Magnús Már Halldórsson

ICE-TCS, School of Computer Science
Reykjavik University
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Research Interests

Algorithms, Wireless Networks, Distributed Computing, Combinatorics, Bioinformatics.

Approximation Algorithms, Wireless Networks, Distributed Computing

Education

Rutgers University   *New Brunswick, NJ*
Ph.D. in Computer Science, September 1986 to June 1991
Thesis title: *Frugal Methods for the Independent Set and Graph Coloring Problems*
Thesis advisor: Ravi Boppana

University of Oregon   *Eugene, OR*
B.S. in Computer Science, and in Mathematics, September 1982 to June 1985

Experience

Academic

School of Computer Science, Reykjavik University   *Reykjavik*
Professor, August 2007 –

Department of Computer Science, University of Iceland   *Reykjavik*
Professor, Dec 2001 – July 2007

Institutt for Informatikk, University of Bergen   *Bergen, Norway*
Adjunct Professor II, Feb 1997 – July 2000

Science Institute   *Reykjavik*
Research Professor, June 1998 – December 2000

Science Institute   *Reykjavik*
Research Associate Professor, July 1995 – May 1998

Japan Advanced Institute of Science and Technology   *Ishikawa, Japan*
Visiting Associate Professor, April 1992 – March 1995

Tokyo Institute of Technology   *Tokyo, Japan*
Visiting Assistant Professor, August 1991 – March 1992

Industry

Iceland Genomics Corp. (UVS)   *Reykjavik*
Director of Informatics, Jan 2001 – Feb 2004

Kristjan O Skagfjord   *Reykjavik*
Software Consultant, June 1985 – August 1986, and summers of 1984, 1987

Long-Term Visiting and Affiliate Appointments

Research Institute for Mathematical Sciences   *Kyoto, Japan*
Visiting Professor, April – June 2018

Research Institute for Mathematical Sciences   *Kyoto, Japan*
Visiting Professor, April – July 2015

Research Institute for Mathematical Sciences *Kyoto, Japan*
 Visiting Professor, Dec. 2008 – March 2009

Graduate School of Informatics, Kyoto University *Kyoto, Japan*
 Visiting Professor, April – June 2007

Department of Information Science, Tokyo Institute of Technology *Tokyo, Japan*
 Visiting Professor, December 2004 – March 2005

Graduate School of Informatics, Kyoto University *Kyoto, Japan*
 Visiting Professor, July – December 1999

Max Planck Institut fuer Informatik *Saarbruecken, Germany*
 Visiting Scientist, May – June 1995

Students Advised

2012-15   Marijke Bodlaender, Ph.D. studies, Reykjavik University.

2013   Hörður I. Björnsson, M.S., Reykjavik University.

2009   Elena Losievskaja, Ph.D., Reykjavik University.

2009   Unnar Th. Bachmann, M.S., Reykjavik University.

2009   Enrico Rossomando, M.S., University of Salerno.

2006   Ragnar Karlsson, M.S., University of Iceland.

2005   Haukur Thorgeirsson, M.S., University of Iceland.

2005   Ymir Vigfusson, B.S. honors project, University of Iceland.

Ph.D. Committee Membership and Evaluation

2018   Michał Różański, University of Wroclaw (reviewer).

2015   Fabian Fuchs, Karlsruhe Institute of Technology (reviewer).

2014   Dongxiao Yu, University of Hong Kong (examiner).

2013   Christian Konrad, Université Paris Sud (committee member).

2013   Yuli Ye, University of Toronto (examiner).

2012   Kristján Valur Jónsson, Reykjavik University (committee member).

2012   Thomas Kesselheim, TU Aachen (examiner).

2008   Pascal von Rickenbach, ETH Zurich (committee member).

2007   Gwenaël Joret, Universite Libre de Bruxelles (committee member).

2004   Petteri Sevon, Helsinki University (evaluator).

2004   Daniel Kral', Charles University (opponent).

2001   Anna Östlin, Lund University (opponent).

Domestic Professional Activities

Board member   Icelandic Research Fund, 2012. Vice-board member, 2009 – 2011.

Treasurer   Science Society of Iceland, 2011 – 2014.

Member of evaluation board   Research Fund, Icelandic Research Council, 2003–2006, Informatics Fund 2003, 2004, Technology Fund, 2002–2003.

Member   Education Council, Icelandic Society of Computer Scientists, 2005 – 2012.

Editorial Work

Member of Editorial Board   *Interdisciplinary Information Sciences* (Journal), 2013 –

Associate Editor   *Discrete Optimization* (Journal), 2014 – 2017

Managing editor   *Discrete Mathematics and Theoretical Computer Science* (Journal), dmtcs.loria.fr, 2004 – 2013.

Guest Editor   Special issue of *Information and Computation* on *ICALP* 2015 (Volume 261, Part 2, August 2018).

Guest Editor   Special issue of *Theoretical Computer Science* on *SIROCCO* 2014 (Volume 608 Part 3, December 2015).

Guest Editor   Special issue of *Theoretical Computer Science* on *SIROCCO* 2012 (Volume 610, Part B, 11 January 2016)).

Guest Editor   Special issue of *Theoretical Computer Science* on *Algosensors* 2011 and 2012 (Vol. 553, Issue 1, 2014).

Guest Editor   Special issue of *Algorithmica* of selected papers of *European Symposium on Algorithms* 2011 (Volume 67, Issue 4, 2013.)

Guest Editor   Special issue of *Nordic Journal of Computing* of selected papers of the *7th Scandinavian Workshop on Algorithm Theory (SWAT)* 2000, Volume 7, Number 2, Fall 2000.

Awards

2017   Best paper award at 44th International Colloquium on Automata, Languages, and Programming (ICALP), Track C.

2017   Best paper award at 24th International Colloquium on Structural Information and Communication Complexity (SIROCCO).

2012   Grant-of-excellence awarded by the Icelandic Research Fund (the only one that year).

2010   Reykjavik University Research Award (first awardee).

2001   Young Scientist Award of the Icelandic Research Council (RANNIS).

1998   Carl Erik-Fröberg Prize for a young author of a distinguished paper published in the Nordic Journal of Computing in 1994-96.

1992   *Best Paper Award* at the 3rd International Symposium of Algorithms and Computation (ISAAC) in Nagoya, Japan (sole winner).

Conference Organization

Program Committee Chair
- ICALP 2015, Track C (Int'l Conference on Automata, Languages and Programming)
- SIROCCO 2014 (Int'l Colloq. on Structural Information and Communic. Complexity)
- ALGOSENSORS 2012, Track B (Int'l Symp. on Algorithms for Sensor Systems, Wireless Ad Hoc Networks and Autonomous Mobile Entities)
- SIROCCO 2012 (co-chair)
- ESA 2011, Track A (European Symposium on Algorithms)
- NHC 2005 (New Horizons in Computing)
- SWAT 2000 (Scandinavian Symposium and Workshops on Algorithm Theory)

Organizing Committee Chair
- SWAT 2016
- SIROCCO 2012
- ICALP 2008
- SWAT 1996

Conference Chair
- PODC 2014 (ACM Symposium on Principles of Distributed Computing)

Steering Committee Member
- EATCS Council, 2015 – current
- SWAT, 2003 – current; **chair** since 2007
- SIROCCO, 2014 – 2017
- ALGOSENSORS, 2013 – current
- PODC, 2012 – 2014
- ESA, 2010 – 2013

Program Committee Member
- MobiHoc 2019, 2018, 2017, 2016, 2015 (ACM Int'l Symp. Mobile Ad-hoc Networking and Computing)
- SIROCCO 2019
- OPODIS 2018 (Int'l Conference on Principles of Distributed Systems)
- ALGOSENSORS 2018, 2016, 2011, 2008
- PODC 2018, 2017
- ICDCS 2018 (IEEE Int'l Conf. on Distributed Computing Systems)
- IPDPS 2018, 2017 (IEEE Int'l Parallel and Distributed Processing Symp.)
- SenSys 2017 (ACM Conference on Embedded Networked Sensor Systems)
- COCOON 2017 (Int'l Computing and Combinatorics Conference)
- DISC 2016 (International Symposium on Distributed Computing)
- IPSN 2016, 2015 (Int'l Conf. on Info. Processing in Sensor Netw.)
- SPAA 2016, 2013 (Symposium on Parallelism in Algorithms and Architectures)
- SSS 2015 (Int' Symp. on Stabilization, Safety and Security of Distributed Systems)
- SWAT 2014, 2004, 1996
- ICALP, Track C, 2014, 2012
- FOMC 2013 (ACM Workshop on Foundations of Mobile Computing)
- WG 2012, 2007 (Int'l Workshop on Graph-Theoretic Concepts in Computer Science)
- ISAAC 2011, 2007 (Int'l Symposium on Algorithms and Computation)
- APPROX 2010, 2009, 2006, 1998 (Int'l Wkshop on Approx. Alg. for Combin. Optimiz. Problems)
- FUN in Algorithms 2010
- ICDCN 2009 (Int'l Conference on Distributed Computing and Networking)
- ESA 2006 (European Symposium on Algorithms)
- SODA 2005 (SIAM-ACM Symposium on Discrete Algorithm)
- W-MAN 2005 (Algorithms for Wireless, Mobile, Ad Hoc and Sensor Networks)
- A_SWAN 2004 (AlgorithmS for Wireless And mobile Networks)
- FSTTCS 2003 (Foundations on Software Technology and Theoretical Computer Science)
- FCT 2003 (Foundations of Computation Theory)
- WADS 2001 (Workshop on Algorithms and Data Structures)
- NordSec 2000 (Nordic Workshop on Secure IT Systems)

Workshop Founder and Organizer
- Workshop on Realistic Algorithmic Models for Wireless Networks (WRAWN), 2010– 2016.

Co-Organization of Workshops and Programs
- Dagstuhl Seminar 18101, "Scheduling", March 2018.
- Dagstuhl Seminar 17271, "Foundations of Wireless Networking", July 2017.
- Semester-long program on "Graphs, Hypergraphs and Computing" at the Mittag-Leffler Institute, Jan–May 2014
- Dagstuhl Seminar 14051, "Algorithms for Wireless Communication", Jan 2014.

Organizing Committee Member
- MatchUp Workshop 2008
- NordSec 2007
- EURO XXI (European Conference on Operational Research) 2006

Invited Plenary Talks

2018   Highlights of Algorithms (HALG), Amsterdam, June 2018.

2016   International Symposium on Modeling and Optimization in Mobile, Ad Hoc and Wireless Networks (WiOpt), Tempe, Arizona, May 2016.

2016   British Colloquium on Theoretical Computer Science (BCTCS), Belfast, UK, March 2016.

2015   Workshop Cycles and Colourings, High Tatras, Slovakia, September 2015.

2015   41st International Conference on Current Trends in Theory and Practice of Computer Science (SOFSEM), Czech Republic, January 2015.

2013   ALGO plenary, 9th International Symposium on Algorithms and Experiments for Sensor Systems, Wireless Networks and Distributed Robotics (ALGOSENSORS), Sophia Antipolis, September 2013.

2013   11th Workshop on Models and Algorithms for Planning and Scheduling Problems (MAPSP), Pont à Mousson, France, June 2013.

2013   6th Annual Meeting of the Asian Association of Algorithms and Complexity (AAAC), Matsushima, Japan, April 2013.

2012   Network Science Workshop, City University of Hong Kong, July 2012.

2010   10th Nordic Combinatorics Conference, Reykjavik, May 2010.

2006   Conference on New Horizons in Computing, Tokyo, Japan, March 2006.

2004   29th International Symposium on Mathematical Foundations of Computer Science (MFCS), Prague, Czech Republic, August 2004.

1998   1st International Workshop on Approximation Algorithms (APPROX), workshop, Aalborg, Denmark, June 18-19, 1998.

1993   16th Symposium on Information Theory and Its Application (SITA), Kanazawa, Oct 1993.

Invited Tutorials

2017   6th Workshop on Advances in Distributed Graph Algorithms (ADGA), Vienna, Oct. 2017.

2013   18th Estonian Winter School in Computer Science (EWSCS), March 2013.

2011   Dagstuhl Seminar on "Packing and Scheduling Algorithms for Information and Communication Services", February 2011.

2010   Dagstuhl Seminar on "Flexible Network Design", May 2010.

2006   Autumn School, New Horizons in Computing, Nagoya, Japan, November 2006.

List of Publications

Refereed Journal Publications

1. Ravi B. Boppana and Magnús M. Halldórsson. Approximating maximum independent sets by excluding subgraphs. *BIT*, 32(2):180–196, June 1992.

2. Magnús M. Halldórsson. A still better performance guarantee for approximate graph coloring. *Information Processing Letters*, 45:19–23, 25 January 1993.

3. Magnús M. Halldórsson. Approximating the minimum maximal independence number. *Information Processing Letters*, 46:169–172, 25 June 1993.

4. Esther Arkin, Magnús M. Halldórsson, and Refael Hassin. Approximating the tree and tour covers of a graph. *Information Processing Letters*, 47:275–282, 18 October 1993.

5. Magnús M. Halldórsson and Mario Szegedy. Lower bounds for on-line graph coloring. *Theoretical Computer Science*, 130:163–174, August 1994.

6. Magnús M. Halldórsson and Jaikumar Radhakrishnan. Improved approximations of bounded-degree independent sets via subgraph removal. In a special issue of *Nordic J. Computing*, 1(4):475–492, Winter 1994. Received the *Carl-Erik Fröberg Award*.

7. Magnús M. Halldórsson and Jaikumar Radhakrishnan. Greed is good: approximating independent sets in sparse and bounded-degree graphs. *Algorithmica* 18:145–163, 1997.

8. Magnús M. Halldórsson. Parallel and online graph coloring. *Journal of Algorithms*, **23**:265–280, 1997.

9. Magnús M. Halldórsson and Hoong-Chuin Lau. Low-degree Graph Partitioning via Local Search with Applications to Constraint Satisfaction, Max Cut, and 3-Coloring. *Journal of Graph Algorithms and Applications*, **1**(3):1–13, Nov. 1997.

10. Amotz Bar-Noy, Mihir Bellare, Magnús M. Halldórsson, Hadas Shachnai, and Tami Tamir. On Chromatic Sums and Distributed Resource Allocation. *Information and Computation*, **140**(2), February 1998.

11. Magnús M. Halldórsson, Shuichi Ueno, Hiroshi Nakao, and Yoji Kajitani. Approximating Steiner trees in graphs with restricted weights. *Networks* **31**(4), 283-292, 1998.

12. Magnús M. Halldórsson, Kazuo Iwano, Naoki Katoh, and Takeshi Tokuyama. Finding Subsets Maximizing Minimum Structures. *SIAM Journal of Discrete Math* **12**(3), 342–359, 1999.

13. Amotz Bar-Noy, Magnús M. Halldórsson, Guy Kortsarz. A Matched Approximation Bound for the Sum of a Greedy Coloring. *Information Processing Letters* **71**, 135–140, 1999.

14. Tatsuya Akutsu and Magnús M. Halldórsson. On the approximation of largest common point sets and largest common subtrees. *Theoretical Computer Science* **233**(1-2), 33–50, 17 Dec 1999.

15. Magnús M. Halldórsson, Jan Kratochvíl, and Jan Arne Telle. Independent sets with domination constraints. *Discrete Applied Mathematics* **99**(1-3), 39–54, 17 Dec 1999.
    URL: http://www.elsevier.nl/locate/jnlnr/05267

16. Magnús M. Halldórsson. Online coloring known graphs. *Electronic Journal of Combinatorics*, Feb 2000. URL: http://www.combinatorics.org

17. Magnús M. Halldórsson. Approximations of Weighted Independent Set and Hereditary Subset Problems. *Journal of Graph Algorithms and Applications*, **4**(1), 1-16, 2000.

18. Amotz Bar-Noy, Magnús M. Halldórsson, Guy Kortsarz, Ravit Salman, and Hadas Shachnai. Sum Multi-Coloring of Graphs. *Journal of Algorithms* **37**, 422–450, 2000.

19. Magnús M. Halldórsson, Jan Kratochvíl, and Jan Arne Telle. Mod-2 Independence and Domination in Graphs. *International Journal on Foundations of Computer Science* **11**, 355-363, September 2000.

20. Geir Agnarsson, Raymond Greenlaw, Magnús M. Halldórsson. On Powers of Chordal Graphs and Their Colorings. *Congressus Numerantium*, **142–147**, 2000.

21. Barun Chandra and Magnús M. Halldórsson. Approximation Algorithms for Dispersion Problems. *Journal of Algorithms*, **38**(2), 438-465, February 2001.

22. Barun Chandra and Magnús M. Halldórsson. Greedy local improvement and weighted set packing approximation. *Journal of Algorithms*, **39**(2), 223–240, May 2001.

23. Bengt Aspvall and Magnús M. Halldórsson and Fredrik Manne. Approximations for the General Block Distribution of a Matrix. *Theoretical Computer Science* **262**(1-2), 145–160, July 2001.

24. Magnús M. Halldórsson, Guy Kortsarz. Tools for Multicoloring with Applications to Planar Graphs and Partial k-Trees. *Journal of Algorithms*, **42**(2), 334-366, February 2002.

25. Magnús M. Halldórsson, Kazuo Iwama, Shuichi Miyazaki and Shiro Taketomi. Online Independent Sets. *Theoretical Computer Science*, **289**(2), 953–962, October 2002.

26. Uriel Feige, Magnús M. Halldórsson, Guy Kortsarz and Aravind Srinivasan. Approximating the domatic number. *SIAM Journal of Computing* **32**(1), 172–195, December 2002.

27. Magnús M. Halldórsson, Guy Kortsarz, Andrzej Proskurowski, Ravit Salman, Hadas Shachnai, and Jan Arne Telle. Multicoloring Trees. *Information and Computation* **180**, 113–129, Feb 2003.

28. Magnús M. Halldórsson, Robert W. Irving, Kazuo Iwama, David F. Manlove, Shuichi Miyazaki, Yasufumi Morita, and Sandy Scott. Approximability results for the stable marriage problem with ties. *Theoretical Computer Science* 306:431-447, 5 September 2003.

29. Geir Agnarsson, Magnús M. Halldórsson. Coloring Powers of Planar Graphs. *SIAM J. Discrete Math.* 16(4):651–662, 2003.

30. Koen M.J. De Bontridder, Bjarni V. Halldórsson, Magnús M. Halldórsson, Cor A.J. Hurkens, Jan K. Lenstra, R. Ravi, and Leen Stougie. Approximation algorithms for the minimum test set problem. *Mathematical Programming* 98(1-3):477–491, Sept. 2003.

31. Geir Agnarsson, Peter Damaschke, Magnús M. Halldórsson. Powers of Geometric Intersection Graphs and Dispersion Algorithms. *Discrete Applied Mathematics* 132(1-3):3–16, Oct. 2003.

32. Magnús M. Halldórsson, Guy Kortsarz and Hadas Shachnai. Sum Coloring Interval and k-Claw Free Graphs with Application to Scheduling Dependent Jobs. *Algorithmica* 37:187–209, 2003.

33. Magnús M. Halldórsson. Points, lines, random numbers and algorithms. *Journal of physical sciences and mathematics* raust.is, 1(2), 2003. (In Icelandic).

34. Magnús M. Halldórsson, Kazuo Iwama, Shuichi Miyazaki and Hiroki Yanagisawa. Randomized approximation of the stable marriage problem. *Theoretical Computer Science* **325**(3):439–465, 2004.

35. Artur Czumaj, Magnús M. Halldórsson, Andrzej Lingas, and Johan Nilsson. Approximation algorithms for optimization problems in graphs with superlogarithmic treewidth. *Information Processing Letters*, 2005. **94**(2):49–53, 30 April 2005.

36. Rajiv Gandhi, Magnús M. Halldórsson, G. Kortsarz and H. Shachnai. Improved results for data migration and open-shop scheduling. *ACM Transactions on Algorithms* Vol 2, No. 1, 116-129, January 2006.

37. Reuven Bar-Yehuda, Seffi Naor, Magnús M. Halldórsson, Hadas Shachnai, and Irina Shapira. Scheduling Split Intervals. *SIAM Journal on Computing*, Vol. 36, No. 1, 1–15, 2006.

38. Magnús M. Halldórsson. Approximating the (h, k)-labelling problem. *Int. J. Mobile Mobile Network Design and Innovation*, Vol. 1, No. 2, 113–117, 2006. (Special Issue on W-FAP '05), 2006.

39. Thomas Bataillon, Thomas Mailund, Steinunn Thorlacius, Eirikur Steingrimsson, Thorunn Rafnar, Magnus M. Halldorsson, Violeta Calian, Mikkel H. Schierup. The effective size of the Icelandic population inferred from unphased microsatellite markers and the prospects for LD mapping. *European Journal of Human Genetics*, Advance online publication 31 May 2006; doi: 10.1038/sj.ejhg.5201669

40. Geir Agnarsson and Magnús M. Halldórsson. Strongly simplicial vertices of powers of trees. *Discrete Mathematics* 307:2647–2652, 2007.

41. Magnús M. Halldórsson, Kazuo Iwama, Shuichi Miyazaki and Hiroki Yanagisawa. Improved approximation of the stable marriage problem. *ACM Transactions on Algorithms* 3(3), Article 30, August 2007.

42. Guy Kortsarz, Magnús M. Halldórsson, Jaikumar Radhakrishnan and Sivaramakrishnan Sivasubramanian. Complete Partitions of Graphs. *Combinatorica*, 27(5), 2007.

43. Geir Agnarsson, Ágúst Egilsson, Magnús M. Halldórsson. Vertex coloring acyclic digraphs and their corresponding hypergraphs. *Discrete Applied Mathematics*, 156(10):1918-1928, 28 May 2008.

44. Rajiv Gandhi, Magnús M. Halldórsson, G. Kortsarz and H. Shachnai. Improved bounds for scheduling conflicting jobs with minsum criteria. *ACM Transactions on Algorithms* 4(1), Article 11, March 2008.

45. Magnús M. Halldórsson, Takeshi Tokuyama. Minimizing Interference of a Wireless Ad-Hoc Network in a Plane. *Theoretical Computer Science*, 402(1):29–42, 28 July 2008. http://dx.doi.org/10.1016/j.tcs.2008.03.003.

46. Akihisa Kako, Takao Ono, Tomio Hirata, and Magnús M. Halldórsson. Approximation Algorithms for the Weighted Independent Set Problem. *Disc. Appl. Math.* 157(4):617–626, February 2009.

47. Guy Even, Magnús M. Halldórsson, Lotem Kaplan, Dana Ron. Scheduling with Conflicts: Online and Offline Algorithms. *J. Scheduling*, 12(2):199-224, April 2009.

48. Magnús M. Halldórsson, Elena Losievskaja Independent sets in bounded-degree hypergraphs *Disc. Appl. Math.* 157(8):1773–1786, April 2009.

49. Leah Epstein, Magnús M. Halldórsson, Asaf Levin, Hadas Shachnai. Weighted Sum Coloring in Batch Scheduling of Conflicting Jobs. *Algorithmica* 55(4):643–665, Dec 2009.

50. Magnús M. Halldórsson. Online coloring of hypergraphs. *Information Processing Letters* 110:370–372, 2010.

51. Magnús M. Halldórsson, Joseph Y. Halpern, Li (Erran) Li, Vahab S. Mirrokni. On Spectrum Sharing Games. *Distributed Computing* 22(4):235–248, 2010.

52. Geir Agnarsson and Magnús M. Halldórsson. Vertex coloring the square of outerplanar graphs of low degree. *Discussiones Mathematicae Graph Theory* 30(4):619–636, 2010.

53. Magnús M. Halldórsson, Guy Kortsarz, Maxim Sviridenko. Min Sum Edge Coloring in General Multigraphs via Configuration LP. *ACM Transactions on Algorithms* 7(2), Article 22, March 2011.

54. Yuval Emek, Magnús M. Halldórsson, Yishay Mansour, Boaz Patt-Shamir, Jaikumar Radhakrishnan, Dror Rawitz. Online set packing. *SIAM* Journal of Computing, 41(4):728–746, 2012.

55. Magnús M. Halldórsson. Wireless scheduling with power control. *ACM Transactions on Algorithms*, 9(1):7, December 2012.

56. Geir Agnarsson, Magnús M. Halldórsson, Elena Losievskaja. SDP-based Algorithms for Maximum Independent Set Problems on Hypergraphs *Theoretical Computer Science*, 470:1-9, 2013.

57. Tatsuya Akutsu, Daiji Fukagawa, Magnús M. Halldórsson, Atsuhiro Takasu, Keisuke Tanaka. Approximation and Parameterized Algorithms for Common Subtrees and Edit Distance between Unordered Trees. *Theoretical Computer Science*, 470:10-22, 2013.

58. Magnús M. Halldórsson, Boaz Patt-Shamir, Dror Rawitz. Scheduling with interval conflicts. *Theory of Computing Systems* 53(2):300–317, August 2013. Special issue of STACS 2011.

59. Rajiv Gandhi, Magnús M. Halldórsson, G. Kortsarz and H. Shachnai. Corrigendum: Improved bounds for scheduling conflicting jobs with minsum criteria. *ACM Transactions on Algorithms* 9(4), Article 34, September 2013.

60. Unnar Th. Bachmann, Magnús M. Halldórsson, Hadas Shachnai. Online selection of intervals and t-intervals. *Information and Computation* 233:1–11, December 2013.

61. Olga Goussievskaia, Magnús M. Halldórsson, Roger Wattenhofer. Algorithms for wireless capacity. *IEEE/ACM Transactions on Networking*, **2**(3):745–755, June 2014.

62. Magnús M. Halldórsson, Pradipta Mitra. Wireless Capacity With Arbitrary Gain Matrix. *Theoretical Computer Science*, **553**:57–63, 2014.

63. Jørgen Bang-Jensen, Magnús M. Halldórsson. A Note on Vertex Coloring Edge-Weighted Digraphs. *Information Processing Letters* **115**(10):791–796, October 2015.

64. Pierluigi Crescenzi, Pierre Fraigniaud, Magnús M. Halldórsson, Hovhannes A. Harutyunyan, Chiara Pierucci, Andrea Pietracaprina, Geppino Pucci. On the complexity of the shortest-path broadcast problem. *Discrete Applied Mathematics* **199**:101–109, 30 January 2016.

65. Magnús M. Halldórsson, Sergey Kitaev, Artem Pyatkin. Semi-Transitive Orientations and Word-Representable Graphs. *Discrete Applied Mathematics* **201**:164–171, March 2016.

66. Pierre Fraigniaud, Magnús M. Halldórsson, Boaz Patt-Shamir, Dror Rawitz, Adi Rosen. Shrinking Maxima, Decreasing Costs: New Online Packing and Covering Problems. *Algorithmica* **74**(4):1205–1223, April 2016.

67. Magnús M. Halldórsson, Pradipta Mitra. Nearly Optimal Bounds for Distributed Wireless Scheduling in the SINR Model. *Distributed Computing* **29**(2):77–88, April 2016.

68. Bjarni V. Halldórsson, Magnús M. Halldórsson, Elena Losievskaja, and Mario Szegedy. Streaming algorithms for independent sets in sparse hypergraphs. *Algorithmica* **76**(2):490–501, 2016.

69. Yuval Emek, Magnús M. Halldórsson, Adi Rosen. Space-Constrained Interval Selection. *ACM Transactions on Algorithms (TALG)* **12**(4), September 2016.

70. Yusuke Aoki, Bjarni V. Halldórsson, Magnús M. Halldórsson, Takehiro Ito, Christian Konrad, Xiao Zhou. The Minimum Vulnerability Problem on Special Graph Classes. *Journal of Combinatorial Optimization* **32**(4):1288–1304, 2016.

71. Daniele Catanzaro, Steven Chaplick, Stefan Felsner, Bjarni V. Halldórsson, Magnús M. Halldórsson, Thomas Hixon, Juraj Stacho. Max Point-Tolerance Graphs. *Discrete Applied Mathematics* **216**(1):84–97, January 2017.

72. Magnús M. Halldórsson, Stephan Holzer, Pradipta Mitra, Roger Wattenhofer. The Power of Non-Uniform Wireless Power. *SIAM Journal of Computing* **46**(3):1062–1098, June 2017.

73. Magnús M. Halldórsson, Christian Konrad. Distributed Large Independent Sets in a Single Round. *Distributed Computing* **31**:69–82, 2018.

74. Magnús M. Halldórsson, Sven Köhler, Boaz Patt-Shamir, Dror Rawitz. Distributed Backup Placement in Networks. *Distributed Computing* **31**:83, 2018. DOI:10.1007/s00446-017-0299-x. appeared online 3 June 2017.

75. Magnús M. Halldórsson, Sven Köhler, Dror Rawitz. Distributed Approximation of k-Service Assignment. *Distributed Computing*, appeared online 2 Jan 2018. DOI:10.1007/s00446-017-0321-3.

76. Magnús M. Halldórsson, Yuexuan Wang and Dongxiao Yu. Leveraging Multiple Channels in Ad Hoc Networks. *Distributed Computing*, appeared online 27 Feb 2018. DOI:10.1007/s00446-018-0329-3.

Edited Books

1. M. M. Halldórsson (Ed). Algorithm Theory – SWAT 2000. Proceedings of 7th Scandinavian Workshop on Algorithm Theory, Bergen, Norway, July 2000.

2. L. Aceto, I. Damgård, L. A. Goldberg, M. M. Halldórsson, A. Ingólfsdóttir, I. Walukiewicz (Eds). *Automata, Languages and Programming*, 35th International Colloquium, ICALP 2008, Reykjavik, Iceland, July 7-11, 2008, Proceedings, Part I: Track A: Algorithms, Automata, Complexity, and Games. Springer LNCS # 5125. ISBN 978-3-540-70574-1, 2008.

3. L. Aceto, I. Damgård, L. A. Goldberg, M. M. Halldórsson, A. Ingólfsdóttir, I. Walukiewicz (Eds). *Automata, Languages and Programming*, 35th International Colloquium, ICALP 2008, Reykjavik, Iceland, July 7-11, 2008, Proceedings, Part II: Track B: Logic, Semantics, and Theory of Programming & Track C: Security and Cryptography Foundations. Springer LNCS # 5126. ISBN 978-3-540-70582-6, 2008.

4. C. Demetrescu, M. M. Halldórsson (Eds). *Algorithms* – ESA 2011: 19th Annual European Symposium, Saarbrücken, Germany, September 2011. Springer LNCS #6942.

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6. A. Bar-Noy, M. M. Halldórsson (Eds). Algorithmic Aspects of Wireless Sensors Networks, ALGOSENSORS 2012, Ljubljana, Slovenia, October 13-14, 2012. Springer LNCS # 7718. `http://dx.doi.org/10.1007/978-3-642-36092-3`

7. M. M. Halldórsson (Ed). Structural Information and Communication Complexity, 21st International Colloquium, SIROCCO 2014, Takayama, Japan, July 23–25, 2014. Springer LNCS # 8576.

8. Magnús M. Halldórsson, Shlomi Dolev (Eds.) ACM Symposium on Principles of Distributed Computing, PODC '14, Paris, France, July 15-18, 2014. ACM 2014, ISBN 978-1-4503-2944-6

9. M. M. Halldórsson, Kazuo Iwama, Naoki Kobayashi, Bettina Speckmann (Eds.) ICALP 2015, Kyoto, Japan, July 5-11, 2015, Proceedings, Part I: Track A: Algorithms, Automata, Complexity, and Games. Springer LNCS # 9134, 2015.

10. M. M. Halldórsson, Kazuo Iwama, Naoki Kobayashi, Bettina Speckmann (Eds.) ICALP 2015, Kyoto, Japan, July 5-11, 2015, Proceedings, Part II: Tracks B and C: Logic and Semantics; Foundations of Networked Computation Springer LNCS # 9135, 2015.

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Invited Book Chapters

104. Magnús M. Halldórsson. Approximating independent sets in graphs. Invited paper to *APPROX '98, the First International Workshop on Approximation Algorithms*, Aalborg, Denmark, July 1998. Springer LNCS # 1444, 1–14.

105. Magnús M. Halldórsson. Multicoloring: Problems and Techniques. Invited paper to *MFCS '04, the 29th International Symposium on Mathematical Foundations of Computer Science* Prague, Czech Republic, August 22–27, 2004. Springer LNCS # 3153. ISBN 3-540-22823-3.

106. Magnús M. Halldórsson. Modeling Reality Algorithmically: The Case of Wireless Communication. Invited paper to *Proc. 9th Int. Symp. on Algorithms and Experiments for Sensor Systems, Wireless Networks and Distributed Robotics (ALGOSENSORS)*, Sophia Antipolis, France, September 5–6, 2013. Springer LNCS # 8243, 1–5.

107. Magnús M. Halldórsson. Progress (and Lack Thereof) for Graph Coloring Approximation Problems. Invited paper to *Proc. 41st International Conference on Current Trends in Theory and Practice of Computer Science (SOFSEM)*, Pec pod Sněžkou, Czech Republic, Springer LNCS, January 2015.

108. Magnús M. Halldórsson. Invited Paper: Models for Wireless Algorithms. In *Proc. 14th International Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks (WiOPT)*, Tempe, Arizona, May 2016.

109. Magnús M. Halldórssonand Roger Wattenhofer. Wireless Network Algorithmics. In *Volume 10,000*. Lecture Notes on Computer Science, 2018, to appear.

Selective Workshop Publications and Brief Announcements

110. Magnús M. Halldórsson and Mario Szegedy. Lower bounds for on-line graph coloring. In *On-Line Algorithms*, Proceedings of a DIMACS Workshop, Piscataway, New Jersey, February 1991, DIMACS Series on Discrete Math and Theoretical Computer Science, Vol. 7, L. McGeoch and D. Sleator, eds., pages 169–179.

111. Magnús M. Halldórsson and Jaikumar Radhakrishnan. Approximating the chromatic sum of a graph. In *6th IEICE Karuizawa Workshop on Circuits and Systems*, Karuizawa, Japan, April 1993.

112. Magnús M. Halldórsson and Jan Arne Telle. Complexity of generalized independent set problems. In *5th Twente Workshop on Graph Theory*, Twente, Holland, May 1997.

113. Ray Greenlaw, Magnús M. Halldórsson, Rossella Petreschi. On Computing Prüfer Codes and Their Corresponding Trees Optimally in Parallel. In Second International Colloquium *Journées de l'Informatique Messine – Algorithmes de graphes* Metz, France, May 2000.

114. Kees van Deemter, Magnús M. Halldórsson. Logical form equivalence: The case of referring expressions generation. In *Proc. 8th European Workshop on Natural Language Generation*, 39th Annual Meeting of the Assocation of Computational Linguistics, Toulouse, France, July, 2001.

115. Magnús M. Halldórsson, Haukur Thorgeirsson, Ýmir Vigfússon, Hans Thormar, Jón J. Jónsson. CATTAGAT - Web Server for Primer Specificity Scan. *Genome Informatics Workshop (GIW) 2004*, Japan Society for Bioinformatics, Yokohama, Japan, December 13–15, 2004. (Poster)

116. Eyjólfur I. Ásgeirsson, Magnús M. Halldórsson, Pradipta Mitra. Distributed Algorithms for Throughput Performance in Wireless Networks (Brief Announcement). In *Proc. 31st ACM Symposium on Principles of Distributed Computing (PODC)*, Madeira, Portugal, July 2012.

117. Eyjólfur I. Ásgeirsson, Magnus M. Halldorsson, Pradipta Mitra, Joseph Foley, Helga Gudmundsdottir, Sveinn F. Kristjansson, Sindri Magnusson, Henning Ulfarsson, Ymir Vigfusson. Distributed Scheduling for Data Aggregation in Wireless Networks In *11th Workshop on Models and Algorithms for Planning and Scheduling Problems (MAPSP '13)*, Pont à Mousson, France. June, 2013.

118. Magnús M. Halldórsson. Locality in wireless scheduling (Brief announcement). In *Proc. 25th ACM Symposium on Parallelism in Algorithms and Architectures(SPAA)*, Montreal, Canada, July 2013.

119. Marijke Bodlaender, Magnús M. Halldórsson, Christian Konrad. Local Approximation of Independent Sets and Coloring (POSTER) In *Proc. 29th International Symposium on DIStributed Computing (DISC)*, Tokyo, Japan, October 2015.

120. Magnús M. Halldórsson, Tigran Tonoyan, Yuexuan Wang, Dongxiao Yu. Brief Announcement: Data Dissemination in Unified Dynamic Wireless Networks. In *Proc. 35th ACM Symposium on Principles of Distributed Computing (PODC)*, Chicago, July 2016.

121. Eyjólfur I. Ásgeirsson, Magnús M. Halldórsson, Tigran Tonoyan. Conflict Graphs and Scheduling in Wireless Networks. In *13th Workshop on Models and Algorithms for Planning and Scheduling Problems (MAPSP 2017)* Seeon-Seebruck, Germany, June 2017.

122. Magnús M. Halldórsson, Stephan Holzer, Evangelia Anna Markatou. Brief Announcement: Leader Election in SINR Model with Arbitrary Power Control. In *Proc. 36th ACM Symposium on Principles of Distributed Computing (PODC)*, Washington, DC, July 2017.

123. Ravi Boppana, Magnús M. Halldórsson, Dror Rawitz. Brief Announcement: Simple and Local Independent Set Approximation. In *Proc. PODC*, London, 2018.

Thesis

1. Magnús M. Halldórsson. Frugal Methods for the Independent Set and Graph Coloring Problems. Ph. D. thesis. Rutgers University, New Jersey, October 1991.

Other Publications

1. Magnús M. Halldórsson. An Icelandic-English index. In *English-Icelandic Mathematics Dictionary*, The Icelandic Mathematical Society, 1997.

2. Magnús M. Halldórsson, K. V. Subrahmanyam, and Jaikumar Radhakrishnan. A superlinear lower bound for undirected monotone contact networks computing T_{n-1}^n. Manuscript, September 1994.

3. Bjarni V. Halldórsson and Magnús M. Halldórsson. Empirical study of some clique heuristics motivated by worst-case results. Science Institute Technical Report RH-21-00, University of Iceland, September 2000.

4. Magnús M. Halldórsson. An approximation algorithm for complete partition of regular graphs. Unpublished manuscript, `www.hi.is/~mmh/publications.hml`, February 2004.

5. Hans G. Þormar, Haukur Þorgeirsson, Ýmir Vigfússon, Guðmundur H. Gunnarsson, Bjarki Guðmundsson, Jón J. Jónsson, Magnús M. Halldórsson. Íslenskur vefþjónn til að framkvæma sýndar PCR hvörf í erfðamengiröðum í gagnabönkum (Icelandic web server to perform virtual PCR reactions on genome sequences in databases) *Afmælisráðstefna Líffræðifélagsins*, nóvember 2004, `http://notendur.centrum.is/~biologia/radstefn2004.htm`. (Poster, In Icelandic)

6. Luca Aceto, Magnús M. Halldórsson and Anna Ingólfsdóttir. Report on the Icelandic Centre of Excellence in Theoretical Computer Science (ICE-TCS): Opening and Inaugural Symposium. *Bulletin of the EATCS*, June 2005. `http://www.eatcs.org/publications/bulletin.html`

7. Magnús M. Halldórsson and Calvin Newport Making Wireless Algorithm Theory More Useful. *ACM SIGACT News* 45(3):72–74, September 2014.

8. Luca Aceto, Magnús M. Halldórsson and Anna Ingólfsdóttir. Report on two events at ICE-TCS, Reykjavik University, *Bulletin of the EATCS* 114, October 2014. `http://eatcs.org/beatcs/index.php/beatcs/article/view/301`

9. Guy Even, Magnus M. Halldorsson, Yvonne Anne Pignolet, Christian Scheideler. Algorithms for Wireless Communication. Report on Dagstuhl Seminar 14051. Dagstuhl DROPS `http://dx.doi.org/10.4230/DagRep.4.1.152,` 2014.

10. Christina Fragouli and Magnús M. Halldórsson and Kyle Jamieson and Bhaskar Krishnamachari. Foundations of Wireless Networking (Dagstuhl Seminar 17271). Dagstuhl Reports 7(7), 2018.