologies with Rocketfuel. In: *Proceedings of the ACM SIGCOMM'02 Conference*. ACM, New York (2002)
- Srikanth, T.K., Toueg, S.: Simulating Authenticated Broadcasts to Derive Simple Fault-Tolerant Algorithms. *Distrib. Comp.* **2**(2), 80–94 (1987)
- Srinivasan, A.: Improved approximations for edge-disjoint paths, unsplittable flow, and related routing problems. *Proc. IEEE FOCS*, 1997, pp. 416–425
- Srinivasan, A.: Improved approximations of packing and covering problems. In: *Proceedings of the 27th Annual ACM Symposium on Theory of Computing*, pp. 268–276 (1995)
- Srinivasan, A., Teo, C.P.: A Constant-Factor Approximation Algorithm for Packet Routing and Balancing Local vs. Global Criteria. *SIAM J. Comput.* **30**(6), 2051–2068 (2000)
- Stark, D.: The Vertex Degree Distribution of Random Intersection Graphs. *Random Struct. Algorithms* **24**, 249–258 (2004)
- Stasko, J.: Animating Algorithms with X-TANGO. *SIGACT News* **23**, 67–71 (1992)
- Stasko, J., Domingue, J., Brown, M., Price B.: *Software Visualization: Programming as a Multimedia Experience*. MIT Press, Cambridge, MA (1997)
- Stasko, J., Kraemer, E.: A Methodology for Building Application-Specific Visualizations of Parallel Programs. *J. Paralle. Distrib. Comp.* **18**, 258–264 (1993)
- Steane, A.: Error correcting codes in quantum theory. *Phys. Rev. Lett.* **77**, 793–797 (1996)
- Steane, A.: Multiple-particle interference and quantum error correction. *Proc. R. Soc. London A* **452**, 2551–2577 (1996)
- Steel, M., Warnow, T.: Kaikoura tree theorems: computing the maximum agreement subtree. *Inf. Process. Lett.* **48**, 77–82 (1993)
- Steel, M.A.: Recovering a tree from the leaf colourations it generates under a Markov model. *Appl. Math. Lett.* **7**, 19–24 (1994)
- Steel, M.A.: The complexity of reconstructing trees from qualitative characters and subtrees. *J. Classification* **9**, 91–116 (1992)
- Steele, J.M.: Cost of sequential connection for points in space. *Oper. Res. Lett.* **8**, 137–142 (1989)
- Steen, H., Mann, M.: The ABC's (and XYZ's) of peptide sequencing. *Nat. Rev. Mol. Cell Biol.* **5**(9), 699–711 (2004)
- Stefankovic, D.: *Fourier transforms in computer science*. Masters thesis, TR-2002-03, University of Chicago (2002)
- Stege, U.: *Resolving conflicts from problems in computational biology*. Ph. D. Thesis, ETH Zürich, Institute of Scientific Computing (2000)
- Stein, S.K.: Two combinatorial covering theorems. *J. Comb. Theor. A* **16**, 391–397 (1974)
- Steinhaus, H.: *Mathematical Snapshots*. Oxford University Press, New York (1950)
- Stepanec, G.F.: Basis systems of vector cycles with extremal properties in graphs. *Uspekhi Mat. Nauk* **19**, 171–175 (1964). (In Russian)
- Stepanov, A., Lee, M.: *The Standard Template Library*. In: *Technical Report X3J16/94-0095, WG21/N0482, ISO Programming Language C++ Project*. Hewlett-Packard, Palo Alto CA (1994)
- Stewart, J.W.: *BGP4, Inter-Domain Routing in the Internet*. Addison Wesley, Massachusetts (1998)
- Stinson, D.R.: *Cryptography: Theory and Practice*, CRC Press, Inc (1995)
- Stockmeyer, L.: Optimal Orientations of Cells in Slicing Floorplan Designs. *Inf. Control* **59**, 91–101 (1983)
- Stockmeyer, L.J.: On approximation algorithms for #P. *SIAM J. Comput.* **14**, 849–861 (1985)
- Stoer, M.: *Design of Survivable Networks*. Springer, Berlin (1992)
- Stoica, I., Adkins, D., Zhuang, S., Shenker, S., Surana, S.: Internet Indirection Infrastructure. In: *Proceedings of ACM SIGCOMM*, pp. 73–88 (2002)
- Stoica, I., Morris, R., Karger, D., Kaashoek, M.F., Balakrishnan, H.: Chord: A scalable peer-to-peer lookup service for internet applications. In: *Proceedings of the SIGCOMM 2001*
- Stojanovic, N., Dewar, K.: Identifying multiple alignment regions satisfying simple formulas and patterns. *Bioinformatics* **20**, 2140–2142 (2005)
- Stojanovic, N., Florea, L., Riemer, C., Gumucio, D., Slightom, J., Goodman, M., Miller, W., Hardison, R.: Comparison of five methods for finding conserved sequences in multiple alignments of gene regulatory regions. *Nucl. Acid. Res.* **19**, 3899–3910 (1999)
- Stojmenovic, I., Lin, X.: Loop-free hybrid single-path/flooding routing algorithms with guaranteed delivery for wireless networks. *IEEE Trans. Paralle. Distrib. Syst.* **12**, 1023–1032 (2001)
- Stok, L., Tiwari, V.: Technology Mapping. In: Hassoun, S., Sasou, T. (eds.) *Logic Synthesis and Verification*, pp. 115–139. Kluwer International Series In Engineering And Computer Science Series. Kluwer Academic Publisher, Norwell (2002)
- Storer, J.A.: Lossless image compression using generalized LZ1-type methods. In: *Proceedings of Data Compression Conference*, 1996, pp. 290–299
- Stormo, G.: Consensus patterns in DNA. In: Doolittle, R.F. (ed.) *Molecular evolution: computer analysis of protein and nucleic acid sequences*. *Methods in Enzymology*, vol. 183, pp. 211–221 (1990)
- Stormo, G., Hartzell III, G.W.: Identifying protein-binding sites from unaligned DNA fragments. *Proc. Natl. Acad. Sci. USA*. **88**, 5699–5703 (1991)
- Strang, G.: *Linear algebra and its applications*, 2nd edn. Academic Press [Harcourt Brace Jovanovich Publishers], New York (1980)
- STXXL: C++ Standard Library for Extra Large Data Sets. <http://stxxl.sourceforge.net>. Accessed: 15 March 2008
- Subramaniam, S., Pope, S.B.: A mixing model for turbulent reactive flows based on euclidean minimum spanning trees. *Combust. Flame* **115**(4), 487–514 (1998)
- Sudan, M.: Decoding of Reed–Solomon codes beyond the error-correction bound. *J. Complex.* **13**(1), 180–193 (1997)
- Sudan, M.: List decoding: Algorithms and applications. *SIGACT News*. **31**(1), 16–27 (2000)
- Suderman, M.: *Layered Graph Drawing*. Ph. D. thesis, McGill University, Montréal (2005)

- Suderman, M., Whitesides, S.: Experiments with the fixed-parameter approach for two-layer planarization. *J. Graph Algorithms Appl.* **9**(1), 149–163 (2005)
- Sugihara, K., Iri, M., Inagaki, H., Imai, T.: Topology-oriented implementation—an approach to robust geometric algorithms. *Algorithmica* **27**, 5–20 (2000)
- Sugiyama, K., Tagawa, S., Toda, M.: Methods for visual understanding of hierarchical system structures. *IEEE Trans. Syst. Man Cybernet.* **11**(2), 109–125 (1981)
- Sundar, R.: On the deque conjecture for the splay algorithm. *Combinatorica* **12**(1), 95–124 (1992)
- Sundar, R.: Twists, turns, cascades, deque conjecture, and scanning theorem. In: *Proceedings 30th IEEE Symposium on Foundations of Computer Science (FOCS)*, pp. 555–559 (1989)
- Sundararajan, V., Parhi, K.: Low Power Synthesis of Dual Threshold Voltage CMOS VLSI Circuits. In: *Proceedings of the International Symposium on Low Power Electronics and Design*. pp. 139–144 (1999)
- Sundararajan, V., Sapatnekar, S.S., Parhi, K.K.: Fast and exact transistor sizing based on iterative relaxation. *Computer-Aided Design of Integrated Circuits and Systems*, *IEEE Trans.* **21**(5), 568–581 (2002)
- Sutou, A., Dai, Y.: Global optimization approach to unequal sphere packing problems in 3D. *J. Optim. Theor. Appl.* **114**(3), 671–694 (2002)
- Sutton, R.: Learning to predict by the methods of temporal differences. *Mach. Learn.* **3**, 9–44 (1988)
- Sutton, R., Barto, A.: *Reinforcement Learning. An Introduction*. MIT Press, Cambridge (1998)
- Svitkina, Z., Tardos, E.: Facility location with hierarchical facility costs. In: *Proceedings of the 17th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA)*, pp. 153–161. SIAM, Philadelphia, PA, USA (2006)
- Svitkina, Z., Tardos, É.: Min-Max multiway cut. In: *7th International workshop on Approximation algorithms for combinatorial optimization (APPROX)*, pp. 207–218, Cambridge, 2004 August 22–24
- Swamy, C.: Correlation clustering: maximizing agreements via semidefinite programming. In: *Proceedings of 15th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA)*, New Orleans 2004, pp. 526–527
- Swamy, C.: The effectiveness of stackelberg strategies and tolls for network congestion games. In: *ACM-SIAM Symposium on Discrete Algorithms*, Philadelphia, PA, USA (2007)
- Swamy, C., Kumar, A.: Primal-dual algorithms for connected facility location problems. *Algorithmica* **40**(4), 245–269 (2004)
- Swamy, C., Shmoys, D.B.: Fault-tolerant facility location. In: *Proceedings of the 14th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA)*, pp. 735–736. SIAM, Philadelphia (2003)
- Swofford, D.L., Olsen, G.J., Wadell, P.J., Hillis, D.M.: Phylogenetic inference. In: Hillis, D.M., Moritz, D.M., Mable, B.K. (eds.) *Molecular systematics*, 2nd edn. pp. 407–514. Sunderland, USA (1996)
- Symvonis, A.: Routing on trees. *Inf. Process. Lett.* **57**(4), 215–223 (1996)
- Szegedy, M.: On the quantum query complexity of detecting triangles in graphs. quant-ph/0310107
- Szegedy, M.: Quantum speed-up of Markov chain based algorithms. In: *Proceedings of the 45th IEEE Symposium on Foundations of Computer Science*, pp. 32–41, Rome, Italy, 17–19 October 2004 (2004)
- Szeider, S.: Minimal unsatisfiable formulas with bounded clause-variable difference are fixed-parameter tractable. *J. Comput. Syst. Sci.* **69**, 656–674 (2004)
- Szeider, S.: On fixed-parameter tractable parameterizations of SAT. In: Giunchiglia, E., Tacchella, A. (eds.) *Theory and Applications of Satisfiability*, 6th International Conference, SAT 2003, Selected and Revised Papers. *Lecture Notes in Computer Science*, vol. 2919, pp. 188–202. Springer, Berlin (2004)
- Ta-Shma, A.: Explicit one-probe storing schemes using universal extractors. *Inf. Proc. Lett.* **83**(5), 267–274 (2002)
- Tabaska, J.E., Cary, R.B., Gabow, H.N., Stormo, G.D.: An RNA folding method capable of identifying pseudoknots and base triples. *Bioinform.* **14**, 691–699 (1998)
- Takagi, H., Kleinrock, L.: Optimal Transmission Ranges for Randomly Distributed Packet Radio Terminals. *IEEE Trans. Commun.* **32**, 246–257 (1984)
- Takahashi, H., Matsuyama, A.: An approximate solution for the Steiner problem in graphs. *Math. Jap.* **24**(6), 573–577 (1980)
- Takaoka, T.: A new upper bound on the complexity of the all pairs shortest path problem. *Inf. Proc. Lett.* **43**, 195–199 (1992)
- Takaoka, T.: Sub-cubic time algorithms for the all pairs shortest path problem. *Algorithmica* **20**, 309–318 (1998)
- Tal, A., Dobkin, D.: Visualization of Geometric Algorithms. *IEEE Trans. Visual. Comp. Graphics* **1**, 194–204 (1995)
- Talwar, K.: Bypassing the Embedding: Approximation Schemes and Compact Representations for Low Dimensional Metrics. In: *Proceedings of the thirty-sixth Annual ACM Symposium on Theory of Computing (STOC'04)*, pp. 281–290 (2004)
- Tamassia, R.: A dynamic data structure for planar graph embedding. *15th Int. Colloq. Automata, Languages, and Programming. LNCS*, vol. 317, pp. 576–590. Springer, Berlin (1988)
- Tamura, A.: Coordinatwise Domain Scaling Algorithm for M-convex Function Minimization. *Math. Program.* **102**, 339–354 (2005)
- Tanenbaum, A.S.: *Modern Operating Systems*. Prentice-Hall, Englewood Cliffs (1992)
- Tang, C.Y., Lu, C.L., Chang, M.D.T., Tsai, Y.T., Sun, Y.J., Chao, K.M., Chang, J.M., Chiou, Y.H., Wu, C.M., Chang, H.T., Chou, W.I.: Constrained multiple sequence alignment tool development and its application to RNase family alignment. In: *Proc. of the First IEEE Computer Society Bioinformatics Conference (CSB 2002)*, 2002, pp. 127–137
- Tang, X., Tian, R., Wong, M.D.F.: Optimal redistribution of white space for wirelength minimization. In: Tang, T.-A. (ed.) *Proc. Asia South Pac. Design Autom. Conf.*, ACM Press, 18–21 Jan 2005, Shanghai. pp. 412–417 (2005)
- Tannier, E., Bergeron, A., Sagot, M.-F.: Advances on Sorting by Reversals. *Discret. Appl. Math.* **155**, 881–888 (2006)
- Tannier, E., Sagot, M.-F.: Sorting by reversals in subquadratic time. In: *Proceedings of CPM'04. Lecture Notes Comput. Sci.* **3109**, 1–13
- Tarjan, R.: Sequential access in play trees takes linear time. *Combinatorica* **5**(4), 367–378 (1985)
- Tarjan, R.E.: Data structures and network algorithms. In: *CBMS-NSF Reg. Conf. Ser. Appl. Math.*, vol. 44. SIAM, Philadelphia (1983)
- Tarjan, R.E.: *Data Structures and Network Algorithms*. SIAM, Philadelphia (1983)
- Tarjan, R.E.: Dynamic trees as search trees via Euler tours, applied to the network simplex algorithm. *Math. Prog.* **78**, 169–177 (1997)
- Tarjan, R.E., Vishkin, U.: An efficient parallel biconnectivity algorithm. *SIAM J. Comput.* **14**, 862–874 (1985)

- Tarjan, R.E., Werneck, R.F.: Dynamic trees in practice. In: Proceedings of the 6th Workshop on Experimental Algorithms (WEA). Lecture Notes in Computer Science, vol. 4525, pp. 80–93 (2007)
- Tarjan, R.E., Werneck, R.F.: Self-adjusting top trees. In: Proceedings of the 16th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA), pp. 813–822 (2005)
- Tassioulas, L., Sarkar, S.: Maxmin fair scheduling in wireless adhoc networks. *IEEE J. Sel. Areas Commun.* **23**(1), 163–173 (2005)
- Tata, S., Hankins, R.A., Patel, J.M.: Practical suffix tree construction. In: Proc. 13th International Conference on Very Large Data Bases (VLDB), pp. 36–47, Toronto, Canada (2004)
- Taubenfeld, G.: Synchronization algorithms and concurrent programming. Pearson Education – Prentice-Hall, Upper Saddle River (2006) ISBN: 0131972596
- Taubenfeld, G.: The black-white bakery algorithm. In: 18th international symposium on distributed computing, October (2004). LNCS, vol. 3274, pp. 56–70. Springer, Berlin (2004)
- Tenenbaum, J., de Silva, V., Langford, J.: A global geometric framework for nonlinear dimensionality reduction. *Science* **290**, 22 (2000)
- Tesauro, G.J.: TD-gammon, a self-teaching backgammon program, achieves a master-level play. *Neural Comput.* **6**, 215–219 (1996)
- Tesler, G.: Efficient algorithms for multichromosomal genome rearrangements. *J. Comput. Syst. Sci.* **63**(5), 587–609 (2002)
- Tettelin, H., Radune, D., Kasif, S., Khouri, H., Salzberg, S.: Pipette Optimal Multiplexed PCR: Efficiently Closing Whole Genome Shotgun Sequencing Project. *Genomics* **62**, 500–507 (1999)
- Thai, M.T., Wang F., Liu, D., Zhu, S., Du, D.-Z.: Connected Dominating Sets in Wireless Networks with Different Transmission Range. *IEEE Trans. Mob. Comput.* **6**(7), 721–730 (2007)
- Thaker, D.D., Metodi, T.S., Cross, A.W., Chuang, I.L., Chong, F.T.: Quantum memory hierarchies: Efficient designs to match available parallelism in quantum computing. In: Proc. 33rd. Int. Symp. on Computer Architecture (ISCA), pp. 378–390 (2006) quant-ph/0604070
- The Canterbury Tales Project: University of Birmingham, Brigham Young University, University of Münster, New York University, Virginia Tech, and Keio University. Website: <http://www.canterburytalesproject.org/>
- The CGAL project homepage. <http://www.cgal.org/>. Accessed 6 Apr 2008
- The CORE library homepage. <http://www.cs.nyu.edu/exact/core/>. Accessed 6 Apr 2008
- The GMP webpage. <http://gmplib.org/>. Accessed 6 Apr 2008
- The Stony Brook Algorithm Repository, <http://www.cs.sunysb.edu/~algorithm/>. Accessed February 2008
- Thiel, C.: On the complexity of some problems in algorithmic algebraic number theory, Ph. D. thesis. Universität des Saarlandes, Saarbrücken, Germany (1995)
- Thimm, M.: On the approximability of the Steiner tree problem. *Theor. Comput. Sci.* **295**(1–3), 387–402 (2003)
- Thomas, R.H.: A majority consensus approach to concurrency control for multiple copy databases. *ACM Trans. Database Syst.* **4**, 180–209 (1979)
- Thompson, K.: Regular expression search algorithm. *Commun. ACM* **11**(6), 419–422 (1968)
- Thorne, J.L., Kishino, H., Felsenstein, J.: An evolutionary model for maximum likelihood alignment of DNA sequences. *J. Mol. Evol.* **33**, 114–124 (1991)
- Thorup, M.: Compact oracles for reachability and approximate distances in planar digraphs. In: Proc. 42nd IEEE Symposium on Foundations of Computer Science, 2001, pp. 242–251
- Thorup, M.: Compact oracles for reachability and approximate distances in planar digraphs. *J. ACM* **51**, 993–1024 (2004)
- Thorup, M.: Dynamic Graph Algorithms with Applications. In: Halldórsson, M.M. (ed) 7th Scandinavian Workshop on Algorithm Theory (SWAT), Norway, 5–7 July 2000, pp. 1–9
- Thorup, M.: Equivalence between priority queues and sorting. In: Proc. 43rd FOCS, 2002, pp. 125–134
- Thorup, M.: Faster deterministic sorting and priority queues in linear space. In: Proc. 9th SODA, 1998, pp. 550–555
- Thorup, M.: Floats, integers, and single source shortest paths. *J. Algorithms* **35** (2000)
- Thorup, M.: Fully-dynamic all-pairs shortest paths: Faster and allowing negative cycles. In: Proceedings of the 9th Scandinavian Workshop on Algorithm Theory (SWAT'04), pp. 384–396. Springer, Berlin (2004)
- Thorup, M.: Integer priority queues with decrease key in constant time and the single source shortest paths problem. *J. Comput. Syst. Sci.* (special issue on STOC'03) **69**(3), 330–353 (2004)
- Thorup, M.: Near-optimal fully-dynamic graph connectivity. In: Proc. 32nd ACM Symposium on Theory of Computing (STOC), 2000, pp. 343–350
- Thorup, M.: On RAM priority queues. *SIAM J. Comput.* **30**(1), 86–109 (2000). Announced at SODA'96
- Thorup, M.: Quick and good facility location. In: Proceedings 14th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA), 2003, pp. 178–185
- Thorup, M.: Randomized sorting in $O(n \log \log n)$ time and linear space using addition, shift, and bit-wise boolean operations. *J. Algorithms* **42**(2), 205–230 (2002). Announced at SODA'97
- Thorup, M.: Undirected single-source shortest paths with positive integer weights in linear time. *J. ACM* **46**(3), 362–394 (1999)
- Thorup, M.: Worst-case update times for fully-dynamic all-pairs shortest paths. In: Proceedings of the 37th ACM Symposium on Theory of Computing (STOC 2005), ACM, New York (2005)
- Thorup, M., Zwick, U.: Approximate distance oracles. In: Proceedings of the 33rd Annual ACM Symposium on the Theory of Computing, pp. 183–192. ACM Press, New York (2001)
- Thorup, M., Zwick, U.: Approximate distance oracles. *J. Assoc. Comput. Mach.* **52**, 1–24 (2005)
- Thorup, M., Zwick, U.: Spanners and emulators with sublinear distance errors. In: Proceedings of 17th Annual ACM-SIAM Symposium on Discrete Algorithms, 2006, pp. 802–809
- Tinoco, I., Borer, P.N., Dengler, B., Levine, M.D., Uhlenbeck, O.C., Crothers, D.M., Gralla, J.: Improved estimation of secondary structure in ribonucleic acids. *Nat. New Biol.* **246**, 40–41 (1973)
- Tinoco, I., Uhlenbeck, O.C., Levine, M.D.: Estimation of secondary structure in ribonucleic acids. *Nature* **230**, 362–367 (1971)
- Tiwari, V., Ashar, P., Malik, S.: Technology Mapping for Low Power in Logic Synthesis. *Integr. VLSI J.* **20**(3), 243–268 (1996)
- Toda, S., Watanabe, O.: Polynomial-Time 1-Turing Reductions from #P to #P. *Theor. Comput. Sci.* **100**, 205–221 (1992)
- Tompa, M.: Lecture notes. Department of Computer Science & Engineering, University of Washington. <http://www.cs.washington.edu/education/courses/527/00wi/>. (2000)
- Toran, J.: On the hardness of graph isomorphism. *SIAM J. Comput.* **33**, 1093–1108 (2004)
- Touati, H., Savoj, H., Lin, B., Brayton, R.K., Sangiovanni-Vincentelli, A.L.: Implicit State Enumeration of Finite State Machines using

- BDDs. In: IEEE International Conference on Computer-Aided Design, pp. 130–133, November (1990)
- Toueg, S., Perry, K.J., Srikanth, T.K.: Fast Distributed Agreement. *SIAM J. Comput.* **16**(3), 445–457 (1987)
- Toussaint, G.T.: The relative neighborhood graph of a finite planar set. *Pattern Recognit.* **12**(4), 261–268 (1980)
- TPIE — A Transparent Parallel I/O-Environment. <http://www.cs.duke.edu/TPIE>. Accessed: 15 March 2008
- Traveling Salesman Problem. www.tsp.gatech.edu (2006). Accessed 28 Mar 2008
- Treiber, R.: Systems programming: Coping with parallelism. Technical Report RJ5118, IBM Almaden Research Center (1986)
- Trevisan, L.: Recycling queries in pcps and in linearity tests. In: Proceedings of the Thirtieth Annual ACM Symposium on the Theory of Computing, pp. 299–308. ACM, New York (1998)
- Trevisan, L.: Some applications of coding theory in computational complexity. *Quaderni Matematica* **13**, 347–424 (2004) [arXiv:cs.CC/0409044](http://arxiv.org/abs/cs.CC/0409044)
- Trevisan, L.: When Hamming meets Euclid: the approximability of geometric TSP and Steiner Tree. *SIAM J. Comput.* **30**(2), 475–485 (2000)
- Trevisan, L., Sorkin, G., Sudan, M., Williamson, D.: Gadgets, approximation, and linear programming. *SIAM J. Comput.* **29**(6), 2074–2097 (2000)
- Triantafillou, P., Ntarmos, N., Nikolettas, S., Spirakis, P.: NanoPeer Networks and P2P Worlds. In: Proc. 3rd IEEE International Conference on Peer-to-Peer Computing (P2P 2003), pp. 40–46, Sept. 2003
- Trick, M.: Michael Trick's coloring page: <http://mat.gsia.cmu.edu/COLOR/color.html>
- Trimberger, S.: Field-Programmable Gate Array Technology. Springer, Boston, USA (1994)
- Tromp, J.: How to construct an atomic variable. In: Proc. Workshop Distrib. Algorithms. Lecture Notes in Computer Science, vol. 392, pp. 292–302. Springer, Berlin (1989)
- Trotter, W.T.: Current research problems: First Fit colorings of interval graphs. <http://www.math.gatech.edu/~trotter/rprob.htm>. Accessed 24 Dec 2007
- Tsaknakis, H., Spirakis, P.: An Optimization Approach for Approximate Nash Equilibria. In: LNCS Proceedings of the 3rd International Workshop on Internet and Network Economics (WINE 2007), also in the Electronic Colloquium on Computational Complexity, (ECCC), TR07-067 (Revision), San Diego, 12–14 December 2007
- Tsitsiklis, J.N., Van Roy, B.: Feature-based methods for large scale dynamic programming. *Mach. Learn.* **22**, 59–94 (1996)
- Tullock, G.: Some problems of majority voting. *J. Polit. Econ.* **67**, 571–579 (1959)
- Turpin, R., Coan, B.A.: Extending binary Byzantine Agreement to multivalued Byzantine Agreement. *Inf. Process. Lett.* **18**(2), 73–76 (1984)
- Uemura, Y., Hasegawa, A., Kobayashi, S., Yokomori, T.: Tree adjoining grammars for RNA structure prediction. *Theor. Comput. Sci.* **210**, 277–303 (1999)
- Ukkonen, E.: Finding approximate patterns in strings. *J. Algorithms* **6**, 132–137 (1985)
- Ukkonen, E.: On-line construction of suffix trees. *Algorithmica* **14**, 249–260 (1995)
- Ukkonen, E., Lemström, K., Mäkinen, V.: Sweepline the music! In: Klein, R. Six, H.W., Wegner, L. (eds.) *Computer Science in Perspective, Essays Dedicated to Thomas Ottmann*. LNCS, vol. 2598, pp. 330–342. Springer (2003)
- Ullman, J.D.: NP-complete scheduling problems. *J. Comput. Syst. Sci.* **10**, 384–393 (1975)
- Ullman, J.D.: The performance of a memory allocation algorithm. Tech. Rep. 100, Princeton University, Princeton, NJ (1971)
- Umans, C., Villa, T., Sangiovanni-Vincentelli, A.L.: Complexity of two-level logic minimization. *IEEE Trans. Comput.-Aided Des. Integr. Circuits Syst.* **25**(7), 1230–1246 (2006)
- Unger, W.: The complexity of the approximation of the bandwidth problem. In: 39th Annual Symposium on Foundations of Computer Science, IEEE, 8–11 Oct 1998, pp. 82–91.
- Urrutia, J.: Routing with Guaranteed Delivery in Geometric and Wireless Networks. In: Stojmenovic, I. (ed.) *Handbook of Wireless Networks and Mobile Computing*, ch. 18 pp. 393–406. Wiley, Hoboken (2002)
- Ursin, R., Jennewein, T., Aspelmeyer, M., Kaltenbaek, R., Lindenthal, M., Zeilinger, A.: Quantum teleportation link across the danube. *Nature* **430**(849), 849–849 (2004)
- U.S. Census Bureau, Washington, DC: UA Census 2000 TIGER/Line Files. http://www.census.gov/geo/www/tiger/tigerua/ua_tgr2k.html (2002)
- Vafeiadis, V., Herlihy, M., Hoare, T., Shapiro, M.: Proving correctness of highly-concurrent linearisable objects. In: PPoPP '06: Proceedings of the eleventh ACM SIGPLAN symposium on Principles and practice of parallel programming, pp. 129–136 (2006). doi: <http://doi.acm.org/10.1145/1122971.1122992>
- Vaidya, P.: Solving linear equations with symmetric diagonally dominant matrices by constructing good preconditioners. Unpublished manuscript (1991)
- Vaidya, P.M.: Minimum Spanning Trees in k-Dimensional Space. *SIAM J. Comput.* **17**(3), 572–582 (1988)
- Valiant, L.: Learning disjunctions of conjunctions. In: Proc. 9th Int. Joint Conference on Artificial Intelligence, pp. 560–566, Los Angeles, August 1985
- Valiant, L.G.: A scheme for fast parallel communication. *SIAM J. Comput.* **11**, 350–361 (1982)
- Valiant, L.G.: A theory of the learnable. *Commun. ACM* **27**(11), 1134–1142 (1984)
- Valiant, L.G., Brebner, G.: Universal schemes for parallel communication. In: Proceedings of the 13th ACM Symposium on Theory of Computing, 1981, pp. 263–277
- van d. Heuvel, J., McGuinness, S.: Colouring the Square of a Planar Graph. CDAM Research Report Series, July 1999
- van Emde Boas, P., Kaas, R., Zijlstra, E.: Design and implementation of an efficient priority queue. *Math. Syst. Theor.* **10**, 99–127 (1977). Announced by van Emde Boas alone at FOCS'75
- van Santen, J.P.H., Buchsbaum, A.L.: Methods for optimal text selection. In: Proceedings of the European Conference on Speech Communication and Technology (Rhodos, Greece) **2**, 553–556 (1997)
- van Vliet, A.: An improved lower bound for on-line bin packing algorithms. *Inf. Proc. Lett.* **43**, 277–284 (1992)
- Vapnik, V. N.: Statistical Learning Theory. Wiley (1998)
- Vapnik, V.: The Nature of Statistical Learning Theory. Springer, New York (1995)
- Vapnik, V.N.: Estimations of dependences based on statistical data. Springer (1982)
- Vapnik, V.N., Chervonenkis, A.Y.: On the uniform convergence of relative frequencies of events to their probabilities. *Theory Probab. Appl.* **16**, 264–280 (1971)

- Varghese, G., Jayaram, M.: The Fault Span of Crash Failures. *J. ACM* **47**(2), 244–293 (2000)
- Varian, H.R.: Economic mechanism design for computerized agents. In: Proceedings of the 1st Usenix Workshop on Electronic Commerce, 1995
- Varian, H.R.: Position auctions. *Int. J. Ind. Organ.* **25**(6), 1163–1178 (2007) <http://www.sims.berkeley.edu/~hal/Papers/2006/position.pdf>. Accessed 29 March 2006
- Vazirani, U.: Berkeley Lecture Notes. Fall 1997. Lecture 8. <http://www.cs.berkeley.edu/~vazirani/qc.html> (1997)
- Vazirani, U., Vazirani, V.: Two-processor scheduling problem is in random NC. *SIAM J. Comput.* **18**(4), 1140–1148 (1989)
- Vazirani, V.V.: A Theory of Alternating Paths and Blossoms for Proving Correctness of the $O(\sqrt{VE})$ Maximum Matching Algorithm. *Combinatorica* **14**(1), 71–109 (1994)
- Vazirani, V.V.: Approximation Algorithms. Springer, Berlin (2001)
- Vazirani, V.V.: Approximation Algorithms. Springer, Berlin (2003)
- Vempala, S.: Random projection: A new approach to VLSI layout. In: 39th Annual Symposium on Foundations of Computer Science, IEEE, 8–11 Oct 1998, pp. 389–398.
- Vempala, S., Vetta, A.: Factor 4/3 approximations for minimum 2-connected subgraphs. In: Jansen, K., Khuller, S. (eds.) AP-PROX. Lecture Notes in Computer Science, vol. 1913, pp. 262–273. Springer, Berlin (2000)
- Venkataraman, G., Sahni, S., Mukhopadhyaya, S.: A blocked all-pairs shortest paths algorithm. *J. Exp. Algorithms* **8** (2003)
- Venter, J.C., Adams, M.D., Sutton, G.G., Kerlavage, A.R., Smith, H.O., Hunkapiller, M.: Shotgun sequencing of the human genome. *Science* **280**, 1540–1542 (1998)
- Vetta, A.: Nash equilibria in competitive societies, with applications to facility location, traffic routing and auctions. In: 43rd Symp. on Foundations of Computer Science, pp. 416–425 (2002)
- Viale, S.: On the computational complexity of 2-interval pattern matching. *Theor. Comput. Sci.* **312**, 223–249 (2004)
- Vickrey, W.: Counter speculation, auctions, and competitive sealed tenders. *J. Financ.* **16**, 8–37 (1961)
- Vinh, L.S., von Haeseler, A.: Shortest triplet clustering: reconstructing large phylogenies using representative sets. *BMC Bioinformatics* **6**, 92 (2005)
- Vishkin, U.: Optimal parallel pattern matching in strings. *Proc. 12th ICALP*, pp. 91–113 (1985)
- Vitányi, P.M.B., Awerbuch, B.: Atomic shared register access by asynchronous hardware. In: Proc. 27th IEEE Symp. Found. Comput. Sci. pp. 233–243. Los Angeles, 27–29 October 1987. Errata, Proc. 28th IEEE Symp. Found. Comput. Sci., pp. 487–487. Los Angeles, 27–29 October 1987
- Vitter, J. S., Shriver, E.A.M.: Algorithms for parallel memory. I: Two-level memories. *Algorithmica* **12**(2/3), 110–147 (1994)
- Vitter, J. S., Shriver, E.A.M.: Algorithms for parallel memory II: Hierarchical multilevel memories. *Algorithmica* **12**(2/3), 148–169 (1994)
- Vitter, J.: Faster methods for random sampling. *Commun. ACM* **27**, 703–718 (1984)
- Vitter, J.: Random sampling with a reservoir. *ACM Trans. Math. Softw.* **11**, 37–57 (1985)
- Vitter, J.S.: External memory algorithms and data structures: Dealing with massive data. *ACM Comput. Surv.* **33**(2), 209–271 (2001)
- Vitter, J.S.: Geometric and spatial data structures in external memory. In: Mehta, D., Sahni, S. (eds.) Handbook on Data Structures and Applications. CRC Press, Boca Raton (2005)
- Vitter, J.S., Hutchinson, D.A.: Distribution sort with randomized cycling. *J. ACM.* **53** (2006)
- Vizing, V.G.: On an estimate of the chromatic class of a p-graph (Russian). *Diskret. Analiz.* **3**, 25–30 (1964)
- Vo, B.D., Vo, K.-P.: Compressing table data with column dependency. *Theor. Comput. Sci.* **387**, 273–283 (2007)
- Vo, B.D., Vo, K.-P.: Using column dependency to compress tables. In: DCC: Data Compression Conference, pp. 92–101. IEEE Computer Society TCC, Washington DC, USA (2004)
- Vo., K.-P.: Compression as data transformation. In: DCC: Data Compression Conference. IEEE Computer Society TCC, pp. 403. Washington DCD, USA (2006)
- Vöcking, B.: Selfish load balancing. In: Nisan, N., Roughgarden, T., Tardos, É., Vazirani, V. (eds.) Algorithmic Game Theory. Cambridge University Press, New York, NY, USA (2007)
- Vollmer, H.: Introduction to circuit complexity: a uniform approach. Springer, New York (1999)
- von Neumann, J.: Probabilistic logic and the synthesis of reliable organisms from unreliable components. In: Shannon, C.E., McCarthy, J. (eds.) Automata Studies, pp. 43–98. Princeton University Press, Princeton (1956)
- von Neumann, J., Morgenstern, O.: Theory of Games and Economic Behavior. Princeton University Press, Princeton, NJ (1944)
- von Stackelberg, H.: Marktform und Gleichgewicht. Springer, Vienna (1934)
- von zur Gathen, J., Gerhard, J.: Modern Computuer Algebra, 2nd edn. Cambridge (2003)
- Vovk, V.: Aggregating strategies. In: Fulk, M., Case, J. (eds.) Proceedings of the 3rd Annual Workshop on Computational Learning Theory, p. 371–383. Morgan Kaufmann, San Mateo (1990)
- Vygen, J.: Approximation algorithms for facility location problems (lecture notes). Technical report No. 05950-OR, Research Institute for Discrete Mathematics, University of Bonn (2005) <http://www.or.uni-bonn.de/~vygen/fl.pdf>
- Wagner, D., Willhalm, T., Zaroliagis, C.: Geometric Containers for Efficient Shortest Path Computation. *ACM J. Exp. Algorithmics* **10**(1.3), 1–30 (2005)
- Wagner, R.A., Fischer, M.J.: The String-to-String correction Problem. *J. ACM* **21**(1), 168–173 (1974)
- Wahlström, M.: An algorithm for the SAT problem for formulae of linear length. In: Proceedings of the 13th Annual European Symposium on Algorithms, ESA 2005. Lecture Notes in Computer Science, vol. 3669, pp. 107–118. Springer, Berlin (2005)
- Wainwright, M., Jordan, M.: Variational inference in graphical models: the view from the marginal polytope. In: Proc. 41st Allerton Conf. on Communications, Control, and Computing, Monticello, October (2003)
- Walras, L.: Elements of pure economics, or the theory of social wealth (1899, 4th ed; 1926, rev ed, 1954, Engl. Transl.) (1874)
- Walter, J.E., Welch, J.L., Amato, N.M.: Distributed reconfiguration of metamorphic robot chains. *J. Distrib. Comput.* **17**(2), 171–189 (2004)
- Wan, P.-J., Alzoubi, K.M., Frieder, O.: Distributed Construction of Connected Dominating Set in Wireless Ad Hoc Networks. In: IEEE INFOCOM 2002
- Wan, P.-J., Calinescu, G., Li, X.-Y., Frieder, O.: Minimum-energy broadcast routing in static ad hoc wireless networks. *ACM Wirel. Netw. Preliminary version appeared in IEEE INFOCOM (2000)* **8**(6), 607–617 (2002)

- Wan, P.-J., Calinescu, G., Yi, C.-W.: Minimum-power multicast routing in static ad hoc wireless networks. *IEEE/ACM Trans. Netw.* **12**, 507–514 (2004)
- Wan, P.-J., Yi, C.-W.: Coverage by randomly deployed wireless sensor networks. In: Proceedings of the 4th IEEE International Symposium on Network Computing and Applications (NCA 2005), 27–29 July 2005
- Wan, P.-J., Yi, C.-W.: On the longest edge of Gabriel graphs in wireless ad hoc networks. *Trans. Parallel Distrib. Syst.* **18**(1), 1–16 (2007)
- Wan, P.-J., Yi, C.-W., Yao, F., Jia, X.: Asymptotic critical transmission radius for greedy forward routing in wireless ad hoc networks. In: Proceedings of the 7th ACM International Symposium on Mobile Ad Hoc Networking and Computing, 22–25 May 2006, pp. 25–36
- Wang, C.C.: Multi-splay trees. Ph.D. Thesis, Carnegie Mellon University (2006)
- Wang, C.C., Derryberry, J., Sleator, D.D.: $O(\log \log n)$ -competitive dynamic binary search trees. In: Proc. 17th Annual ACM-SIAM Symposium on Discrete Algorithms, Miami, 2006, pp. 374–383
- Wang, J.: Generating and solving 3-SAT, MSc Thesis. Rochester Institute of Technology, Rochester (2002)
- Wang, J.: Medial axis and optimal locations for min-max sphere packing. *J. Combin. Optim.* **3**, 453–463 (1999)
- Wang, J., Huang, M., Cheng, J.: A Lower Bound on Approximation Algorithms for the Closest Substring Problem. In: Proceedings COCOA 2007, vol. 4616 in LNCS, pp. 291–300 (2007)
- Wang, L., Jiang, T.: On the complexity of multiple sequence alignment. *J. Comp. Biol.* **1**, 337–48 (1994)
- Wang, L., Zhang, K., Zhang, L.: Perfect phylogenetic networks with recombination. *J. Comput. Biol.* **8**(1), 69–78 (2001)
- Wang, T.C., Wong, D.F.: A Note on the Complexity of Stockmeyer's Floorplan Optimization Technique. In: Algorithmic Aspects of VLSI Layout, Lecture Notes Series on Computing, vol. 2, pp. 309–320 (1993)
- Wang, T.C., Wong, D.F.: Optimal Floorplan Area Optimization. In: *IEEE Trans. Comput. Aided Des.* **11**(8), 992–1002 (1992)
- Wang, W., Li, X.-Y.: Low-Cost routing in selfish and rational wireless ad hoc networks. *IEEE Trans. Mobile Comput.* **5**(5), 596–607 (2006)
- Wang, W., Li, X.-Y., Chu, X.: Nash equilibria, dominant strategies in routing. In: Workshop for Internet and Network Economics (WINE). Lecture Notes in Computer Science, vol. 3828, pp 979–988. Springer, Hong Kong, China (2005)
- Wang, W., Li, X.-Y., Sun, Z., Wang, Y.: Design multicast protocols for non-cooperative networks. In: Proceedings of the 24th IEEE INFOCOM. vol. 3, pp. 1596–1607, Miami, USA (2005)
- Wang, W., Li, X.-Y., Wang, Y.: Truthful multicast in selfish wireless networks. In: Proceedings of the 10th ACM MOBIKOM, pp. 245–259, Philadelphia, USA (2004)
- Wang, Y., Li, X.-Y.: Efficient construction of bounded degree and planar spanner for wireless networks. In: ACM DIALM-POMC Joint Workshop on Foundations of Mobile Computing, San Diego, 19 September 2003
- Wang, Y., Li, X.-Y.: Localized construction of bounded degree and planar spanner for wireless ad hoc networks, In: Proceedings of the 2003 joint workshop on Foundations of mobile computing (DIALM-POMC'03), 19 Sept 2003, pp. 59–68
- Wang, Y., Wang, W., Li, X.-Y.: Efficient distributed low cost backbone formation for wireless networks. *IEEE Trans. Parallel Distrib. Syst.* **17**, 681–693 (2006)
- Wang, Y., Wang, W., Li, X.-Y.: Efficient distributed low-cost backbone formation for wireless networks. In: Proceedings of 6th ACM International Symposium on Mobile Ad Hoc Networking and Computing (MobiHoc 2005), Urbana-Champaign, 25–27 May 2005
- Warne, D.M., Winter, P., Zacharisen, M.: Exact algorithms for plane steiner tree problems: A computational study, Tech. Rep. DIKU-TR-98/11, Dept. of Computer Science, University of Copenhagen (1998)
- Warne, D.M., Winter, P., Zacharisen, M.: GeoSteiner 3.1 package. <ftp://ftp.diku.dk/diku/users/martinz/geosteiner-3.1.tar.gz>. Accessed Oct. 2003
- Warnow, T.: Some combinatorial optimization problems in phylogenetics. In: Lovász, L., Gyárfás, G., Katona, G., Recski, A., Székely, L. (eds.) *Graph Theory and Combinatorial Biology*. Bolyai Society Mathematical Studies, vol. 7, pp. 363–413. Bolyai János Matematikai Társulat (1999)
- Warnow, T., Ringe, D., Taylor, A.: Reconstructing the evolutionary history of natural languages. In: Proceedings of the 7th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA'96), pp. 314–322 (1996)
- Washietl, S., Hofacker, I.L., Stadler, P.F.: Fast and reliable prediction of noncoding RNA. *Proc. Natl. Acad. Sci. USA* **102**, 2454–59 (2005)
- Waterman, M.S.: Efficient sequence alignment algorithms. *J. Theor. Biol.* **108**, 333–337 (1984)
- Waterman, M.S.: Secondary structure of single-stranded nucleic acids. *Adv. Math. Suppl. Stud.* **1**, 167–212 (1978)
- Waterman, M.S., Smith, T.F.: Rapid dynamic programming methods for RNA secondary structure. *Adv. Appl. Math.* **7**, 455–464 (1986)
- Waterman, M.S., Smith, T.F., Singh, M., Beyer, W.A.: Additive evolutionary trees. *J. Theor. Biol.* **64**, 199–213 (1977)
- Watkins, C.: Learning from Delayed Rewards. Ph.D. thesis, Cambridge University (1989)
- Watkins, C., Dyan, P.: Q-learning. *Mach. Learn.* **8**(3/4), 279–292 (1992)
- Watson, B.: Taxonomies and Toolkits of Regular Language Algorithms, Ph.D. Dissertation, Eindhoven University of Technology, The Netherlands (1995)
- Wattenhofer, M., Wattenhofer, R., Widmayer, P.: Geometric Routing without Geometry. In: 12th Colloquium on Structural Information and Communication Complexity (SIROCCO), Le Mont Saint-Michel, France, May 2005
- WEA. Beginning in 2001, the annual Workshop on Experimental and Efficient Algorithms is sponsored by EATCS. Workshop proceedings are published in the Springer LNCS series
- Weber, R.R., Varaiya, P., Walrand, J.: Scheduling jobs with stochastically ordered processing times on parallel machines to minimize expected flow time. *J. Appl. Probab.* **23**, 841–847 (1986)
- Weber, R.R., Weiss, G.: On an index policy for restless bandits. *J. Appl. Probab.* **27**, 637–648 (1990)
- Wegener, I.: Branching Programs and Binary Decision Diagrams. SIAM (2000)
- Wegman, M.N., Carter, J.L.: New hash functions and their use in authentication and set equality. *J. Comput. Syst. Sci.* **22**, 265–279 (1981)
- Wei, Y.C., Cheng, C.K.: Towards Efficient Hierarchical Designs by Ratio Cut Partitioning. In: Proc. IEEE Int. Conf. on Computer-Aided Design, November 1989, pp. 298–301

- Wein, R., Fogel, E., Zukerman, B., Halperin, D.: Advanced programming techniques applied to CGAL's arrangement package. *Comput. Geom. Theor. Appl.* **36**(1–2), 37–63 (2007)
- Weiner, P.: Linear pattern matching algorithms. In: *Proc. of the 14th Annual IEEE Symposium on Switching and Automata Theory*, pp. 1–11. IEEE Press, New York (1973)
- Weiss, A.: Personal Communication (1993)
- Weiss, G. (ed.): *Multiagent Systems: A Modern Approach to Distributed Artificial Intelligence*. MIT Press, Cambridge, MA (1999)
- Weiss, G.: Turnpike optimality of Smith's rule in parallel machine stochastic scheduling. *Math. Oper. Res.* **17**, 255–270 (1992)
- Welch, T.A.: A technique for high-performance data compression. *IEEE Comput.* **17**, 8–19 (1984)
- Werneck, R.F.: *Design and Analysis of Data Structures for Dynamic Trees*. Ph.D. thesis, Princeton University (2006)
- Westbrook, J., Tarjan, R.E.: Maintaining bridge-connected and biconnected components on-line. *Algorithmica* **7**, 433–464 (1992)
- Wexler, Y., Yakhini, Z., Kashi, Y., Geiger, D.: Finding approximate tandem repeats in genomic sequences. *J. Comput. Biol.* **12**(7), 928–42 (2005)
- Whaley, R., Dongarra, J.: Automatically tuned linear algebra software (ATLAS). In: *Proc. Supercomputing 98*, Orlando, FL, November 1998. www.netlib.org/utk/people/JackDongarra/PAPERS/atlas-sc98.ps
- Whittle, P.: Multiarmed bandit and the Gittins index. *J. R. Stat. Soc. Series B* **42**, 143–149 (1980)
- Whittle, P.: Restless bandits: Activity allocation in a changing world. In: Gani, J. (ed.) *A Celebration of Applied Probability*. *J. Appl. Probab.* **25A**, 287–298 (1988)
- Wiberg, N.: *Codes and Decoding on General Graphs*. Ph.D. thesis, Linköping University, Sweden (1996)
- Wickremesinghe, R., Arge, L., Chase, J.S., Vitter, J.S.: Efficient sorting using registers and caches. *ACM J. Exp. Algorithmics* **7**, 9 (2002)
- Wieselthier, J.E., Nguyen, G.D., Ephremides, A.: Energy-efficient broadcast and multicast trees in wireless networks. *Mobile Netw. Appl.* **7**, 481–492 (2002)
- Wieselthier, J.E., Nguyen, G.D., Ephremides, A.: On the Construction of energy-Efficient Broadcast and Multicast Trees in Wireless Networks. *IEEE Infocom* **2**, 585–594 (2000)
- Wiesmann, M., Schiper, A.: Comparison of database replication techniques based on total order broadcast. *IEEE Trans. Knowl. Data Eng.* **17**, 551–566 (2005)
- Wiesner, S.: Conjugate coding. *Sigact News* **15**(1), 78–88 (1983)
- Wigderson, A.: Improving the performance guarantee for approximate graph coloring. *J. ACM* **30**(4), 729–735 (1983)
- Wilber, R.: Lower bounds for accessing binary search trees with rotations. *SIAM J. Comput.* **18**(1), 56–67 (1989)
- Wile, B., Goss, J., Roesner, W.: *Comprehensive Functional Verification*. Morgan-Kaufmann (2005)
- Willard, D.: Examining computational geometry, van Emde Boas trees, and hashing from the perspective of the fusion tree. *SIAM J. Comput.* **29**(3), 1030–1049 (2000). Announced at SODA'92
- Williams, H.C.: Solving the Pell equation. In: *Proc. Millennial Conference on Number Theory*, pp. 397–435 (2002)
- Williams, J.W.J.: Algorithm 232: Heapsort. *Commun. ACM* **7**(6), 347–348 (1964)
- Williams, R.: A new algorithm for optimal 2-constraint satisfaction and its implications. *Theor. Comput. Sci.* **348**(2–3), 357–365 (2005)
- Williams, R.: On Computing k -CNF Formula Properties. In: *Theory and Applications of Satisfiability Testing*. LNCS, vol. 2919, pp. 330–340. Springer, Berlin (2004)
- Williams, R., Gomes, C., Selman, B.: On the connections between backdoors, restarts, and heavy-tailedness in combinatorial search, In: *informal proceedings of SAT 2003 (Sixth International Conference on Theory and Applications of Satisfiability Testing, 5–8 May 2003, S. Margherita Ligure – Portofino, Italy)*, 2003, pp. 222–230
- Williamson D.P., Goemans M.X., Mihail M., Vazirani V.V.: A Primal-Dual Approximation Algorithm for Generalized Steiner Network Problems. *Combinatorica* **15**(3), 435–454 (1995)
- Wilson, L.B.: An analysis of the stable marriage assignment algorithm. *BIT* **12**, 569–575 (1972)
- Wimer, S., Koren, I., Cederbaum, I.: Optimal Aspect Ratios of Building Blocks in VLSI. *IEEE Trans. Comput. Aided Des.* **8**(2), 139–145 (1989)
- Win, S.: On a connection between the existence of k -trees and the toughness of a graph. *Graphs Comb.* **5**(1), 201–205 (1989)
- Witten, E.: Quantum field theory and the Jones polynomial. *Commun. Math. Phys.* **121**(3), 351–399 (1989)
- Witten, I., Moffat, A., Bell, I.: *Managing Gigabytes*, 2nd edn. Morgan Kaufmann (1999)
- Witten, I.H., Bell, T.: The Calgary/Canterbury text compression corpus. Anonymous ftp from <ftp://ftp.cpsc.ucalgary.ca/pub/text.compression/corpus/text.compression.corpus.tar.Z>
- Witten, I.H., Moffat, A., Bell, T.C.: *Managing Gigabytes: Compressing and Indexing Documents and Images*, 2nd edn. Morgan Kaufmann, San Francisco, (1999)
- Witten, I.H., Neal, R.M., Cleary, J.G.: Arithmetic coding for data compression. *Commun. ACM* **30**, 520–540 (1987)
- Witwer, C., Hofacker, I.L., Stadler, P.F.: Prediction of consensus RNA secondary structures including pseudoknots. *IEEE Trans. Comput. Biol. Bioinform.* **1**, 66–77 (2004)
- Wu, C.: Inference on recombination and block structure using unphased data. *Genetics* **166**(1), 537–545 (2004)
- Wocjan, P., Yard, J.: The Jones polynomial: quantum algorithms and applications in quantum complexity theory. In: *Quantum Information and Computation*, vol. 8, no. 1 & 2, 147–180 (2008). arXiv.org/quant-ph/0603069 (2006)
- Woeginger, G.J.: Exact algorithms for NP-hard problems: A survey. In: *Combinatorial Optimization – Eureka, You Shrink*. LNCS, vol. 2570, pp. 185–207. Springer, Berlin (2003)
- Woeginger, G.J.: Space and time complexity of exact algorithms: some open problems. In: *Proc. 1st Int. Workshop on Parameterized and Exact Computation (IWPEC 2004)*. LNCS, vol. 3162, pp. 281–290. Springer, Berlin (2004)
- Wolsey, L.A.: An analysis of the greedy algorithm for the submodular set covering problem. *Combinatorica* **2**, 385–393 (1982)
- Wong, C.H., Tam, Y.C.: Negative Cycle Detection Problem. In: *Algorithms – ESA 2005. Lecture Notes in Computer Science*, vol. 3669, pp. 652–663. Springer, Heidelberg (2005)
- Wong, D.F., Liu, C.L.: A new algorithm for floorplan design. In: *ACM/IEEE Design Automation Conference (DAC)*, November 1985, 23rd, pp. 101–107
- Wong, D.F., Liu, C.L.: A New Algorithm for Floorplan Design. *Proceedings of the 23rd ACM/IEEE Design Automation Conference*, pp. 101–107 (1986)

- Woodruff, D.: Lower Bounds for Additive Spanners, Emulators, and More. In: Proc. of Symp. on Foundations of Computer Science, Berkeley, Oct. 2006, pp. 389–398
- Workman, C., Krogh, A.: No evidence that mRNAs have lower folding free energies than random sequences with the same dinucleotide distribution. *Nucleic Acids Res.* **27**, 4816–4822 (1999)
- Wozencraft, J.M.: List Decoding. Quarterly Progress Report, Research Laboratory of Electronics. MIT **48**, 90–95 (1958)
- Wu, B.Y., Chao, K.M.: *Spanning Trees and Optimization Problems* (Discrete Mathematics and Its Applications). Chapman Hall, USA (2004)
- Wu, B.Y., K.-Chao, M., Tang, C.Y.: Approximation and exact algorithms for constructing minimum ultrametric trees from distance matrices. *J. Combin. Optim.* **3**, 199–211 (1999)
- Wu, F.Y.: Knot Theory and statistical mechanics. *Rev. Mod. Phys.* **64**(4), 1099–1131 (1992)
- Wu, J., Li, H.: A dominating-set-based routing scheme in ad hoc wireless networks. The special issue on Wirel. Netw. Telecommun. Systems J. **3**, 63–84 (2001)
- Wu, Q.R.: Treatment planning optimization for Gamma unit radio-surgery. Ph.D. Thesis, The Mayo Graduate School (1996)
- Wu, S., Manber, U.: A fast algorithm for multi-pattern searching. Report TR-94-17, Department of Computer Science, University of Arizona, Tucson, AZ (1994)
- Wu, S., Manber, U.: Agrep – a fast approximate pattern-matching tool. In: Proceedings of USENIX Winter (1992) Technical Conference, pp. 153–162. USENIX Association, Berkeley (1992)
- Wu, S., Manber, U.: Fast text searching allowing errors. *Commun. ACM* **35**(10), 83–91 (1992)
- Wu, S., Manber, U., Myers, E.W.: A subquadratic algorithm for approximate regular expression matching. *J. Algorithms* **19**(3), 346–360 (1995)
- Wu, W., Du, H., Jia, X., Li, Y., Huang, C.-H.: Minimum Connected Dominating Sets and Maximal Independent Sets in Unit Disk Graphs. *Theor. Comput. Sci.* **352**, 1–7 (2006)
- Xu, C., Ma, B.: Software for Computational Peptide Identification from MS/MS. *Drug Discov. Today* **11**(13/14), 595–600 (2006)
- Yan, M.: High Performance Algorithms for Phylogeny Reconstruction with Maximum Parsimony. Ph.D. thesis, Electrical and Computer Engineering Department, University of New Mexico, Albuquerque, January 2004
- Yang, H., Wong, D.F.: Efficient Network Flow Based Min-Cut Balanced Partitioning. In: Proc. IEEE Int. Conf. on Computer-Aided Design, 1994, pp. 50–55
- Yang, H.H., Wong, D.F.: Circuit clustering for delay minimization under area and pinconstraints. *IEEE Trans. Comput.-Aided Des. Integr. Circ. Syst.* **16**, 976–986 (1997)
- Yannakakis, M.: Four pages are necessary and sufficient for planar graphs. In: Hartmanis, J. (ed.) Proceedings of the 18th Annual ACM-SIAM Symposium on Theory of Computing, pp. 104–108. ACM, New York (1986)
- Yannakakis, M.: Graph-theoretic methods in database theory. In: Proc. 9-th ACM SIGACT-SIGMOD-SIGART Symposium on Principles of Database Systems, Nashville, 1990 pp. 230–242
- Yao, A.: Near-optimal time-space tradeoff for element distinctness. *SIAM J. Comput.* **23**(5), 966–975 (1994)
- Yao, A.: The complexity of pattern matching for a random string. *SIAM J. Comput.* **8**, 368–387 (1979)
- Yao, A.C.-C.: On random 2–3 trees. *Acta Inform.* **9**, 159–170 (1978)
- Yao, A.C.: New algorithms for bin packing. *J. ACM* **27**, 207–227 (1980)
- Yao, A.C.: On Constructing Minimum Spanning Trees in k-Dimensional Spaces and Related Problems. *SIAM J. Comput.* **11**(4), 721–736 (1982)
- Yao, A.C.C.: Should tables be sorted? *J. Assoc. Comput. Mach.* **28**(3), 615–628 (1981)
- Yao, F., Demers, A., Shenker, S.: A Scheduling Model for Reduced CPU Energy, Proceedings of the 36th Annual IEEE Symposium on Foundations of Computer Science, pp. 374–382. IEEE Computer Society, Washington, DC, USA (1995)
- Yap, C.K.: Theory of Real Computation according to EGC. To appear in LNCS Volume based on talks at a Dagstuhl Seminar “Reliable Implementation of Real Number Algorithms: Theory and Practice”, Jan 8–13, (2006)
- Yap, C.K., Dubé, T.: The exact computation paradigm. In: Du, D.Z., Hwang, F.K.: (eds.) *Computing in Euclidean Geometry*, 2nd edn., pp. 452–492. World Scientific Press, Singapore (1995)
- Ye, Y.: A path to the Arrow-Debreu competitive market equilibrium, *Math. Program.* **111**(1–2), 315–348 (2008)
- Ye, Y.: Exchange market equilibria with leontief’s utility: freedom of pricing leads to rationality. *WINE* (2005)
- Yi, C.-W., Wan, P.-J., Li, X.-Y., Frieder, O.: Asymptotic distribution of the number of isolated nodes in wireless ad hoc networks with Bernoulli nodes. In: IEEE Wireless Communications and Networking Conference (WCNC 2003), March 2003
- Yi, C.-W., Wan, P.-J., Lin, K.-W., Huang, C.-H.: Asymptotic distribution of the Number of isolated nodes in wireless ad hoc networks with unreliable nodes and links. In: the 49th Annual IEEE GLOBECOM Technical Conference (GLOBECOM 2006), 27 Nov–1 Dec 2006
- Yokoo, M.: The characterization of strategy/false-name proof combinatorial auction protocols: Price-oriented, rationing-free protocol. In: Proceedings of the 18th International Joint Conference on Artificial Intelligence, pp. 733–739 (2003)
- Yokoo, M., Sakurai, Y., Matsubara, S.: Robust combinatorial auction protocol against false-name bids. *Artif. Intell.* **130**, 167–181 (2001)
- Yokoo, M., Sakurai, Y., Matsubara, S.: Robust double auction protocol against false-name bids. *Decis. Support. Syst.* **39**, 23–39 (2005)
- Yokoo, M., Sakurai, Y., Matsubara, S.: The effect of false-name bids in combinatorial auctions: New fraud in Internet auctions. *Games Econ. Behav.* **46**, 174–188 (2004)
- Yoo-Ah Kim. Data migration to minimize the average completion time. *J. Algorithms* **55**, 42–57 (2005)
- Young, N.E.: On-line file caching. *Algorithmica* **33**(3), 371–383 (2002)
- Young, N.E.: On-Line Paging against Adversarially Biased Random Inputs. *J. Algorithms* **37**, 218 (2000)
- Young, N.E.: Sequential and parallel algorithms for mixed packing and covering. In: Proceedings of 42nd Annual IEEE Symposium on Foundations of Computer Science (FOCS), 2001, pp. 538–546
- Young, N.E.: The k -server dual and loose competitiveness for paging. *Algorithmica* **11**(6), 525–541 (1994)
- Yu, L., Shih, H., Pfund, M., Carlyle, W., Fowler, J.: Scheduling of unrelated parallel machines: an application to PWB manufacturing. *IIE Trans.* **34**, 921–931 (2002)
- Yu, Y., Prasanna, V.K.: Energy-Balanced Task Allocation for Collaborative Processing in Networked Embedded System. In: Proceedings of the 2003 Conference on Language, Compilers,

- and Tools for Embedded Systems (LCTES'03), pp. 265–274, San Diego, 11–13 June 2003
- Yuan, J., Pixley, C., Aziz, A.: Constraint-Based Verification. Springer (2006)
- Yuan, Y.: Residence exchange wanted: a stable residence exchange problem. *Eur. J. Oper. Res.* **90**, 536–546 (1996)
- Yun, H.S., Kim, J.: On Energy-Optimal Voltage Scheduling for Fixed-Priority Hard Real-Time Systems. *ACM Trans. Embed. Comput. Syst.* **2**, 393–430. ACM, New York, NY, USA (2003)
- Yuster, R., Zwick, U.: Maximum Matching in Graphs with an Excluded Minor. In: Proceedings of the ACM-SIAM Symposium on Discrete Algorithms (SODA), 2007
- Yuval, G.: An Algorithm for Finding All Shortest Paths Using $N^{2.81}$ Infinite-Precision Multiplications. *Inf. Process. Lett.* **4**(6), 155–156 (1976)
- Zalka, C.: Grover's quantum searching algorithm is optimal. *Phys. Rev. A* **60**(4), 2746–2751 (1999)
- Zarestkii, K.: Reconstructing a tree from the distances between its leaves. *Uspehi Matematicheskikh Nauk* **20**, 90–92 (1965) (in russian)
- Zaroliagis, C.D.: Implementations and experimental studies of dynamic graph algorithms. In: Experimental Algorithmics, Dagstuhl seminar, September 2000, Lecture Notes in Computer Science, vol. 2547. Springer (2002), Journal Article: J. Exp. Algorithmics 229–278 (2000)
- Zelikovsky, A.Z.: The 11/6-approximation algorithm for the Steiner problem on networks. *Algorithmica* **9**, 463–470 (1993)
- Zhang, H., Hou, J.: On deriving the upper bound of α -lifetime for large sensor networks. In: Proceedings of the 5th ACM International Symposium on Mobile Ad Hoc Networking & Computing (MobiHoc 2004), 24–26 March 2004
- Zhang, J.: Approximating the two-level facility location problem via a quasi-greedy approach. In: Proceedings of the 15th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA), pp. 808–817. SIAM, Philadelphia (2004). Also, *Math. Program.* **108**, 159–176 (2006)
- Zhang, J., Chen, B., Ye, Y.: A multiexchange local search algorithm for the capacitated facility location problem. *Math. Oper. Res.* **30**(2), 389–403 (2005)
- Zhang, S., Xu, C., Deng, X.: Dynamic arbitrage-free asset pricing with proportional transaction costs. *Math. Finance* **12**(1), 89–97 (2002)
- Zhang, Z., Berman, P., Wiehe, T., Miller, W.: Post-processing long pairwise alignments. *Bioinformatics* **15**, 1012–1019 (1999)
- Zhao, B.Y., Huang, L., Stribling, J., Rhea, S.C., Joseph, A.D., Kubiatowicz, J.: Tapestry: A resilient global-scale overlay for service deployment. *IEEE J. Sel. Areas Commun.* (2003)
- Zhao, J., Malmberg, R., Cai, L.: Rapid ab initio rna folding including pseudoknots via graph tree decomposition. In: Proc. Workshop on Algorithms in Bioinformatics. Lecture Notes in Computer Science, vol. 4175, pp. 262–273. Springer, Berlin (2006)
- Zhao, W., Ammar, M., Zegura, E.: A message ferrying approach for data delivery in sparse mobile ad hoc networks. In: Murai, J., Perkins, C., Tassioulas, L. (eds.) 5th ACM international symposium on Mobile ad hoc networking and computing (MobiHoc 2004), pp 187–198. ACM Press, Roppongi Hills, Tokyo (2004)
- Zheng, R., He, G., Gupta, I., Sha, L.: Time indexing in sensor networks. In: Proceedings of 1st IEEE International Conference on Mobile Ad-hoc and Sensor Systems (MASS), Fort Lauderdale, 24–27 October 2004
- Zheng, S.Q., Lim, J.S., Iyengar, S.S.: Finding obstacle-avoiding shortest paths using implicit connection graphs. *IEEE Trans. Comput. Aided Des.* **15**, 103–110 (1996)
- Zhong, S., Li, L., Liu, Y., Yang, Y.R.: On designing incentive-compatible routing and forwarding protocols in wireless ad-hoc networks – an integrated approach using game theoretical and cryptographic techniques. In: Proceedings of the 11th ACM Annual international Conference on Mobile Computing and Networking, Cologne, 28 August – 2 September 2005
- Zhou, H.: A new efficient retiming algorithm derived by formal manipulation. In: Workshop Notes of Intl. Workshop on Logic Synthesis, Temecula, CA, June (2004)
- Zhou, H.: Deriving a new efficient algorithm for min-period retiming. In Asia and South Pacific Design Automation Conference, Shanghai, China, Jan. ACM Press, New York (2005)
- Zhou, H., Shenoy, N., Nicholls, W.: Efficient minimum spanning tree construction without delaunay triangulation. In: Proc. Asian and South Pacific Design Automation Conference, Yokohama, Japan (2001)
- Zhou, H., Shenoy, N., Nicholls, W.: Efficient spanning tree construction without delaunay triangulation. *Inf. Proc. Lett.* **81**, 271–276 (2002)
- Zhou, L.: On a conjecture by Gale about one-sided matching problems. *J. Econ. Theory* **52**(1), 123–135 (1990)
- Zhou, L., van Renesse, R., Marsh, M.: Implementing IPv6 as a Peer-to-Peer Overlay Network. In: Proceedings of the 21st IEEE Symposium on Reliable Distributed Systems (SRDS'02), pp. 347 (2002)
- Zhu, D., Melhem, R., Childers, B.: Scheduling with Dynamic Voltage/Speed Adjustment Using Slack Reclamation in Multi-Processor RealTime Systems. Proceedings of the 22nd IEEE Real-Time Systems Symposium (RTSS'01), pp. 84–94. IEEE Computer Society, Washington, DC, USA (2001)
- Zhuang, S.Q., Zhao, B.Y., Joseph, A.D., Katz, R.H., Kubiatowicz, J.: Bayeux: An architecture for scalable and fault-tolerant wide-area data dissemination. In: Proceedings of the Eleventh International Workshop on Network and Operating System Support for Digital Audio and Video (NOSSDAV 2001), 2001
- Zibert, K., Saal, R.: On Computer Aided Hybrid Circuit Layout. Proceedings of the IEEE Intl. Symp. on Circuits and Systems, pp. 314–318 (1974)
- Ziv, J.: Personal communication (1995)
- Ziv, J., Lempel, A.: A universal algorithm for sequential data compression. *IEEE Trans. Inf. Theor.* **23**, 337–343 (1977)
- Ziv, J., Lempel, A.: Compression of Individual Sequences via Variable Rate Coding. *IEEE Trans. Inf. Theory* **24**(5), 530–536 (1978)
- Zollinger, A.: Networking Unleashed: Geographic Routing and Topology Control in Ad Hoc and Sensor Networks, Ph.D. thesis, ETH Zurich, Switzerland Diss. ETH 16025 (2005)
- Zuckerman, D.: Linear degree extractors and the inapproximability of max clique and chromatic number. In: Proceedings of the 38th annual ACM symposium on Theory of Computing (2006) pp. 681–690.
- Zuker, M.: Calculating nucleic acid secondary structure. *Curr. Opin. Struct. Biol.* **10**, 303–310 (2000)
- Zuker, M.: On finding all suboptimal foldings of an RNA molecule. *Science* **244**, 48–52 (1989)
- Zuker, M., Stiegler, P.: Optimal computer folding of large RNA sequences using thermodynamics and auxiliary information. *Nucleic Acids Res.* **9**, 133–148 (1981)
- Zukowski, M., Heman, S., Boncz, P.A.: Architecture-conscious hashing. In: Proceedings of the International Workshop on Data

- Management on New Hardware (DaMoN), Article No. 6. ACM Press, Chicago, Illinois, USA, 25 June 2006
- Zwick, U.: All pairs shortest paths using bridging sets and rectangular matrix multiplication. *J. ACM* **49**(3), 289–317 (2002)
- Zwick, U.: Exact and approximate distances in graphs – a survey. In: *Proc. 9th European Symposium on Algorithms (ESA)*, 2001, pp. 33–48. See updated version at <http://www.cs.tau.ac.il/~zwick/>
- Zyablov, V.V., Pinsker, M.S.: List cascade decoding. *Probl. Inf. Trans.* **17**(4), 29–34 (1981) (in Russian); pp. 236–240 (in English) (1982)
- Zykov, A.A.: *Theory of Finite Graphs*. Nauka, Novosibirsk (1969). (In Russian)

Index

A

Abelian hidden subgroup problem 1
Abelian stabilizer problem 1
AC⁰ operation 278
Access-graph model 601
Active replication 73, 129
Acyclic job shop scheduling 616
Ad hoc networks 161, 355, 466, 725
Adaptive partition 4
Adaptive text 65
Additive 651
Additive approximation 57
Advertisement 660
Affine function 461
Affine gap penalty 460
Agreement 116
subtree 492
Agrep 46, 818
AJL algorithm 700
Algebraic algorithms 222
Algebraic decoding 453
Algorithm 143, 438, 829, 888
analysis 31, 34
animation 1008
engineering 387, 395, 1008
Algorithmic game theory 667
Algorithmic geometry of numbers 841
Algorithmic learning theory 411
Algorithmic lower bounds 954
Algorithmic mechanism design 403, 970
Alignment 317
between compressed strings 843
All pairs dynamic reachability 343

All pairs shortest path problem 31
Alleles phasing 647
All-or-nothing multicommodity flow problem 551
All-to-all communication 731
Almost additive spanners 867
Anrep 46
Anti-symmetric de novo sequencing 640
Approximate nash equilibria 53
Approximate substrings 156
Approximate tandem repeat 48
Approximate text indexing 240
Approximation 735, 970
algorithm 40, 51, 57, 59, 88, 94, 134, 217, 231, 267, 281, 299, 349, 366, 368, 419, 470, 489, 539, 551, 554, 567, 737, 815, 868, 883, 897, 997, 1027
theory 438
Approximation ratio performance 376
Arbitrage 62
Arrangement 871
Associative array 212
Asymptotically good quantum codes 705
Asynchronous 855
communication hardware 761
processes 761
Asynchrony 304
vs synchrony 829
Atomic 855
broadcast 73, 129
congestion games 86, 183
Atomicity 761
Attribute efficient learning 77

Automata-based searching 768
Automated development and analysis of algorithms 79
Automorphism group 373
Autonomic system control 812
Autopoesis 812
Average case analysis 94
of algorithms 195
Average flow time 320
Average response time 320, 806
Average weighted completion time 544

B

Backdoor sets 639
Baker's approach 59
Balance algorithm (weighted caching algorithm) 601
Balanced 168
cut 519, 815
parentheses 912
partitioning 138
Ball packing 871
Balls and bins 942
Bandwidth allocation 803
Base pairs 783
BB 571
BDDs 90, 932
Belief propagation 479
Benign faults 198
Best fit 94
Better approximation 900
Bichromatic closest pairs 533
Bid-ask spreads 62
Bimatrix game 53, 166, 444
Bin packing 57
Binary
bit-vector 748

- character 246
 - code 179
 - consensus 723
 - matrix multiplication 310
 - relations 915
 - search tree BST 592
 - trees 912
 - Bioinformatics 270
 - Bipartite graphs 69, 745
 - Bisection 815
 - Bit parallelism 46, 768, 818
 - Bit-vectors 748
 - Book embedding 912
 - Book thickness 912
 - Boolean
 - circuits 423
 - Fourier analysis 429
 - functions 90
 - satisfiability 286
 - Border 824
 - Bottleneck algorithms 803
 - Bounded degree tree 231
 - Bounded number of states 644
 - Branch and reduce 284
 - Branch and search 1006
 - Branchwidth 101
 - Bridging set 31
 - Broadcast 116, 217, 228, 233, 526, 528, 731
 - Brouwer's fixed point 166, 578
 - BSG 317
 - Budget Balance 571
 - Buffer management 621
 - Burrows-Wheeler Transform 98
 - Byte-based code 179
 - Byzantine faults 198
 - Byzantine quorums 715
- C**
- Cache memory 37
 - Cache-oblivious 121, 123, 126
 - Caching 601
 - Causal order 129
 - CDN 611
 - Cell probe lower bounds 661
 - Cell probe model 43
 - Center strings 156
 - Certificate 417
 - size 132
 - CGAL 274
 - Channel assignment 134
 - Channel capacity 453
 - Character 644
 - Character matrix
 - state 246, 644
 - Chord 611
 - Chordal graphs 968
 - Circuit 143
 - clustering 650
 - layout 754, 757
 - optimization 146, 149
 - partitioning 138, 650
 - Classification 929
 - noise 894
 - Clique cover 368
 - Clique width 639
 - Clocks 152
 - Closest substrings 156
 - Cluster graphs 40
 - Clustering 299, 466, 470, 1020
 - Cnegative weights 839
 - CNN-problem 351
 - Coding theory 155, 438
 - Collage systems 171
 - College admissions problem 390
 - Collision detection 725
 - Collision-free packet
 - scheduling 248
 - Color coding 158
 - Coloring 466
 - the square of the graph 721
 - unstructured radio
 - networks 466
 - Combinational Circuits 90
 - Combinatorial
 - algorithm 442, 939
 - auction 205, 997
 - optimization 28, 143, 231, 395, 541, 732
 - pattern matching 265
 - search problems 565
 - Common approximate
 - substring 156
 - Communication algorithms 161, 248
 - Comparative analysis 34
 - Comparing evolutionary trees 495
 - Comparison of phylogenies 573
 - Competitive
 - algorithms 849
 - analysis 9, 34, 351, 515, 592, 601, 618, 621, 626, 786, 791, 1035
 - auctions 564
 - exchange 444
 - market equilibrium 347
 - ratio 94, 601, 806
 - Complement graph 310
 - Compressed
 - approximate string
 - matching 843
 - full-text indexing 174
 - set representations 179
 - suffix tree 174
 - Compression 438, 556
 - Computational algebraic number
 - theory 694, 698
 - Computational biology 270, 1006
 - Computational complexity 62, 166, 578
 - Computational equilibrium 444
 - Computational geometry 244, 274, 358, 360, 533, 654
 - Computational learning 425
 - Computational learning theory
 - 132, 434, 438, 622
 - Computational models 123
 - Computer Aided Electronics
 - Design 322
 - Concave function 461
 - Concurrency 829
 - Concurrent algorithms 188
 - Concurrent computing 450
 - Condorcet winner 483
 - Configuration LP 57
 - Congestion 551, 616, 791
 - control 803
 - games 485, 665
 - minimization 737
 - Connected components 630
 - Connected dominating set 191, 376, 1020
 - Connectivity 195, 207, 332
 - Consensus 116, 198, 304, 723, 829
 - of trees 499
 - strings 156
 - Constraint satisfaction 507, 742
 - Construction algorithms 922
 - Construction of pure Nash equilibria 183
 - Constructive zero bounds 788

Content delivery network 611
 Content distribution 485
 Contention 188
 Context-aware compression 98
 Convergence 7
 Convex optimization 929
 Convex partition 546
 Cooperation 188
 Cooperative game 168, 581
 Coordination 152
 ratio 667
 Core 168
 Coteries 715
 Cournot game 888
 Covering 463
 problems 737
 set problem 832
 Cow-path problem 740
 Critical section problem 188
 Crown reduction 1003
 Cryptography 438, 683
 and learning 210
 CSS quantum codes 705
 Cycle graph 859

D

Data
 compression 11, 98, 598,
 939, 964
 distribution 37
 flow 728
 mules 161
 propagation 671
 reduction rules 832
 streams 1024
 structures 43, 108
 transform 112
 warehouse and repository 939
 DAWG 826
 De novo sequencing 640
 Decision tasks 70, 774, 956
 Decision-tree complexity 541
 Decoding 222, 453
 Delaunay triangulation 207, 654
 Delay-tolerant networks 161
 Deletions-only dynamic all-pairs
 shortest paths 226
 Derandomization 158
 Design automorphism 373

Deterministic and randomized
 algorithms 849
 Deutsch–Jozsa algorithm 693
 DHT 611
 Dictionary 108, 121, 212
 matching 240
 problem 598
 Difference-based coding 179
 Diffuse adversary 34
 Dijkstra’s algorithm 847
 Dilation 40, 358, 616
 Dilation graph 244
 DIMACS implementation
 challenge 399
 Directional routing 355
 Discrete
 convex analysis 880
 distribution 94
 logarithm problem 683
 optimization 1011
 Disjoint paths 551
 Disjunctive normal form 423, 431
 Disk 291
 Disk access model (DAM) 413
 Disk packing 871
 Dissection 317
 Dissimilarity matrix 651
 Distance
 2 coloring 721
 matrix 651
 methods 253
 oracles 40
 Distance-based algorithm 251
 Distance-based
 transformations 573
 Distributed
 algorithms 152, 161, 548,
 761, 803
 approximation 463
 communication 233
 computing 70, 116, 188, 304,
 400, 588, 604, 671, 728, 774,
 855, 956
 control 812
 coordination 829
 coupon collection 731
 graph algorithms 256
 hash table 611
 systems 829
 Distribution sorting 37
 Divide and conquer 286, 519

DNA sequences similarity 460
 DNF 385, 431
 Dominant strategy 571
 mechanisms 970
 Dominating set 220, 284, 379,
 463, 466
 DPLL algorithms 286
 Dynamic
 data structures 330, 332, 335,
 337, 342
 graph algorithms 226, 330, 332,
 335, 337, 342, 343, 846, 958
 lower bounds 473
 optimality 592
 programming 46, 101, 818
 trees 260
 voltage scaling 1011
 Dynamics 7

E

EDA 143
 Edge connectivity 335, 337
 Edge disjoint paths problem 551
 Edit distance 46, 48, 265, 818
 Edit graph 46
 Electronic design automation
 (EDA) 821
 Element distinctness 686
 Elias code 179
 Elimination orderings 815
 ℓ_1 -Embeddings 815
 Empirical entropy 98, 112
 EMST 533
 Emulation 400
 End-to-end communication 161
 Energy balance 728
 Entropy 236
 coding 65
 empirical 98, 112
 Enumerative algorithm 832
 Equal-partition 806
 Equilibrium 7
 Equi-partition 806
 Equivalence queries 132
 EREW PRAM algorithms 630
 Error-control codes 434
 Error-correcting codes 222, 434,
 438, 453, 479
 Euclidean graphs 281

(Euclidean) minimum spanning tree 526
 Event 417
 Evolutionary distance 863
 Evolutionary hidden Markov models 892
 Evolutionary tree 251, 492, 495
 Exact algorithm 469, 507
 for SAT 286
 Exact geometric computation 788
 Exact learning 132
 via queries 423
 Exact pattern matching 824
 Exchange market equilibrium *see*
 Leontief economy equilibrium
 Exclusion dimension 132
 Experimental algorithmics 395,
 1008
 Exploration 786
 Expression evaluation 788
 External memory 108, 121,
 123, 291
 algorithm 37
 data structures 800
 model 413

F

Face routing 355, 793
 Facility location 299, 470, 483
 Failure detection 304
 Failure function 826
 Fairness 562, 834
 False-name-proof auctions 308
 Fast matrix multiplication 504
 Fault tolerance 73, 116, 304, 313,
 400, 522, 604, 812, 829, 855
 Feedback arc set 815
 Feedback queues 834
 File caching 601
 Filter techniques 788
 Filtration 768
 Fingerprinting 681
 Finitary logic 90
 Finite automata 46, 768
 Finite projective planes 565
 Finite state machines 932
 First fit 94
 First in first out (paging
 algorithm) 601
 Fixed path routing 585

Fixed-parameter
 algorithm 88, 639
 tractability 962
 Fixed-priority scheduling 751
 Floating-point filter 788
 Floorplan 317
 Flow 806
 control 803
 game 168, 581
 time 320, 531, 562, 834
 FlowMap 322
 Flush when full (paging
 algorithm) 601
 FNCAS 735
 Foreign exchange market 62
 Formal verification 90
 Forward (combinatorial, multi-unit)
 auction 997
 Fourier analysis 434, 438
 Fourier transform 438
 Four-Russian 818
 technique 46
 FPGA 821
 Technology Mapping 322
 Fractional covering problems 326
 Fractional packing problems 326
 Frequency assignment 721
 Frequency scaling 870
 Full-text index construction 919
 Fully indexable dictionary
 (FID) 748
 Fully polynomial time approximation
 scheme (FPTAS) 326, 419
 Function representation 385
 Functions 912, 915
 Funnel sort 126

G

Gabriel graphs 207
 Galled phylogenetic network 202
 Galled-tree 202
 Gallery tour problem 786
 Game theory 166, 485, 578, 973
 Games 888
 Gamma Knife radiosurgery 871
 Gap penalty 461
 Gate sizing 345
 Gaussian elimination 504
 General equilibrium 347
 Generalized Steiner network 349

Generalized Vickrey auction 353
 Genome rearrangements 860, 863
 Genome sequencing 565
 Geographic routing 588
 Geometric
 algorithm 442
 alignment 657
 matching 657
 network 244, 358, 360, 536
 optimization 536
 programming 274
 routing 793
 searching 740
 Gibbs free energy 777, 783
 Glushkov automaton 46
 Glushkov-McNaughton-Yamada's
 automaton 768
 Golomb code 179
 Gossip 217, 731
 Grammar transform based
 compression 171
 Graph 358, 786, 912, 968
 algorithm 25, 28, 59, 88, 343,
 519, 541, 732
 bandwidth 366
 classes 88
 coloring 289, 368
 connectivity 364
 contraction 59, 88
 covering 944
 exploration 548
 isomorphism 373
 minors 59, 88, 101
 model 837
 modification 79
 partitioning 489, 519, 554, 868
 separators 519
 theory 134
 Greedy algorithm 376, 379
 Greedy dual (weighted caching
 algorithm) 601
 Greedy forward routing 207
 Greedy geographic routing 588
 Gt-network 202
 Guaranteed accuracy
 computation 788
 Guillotine cut 4
 GVA 353

H

Hadamard code 434, 446
 Hamiltonian circuit problem 961
 Hamming distance 48
 Haplotyping 647
 Hardware verification 932
 Hash table 212
 Heap 278
 Hidden subgroup problem 683
 Hierarchical decomposition 585
 Hierarchical memory 922
 Highly connected subgraphs 371
 High-order compression
 models 98
 High-performance computing 387
 Hitting set 379
 Homeostasis 812
 Homomorphism testing 446
 Hot-potato routing 248
 Huffman and arithmetic coding 98
 Hybrid algorithms 740
 Hypergraph 143
 matching 737
 partitioning 138
 Hyperlink analysis on the World
 Wide Web 624

I

Id-consensus 723
 Image
 compression 65
 matching 559
 processing 559
 Incentive compatible
 mechanism 997
 ranking 403
 selection 403
 Incentives for strategic agents 16
 Incomplete lists 883
 Independent set 405, 1020
 Index data structure 925, 979
 Indexed inexact pattern matching
 problem 408
 Indexed k -difference problem 408
 Indexed k -mismatch problem 408
 Indexed pattern searching problem
 based on Hamming distance or
 edit distance 408
 Indexing 108, 265
 data structures 964

Induced bipartitions 579
 Inductive inference 411
 Information theory 236, 939, 947
 Integer codes 179
 Interactive consistency 116
 Interconnect optimization 1032
 Interpolative code 179
 Interval graphs 594
 Inversion distance 859
 Inversions 860
 I/O 291
 IP lookup 661
 Isolated nodes 207
 Isomorphism 492
 Iterated Steiner tree 900
 Iterative relaxation 345

J

Jones polynomial 700

K

k -Coloring 721
 k -Connectivity 536
 k -Decomposable graphs 968
 Kernel 581, 929
 matrix 929
 Kernelization 220, 1003, 1006
 Key agreement 709
 Key distribution 709
 Kidnapped robot problem 786
 Kinetic data structure 417
 k -Medians 470
 Knapsack 419
 Knill-Laflamme conditions for
 quantum codes 705
 k -Path 158
 kSAT 83, 286, 469, 742, 953
 k -Server problem 9, 351, 601, 1035

L

Landlord (file caching
 algorithm) 601
 Large-scale optimization 143, 272
 Large-scale problems 387
 Largest common point set 657
 Lattice basis reduction 841
 Layered graph drawing 631
 Layout 143, 317
 LDPC codes 479

Learning 429
 AC⁰ circuits 429
 an evolutionary tree 251
 Boolean functions 77
 from examples 411
 linear threshold functions 77
 with irrelevant attributes 77
 Least recently used (paging
 algorithm) 601
 LEDA 274
 Lempel–Ziv family 171
 Leontief utility function 444
 Levenshtein distance 46, 818
 Lifetime maximization 728
 Linear 567
 algebra 681
 linked lists 598
 programming 143, 463,
 554, 737
 programming rounding 299
 Link-cut trees 260
 Lipton–Tarjan approach 59
 List decoding 222, 434, 453
 LLL algorithm 841
 Load balancing 455, 457, 522
 game 183
 Local
 algorithms 463
 alignment 461
 computation 466
 lemma 616
 search 299, 469, 470
 treewidth 59
 Localization problem 786
 Localized communication 228
 Location-based routing 793
 Locks 188
 Logic minimization 989
 Logic optimization 322, 944
 Logic synthesis 90, 944
 Logical clocks 129
 Logical time 129
 Lookup-table mapping 322
 Loose competitiveness 601
 Lossless data compression 65,
 112, 236
 Low interference 228
 Low sojourn times 562
 Low weight 228
 Low-density parity-check
 codes 479

Low-distortion embeddings 477
 Lower bounds 803
 Low-stretch spanning
 subgraphs 936
 LP decoding 479
 LP duality 581
 LRU 34
 LUT Mapping 322
 LZ compression 236

M

Machine learning 425, 771
 Machine scheduling 205, 539, 544
 Majority 715
 equilibrium 483
 stable set 483
 Makespan minimization 539
 Mapping problem 786
 Margin 929
 Market equilibrium 205
 Marking algorithm (paging
 algorithm) 601
 Markov chains 161
 Markov decision processes 771
 Markov paging 601
 Mass spectrum 640
 Matching 69, 94, 390, 463, 606,
 639, 745, 877
 in graphs 565
 parentheses 912
 Mathematical programming 134
 Matrix multiplication 31, 681
 Matroids 880
 Max-flow min-cut 138, 554
 Maximal independent set 466
 Maximal margin 929
 Maximum agreement subtree 495
 Maximum agreement
 supertree 497
 Maximum compatible tree 499
 Maximum deficiency 639
 Maximum edge disjoint paths
 problem 551
 Maximum fault-tolerant
 partition 522
 Maximum flow 735
 Maximum matching 504
 Maximum refinement subtree
 (MRST) 499
 Maximum weight matching 735
 Maximum weighted matching 780
 Maximum-density segment
 503, 506
 Maximum-sum segment 503, 506
 Max-min fairness 803
 Measure and conquer 284
 Mechanism design 7, 16, 165,
 564, 997
 Membership queries 132
 Memory hierarchy 37
 Message
 ferrying 161
 ordering 73
 passing 256, 400
 relays 161
 Metric embeddings 51, 366, 868
 Metrical service systems 351
 Metrical task systems 34, 515
 Metrics 51
 Migration 217
 Min-area retiming 146
 Min-cost max-flow 143
 Min-cut partitioning 138
 Min-cut placement 143
 Min-energy schedule 1011
 Minimal fill problem 310
 Minimal triangulation 310
 Minimizing a linear function subject
 to a submodular
 constraint 379
 Minimum cost network flow 345
 Minimum cut linear
 arrangement 815
 Minimum distance problem 841
 Minimum ratio cut 868
 Minimum spanning tree 256, 528,
 541, 630, 732
 Minimum weight
 triangulation 546
 Mistake bounds 642
 MLF algorithm 834
 Mobile agent 548
 Model Checking 90
 Modeling 65
 Moderately exponential time
 algorithm 284
 Moments of Boltzmann
 distribution 777
 Monetary system 62
 Monotonic properties 207
 Monotonicity 997
 Motif detection 155
 Motion 417
 MS/MS 640
 MTS 515
 Multicast routing 571, 973
 Multicommodity flow 551, 554,
 585, 737
 Multicommodity max-flow min-cut
 theorems 815
 Multicut 554
 Multi-hop radio networks 725
 Multi-item auctions 16
 Multi-level feedback 320
 Multi-level feedback algorithm 562
 Multi-merge 37
 Multiple machines 531
 Multiple parentheses 912
 Multiple sequence alignment 267
 Multiple-HMM 892
 Multiplicity automata 425
 Multiprocessor 627
 Multireader 761
 Multisets 748
 Multivariate polynomials 425
 Multiway Cut 567
 Multiwriter 761
 Multi-writer multi-reader
 register 723
 Mutual exclusion 129, 188

N

Nash equilibrium 166, 571, 578,
 660, 667
 Nashification 183
 Navigation 548, 786
 NC class 627
 Nearest-neighbor-interchange
 distance 573
 Negative cycle 576
 Nemhauser-Trotter Theorem 1003
 Netlist 143
 Netlist partitioning 138
 Network synchronization 936
 Networks 791
 algorithms 152
 congestion 248
 congestion games 810
 design 231, 349, 536, 897
 dilation 248
 flow 143, 791

- games 665
- models of evolution 573
- of parallel links 183
- optimization 272
- Neuro dynamic programming 771
- Node disjoint paths problem 551
- Noise threshold 313
- Noise-tolerant learning 894
- Noisy polynomial
 - reconstruction 222
- Non-clairvoyant algorithms 562, 834
- Non-cooperative networks 667
- Non-greedy 28, 847
- Non-hierarchical base pair
 - configurations 780
- Non-linear optimization 143
- Non-oblivious algorithms 803
- NP-hard problems 79
- NP-hardness of learning 385
- Nrgrep 46, 818
- Nuclear magnetic resonance 11
- Nucleolus 581
- Number theoretic problems 689, 694, 698

O

- Oblivious adversaries 849
- Oblivious algorithms 803
- Oblivious routing 585, 791
- Occupancy 942
- One parameter agent 997
- One-sided preference lists 745
- One-to-all communication 233
- Online
 - algorithm 9, 34, 77, 351, 455, 457, 531, 562, 594, 601, 618, 621, 626, 642, 740, 786, 791, 806, 834, 849, 1035
 - learning 77, 642
 - navigation 740
 - problems 515
 - query processing 272
- Open addressing 212
- Optimal BST 592
- Optimal geometric trees 533
- Optimal radius 253
- Optimal triangulation 546
- Ordinal trees 912
- Orientation 852
- Orthogonal range queries 661
- Outerplanar graphs 912
- Out-of-core 291
- Overlap forest 859
- Overlap graph 859
- Overlay network 611

P

- P2P 611
- PAC learning 210, 385, 429, 431, 894
- Packed Binary code 179
- Packet
 - buffering 618
 - routing 248, 616
 - scheduling 248
 - switching 621
- Packing 94, 463
 - density 871
 - problems 737
- Pagenumber 912
- Paging 34, 601
 - algorithm 601
 - caching 626
- Pairwise alignment 460
- Parallel algorithms 627
- Parallel random access
 - machine 630
- Parameterized algorithms 631
- Parity 693
- Parsimony 910
- Parsing-based compression 236
- Partial k -tree 968
- Partial synchrony 198, 304
- Partially oblivious algorithms 803
- Partial-sums problem 473
- Partitioning 143, 886
- Passenger information system 837
- Pattern analysis 929
- Pattern matching 559, 824, 826
 - algorithms 982
 - on trees 499
- Pauli spin matrices 705
- Peaks 640
- Peer to peer 611
- Peptide de novo sequencing 640
- Perceptron 642
- Perfect phylogeny 246, 644, 647
- Performance analysis 253
- Performance driven clustering 650
- Period 824
- Periodic tasks 751
- Permutations 126, 291, 915
- Phylogenetic reconstruction 246, 644, 651
- Phylogenetic tree 202, 246, 497, 573, 644, 651
- Phylogenetics 499
- Phylogenies 251, 579
- Phylogeny reconstruction 253
- Physical design 143, 852
- Placement 143, 317
- Planar embedding 656
- Planar graph 59, 220, 337, 342, 654, 656, 839, 912
- Planarity testing 342, 656
- Point lattices 841
- Point set matching 657
- Pointer machine 278
- Polygon 786
- Polyhedral domain 871
- Polymorphism 647
- Polynomial time approximation
 - scheme 155, 191
- Position auction 660
- Position-based routing 355
- Power efficient 228, 728
- PPAD-completeness 166, 578
- PRAM algorithm 627, 735
- Precision-driven computation 788
- Predecessor search 748
- Prefix 824
- Prefix sums 473
- Price of anarchy 485, 665, 667, 810
- Price of optimum 888
- Primal-dual algorithms 601
- Priority queue 278
- Probabilistic
 - analysis of a Davis–Putnam heuristic 954
 - byzantine agreement 604
 - embeddings 51
 - methods 405
 - quorums 715
- Probably approximately correct
 - learning 622
- Problem kernel 220
- Program testing 681
- Programmable logic 322
- Programming relaxation 567
- Proper learning 385

Property testing 446
 Propositional logic 90
 Propositional satisfiability 639
 Proximity algorithms for
 growth-restricted metrics 1027
 Proximity-awareness 611
 Pseudocodewords 479
 Pseudoknots 780
 Pseudonymous bidding 308
 PTAS 281
 Public transportation system 272
 Pure Nash equilibria 810

Q

Q-learning 771
 QoS 618
 Quadratic forms 841
 Quadratic programming 810
 Quality of service 618
 Quantum
 algorithm 1, 677, 681, 683, 686, 689, 690, 694, 696, 698, 700, 712
 channels 705
 communication 947
 complexity 1
 computation 689, 694, 698, 700, 712
 computing 1, 11, 313, 686, 696
 cryptography 709
 entanglement 703
 error-correcting codes 705
 Fourier transform 683
 information theory 703
 search 677, 686, 690, 696
 teleportation 703
 Quantum walk 677, 681, 686, 696
 Query learning 132
 Query/update tradeoffs 958
 Queueing 904
 Quine–McCluskey algorithm 989
 Quorum 715

R

Radio broadcast 725
 Radio network 233, 466, 731
 Radiocoloring problem 721
 Railway system 244
 RAM model 847
 Random allocations 942
 Random faults 522
 Random geometric graphs 207
 Random graphs 195, 405
 Random intersection graph $G_{n,m,p}$ 383
 Random k -SAT 954
 Random structures 742
 Random walks 161, 686, 696
 on the World Wide Web 624
 Randomized algorithm 25, 405, 469, 601, 604, 671, 723, 728, 732, 735, 737, 1024
 Randomized distributed algorithms 725
 Randomized searching 740
 Range assignment 526
 Rank space 661
 Rate adjustment and allocation 803
 Rate-monotonic scheduling 751
 RC-Trees 260
 Reachability 343, 846
 Read-write register 400
 Real-time systems 751
 Rectangular partition 4
 Recursion theory 411
 Reducibility and completeness 939
 Redundant assignments 522
 Reed Solomon codes 222, 453
 Reed–Muller code 434
 Register 761, 855
 Regular expressions 768
 Regularity 761
 Reliability 116, 812
 Rendezvous 548
 Repetitions 874
 Representation-based hardness of learning 385
 Representation-independent hardness for learning 210
 Reservoir sampling 1024
 Resource
 allocation 188, 544
 augmentation 834
 scheduling 205
 sharing 611
 Response time 320, 806
 Retiming 146, 149, 821
 Reversal Sequence 860
 Reversals 863
 Revreps 863
 Riskless profit 62
 R-Join, requirement join 897
 RNA secondary structure 777
 prediction 780, 783
 RNA structures 985
 RNC class 735
 Road networks 395, 796
 Robinson–Foulds 579
 Robotics 786
 Robust geometric computation 788
 Robustness 253, 274
 against false-name bids 308
 Rooted triplet 202, 497
 Round robin 806
 Route planning 796
 system 272
 Routing 355, 526, 548, 671, 754, 757, 796
 R-Trees 800

S

Safeness 761
 Safety radius approach 253
 Sampling 1024
 SAT 83, 286, 469, 742, 932, 953
 Satisfiability 507, 742
 threshold 954
 Scheduling 320, 455, 531, 562, 627, 806, 834, 1011
 related parallel machines 970
 Search 712, 786
 Search tree 121
 algorithms 79
 Searching 108
 with partial information 235
 Secondary storage 291
 Secret keys 709
 Secure multi-party computation 604
 Selectors 233
 Self organizing lists 598
 Self-indexing 176
 Selfish agent 997
 Selfish routing 667
 Selfish strategies 667
 Semi-adaptive text modeling 65
 Semidefinite programming 368, 868
 Semiglobal or semilocal sequence similarity 818

- Sensor networks 466, 728
 - Separating hyperplanes 642
 - Seperators 815
 - Sequence alignment 461
 - Sequence-pair 317
 - Sequencing 904
 - Sequential circuits 146, 149
 - Sequential consistency 450
 - Serializability 450
 - Series-parallel graphs 86
 - Server problems 515
 - Set cover 379
 - Set-associative cache 37
 - Sets 748
 - Shape curve computation 852
 - Shared coins 723
 - Shared memory 400, 723, 761, 855
 - wait-free 761
 - Shift function 824, 826
 - Shortest path 25, 40, 226, 272, 330, 395, 576, 837, 839, 847
 - Signal processing 438
 - Signed permutation 859, 860
 - Similarity between compressed strings 843
 - Simple monotonic programs 345
 - Simulation 400
 - Single layer neural network 642
 - Single nucleotide 647
 - Single-minded agent 997
 - Single-parameter agents 970
 - Single-sequence 317
 - Singleton bound 453
 - Sink mobility 161
 - Ski-rental problem 849
 - Slicing floorplan 852
 - Smoothed analysis 578
 - Snapshot 855
 - Software library 442
 - Software visualization 1008
 - Sorting 126, 278, 291, 907
 - by reversals 860
 - Spanner 25, 40, 244, 358, 360, 654, 867, 936
 - Spanning forest 332
 - Spanning subgraphs 867
 - Spanning tree 231, 477, 754
 - Sparse certificates 371
 - Sparse dynamic programming 783
 - Sparseness 929
 - Sparset cut 585, 868
 - Sparset cut 815
 - Spatial databases 800
 - Spatial search 677, 696
 - Speed scaling 870
 - Sphere packing 871
 - Spin cooling 11
 - Splay trees 260
 - Splitting algorithms 286
 - SQ dimension 894
 - Squares 874
 - Squid (file caching software) 601
 - Stability 390, 606, 877
 - Stabilizer codes 705
 - Stable admissions problem 390
 - Stable assignment problem 390
 - Stable b -matching problem 390
 - Stable marriage 390, 606, 877, 880, 883, 886
 - Stackelberg 888
 - Starvation 834
 - State initialization 11
 - State-machine replication 73, 129
 - Static membership 43
 - Static-priority scheduling 751
 - Statistical alignment 892
 - Statistical data compression 65
 - Statistical learning 622, 929
 - Statistical query 894
 - Steiner tree 168, 231, 537, 757, 900
 - Stochastic modeling of insertions and deletions 892
 - Stochastic order relation between $G_{n,m,p}$ and $G_{n,p}$ 383
 - Store-and-forward routing 616
 - Straight-line programs 171
 - Stretch factor 355, 360, 654
 - String algorithms 556, 559, 874, 925
 - and data structures 950
 - String indexing 950
 - String matching 824, 826
 - String pattern matching 171
 - Strings 265, 907
 - ST-trees 260
 - Subgraph detection 158
 - Submodular function 376, 900
 - Substring parsimony 910
 - Subtree-transfer distance 573
 - Successor problem 661
 - Succinct data structures 748, 912, 915
 - Suffix 824
 - array 112
 - sorting 919
 - Suffix tree 912, 922, 925
 - construction 919
 - Sugiyama approach 631
 - Sum of pairs score 267
 - Sum of products notation 431
 - Super dense coding 703
 - Support vector 929
 - Survivable network design 349, 536
 - Switch 618
 - Symmetry group 373
 - Synchronization 152, 188, 829, 936
- T**
- Tandem mass spectrometry 640
 - Tandem repeats 874
 - Tangle number 101
 - Tango 592
 - Task decidability 829
 - Technique 818
 - Technology mapping 821, 944
 - Teleportation 947
 - Temperley-Lieb algebra 700
 - Template registration 559
 - Temporal Logic 932
 - Temporary tasks 457
 - Terms cooling 11
 - Text
 - compression 65, 171
 - indexing 240, 950
 - strings 915
 - Theory of searching aerial photographs 982
 - Thompson automaton 46
 - Thompson's automaton 768
 - Threshold behavior 383
 - of parities 431
 - Ties 883
 - Time-continuous Markov models 892
 - Time-dependent 837
 - Time-expanded 837
 - Time/memory tradeoffs 548
 - Time-outs 304
 - Timestamp system 761
 - Timetable information 837
 - TOP 431
 - Top trees 260

Topological consistency 788
 Topology control 228
 Topology trees 260
 Total exchange of information 731
 Total order broadcast 73, 129
 Traffic information system 272
 Traffic routing 667
 Transfers 217
 Transient errors 812
 Transistor sizing 345
 Transitive closure 343, 846
 Transportation network 244, 358
 Transpositions 863
 Transreversals 863
 Trapdoor functions 210
 Traveling salesman problem (TSP) 399, 517, 962
 Trees 9, 499, 964
 alignment score 267
 comparison 579
 covering 944
 decomposition 968
 isomorphism 492
 metrics 51
 navigation and search 964
 realizable 651
 Treewidth 88, 101, 639, 968
 Triangle finding 690
 Triangulation 244
 Trie 826
 Truthful 973
 Truthful mechanism 970, 997
 TSP 281, 399
 Two dimensional pattern
 matching 982
 Two-dimensional index data
 structures 979
 Two-dimensional suffix array 979

Two-dimensional suffix tree 979
 Two-intervals 985
 Two-phase algorithm 31
 Two-sided matching markets 485

U

UBOX 431
 Unbounded searching 235
 Undirected feedback 995
 Undirected graph 847
 Unicast 228
 Uniform-distribution 429
 Unique specification
 dimension 132
 Unit-disk graph 191, 793, 1027
 Unsplittable flows 810
 Urban street systems 358
 Utilitarian objective 997

V

Variable voltage processor 1011
 VCG mechanism 353, 973
 Vertex
 coloring 594
 connectivity 335, 337
 cover 463, 1003, 1006
 folding 1006
 Vickrey–Clarke–groves
 mechanism 353
 VLSI
 CAD 143, 821, 852
 design 650
 physical design 1032
 routing 737
 Voltage scaling 870
 Voting 715

W

Wait-free 723
 shared variables 761
 Walrasian equilibrium 205
 Weakly exponential worst-case upper
 bounds 286
 Web information retrieval 624
 Weighted
 caching 601
 completion time 544
 directed graph 576
 paging 601
 random sampling 1024
 Well-linked decomposition 551
 Well-separated pair decomposition 1027
 Well-supported approximate nash
 equilibria 53
 Winnow algorithm 77
 Wire sizing 1032
 Wire tapering 1032
 Wireless communication 793
 ad hoc networks 228
 mesh networks 134
 network 355, 526, 528, 1020
 sensor networks 588, 671
 Witness 31
 Word RAM 278
 Work function 34, 351, 1035
 Worst case
 analysis 94
 approximation 849
 constant lookup 212
 coordination ratio 667

Z

Zindler curve 358
 Ziv–Lempel compression 236