

# CURRICULUM VITAE

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Xin He  
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## EDUCATION

- 1987            Ph.D., Computer and Information Science, Ohio State University.  
Dissertation: On Efficient Parallel Algorithms for Solving Graph Problems.  
Advisor: Yaacov Yesha.
- 1984            M.S., Computer and Information Science, Ohio State University.
- 1981            M.S., Mathematics, Ohio State University.
- 1978-1980      Graduate School, University of Science and Technology of China, Beijing, China,  
Mathematics major.
- 1978            Lanzhou University, Lanzhou, China, Chemistry major.

## EMPLOYMENT HISTORY

- 2004-8 - 2005-8    Acting Chairman, Department of Computer Science and Engineering,  
State University of New York at Buffalo.
- 2002-8 - present    Professor, Department of Computer Science and Engineering,  
State University of New York at Buffalo.
- 1993-9 - 2002-7    Associate Professor, Department of Computer Science and Engineering,  
State University of New York at Buffalo.
- 1987 - 1993-8      Assistant Professor, Department of Computer Science,  
State University of New York at Buffalo.

## PROFESSIONAL MEMBERSHIPS and ACTIVITIES

### Professional Membership

Member, IEEE.

## RESEARCH INTERESTS

- Design and Analysis of Algorithms
- Graph Algorithms
- Graph Theory
- Graph Drawing
- Computational Geometry

## GRANT SUPPORT

### External Individual Funding:

1990-1993	National Science Foundation, principal investigator Research Initiation Award “Parallel Algorithms for Special Graphs”	\$ 35,581
1993-1996	National Science Foundation, principal investigator “Parallel Algorithms for Graph Problems”	\$83,462
2000-2003	National Science Foundation, principal investigator “Graph Encodings, Embeddings, Labelings and Applications”	\$191,240
2003-2007	National Science Foundation, principal investigator “Graph Orientations and Applications”	\$206,000
2003-2006	National Institute of Health, investigator “Computational Approaches to Disease Causes and Treatment” (PI: Aidong Zhang, with total 12 investigators.)	\$1,177,500
2006-2011	National Science Foundation, principal investigator “Algorithms and Applications of Planar Graphs and Planar Meshes”	\$239,923
2013-2017	National Science Foundation, principal investigator “AF: Small: Efficient Algorithms for Rectangular Layouts and Cartograms”	\$349,986

### Refereed Journal Articles - Published:

1. Xin He and Yaacov Yesha, “Parallel Recognition and Decomposition of Two Terminal Series Parallel Graphs”, *Information and Computation*, Vol. 75 (1), 1987, pp. 15-39.

2. Xin He and Yaacov Yesha, “Binary Tree Algebraic Computations and Parallel Algorithms for Simple Graphs”, *Journal of Algorithms*, Vol. 9 (1), 1988, pp. 92-113.
3. Xin He and Yaacov Yesha, “A Nearly Optimal Parallel Algorithm for Constructing Depth First Spanning Trees in Planar Graphs”, *SIAM<sup>1</sup> Journal on Computing*, Vol. 17 (3), 1988, pp. 486-491.
4. Xin He, “A Nearly Optimal Parallel Algorithm for Constructing Maximal Independent Sets in Planar Graphs”, *Theoretical Computer Science*, Vol. 61 (1), 1988, pp. 33-47.
5. Xin He and Yaacov Yesha, “Efficient Parallel Algorithms for  $r$ - Dominating Set and  $p$ -Center Problems on Trees”, *Algorithmica*, Vol. 5, 1990, pp. 129-145.
6. Xin He, “An Efficient Algorithm for Edge Coloring Planar Graphs with  $\Delta$  Colors”, *Theoretical Computer Science*, Vol. 74 (3), 1990, pp. 299-312.
7. Xin He, “Efficient Parallel and Sequential Algorithms for 4-Coloring Perfect Planar Graphs”, *Algorithmica*, Vol. 5 (4), 1990, pp. 545-559.
8. R. Sarnath and Xin He, “A P-complete Graph Partition Problem”, *Theoretical Computer Science*, Vol. 76 (2), 1990, pp. 343-351.
9. Xin He, “An Improved Algorithm for the Planar 3-Cut Problem”, *Journal of Algorithms*, Vol. 12, 1991, pp. 23-37.
10. Xin He, “An Efficient Parallel Algorithm for Finding Minimum Weight Matching for Points on a Convex Polygon”, *Information Processing Letters*, Vol. 37, 1991, pp. 111-116.
11. Xin He, “Efficient Parallel Algorithms for Series Parallel Graphs”, *Journal of Algorithms*, Vol. 12, 1991, pp. 409-430.
12. S. Chakravarty, Xin He, and S. S. Ravi, “Minimum Area Layout of Series-Parallel Transistor Networks Is NP-Hard”, *IEEE<sup>2</sup> Transactions on Computer-Aided Design of Integrated Circuits and Systems*, Vol. 10 (7), 1991, pp. 943-949.
13. Xin He, “Parallel Algorithms for Cograph Recognition with Applications”, *Journal of Algorithms*, Vol. 15, 1993, pp. 284-313.
14. Xin He, “On Finding Rectangular Duals of Planar Triangular Graphs”, *SIAM Journal on Computing*, Vol. 22 (6), 1993, pp. 1218-1226.
15. S. Hambrusch, Xin He, and R. Miller, “Parallel Algorithms for Gray-Scale Image Component Labeling on a Mesh-Connected Computer”, *Journal of Parallel and Distributed Computing*, Vol. 20, 1994, pp. 56-68.
16. M. Y. Kao, M. Fürer, Xin He, and B. Raghavachari, “Optimal Parallel Algorithms for Straight-Line Grid Embeddings of Planar Graphs”, *SIAM Journal on Discrete Mathematics*, Vol. 7(4), 1994, pp. 632-646.

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<sup>1</sup>SIAM is an abbreviation for Society of Industrial and Applied Mathematics.

<sup>2</sup>IEEE is an abbreviation for Institute of Electrical and Electronics Engineers.

17. Xin He, "An Efficient Parallel Algorithm for Finding Rectangular Duals of Planar Triangular Graphs", *Algorithmica*, Vol 13(6), 1995, pp. 553-572.
18. Xin He and David Sher, "On Determining Non-Isomorphic Configurations of Circles through Points on a Sphere", *Discrete Applied Mathematics*, Vol 59, 1995, pp. 33-50.
19. S. Sunder and Xin He, "An NC Algorithm for Finding Minimum Weighted Completion Time Schedule on Series Parallel Graphs", *Algorithmica* Vol 16, 1996, pp. 243-262.
20. Z-Z Chen and Xin He, Parallel Complexity of Partitioning Planar Graphs into Vertex-Induced Forests, *Discrete Applied Math.* 69, 1996, pp. 183-198.
21. Xin He, "Grid Embedding of 4-Connected Plane Graphs", *Discrete and Computational Geometry* 17, 1997, pp. 339-358.
22. R. Sarnath and Xin He, "On Parallel Searching and Selection in Partial Orders: Sorted Matrices", *Journal of Parallel and Distributed Computing*, 40, 1997, pp. 242-247.
23. G. Kant and Xin He, "Regular Edge Labeling of 4-Connected Plane Graphs and its Applications in Graph Drawing Problems," *Theoretical Computer Science* Vol. 172, 1997, pp. 175-193.
24. Zhi-Zhong Chen and Xin He, "Parallel Algorithms for Maximal Acyclic Sets", *Algorithmica* Vol 19, 1997, pp. 354-368.
25. S. Sunder and Xin He, "Scheduling Interval Ordered Tasks in Parallel", *Journal of Algorithms* Vol 26, 1998, pp. 34-47.
26. Ryuhei Uehara, Zhi-Zhong Chen, and Xin He, "Fast RNC and NC Algorithms for Maximal Path Sets", *Theoretical Computer Science* Vol 215, 1999, pp. 89-98.
27. Bhaskar DasGupta, Xin He, Tao Jiang, Ming Li, John Tromp, "On the Linear-Cost Subtree-Transfer Distance between Phylogenetic Trees", *Algorithmica* Vol 25, 1999, pp. 176-195.
28. Xin He and Zhi-Zhong Chen, "An Algorithm for Shortest Paths in Bipartite Digraphs with Concave Weight Matrices and its Applications", *SIAM J. Computing.* Vol 29 (1), 1999, pp. 65-80.
29. Xin He, Ming-Yang Kao and H-I Lu, "Linear-Time Succinct Encodings of Planar Graphs via Canonical Orderings", *SIAM J. Discrete mathematics*, Vol 12 (3), 1999, pp. 317-325.
30. Xin He, "On Floor-Plan of Planar Graphs", *SIAM J. Comput.* Vol. 28 (6), 1999, pp. 2150-2167.
31. X. He, M-Y Kao and H-I Lu, "A Fast General Methodology for Information-Theoretically Optimal Encodings of Graphs", *SIAM J. Comput.* Vol. 30 (3), 2000, pp. 838-846.
32. Xin He, "A Simple Linear Time Algorithm for Proper Box Rectangular Drawing of Plane Graphs", *Journal of Algorithms*, Vol 40, 2001, pp. 82-101.

33. Xin He and Chun-Hsi Huang, Communication Efficient BSP Algorithm for All Nearest Smaller Values Problem, *Journal of Parallel and Distributed Computing*, Vol 61, 2001, pp. 1425-1438.
34. Zhi-Zhong Chen, Xin He and Chun-Hsi Huang, "Finding Double Euler Trails of Planar Graphs in Linear Time", *SIAM Journal on Comput.* 31 (4), pp. 1255-1285, 2002.
35. Marcelo Arenas, Leopoldo Bertossi, Jan Chomicki, Xin He, Vijay Raghavan and Jeremy Spinrad, "Scalar Aggregation in Inconsistent Databases", *Theoretical Computer Science* 296 (3), 2003, pp. 405-434. (Special issue for International Conference on Database Theory, ICDT'2001).
36. Zhi-Zhong Chen, Xin He and Ming-Yang Kao, "Common-face embeddings of planar graphs", *SIAM J. on Computing* Vol 32 (2), 2003, pp. 408-434.
37. Zhi-Zhong Chen and Xin He, "Disc Embeddings of Planar Graphs", *Algorithmica* 38, 2004, pp. 539-576.
38. Huaming Zhang and Xin He, "Improved Visibility Representation of Plane Graphs", *Computational Geometry: Theory and Applications* 30, pp. 29-39, 2005.
39. Huaming Zhang and Xin He, "On Even Triangulations of 2-Connected Embedded Graphs", *SIAM Journal on Computing* 34 (3), pp. 683-696, 2005.
40. Huaming Zhang and Xin He, "Visibility Representation of Plane Graphs via Canonical Ordering Tree", *Information Processing Letters* 96, 2005, pp. 41-48.
41. Huaming Zhang and Xin He, "Canonical Ordering Trees and Their Applications in Graph Drawing", *Discrete & Computational Geometry* Vol 33, 2005, pp. 321-344.
42. Chun-Hsi Huang, Xin He and Min Qian, "Communication-Optimal Parallel Parenthesis Matching", *Parallel Computing* 32, 2006, pp. 14-23.
43. Dahai Xu, Yang Chen, Yizhi Xiong, Chunming Qiao and Xin He, "On the complexity of and algorithms for finding the Shortest Path with a Disjoint Counterpart", *IEEE/ACM Transactions on Networking*, Vol 14(1), 2006, pp. 147-158.
44. Huaming Zhang and Xin He, "An Application of Well-Orderly Trees in Graph Drawing", *International Journal of Foundations of Computer Science (IJFCS)*, Vol. 17, No. 5, 2006, pp. 1129-1141.
45. Chun-Hsi Huang, Sanguthevar Rajasekaran, Laurance Tianruo Yang, and Xin He, "Finding Hamiltonian Paths in Tournaments on Clusters", *Cluster Computing*, Vol 9, 2006, pp. 341 - 348.
46. Huaming Zhang and Xin He "On Simultaneous Staright-line Grid Embedding of a Planar Graph and its Dual", *Information Processing Letters*. Vol 99 (1) , July, 2006, pp. 1-6.
47. Xin He and Huaming Zhang, "Nearly Optimal Visibility Representations of Plane Graphs", *SIAM Journal Discrete Math.* Vol 22 (4), 2008, pp. 1364-1380.

48. Huaming Zhang and Xin He, "Optimal st-Orientations for plane triangulations", *Journal of Combinatorial Optimization*. Vol. 17 (4), 2009, pp. 367-377.
49. Huaming Zhang and Xin He, "A Generalized greedy routing algorithm for 2-connected graphs" *Theoretical Computer Science*, Vol 411, 2010, Issue 49, pp. 4242-4252, Nov 2010.
50. Jiun-Jie Wang and Xin He, "Visibility Representation of Plane Graphs with Simultaneous Bound for Both Width and Height", *Journal of Graph Algorithms and Applications (JGAA)*, Vol 16 (2), March 2012, pp. 317 - 334. (Note: Complete version of STACS 2011).
51. Xin He, Jiun-Jie Wang and Huaming Zhang, "Compact Visibility Representation of 4-Connected Plane Graphs", *Special issue of Theoretical Computer Science*, Vol. 447, Aug 2012, pp 62 - 73. (Note: Complete version of COCOA 2010).
52. Xin He, and Huaming Zhang, "On Succinct Greedy Drawings of Plane Triangulations and 3-Connected Plane Graphs". *Algorithmica* 68 (2), 2014, pp. 531 - 544.  
(DOI: 10.1007/s00453-012-9682-y).
53. Xin He and Huaming Zhang, "A simple routing algorithm based on Schnyder coordinates", special issue of *Theoretical Computer Science*, Vol. 494, no. 8, July 2013, pp. 112-121.  
(<http://dx.doi.org/10.1016/j.tcs.2013.01.017>). (Note: complete version of TAMC.)
54. Jiun-Jie Wang and Xin He, "Succinct strictly convex greedy drawing of 3-connected plane graphs", *Theoretical Computer Science*, Vol. 532 No. 1, May 2014, pp. 80 - 90.  
(<http://dx.doi.org/10.1016/j.tcs.2013.05.024>). (Note: Complete version of Proceedings Faw-AAIM 2012).
55. Xin He and Dayu He, "Nearly Optimal Monotone Drawing of trees", to appear in *Theoretical Computer Science* 654, 2016, pp. 26-32. (DOI:10.1016/j.tcs.2016.01.009).
56. Xin He and Dayu He, "Star-Shaped and L-Shaped Orthogonal Drawings". *Journal of Graph Algorithms and Applications*, Vol. 21 (2), 2017, pp. 155-175. (DOI: 10.7155/jgaa.00409)
57. Dayu He and Xin He "Optimal Monotone Drawing of Trees". *SIAM Journal Discrete Mathematics* Vol. 31 (4), 2017, pp. 1867-1877.

### Book Chapters:

58. Bhaskar DasGupta, Xin He, Tao Jiang, Ming Li, John Tromp, Lusheng Wang, and Louxin Zhang, "Computing distances between evolutionary trees", *Handbook of combinatorial optimization*, Vol. 2, 35-76, Kluwer Acad. Publ., Boston, MA, 1998.
59. Bhaskar DasGupta, Xin He, Tao Jiang, Ming Li, John Tromp and Louxin Zhang, "On Computing the Nearest Neighbor Interchange Distance", in D. Z. Du, P M. Pardalos and J. Wang (eds.), *Proceedings of the DIMACS Workshop on Discrete Problems with Medical Applications*, DIMACS Series in Discrete Mathematics and Theoretical Computer Science, American Mathematical Society, Vol. 55, pp. 125-143, 2000.

60. Bhaskar DasGupta, Xin He, Tao Jiang, Ming Li, John Tromp and Louxin Zhang, "Nearest Neighbor Interchange and Related Distances", Entry 179 in *Encyclopedia of Algorithms*, Ming-Yang Kao (editor), Springer-Verlag, 2007, pp. 573-576.
61. Bhaskar DasGupta, Xin He, Tao Jiang, Ming Li, John Tromp, Lusheng Wang, and Louxin Zhang, "Computing distances between evolutionary trees", *Handbook of combinatorial optimization*, 2nd ed., 747 - 781, July 2013, Springer.

### Refereed Conference Proceedings (Complete Papers Published):

*Acceptance rates for some of the papers were not available.*

62. Xin He, "Efficient Parallel Algorithms for Solving Some Tree Problems", *24th Annual Allerton Conference on Communication, Control and Computing*, Urbana, Illinois, October, 1986, pp. 777-786.
63. S. Chakravarty, Xin He, and S. S. Ravi, "On Optimizing nMOS and Dynamic CMOS Functional Cells", *IEEE 1990 International Symposium on Circuits and Systems*, New Orleans, Louisiana, May, 1990, pp. 1701-1704.
64. R. Sarnath and Xin He, "Efficient Parallel Algorithms for Selection and Searching on Sorted Matrices", *6th International Parallel Processing Symposium*, Beverly Hills, California, March, 1992, pp. 108-111. (Acceptance rate: 118/352.)
65. S. Hambrusch, Xin He, and R. Miller, "Parallel Algorithms for Gray-Scale Image Component Labeling on a Mesh-Connected Computer", *4th Annual ACM Symposium on Parallel Algorithms and Architectures*, San Diego, California, June, 1992, pp. 100-109. (Acceptance rate: 45/120.)
66. M. Fürer, Xin He, Ming-Yang Kao, and B. Raghavachari, " $O(n \log \log n)$ -Work Parallel Algorithms for Straight-Line Grid Embeddings of Planar Graphs", *4th Annual ACM Symposium on Parallel Algorithms and Architectures*, San Diego, California, June, 1992, pp. 410-419. (Acceptance rate: 45/120.)
67. Xin He, "Parallel Algorithms for Cograph Recognition with Applications", *3rd Scandinavian Workshop on Algorithm Theory*, Helsinki, Finland, July, 1992, in *Lecture Notes in Computer Science 621*, Springer-Verlag, pp. 94-105. (Acceptance rate: 34/120.)
68. S. Sunder and Xin He, "An NC Algorithm for Finding Minimum Weighted Completion Time Schedule on Series Parallel Graphs", *4th IEEE Symposium on Parallel and Distributed Processing*, pp.120-127, Dallas, Texas, December, 1992. (Acceptance rate: 70/225=31%.)
69. S. Sunder and Xin He, "Scheduling Interval Ordered Tasks in Parallel", *10th Symposium on Theoretical Aspects of Computer Science*, in LNCS 665, pp. 100-109, Würzburg, Germany, February, 1993. (Acceptance rate: 25%.)

70. G. Kant and Xin He, "Two Algorithms for Finding Rectangular Duals of Planar Graphs", *19th Workshop on Graph-Theoretic Concepts in Computer Science*, Utrecht, the Netherlands, June 16-18, 1993, in *Lecture Notes in Computer Science 790*, pp. 396-410. (Acceptance rate: 35/92.)
71. Xin He, "An Efficient Parallel Algorithm for Finding Rectangular Duals of Planar Triangular Graphs", *3rd International Conference for Young Computer Scientists*, pp. 6.33-6.37, Beijing, China, July 15-17, 1993.
72. Xin He and Ming-Yang Kao, "Parallel Construction of Canonical Ordering and Convex Drawing of Triconnected Planar Graphs", *4th Annual International Symposium on Algorithms and Computation*, LNCS 762, pp. 303-312, Hong Kong, December, 1993. (Acceptance rate: 54/about 200).
73. Xin He and Ming-Yang Kao, "Regular Edge Labelings and Drawings of Planar Graphs", *Workshop on Graph Drawing'94*, LNCS 894, pp. 96-103, Princeton, NJ, October, 1994.
74. Zhi-Zhong Chen and Xin He, "Parallel Algorithms for Maximal Cycle-Free Sets", the first *Aizu International Symposium on Parallel Algorithms/Architecture Synthesis (pAs'95)*, pp. 169-175, Aizu-Wakamatsu, Japan, March 15-17, 1995.
75. Z-Z Chen and Xin He, NC Algorithms for Partitioning Planar Graphs into Induced Forests and Approximating NP-Hard Problems, 21st Workshop on Graph-Theoretic Concepts in Computer Science (WG'95), June 20-22, 1995, Aachen, Germany. LNCS 1017, pp. 275-289.
76. S. Sunder and Xin He, "Fast approximation algorithms for single machine scheduling" Proceedings of the 7th International Conference on Computing and Information, ICCI '95 (July 5-9, Peterborough, ON). *J. Comput. Inf.* 1 (1995), no. 2, 111-124 (electronic).
77. Xin He, "Grid Embedding of 4-Connected Plane Graphs", *Graph Drawing'95*, LNCS 1027, pp. 287-299, Sep. 20-22, 1995, Passau, Germany.
78. Zhi-Zhong Chen, Xin He, and Ryuhei Uehara, "Fast NC and RNC Algorithms for Finding a Maximal Set of Paths", *COCOON'96*, LNCS 1090, pp. 209-218, June 17-19, 1996, Hong Kong. (Acceptance rate: 44/82).
79. Xin He and Zhi-Zhong Chen, "Shortest Path Problem for Complete Bipartite Graphs and its Applications", *SODA'97*, Jan. 4-7, 1997, New Orleans, pp. 230-238. (Acceptance rate: 84/245).
80. B. DasGupta, X. He, T. Jiang, M. Li, J. Tromp and L. Zhang, "On Distance between Phylogenetic Trees", *SODA'97*, Jan. 4-7, 1997, New Orleans, pp. 427-436. (Acceptance rate: 84/245).
81. Xin He, "On Floor Plan of Planar Graphs", in Proc. *The 29th Annual ACM Symposium on Theory of Computing*, 1997, pp. 426-435, May 4-6, 1997, El Paso, Texas.
82. Richie Chih-Nan Chuang, Ashim Garg, Xin He, Ming-Yang Kao, Hsueh-I Lu, Compact Encodings of Planar Graphs via Canonical Orderings and Multiple Parentheses, 25th International Colloquium on Automata, Languages, and Programming (ICALP98), July 13 - 17, 1998, BRICS, Aalborg, Denmark. LNCS 1443, pp. 118-129.



83. Zhi Zhong Chen, Xin He, and Ming Yang Kao, Non-planar Topological Inference and Political Map Graphs, the Tenth Annual ACM-SIAM Symposium on Discrete Algorithms (SODA99), pp. 195-204, January 17-19, 1999, Baltimore, Maryland.
84. Xin He, Ming-Yang Kao and Hsueh-I Lu, A Fast General Methodology for Information-Theoretically Optimal Encodings of Graphs, 7th Annual European Symposium on Algorithms (ESA'99), July 16-18, 1999, Prague, Czech Republic, LNCS 1643, Edited by Jaroslav Nešetřil, pp. 540-549.
85. Zhi-Zhong Chen, Xin He and Chun-Hsi Huang, Finding Double Euler Trails of Planar Graphs in Linear Time, the 40th Symposium on Foundation of Computer Science (FOCS'99), Oct. 17-19, 1999, New York City, pp. 319-329.
86. Zhi-Zhong Chen, Xin He, and Ming-Yang Kao, "Common-face embeddings of planar graphs with applications", Models of computation and algorithms (Japanese) (Kyoto, 1999), Sūrikaisekikenkyūsho Kōkyūroku No. 1093 (1999), 33-38.
87. Xin He and Chun-Hsi Huang, Scalable Coarse Grained Parallel Interval Graph Algorithms, in Proc. of the 2000 International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA'2000), pp. 1369-1376, June 26-29, 2000, Monte Carlo Resort, Las Vegas, Nevada, USA.
88. Chun-Hsi Huang and Xin He, Communication Efficient Coarse-Grained Parallel Algorithm for All Nearest Smaller Values Problem and its Applications, in Proc. of the 2000 International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA'2000), pp. 1377-1384, June 26-29, 2000, Monte Carlo Resort, Las Vegas, Nevada, USA.
89. Zhi-Zhong Chen and Xin He, Hierarchical Topological Inference on Planar Disc Maps, the 6th Annual International Computing and Combinatorics Conference (COCOON'2000), Lecture Notes in Computer Science, Vol. 1858, pp. 115-125, July 26-28, 2000, Sydney, Australia.
90. Chun-Hsi Huang and Xin He, Finding Hamiltonian Paths in Tournaments on Clusters – A provably Communication-Efficient Approach, 16th ACM Symposium on Applied Computing (SAC'2001), pp. 549-553. March 11-14, 2001, Las Vegas, Nevada. (Acceptance rate: 129/224).
91. Chun-Hsi Huang and Xin He, Communication-Efficient Bulk Synchronous Parallel Parentheses Matching, 10th SIAM Conference on Parallel Processing for Scientific Computing, March 12-14, 2001, Portsmouth, Virginia. 9 pages, CD-ROM.
92. Chun-Hsi Huang and Xin He, Parallel Range Searching in Large Databases Based on General Parallel Prefix Computation, 10th SIAM Conference on Parallel Processing for Scientific Computing, March 12-14, 2001, Portsmouth, Virginia. 3 pages, CD-ROM.
93. Xin He, A simple linear time algorithm for proper box rectangular drawings of plane graphs, the 7th Workshop on Algorithms and Data Structures (WADS 2001), August 8-10, 2001, Providence, Rhode Island, USA. Lecture Notes in Computer Science 2125, 2001, pp. 234-245.

94. Huaming Zhang and Xin He, "A simple linear time algorithm for finding even triangulations of 2-connected bipartite plane graphs", in Proc. ESA'2002, Roma, Italy, Sep. 17-21, 2002, LNCS 2461, pp. 902-913.
95. Chun-Hsi Huang and Xin He, "Average-Case Communication-Optimal Parallel Parenthesis Matching", ISAAC 2002, Vancouver, CA Nov. 20-23, 2002. LNCS 2518, pp. 308-319.
96. Huaming Zhang and Xin He, "On Even Triangulations of 2-Connected Embedded Graphs", the 9th International Computing and Combinatorics Conference (COCOON'2003), Big Sky Resort, MT, USA, July 25 - 28, 2003. LNCS 2697, pp. 139-148. (Acceptance rate: 52/114).
97. Huaming Zhang and Xin He, "Compact Visibility Representation and Straight-line Grid Embedding of Plane Graphs" Workshop on Algorithms and Data Structures (WADS'2003), Carleton University, Ottawa, Canada, July 30 - August 1, 2003. LNCS 2748, pp. 493-504. (Acceptance rate: 40/126).
98. Dahai Xu, Yang Chen, Yizhi Xiong, Chunming Qiao and Xin He, "On Finding Disjoint Paths in Single and Dual Link Cost Networks", the 23rd IEEE Infocom 2004. Hongkong, March 7-11, 2004. On CD-Rom. pp. 705-715. (Acceptance rate: 261/1420).
99. Huaming Zhang and Xin He, "On Visibility Representation of Plane Graphs", the 21st Symposium on Theoretical Aspects of Computer Science (STACS 2004) Le Corum, Montpellier, France, March 25-27, 2004. LNCS 2996, pp. 477-488. (Acceptance rate: 54/200).
100. Huaming Zhang and Xin He, "New Theoretical Bounds of Visibility Representation of Plane Graphs", 12th International Symposium on Graph Drawing, (GD2004) September 29-October 2, 2004, CITY COLLEGE, New York City, USA. LNCS 3383, pp. 425-430, 2005.
101. Huaming Zhang and Xin He, "An Application of Well-Orderly Trees in Graph Drawing", 13th International Symposium on Graph Drawing, (GD2005) September 12-14, 2005, University of Limerick, Limerick, Ireland. LNCS 3843, pp. 458-467, 2006.
102. Xin He and Huaming Zhang, "Nearly Optimal Visibility Representations of Plane Graphs", ICALP 2006, S. Servovo, Venice, Italy, July 9-16, 2006, LNCS 4051, 2006, pp. 407-418.
103. Huaming Zhang and Xin He, "Optimal st-Orientations for Plane Triangulations", the 3rd International Conference on Algorithmic Aspects in Information and Management, Portland, OR, June 6-8, 2007. LNCS 4508, 2007, pp. 296-305.
104. Xin He and Huaming Zhang, "Schnyder Greedy Routing Algorithm" 7th Annual Conference on Theory and Applications of Models of Computation (TAMC'2010), Prague, Czech Republic, June 7-11, 2010, LNCS 6108, pp. 271 - 283.
105. Xin He, Jiun-Jie Wang and Huaming Zhang, "Compact Visibility Representation of 4-Connected Plane Graphs", in Proceedings of the 4th Annual International Conference on Combinatorial Optimization and Applications, (COCOA 2010), Dec 2010. LNCS 6508, pp. 339-353, 2010.
106. Xin He, and Huaming Zhang, "On Succinct Convex Greedy Drawing of 3-Connected Plane Graphs", in Proceedings SODA, 10 pages, Jan 2011.

107. Jiun-Jie Wang and Xin He, “Compact Visibility Representation of Plane Graphs”, to appear in Proceedings of the 28th Symposium on Theoretical Aspects of Computer Science (STACS’11), Dortmund Germany, March 10-12, 2011. Leibniz International Proceedings in Informatics (LIPIcs) 9, pp. 141-152, 2011.
108. Jiun-Jie Wang and Xin He, “Succinct Strictly Convex Greedy Drawing of 3-Connected Plane Graphs”, The Sixth International Frontiers of Algorithmics Workshop and The Eighth International Conference on Algorithmic Aspects of Information and Management, (FAW-AAIM,2012), May 14-16, 2012, Beijing, China. Lecture Notes in Computer Science 7285, pp. 13 - 25, May 2012.
109. Yijie Han and Xin He, “More Efficient Parallel Integer Sorting”, The Sixth International Frontiers of Algorithmics Workshop and The Eighth International Conference on Algorithmic Aspects of Information and Management, (FAW-AAIM,2012), May 14-16, 2012, Beijing, China. Lecture Notes in Computer Science 7285, pp. 279 - 290, May 2012.
110. Xin He and Dayu He, “Star Shaped Orthogonal Drawing”, The 12th Annual Conference on Theory and Applications of Models of Computation (TAMC’2015), Singapore May 18 - 20, 2015. Lecture Notes in Computer Science 9076, pp. 137 - 149, May 2015.
111. Dayu He and Xin He, “A Linear Time Algorithm for Determining Almost Bipartite Graphs”, The 12th Annual Conference on Theory and Applications of Models of Computation (TAMC’2015), Singapore May 18 - 20, 2015. Lecture Notes in Computer Science 9076, pp. 164 - 176, May 2015.
112. Xin He and Dayu He, “Compact Monotone Drawing of Trees”, The 21st Annual International Computing and Combinatorics Conference (COCOON’15), Beijing, China, August 4-6, 2015. Lecture Notes in Computer Science 9198, pp. 457 - 468, May 2015.
113. Xin He and Dayu He, “Monotone drawings of 3-connected plane graphs”, the 23rd Annual European Symposium (ESA, 2015), Sep. 2015, Patras, Greece. Lecture Notes in Computer Science 9294, pp. 729 - 741, Sep. 2015.

#### **Other Conference Proceedings (Abstract Published):**

114. Xin He and Yaacov Yesha, “An  $O(\log^2 n)$  Time  $O(n)$  Processor Parallel Algorithm for Finding Depth First Spanning Trees in Planar Graphs”, *Conference on Combinatorics and Complexity*, Chicago, Illinois, June, 1987. (The complete version appeared as [3].)
115. Xin He, “An Efficient Algorithm for 4-Coloring Perfect Planar Graphs”, *4th SIAM Conference on Discrete Mathematics*, San Francisco, California, June, 1988. (The complete version appeared as [7].)
116. G. Kant and Xin He, “Rectangular Duals and Visibility Representations”, *ALCOM International Workshop on Graph Drawing and Topological Graph Algorithms*, Ancienne Ecole Normale de Sévres, Parc of Saint Cloud, Paris, France, September 26-29, 1993. (The complete version appeared as [23].)

**Workshop Presentations:**

117. Xin He, "Efficient Algorithms for Solving Series-Parallel Graphs", *Workshop on Efficient Computations in Partial  $k$ -Trees*, University of Oregon, Eugene, Oregon, August, 1989. (The complete version appeared as [11].)

**Invited Conference Talk:**

1. "An Introduction to Theory of Parallel Computation", *3rd International Conference for Young Computer Scientists*, Beijing, China, July 15-17, 1993.
2. "Grid Embedding of Internally Triangulated Plane Graphs without non-empty Triangles", *Workshop of Information Processing Society of Japan, Special Interest Group on Algorithms*, Tokyo, Japan, March 17, 1995.