

Curriculum Vitae

Personal Dates

Name: Ken-ichi Kawarabayashi
Birthday/-Place: May 1975 in Tokyo, Japan
Citizenship: Japan
Married in 2003.

Current Position and Address

Professor & Deputy Director of General
National Institute of Informatics
2-1-2 Hitotsubashi, Chiyoda-ku
Tokyo 101-8430, Japan

Education

April 2000 - March 2001, Ph. D. in Mathematics, Keio University,
Research Area: Combinatorics and Graph Theory.
Thesis: A Study on Hamiltonian Cycles and Related topics
Adviser: Professor K. Ota.
April 1998 - March 2000, Master Course in Mathematics, Keio University.
Thesis: Paths and Cycles in Graphs.
Adviser: Professor K. Ota.
April 1994 - March 1998, B.S. in Mathematics, Keio University.
Thesis: Circuits through independent edges.
Adviser: Professor H. Enomoto and Professor K. Ota.

Academic Degrees

B.Sci. 1997. (Mathematics), Keio University (1998, March)
M.Sci. 1999. (Mathematics), Keio University (2000, March)
Dr.Sci. 2000. (Mathematics), Keio University (2001, March)

Employment

April 2000 - March 2003 Research Fellow of the Japan Society for the Promotion of Science
April 2001 - August 2002 Visiting Scholar of Vanderbilt University
September 2002 - July 2003 Post Doctor Fellow. Adviser: Professor P. Seymour.
August 2003 - March 2006 Assistant Professor of Tohoku University.
April 2006 – Oct. 2009 Associate Professor of National Institute of Informatics (NII)
Nov. 2009 – present. Professor of National Institute of Informatics (NII)
April 2019 – March 2021t. Deputy Director General of National Institute of Informatics (NII)

Award

1. Takebe Prize (for an outstanding young Japanese mathematician.) in 2001.
2. Inoue Research Award for Young Scientists 2003

3. Kirkman Prize (from the Institute of Combinatorics and its Applications), in 2003.
4. Young Researchers prize from Japan Society for the Promotion of Science in 2006.
5. Best Paper Award of 17th International Symposium on Algorithms and Computation (ISAAC 2006).
6. IBM Japan Science prize in Computer Science, 2008.
7. Inoue Research Award, 2009, February.
8. Funai Research (special) Award, 2011, March.
9. Best Paper Award from SODA'13.
10. JSPS prize, 2013.
11. Japanese Academy Medal, 2013.
12. Mathematics Annual Spring Prize from Japan Mathematics Society, 2015, March.
13. Associate Member of Science Council of Japan (2017–).
14. Fulkerson prize 2021 (jointly with Mikkel Thorup)

Program Officer

1. Research Adviser, ACT-I, Future of Informatics, Japan Science and Technology Agency(JST) (2016–)
2. Research Supervisor(Program Director), ACT-X, Frontier of mathematics and information science, Japan Science and Technology Agency(JST) (2019–)
3. Adviser, A-Step program, Japan Science and Technology Agency(JST) (2020–)
4. Member of Research Center for Science Systems(Program Officer of JSPS), JSPS (2018–)

Chair of Committee

1. General co-chair, ACM-SIAM Symposium on Discrete Algorithms, (SODA'12).
2. Japan Conference on Combinatorics and its Applications 2014, General Chair.
3. General chair, ISAAC'15, Nagoya.
4. Japan Conference on Combinatorics and its Applications 2016, General Chair.
5. Academic chair of Shonan Meeting (2018–)
6. Japan Conference on Combinatorics and its Applications 2018, General Chair.
7. Research Supervisor(Program Director), ACT-X, Frontier of mathematics and information science, Japan Science and Technology Agency(JST) (2019–)

Organization Committee

1. Organizer, International conference on Graph Theory and Combinatorics, Japan, June 2005.
2. Organizer, Graph Minor Minisymposium, Siam Discrete Math Conference June 2006.
3. Organizer, Graph Minor and Structure Graph Theory Minisymposium, CANADAM 2007.
4. Organizer, International conference on Graph Theory and Combinatorics, Japan, June 2007.
5. Organizer, Graph Minors. Banff. BIRS 2008, October.
6. Organizer, Winter School on Graphs and Algorithm, RIMS, Kyoto Univ. 2008, Dec.
7. Organizer, Bertinoro workshop on Graphs and Algorithm, Bertinoro, 2009, Dec.
8. Organizer, New Trends in Structure Graph Theory, Banff. BIRS, 2010, September.
9. Organizer, Kyoto Prize Satellite Workshop in Tokyo, November, 2010, Tokyo.
10. Organizer, 3rd Pacific Workshop on Discrete Mathematics, Hawaii, December, 2010.
11. Organizer, Shonan meeting on Graph Algorithm and Combinatorial Optimization, Shonan, Feb., 2011.
12. Organizer, Second Bertinoro workshop on Graphs and Algorithm, Bertinoro, 2011, Dec.
13. Organizing Committee, ISAAC 2011, Yokohama, Dec.

Programm Committee and Are Chairs

PC chair: The Shonan meeting (2018–)

Tier 1 Conferences: SODA'11, VLDB'16, SODA'17, STOC'17, FOCS'18, IJCAI'20(Area Chair), FOCS'20, IJCAI'21(Area Chair), SODA'22

Other conferences: Siam Discrete Math Conference 2010, MFCS'10, ESA'13, TAMC'13, IPEC'14, APPROX'14, WALDAN'15, SISP'16, ICALP'16, IJCAI'18(SPC), ALNEX'19, ICALP'22

Editor of Journals

1. Algorithmica, Editor (2013–)
2. Journal of Graph Algorithm and Applications, Editor (2014–2018)
3. Siam Journal of Discrete Mathematics, Editor (2010–2016).
4. Journal of Graph Theory, Editor (2008–).
5. Discrete Mathematics and Theoretical Computer Science, Editor (2009–).
6. Graphs and Combinatorics, Editor (2014–).
7. TheoretiCS, Editor (2021–)

Grant

1999 - 2002	The Japan Society for the Promotion of Science for Young Scientists.
2003 - 2006	The Japan Society for the Promotion of Science, Grant-in-Aid for Scientific Research
2004 - 2006	Sumitomo Foundation
2005 - 2007	C & C Foundation
2006 - 2008	Inamori Foundation
2007–2009	Kayamori Foundation
2008	Inoue Foundation
2009 - 2016	The Japan Society for the Promotion of Science, Grant-in-Aid for Scientific Research
2012–2018	JST ERATO Kawarabayashi Large Graph Project
2014–2018	IMPACT Yamamoto Project
2015–2020	NEDO Iot project
2018–2023	The Japan Society for the Promotion of Science, Kiban S.
2018–2023	NEDO AI project
2019–2023	SIP Material information science
2021–2025	The Japan Society for the Promotion of Science, Gakuhen A.

Collaboration with Industry

NTT, Hitachi, NEC, Yahoo Japan, IBM

Research Interests

Discrete Mathematics and Theoretical Computer Science. Graph Theory, Graph Algorithm, Experimental and Scalable Algorithm, Graph Database, Combinatorial Optimization, Machine Learning, Quantum Computing.

List of publications

1. Top Journals in Math(Mostly in Discrete Math) and Computer Science.
2. Respectful Journals in Math(Discrete Math) and Computer Science.
3. General Journals(Outside Math and CS)
4. Tier 1 Conference Proceedings in CS.
5. Respectful Conference Proceedings in CS.
6. Other papers.

1. Top Journals in Math(Discrete Math) and Computer Science

1. One or two disjoint circuits cover independent edges; Lovász-Woodall Conjecture, J. Combin. Theory Ser. B **84** (2002) 1–44.
2. Contractible edges and triangles in k -connected graphs, J. Combin. Theory Ser. B **85** (2002) 207–221.
3. Subgraphs of Graphs on Surfaces with High Representativity, (with A. Nakamoto and K. Ota), J. Combin. Theory Ser. B. **89** (2003) 207–229.

4. Cycles through prescribed vertex set in n -connected graphs, *J. Combin. Theory Ser. B.* **90** (2004) 315–323.
5. Orientable and non-orientable genera for some complete tripartite graphs, (with C. Stephen and X. Zha), *Siam J. Discrete Math.* **18** (2005) 479–487.
6. Any 7-chromatic graph has a K_7 -minor or a $K_{4,4}$ -minor, (with B. Toft), *Combinatorica* **25** (2005) 327–353.
7. Improvement of the theorem of Duchet and Meyniel on Hadwiger’s Conjecture (with B. Toft), *J. Combinatorial Theory Ser. B.* **96** (2005), 152–167.
8. Non-zero disjoint cycles in highly connected graphs (with P. Wollan), *J. Combin. Theory Ser. B.* **96** 296–301.
9. A pair of forbidden subgraphs and perfect matchings (with S. Fujita, C. Luchessi, K. Ota, M. Plummer and A. Saito), *J. Combin. Theory Ser. B.* **96** 315–324.
10. 2-connected spanning subgraphs with low maximum degree in locally planar graphs, (with M. Ellingham), *J. Combin. Theory Ser. B.* **97** (2007) 401–412.
11. On the connectivity of minimum and minimal counterexamples to Hadwiger’s Conjecture, *J. Combin. Theory Ser. B.* **97** (2007), 144–150.
12. A relaxed version of Hadwiger’s conjecture for list-coloring (with B. Mohar), *J. Combin. Theory Ser. B.* **97** (2007), 647–651.
13. Some remarks on the odd Hadwiger’s conjecture, (with Z. Song), *Combinatorica* **27** (2007), 429–438.
14. Non-separating cycles consisting of contractible edges in k -connected graphs, (with Y. Egawa and K. Inoue), *Siam J. Discrete Math.*, **21** (2007), 1061–1070.
15. On the matching extendability of graphs in surfaces, (with R.E.L. Aldred and M.D. Plummer), *J. Combin. Theory Ser. B.* **98** (2008), 105–115.
16. Connectivity keeping edges in graphs of large minimum degree (with S. Fujita), *J. Combin. Theory Ser. B.*, **98** (2008), 805–811.
17. A weaker version of Lovász’ path removable conjecture (with O. Lee, B. Reed and P. Wollan), *J. Combin. Theory Ser. B.*, **98**, (2008) 972–979.
18. Locally planar graphs are 5-choosable (with M. DeVos and B. Mohar), *J. Combin. Theory Ser. B.*, **98**, (2008) 1215–1232.
19. K_6 -minor in triangulations in the Klein bottle (with R. Mukae and A. Nakamoto), *Siam. J. Discrete Math.*, **23** (2009), 96–108.
20. Removable paths in non-bipartite graphs (with O. Lee and B. Reed), *J. Combin. Theory Ser. B.*, **99** (2009), 30–38.
21. On the number of 4-contractible edges in 4-connected graphs (with K. Ando, Y. Egawa and M. Krisell), *J. Combin. Theory Ser. B.*, **99** (2009), 97–109.

22. N -flips in even triangulations on surfaces (with A. Nakamoto and Y. Suzuki), *J. Combin. Theory Ser. B*, **99** (2009), 229–246.
23. Linear Connectivity forces large complete bipartite minors (with T. Bohme, J. Maharry and B. Mohar), *J. Combin. Theory Ser. B*, **99** (2009), 557–582.
24. 6-critical graphs on the Klein bottle (with D. Kral, J. Kyncl, and B. Lidicky), *Siam J. Discrete Math*, **23** (2009), 372–383.
25. Algorithmic Graph Minor Theory: Improved Grid Minor Bounds and Wagner’s Contraction (with E. Demaine and M. Hajiaghayi), *Algorithmica*, **54** (2009), 142–180.
26. Decomposing planar graphs of girth 5 into a forest and an independent set, (with C. Thomassen), *J. Combin. Theory Ser. B* **99** (2009), 674–684.
27. Note on coloring graphs without odd- K_k -minors, *J. Combin. Theory Ser. B* **99** (2009), 738–741.
28. Highly parity linked graphs, (with B. Reed), *Combinatorica* **29** (2009), 215–225.
29. Star-coloring and Acyclic-coloring of locally planar graphs (with B. Mohar), *Siam. J. Discrete Math.* **24** (2010), 56–71.
30. A simple algorithm for 4-coloring 3-colorable planar graphs (with K. Ozeki), *Theoretical Computer Science*, **411** (2010), 2619–2622.
31. Non-separating even cycles in highly connected graphs (with S. Fujita), *Combinatorica* **30**, (2010), 565–580.
32. Algorithms for finding an induced cycle in planar graphs (with Y. Kobayashi), *Combinatorica*, **30**, (2010), 715–734.
33. Non-separating subgraphs after deleting many disjoint paths (with K. Ozeki), *J. Combin. Theory Ser. B* **101**, (2011), 54–59.
34. Matching extension versus representativity in 5-connected embedded graphs (with S. Negami, M. Plummer and Y. Suzuki), *J. Combin. Theory Ser. B* **101** (2011), 206–213.
35. Packing cycles through prescribed vertex set (with N. Kakimura and D. Marx), *J. Combin. Theory Ser. B* **101**, (2011), 54–59.
36. A Multi-Round Generalization of the Traveling Tournament Problem and its Application to Japanese Baseball (with R. Hoshino), *European Journal of Operational Research*, **215** (2011), 481–497.
37. Scheduling Bipartite Tournaments to Minimize Total Travel Distance (with R. Hoshino), *Journal of Artificial Intelligence Research*, **42** (2011), 91–124.
38. Three-coloring triangle-free planar graphs in linear time (with Z. Dvorak and R. Thomas), *ACM transaction on Algorithms* **7** No. 41 (2011).
39. Improved Algorithm for the Half-Disjoint Paths Problem (with Y. Kobayashi), *Siam J. Discrete Math*, **25** (2011), 1322–1330.

40. A Linear Time Algorithm for the Induced Disjoint Paths Problem in Planar Graphs (with Y. Kobayashi), *Journal of Computer and System Sciences* **78**, (2012), 670–680.
41. The disjoint paths problem in quadratic time (with Y. Kobayashi and B. Reed), *J. Combin. Theory Ser. B* **102** (2012), 424–435.
42. The Erdos-Posa property for clique minors in highly connected graphs (with R. Diestel and P. Wollan), *J. Combin. Theory Ser. B*, **102** (2012), 454–469.
43. Linkless and flat embeddings in 3-space (with S. Kreutzer and B. Mohar), *Discrete and Computational Geometry* **47**, (2012), 731–755.
44. From the plane to higher surfaces, (with C. Thomassen), *J. Combin. Theory Ser. B* **102** (2012), 852–868.
45. Fixed-parameter tractability for the subset feedback set problem and the S -cycle packing problem (with Y. Kobayashi), *J. Combin. Theory Ser. B* **102** (2012), 1020–1034.
46. Packing Cycles through Prescribed Vertices under Modularity Constraints (with N. Kakimura), *Advance in Applied Math* **49** (2012), 97–110.
47. Generating Approximate Solutions to the Traveling Tournament Problem using a Linear Distance Relaxation (with R. Hoshino), *Journal of Artificial Intelligence Research* **45** 257-286, (2012).
48. On the excluded minor structure theorem for graphs of large treewidth (with R. Diestel, T. Muller and P. Wollan), *J. Combin. Theory Ser. B*, **102** 1189-1210 (2012).
49. Packing Directed Circuits through Prescribed Vertices Bounded Fractionally (with N. Kakimura), *Siam. J. Discrete Math* **26**, 1121–1133, (2012).
50. An $O(\log n)$ -approximation algorithm for the disjoint paths problem in Eulerian planar graphs (with Y. Kobayashi), *ACM transaction on Algorithms* **9** No. 16.
51. A simpler proof for the two disjoint odd cycles theorem (with K. Ozeki), *J. Combin. Theory, Ser. B* **103**, 313–319 (2013).
52. Connectivities for k -knitted graphs and for minimal counterexamples to Hadwiger’s Conjecture (with G. Yu), *J. Combin. Theory, Ser. B*, **103** 320–326 (2013).
53. Graph Theory and Sports Scheduling (with R. Hoshino), *Notices of the American Mathematical Society* **60**, 6 (2013) 726-731.
54. Half-Integral Packing of Odd Cycles through Prescribed Vertices (with N. Kakimura), *Combinatorica* **33** 549–572 (2013).
55. An Approximation Algorithm for the Bipartite Traveling Tournament Problem (with R. Hoshino), *Mathematics of Operation Research*, **38** 720-728 (2013).
56. Spanning closed walks and TSP in 3-connected planar graphs (with K. Ozeki), *J. Combin. Theory Ser. B* **109** 1-33 (2014).

57. Removable paths and cycles with parity constraints (with O. Lee and B. Reed), *J. Combin. Theory Ser. B* **106** 115-133 (2014).
58. Minimum degree conditions for vertex-disjoint even cycles in large graphs (with S. Chiba, S. Fujita, T. Sakuma), *Advance in Applied Mathematics*, **54** 105–120 (2014).
59. 4-connected projective-planar graphs are hamiltonian-connected (with K. Ozeki), *J. Combin. Theory Ser. B*, **112**, 39–66, (2015).
60. Fixed-parameter tractability for subset feedback set problems with parity constraints (with N. Kakimura) *Theor. Comput. Sci.* **576** 61-76 (2015).
61. Subdivision of K_5 containing no $K_{2,3}$ (with J. Ma and X. Yu), *J. Combin. Theory Ser. B*, **113** (2015), 18–67.
62. The edge disjoint paths problem in Eulerian graphs and 4-edge-connected graphs (with Y. Kobayashi), *Combinatorica*, **35** (2015), 477–495.
63. The edge density of critical digraphs (with R. Hoshino), *Combinatorica*, **35** (2015), 619–631.
64. Edge-colouring seven-regular planar graphs (with Maria Chudnovsky, Katherine Edwards, Paul Seymour), *J. Combin. Theory Ser. B*, **115** (2015), 276–302.
65. Packing T-joins in six-regular planar graphs (with Z. Dvoroak and D. Kral), *J. Combin. Theory Ser. B*, **116** (2016), 287–375.
66. Non separating subgraphs in highly connected graphs (with S. Fujita), *J. Combin. Theory Ser. B*, **117** (2016), 1–21.
67. 5-connected toroidal graphs are hamiltonian-connected (with K. Ozeki), *SIAM J. Discrete Math.*, **30** (2016), 112–140.
68. Edge-disjoint Odd Cycles in 4-edge-connected Graphs (with Y. Kobayashi), *J. Combin. Theory Ser. B*, **119** (2016), 12–27.
69. Coloring immersion-free graphs (with N. Kakimura), *J. Combin. Theory Ser. B*, **121**, (2016), 284-307.
70. An Improved Approximation Algorithm for the Edge-Disjoint Paths Problem with Congestion Two (with Y. Kobayashi), *ACM transaction on Algorithms*, **13** No. 5, (2016).
71. Coloring 3-colorable graphs with less than $n^{1/5}$ colors (with M. Thorup), *J. ACM*, **64**, 2017, Article No. 4.
72. Packing Edge-disjoint S -cycles with Parity Constraints in 4-edge-connected Graphs (with N. Kakimura and Y. Kobayashi), *SIAM Journal on Discrete Mathematics* **31**, 766–782 (2017).
73. A new proof for the weak structure theorem (with P. Wollan and R. Thomas), *J. Combin. Theory Ser. B*, **129** (2018), 204–238.
74. K_6 minors in large 6-connected graphs (with S. Norine, R. Thomas and P. Wollan), *J. Combin. Theory Ser. B*, **129** (2018), 158–203.

75. Packing edge-disjoint complete immersions in 4-edge-connected graphs (with N. Kakimura), *J. Combin. Theory Ser. B*, **131** (2018), 138–169.
76. ClassiNet – Predicting Missing Features for Short-Text Classification (with D. Bollegala, M. Alsuhaibani and T. Maehara), *ACM Transactions on Knowledge Discovery from Data (TKDD)*, Volume 12 Issue 5, July 2018, Article No.55.
77. All-or-Nothing Multicommodity Flow Problem with Bounded Fractionality in Planar Graphs (with Y. Kobayashi), *SIAM J. Comp.* 47, (2018) 1483–1504.
78. Extreme-Value-Theoretic Estimation of Local Intrinsic Dimensionality (with Oussama Chelly, Laurent Amsaleg, Teddy Furon, Stéphane Girard, Michael Houle, Michael Nett), *Data Mining and Knowledge Discovery (DAMI)*, **32** 1768–1805, 2018.
79. Deterministic edge-connectivity of a simple graph in near-linear time (with M. Thorup), *J. ACM*, **66**, Article No. 4, 2019.
80. K_6 minors in 6-connected graphs of bounded tree-width (with S. Norine, R. Thomas and P. Wollan), *J. Combin. Theory Ser. B*, **136** 1–32, (2019).
81. Linear min-max relation between the treewidth of H -minor-free graphs and its largest grid minor (with Y. Kobayashi), *J. Combin. Theory Ser. B* **141**, 145–160, (2020).
82. Model-Checking on Ordered Structures (with K. Eickmeyer, J. van den Heuvel, S. Kreutzer, P. Ossona de Mendez, M. Pilipczuk, D. Quiroz, R. Rabinovich, and S. Siebertz) *Transactions on Computational Logic* **21** 28 (2020).
83. Minimum Violation Vertex Maps and Their Applications to Cut Problems (with C Xu), *SIAM Journal on Discrete Mathematics* **34** (2020) (4), 2183–2207.
84. Optimal Distributed Covering Algorithms (with G. Even, R. Ben Basat and G. Schwartzman), *Distributed computing*, 2021, 1–11.
85. Additive non-approximability of chromatic number in proper minor-closed classes (with Z. Dvorak), to appear in *J. Combin. Theory Ser. B*.
86. Rooted topological minors on four vertices (with K. Hayashi), to appear in *J. Combin. Theory Ser. B*.
87. A Polynomial Excluded-Minor Approximation of Treedepth (with Ben Rossman), to appear in *J. European Math. Society*.
88. $K_{3,k}$ -minors in large 7-connected graphs, (with T. Bohme, J. Maharry and B. Mohar), to appear in *J. Combin. Theory Ser. B*.

2. Respectful Journals in Math(Discrete Math) and Computer Science

1. Hamiltonian Cycles in Factor-Critical Graphs, (with A. Saito and K. Ota), *Discrete Math* **240** (2001) 71–82.
2. Path Factor in Claw-Free Graphs, (with K. Ando, Y. Egawa, A. Kaneko, H. Matsuda), *Discrete Math* **243** (2002) 195–200.

3. K_4^- -factor in graphs, *J. Graph Theory* **39** (2002) 111–128.
4. Path-factor in cubic graphs, (with H. Matsuda, Y. Oda and K. Ota), *J. Graph Theory* **39** (2002) 188–193.
5. Graph partition into paths containing specified vertices, *Discrete Mathematics* **248** (2002) 271–278.
6. Hamiltonian Cycles in n -extendable graphs, (with A. Saito and K. Ota), *J. Graph Theory* **40** (2002) 75–82.
7. On separable self-complementary graphs (with A. Nakamoto, Y. Oda, K. Ota, S. Tazawa and M. Watanabe), *Discrete Math.* **257** (2002) 165–168.
8. On a hamiltonian cycle in which specified vertices are not isolated, (with A. Kaneko, K. Ota, and K. Yoshimoto), *Discrete Math.* **258** (2002) 85–91.
9. 2-connected 7-coverings in 3-connected graph on surfaces, (with A. Nakamoto and K. Ota), *J. Graph Theory* **43** (2003) 26–36.
10. Some forbidden subgraph conditions for a graph to have a k -contractible edge, (with K. Ando), *Discrete Math* **267** (2003) 3–11.
11. Cycles Having the Same Modularity, (with K. Ando, M. Hagita, A. Kaneko, M. Kano, and A. Saito), *Discrete Math.* **265** (2003) 23–30.
12. On two equimatchable graph classes (with M. Plummer and A. Saito), *Discrete Math* **266** (2003) 263–274.
13. Covering vertices of a graph by k vertex disjoint cycles, (with Y. Egawa, M. Hagita and H. Wang), *Discrete Math* **270** (2003) 114–124.
14. Vertices of degree 6 in 6-contraction-critical graphs, (with K. Ando and A. Kaneko), *Discrete Math* **273** (2003) 55–69.
15. K -Linked Graphs with Girth Condition, *J. Graph Theory* **45** (2004) 48–50.
16. Vertex-Disjoint Cycles Containing Specified Vertices in a Bipartite Graph, (with H. Enomoto, G. Chen, D. Lou, K. Ota, and A. Saito.) *J. Graph Theory.***46** (2004) 145–166.
17. A theorem on paths in locally planar triangulations, *European J. Combin.* **25** (2004), 781–784.
18. Rooted minor problems in highly connected graphs, *Discrete Math.* **287** (2004), 121–123.
19. Detecting Even Holes, (with M. Chudnovsky and P. Seymour), *J. Graph Theory*, **48** (2005) 85-111.
20. Nonseparating paths with two prescribed endvertices in 4-connected graphs, (with O. Lee and X. Yu), *Annals of Combinatorics* **9** (2005) 47-56.
21. On Structure of k -connected graphs without K_k -minor, (with R. Luo, J. Niu and C.Q. Zhang), *Europ. J. Combinatorics* **26** (2005) 293-308.

22. Graph Minors and Linkage Problem I, (with G. Chen, R. Gould, F. Pfender and B. Wei), *J. Graph Theory* **49** (2005) 75-91.
23. Acute triangles in 4-connected maximal plane graphs, (with A. Nakamoto, Y. Oda and M. Watanabe), *Discrete Math* **292** (2005) 95–106.
24. Some properties of 5-contraction critical graphs, (with K. Ando and A. Kaneko), *Graph and Combin.* **21** (2005) 27–37.
25. Existence of two long cycles (with Y. Egawa, S. Fujita and H. Wang), *Discrete Math.* **205** (2005), 154–169.
26. Dominating number in cubic graphs with large girth (with M. Plummer and A. Saito), *J. Graph Theory* **52** (2006) 1–6.
27. On sufficient degree conditions for a graph to be k -linked, (with A. Kostochka and G. Yu). *Combinatorics, Probability and Computing* **15** (2006), 685–694.
28. Chords of longest circuits in locally planar graphs (with J. Niu and C. Q. Zhang), *Europ. J. Combinatorics* **28** (2007) 315–321.
29. The Erdos-Posa property for orientable surface (with A. Nakamoto), *Discrete Math* **307** (2007), 764–768.
30. Some recent progress and applications on Graph Minor Theory, A survey (with B. Mohar), *Graph and Combinatorics* **23** (2007), 1–46.
31. Rooted minor problems in graphs (with L. Jorgensen), *J. Graph Theory* **55** (2007) 191–207.
32. Independence number and clique minors (with Z. Song), *J. Graph Theory* **56** (2007), 219–226.
33. Contractible edges in minimally k -connected graphs, (with K. Ando and A. Kaneko), *Discrete Math* **308** (2008), 597–602.
34. Fractional coloring and the odd Hadwiger’s conjecture (with B. Reed), *Europ. J. Combinatorics* **29** (2008), 411–417.
35. Contractible elements in k -connected graphs not containing some specified graphs, (with S. Fujita) *J. Graph Theory* **58** (2008), 97–109.
36. A weakening of the odd Hadwiger’s conjecture, *Combin. Prob. Computing*, **17** (2008), 815–821.
37. Long cycles without hamiltonian paths (with K. Ozeki and T. Yamashita), *Discrete Math.*, **308**, (2008), 5899–5906.
38. Note on non-separating and removable cycles in highly connected graphs (with S. Fujita), *Discrete Applied Math*, **159** (2009), 398–399.
39. List-coloring graphs without $K_{4,k}$ -minors, *Discrete Applied Math*, **157**, (2009), 659–662.
40. Bounding the size of equimatchable graphs of fixed genus (with M. Plummer), *Graphs and Combinatorics* **25** (2009), 91–99.

41. Dominating sets in triangulations on surfaces (with T. Honjo and A. Nakamoto), *J. Graph Theory*, **63** (2010), 17–30.
42. Double-critical graphs and complete minors (with A. S. Pedersen and B. Toft), *Electric J. Combinatorics*, R87, (2010).
43. Contractible small subgraphs in k -connected graphs (with S. Fujita), *Graphs and Combinatorics* **26** (2010), 499–511.
44. A note on traversing specified vertices in graphs embedded with large representativity (with M. Plummer), *Discrete Math (Carsten Thomassen’s 60)* **310** (2010), 2655–2661.
45. Contractible triples in highly connected graphs (with S. Fujita), *Annals of Combinatorics* **14** (2010), 457–465.
46. Immersing small complete graphs (with M. DeVos, B. Mohar and H. Okamura), *Ars Mathematica Contemporanea* **3** (2010) 139–146.
47. Toughness of $K_{a,t}$ -minor-free graphs (with G. Chen, Y. Egawa, B. Mohar, K. Ota), *Electric J. Combinatorics*, P148.
48. 2- and 3-factors of graphs on surfaces (with K. Ozeki), *J. Graph Theory*, **67** (2011), 306–315.
49. The Erdős-Lovász Tihany Conjecture and complete minors (with A. Pedersen and B. Toft), *J. Combinatorics* **2** (2011), 572–592.
50. Minimally contraction-critical 6-connected graphs (with K. Ando and S. Fujita), *Discrete Mathematics* **302** (2012), 671–679.
51. Minors in 5-connected non-planar large graphs (with J. Maharry), *J. Graph Theory* **78** (2012), 128–141.
52. Sub-exponential Graph Coloring Algorithm for Stencil-based Jacobian Computations (with Michael Lüllesmann), *Journal of Computational Science* **11** 1–11 (2014).
53. A connected subgraph maintaining high connectivity (with S. Fujita), *Eur. J. Comb.* **35**, 245–255 (2014).
54. Reply trees in Twitter: data analysis and branching process models (with R. Nishi, T. Takaguchi, K. Oka, M. Maehara, M. Toyoda and N. Masuda). *Social Netw. Analys. Mining* 6(1): 26:1–26:13 (2016)
55. Matching extension missing vertices and edges in triangulations of surfaces (with M. Plummer and K. Ozeki), *Journal of Graph Theory*, **85** 249–257, (2017).
56. Triangle-free graphs of tree-width t are $\lceil (t + 3)/2 \rceil$ -colorable (with Z. Dvorak), *Europ. J. Combin.* **66**, 95–100, (2017).
57. Existence of outsiders as a characteristic of online communication networks (with T. Takaguchi, T. Maehara, and M. Toyoda), *Network Science* **6**, 431–447 (2018).

3. General Journals(Outside Math and CS), Science, Science Adv., PRE. PLOS, Scientific reports etc

1. Uncertain behaviours of integrated circuits improve computational performance (Chihiro Yoshimura, Masanao Yamaoka, Masato Hayashi, Takuya Okuyama, Hidetaka Aoki, and Hiroyuki Mizuno), *Scientific reports* 2015; 5: 16213.
2. A coherent Ising machine for 2000-node MAX-CUT problems (with Takahiro Inagaki, Yoshitaka Haribara, Koji Igarashi, Tomohiro Sonobe, Shuhei Tamate, Toshimori Honjo, Alireza Marandi, Peter L. McMachon, Takeshi Umeki, Koji Enbutsu, Osamu Tadanaga, Hirokazu Takenouchi, Kazuyuki Aihara, Kyo Inoue, Shoko Utsunomiya and Hiroki Takesue), *Science*. DOI: 10.1126/science.aah4243.
3. Iterative Approach for the Global Estimation of Sentence Similarity (with T. Kajiwara, D. Bollegala, Y. Yoshida), *PLOS ONE* 12(9): e0180885. <https://doi.org/10.1371/journal.pone.0180885>.
4. Learning Linear Transformations between Counting-based and Prediction-based Word Embeddings (with D. Bollegala and K. Hayashi), *PLoS ONE* 12(9): e0184544. <https://doi.org/10.1371/journal.pone.0184544>.
5. Coherent Ising Machines – Optical Neural Networks operating at the Quantum Limit (with Yoshihisa Yamamoto, Kazuyuki Aihara, Timothee Leleu, Satoshi Kako, Martin Fejer, Kyo Inoue, and Hiroki Takesue), *npj Quantum Information* 3 (1), 49.
6. Jointly Learning Word Embeddings Using a Corpus and a Knowledge Base (with D. Bollegala, M. Alsuhaibani and T. Maehara), *PLoS ONE* 13(3): e0193094.
7. Experimental investigation of performance differences between Coherent Ising Machines and a quantum annealer (with Ryan Hamerly, Takahiro Inagaki, Peter L McMahan, Davide Venturelli, Alireza Marandi, Tatsuhiro Onodera, Edwin Ng, Carsten Langrock, Kensuke Inaba, Toshimori Honjo, Koji Enbutsu, Takeshi Umeki, Ryoichi Kasahara, Shoko Utsunomiya, Satoshi Kako, Robert L Byer, Martin M Fejer, Hideo Mabuchi, Dirk Englund, Eleanor Rieffel, Hiroki Takesue, Yoshihisa Yamamoto), *Science advances* 2, eaau0823.
8. Binary optimization by momentum annealing (with Takuya Okuyama, Tomohiro Sonobe, and Masanao Yamaoka), *Physical Review E* 100 (1), 012111 (2019)
9. 100,000-spin coherent Ising machine, to appear in *Science advances*.

4. Tier 1 Conferences in CS.

STOC, FOCS, SODA, SIGMOD, VLDB, ICDE, NIPS, KDD, ICML, NeurIPS, ICLR, ACL, AAAI, IJCAI, LICS, ICALPS, SOCG

1. Algorithmic Graph Minor Theory; Decomposition, Approximation and Coloring, (with E. D. Demaine, M. Hajiaghayi), 46th Annual Symposium on Foundations of Computer Science (FOCS 2005) (2005) 637–646.
2. Approximating the chromatic number and the list-chromatic number of minor-closed family of graphs and odd-minor-closed family of graphs, *STOC'06*, 401–416.
3. Half integral packing, Erdős-Pósa property and Graph minors, *ACM-SIAM Symposium on Discrete Algorithms (SODA'07)* 1187–1196.

4. Computing crossing number in linear time (with B. Reed), 39th ACM Symposium on Theory of Computing (STOC'07), 382–390.
5. A nearly linear time algorithm for half-integral disjoint paths packing (with B. Reed), ACM-SIAM Symposium on Discrete Algorithms (SODA'08), 446–454.
6. Graph and Map isomorphism and all polyhedral embeddings in linear time (with B. Mohar), 40th ACM Symposium on Theory of Computing (STOC'08), 471–480.
7. Improved upper bounds on the crossing number (with V. Dujmovic, B. Mohar and D. Wood), SOCG'08, 375–384.
8. A simpler linear time algorithm for embedding graphs on a surface and for bounded tree-width graphs (with B. Mohar and B. Reed), 49th Annual Symposium on Foundations of Computer Science (FOCS 2008) (2008), 771–780.
9. Algorithms for finding an induced cycle in planar graphs and bounded genus graphs (with Y. Kobayashi), ACM-SIAM Symposium on Discrete Algorithms, (SODA'09), 1146–1155.
10. Additive approximation algorithms for list-coloring minor-closed class of graphs (with E. Demaine and M. Hajiaghayi), ACM-SIAM Symposium on Discrete Algorithms, (SODA'09), 1166–1175.
11. Three-coloring triangle-free planar graphs in linear time (with Z. Dvorak and R. Thomas), ACM-SIAM Symposium on Discrete Algorithms, (SODA'09), 1176–1182.
12. A nearly linear time algorithm for the half integral parity disjoint paths packing problem (with B. Reed), ACM-SIAM Symposium on Discrete Algorithms , (SODA'09), 1183–1192.
13. List-Color-Critical Graphs on a Fixed Surface (with B. Mohar), ACM-SIAM Symposium on Discrete Algorithms, (SODA'09), 1166–1175.
14. Hadwiger's Conjecture is decidable (with B. Reed), the 41st ACM Symposium on Theory of Computing (STOC'09) 445–454.
15. Planarity allowing few error vertices in linear time, 50th Annual Symposium on Foundations of Computer Science (FOCS 2009), 639–648.
16. Recognizing a totally odd K_4 -subdivision, parity 2-disjoint rooted paths and a parity cycle through specified elements (with Z. Li and B. Reed), ACM-SIAM Symposium on Discrete Algorithms, (SODA'10), 318–328.
17. Decomposition, Approximation, and Coloring of Odd-Minor-Free Graphs (with E. Demaine and M. Hajiaghayi), ACM-SIAM Symposium on Discrete Algorithms, (SODA'10), 329–344.
18. The edge disjoint paths problem in Eulerian graphs and 4-edge-connected graphs (with Y. Kobayashi), ACM-SIAM Symposium on Discrete Algorithms, (SODA'10), 345–353.
19. An (almost) Linear Time Algorithm For Odd Cycles Transversal (with B. Reed), ACM-SIAM Symposium on Discrete Algorithms, (SODA'10), 365–378.

20. Odd cycle packing (with B. Reed), 42nd ACM Symposium on Theory of Computing (STOC'10), 695–704.
21. A shorter proof of the Graph Minor Algorithm - The Unique Linkage Theorem - (with P. Wollan), 42nd ACM Symposium on Theory of Computing (STOC'10), 687–694.
22. Linkless and flat embeddings in 3-space and the Unknot problem (with S. Kreuzer and B. Mohar), the 26th Annual ACM Symposium on Computational Geometry (SOCG'10), 97–106.
23. A separator theorem in minor-closed classes (with B. Reed), the 51st Annual Symposium on Foundations of Computer Science (FOCS'10), 153–162.
24. Contraction Decomposition in H -Minor-Free Graphs and Algorithmic Applications (with E. Demaine and M. Hajiaghayi), the 43rd ACM Symposium on Theory of Computing (STOC'11), 441–450.
25. A simpler algorithm and shorter proof for the graph minor decomposition (with P. Wollan), the 43rd ACM Symposium on Theory of Computing (STOC'11), 451–458.
26. Finding topological subgraphs is fixed-parameter tractable (with M. Grohe, D. Marx and P. Wollan), the 43rd ACM Symposium on Theory of Computing (STOC'11), 479–488.
27. Breaking $O(n^{1/2})$ -approximation algorithms for the edge-disjoint paths problem (with Y. Kobayashi), the 43rd ACM Symposium on Theory of Computing (STOC'11), 81–88.
28. The Inter-League Extension of the Traveling Tournament Problem and its Application to Sports Schedule (with R. Hoshino), the Twenty-Fifth AAAI Conference on Artificial Intelligence (AAAI-11).
29. The Multi-Round Balanced Traveling Tournament Problem (with R. Hoshino), the 21st International Conference on Automated Planning and Scheduling (ICAPS'11), 106–113.
30. The minimum k -way cut of bounded size is fixed-parameter tractable (with M. Thorup), 52nd Annual Symposium on Foundations of Computer Science (FOCS'11), 160–169.
31. The Graph Minor Algorithm with Parity Conditions (with B. Reed and P. Wollan), 52nd Annual Symposium on Foundations of Computer Science (FOCS'11), 27–36.
32. Spanning closed walks and TSP in 3-connected planar graphs (with K. Ozeki), ACM-SIAM Symposium on Discrete Algorithms, (SODA'12), 671–682.
33. Erdős-Pósa property and its algorithmic applications — parity constraints, subset feedback set, and subset packing (with N. Kakimura and Y. Kobayashi), ACM-SIAM Symposium on Discrete Algorithms, (SODA'12), 1726–1826.
34. List-Coloring Graphs without Subdivisions and without Immersions (with Y. Kobayashi, ACM-SIAM Symposium on Discrete Algorithms, (SODA'12), 1425–1435.
35. The Linear Distance Traveling Tournament Problem (with R. Hoshino), the Twenty-Sixth AAAI Conference on Artificial Intelligence (AAAI-12).

36. Combinatorial coloring of 3-colorable graphs (with M. Thorup), the 53rd Annual Symposium on Foundations of Computer Science (FOCS'12) 68–75.
37. A Simple Algorithm for the Graph Minor Decomposition - Logic meets Structural Graph Theory (with M. Grohe and B. Reed), ACM-SIAM Symposium on Discrete Algorithms, (SODA'13), 414–431.
38. 5-coloring $K_{3,k}$ -minor-free graphs, ACM-SIAM Symposium on Discrete Algorithms, (SODA'13), 985–1003.
39. Totally odd subdivisions and parity subdivisions: Structures and Coloring, ACM-SIAM Symposium on Discrete Algorithms, (SODA'13), 1013–1029.
40. List-coloring embedded graphs (with Z. Dvorak), ACM-SIAM Symposium on Discrete Algorithms, (SODA'13), 1004–1012.
41. Packing directed cycles through a specified vertex set (with M. Krcal, D. Kral and S. Kreutzer), ACM-SIAM Symposium on Discrete Algorithms, (SODA'13), 365–377.
42. 4-connected projective planar graphs are hamiltonian-connected (with K. Ozeki), ACM-SIAM Symposium on Discrete Algorithms, (SODA'13), 378–395.
43. More Compact Oracles for Approximate Distances in Undirected Planar Graphs (with C. Sommer and M. Thorup), ACM-SIAM Symposium on Discrete Algorithms, (SODA'13), 550–561.
44. Testing subdivision-freeness: property testing meets structural graph theory (with Y. Yoshida), the 43rd ACM Symposium on Theory of Computing (STOC'13), 437–446.
45. Mining for Analogous Tuples from an Entity-Relation Graph (with D. Bollegana, M. Kusumoto and Y. Yoshida), IJCAI'13.
46. Model Checking for Successor-Invariant First-Order Logic on Minor-Closed Graph Classes (with K. Eickmeyer, and S. Kreutzer), Logic in Computer Science(LICS'13), 134–142.
47. All-or-Nothing Multicommodity Flow Problem with Bounded Fractionality in Planar Graphs (with Y. Kobayashi). FOCS'13, 187–196.
48. Computing Personalized PageRank Quickly by Exploiting Graph Structures (with T. Maehara, T. Akiba and Y. Iwata). VLDB 7(12): 1023–1034 (2014).
49. Fast and Accurate Influence Maximization on Large Networks with Pruned Monte-Carlo Simulations (with N. Ohsaka, T. Akiba and Y. Yoshida), AAAI'14, 138–144.
50. Solving the Traveling Tournament Problem by Packing Three-Vertex Paths (with M. Goerigk, R. Hoshino, S. Westphal) AAAI'14, 2271–2277.
51. Optimal Budget Allocation: Theoretical Guarantee and Efficient Algorithm (with T. Soma, N. Kakimura, K. Inaba). ICML 2014: 351–359.
52. Scalable similarity search for SimRank (with M. Kusumoto and T. Maehara), Proceedings of the 2014 ACM SIGMOD International Conference on Management of Data (SIGMOD 2014), (2014), 325–336.

53. An excluded half-integral grid theorem for digraphs and the directed disjoint paths problem (with Y. Kobayashi and S. Kreutzer), Proceedings of the 46th ACM Symposium on Theory of Computing (STOC 2014), (2014) 70-78.
54. Embedding and Canonizing Graphs of Bounded Genus in Logspace (with M. Elberfeld), Proceedings of the 46th ACM Symposium on Theory of Computing (STOC 2014), (2014), 383-392.
55. An Excluded Grid Theorem for Digraphs with Forbidden Minors (with S. Kreutzer), Proceedings of the Twenty-Fifth Annual ACM-SIAM Symposium on Discrete Algorithms (SODA 2014), (2014), 72-81.
56. Lagrangian Decomposition Algorithm for Allocating Marketing Channels (D. Hatano, T. Fukunaga, T. Maehara), Proceedings of the 29th AAAI Conference on Artificial Intelligence (AAAI), (2015), 1144-1150.
57. Learning Word Representations from Relational Graphs (with D. Bollegala, T. Maehara, Y. Yoshida), Proceedings of the 29th AAAI Conference on Artificial Intelligence (AAAI), (2015), 2146-2152.
58. Scalable SimRank join algorithm (with T. Maehara and M. Kusumoto), Proceedings of the 31st IEEE International Conference on Data Engineering(ICDE'15), (2015), 603-614.
59. Deterministic Global Minimum Cut of a Simple Graph in Near-Linear Time (with M. Thorup), the 47th ACM Symposium on Theory of Computing (STOC 2015), 665-674.
60. The directed grid theorem (with S. Kreutzer), the 47th ACM Symposium on Theory of Computing (STOC 2015), 655-664.
61. Beyond the Euler characteristic: Approximating the genus of general graphs (with A. Sidiropoulos), the 47th ACM Symposium on Theory of Computing (STOC 2015), 675-682.
62. Embedding Semantic Relations into Word Representations (with D. Bollegala and T. Maehara), the 24th International Joint Conference on Artificial Intelligence(IJCAI'15), 1222-1228.
63. Budget Allocation Problem with Multiple Advertisers: A Game Theoretic View (with T. Maehara and T. Yabe), ICML'15, 428-437.
64. Unsupervised Cross-Domain Word Representation Learning, (with Danushka Bollegala and Takanori Maehara), ACL'15, 730-740.
65. Efficient PageRank Tracking in Evolving Networks, (with Naoto Ohsaka, Takanori Maehara), KDD'15, 875-884.
66. Real-time Top-R Topic Detection on Twitter with Topic Hijack Filtering (with Kohei Hayashi, Takanori Maehara, Masashi Toyoda), KDD'15, 417-426.
67. Estimating Local Intrinsic Dimensionality (with Oussama Chelly, Laurent Amsaleg, Teddy Furon, Stéphane Girard, Michael Houle, Michael Nett), KDD'15, 29-38.
68. Expected Tensor Decomposition with Stochastic Gradient Descent (with T. Maehara and K. Hayashi), AAAI'16, 1919-1925.

69. Joint Word Representation Learning using a Corpus and a Semantic Lexicon (with D. Bollegala, M. Alsuhaibani and T. Maehara), AAAI'16, 2690–2696.
70. Identifying Key Observers to Find Popular Information in Advance (with T. Konishi, K. Hayashi, T. Iwata), IJCAI'16, 3761–3767.
71. Adaptive budget allocation for maximizing influence of advertisements (with T. Fukunaga, D. Hatano), IJCAI'16, 3600–3608.
72. Dynamic Influence Analysis in Evolving Networks (with N. Ohsaka, T. Akiba and Y. Yoshida), VLDB'16 **12** 1077–1088.
73. Scalable algorithm for higher-order co-clustering via random sampling (with D. Hatano, T. Fukunaga, T. Maehara), AAAI'17, 1992–1999.
74. Optimal Pricing for Submodular Valuations with Bounded Curvature (with H. Sumita, Y. Kawase, T. Tono, T. Maehara), AAAI'17, 622–628.
75. Coarsening Massive Influence Networks for Scalable Diffusion Analysis (with N. Ohsaka, T. Sonobe, S. Fujita), SIGMOD'17, 635–650.
76. An Improved Approximation Algorithm for the Subpath Planning Problem and Its Generalization (with H. Sumita, Y. Yonebayashi and N. Kakimura), the 26th International Joint Conference on Artificial Intelligence (IJCAI'17), 4412–4418.
77. Polylogarithmic approximation for minimum planarization (almost) (with A. Sidiropoulos), FOCS'17, 779–788.
78. Efficient Sublinear-Regret Algorithms for Online Sparse Linear Regression (with S. Ito, H. Sumita, D. Hatano, T. Fukunaga, N. Kakimura, A. Yabe), NIPS'17, 4102–4111.
79. A Polynomial Excluded-Minor Approximation of Treedepth (with B. Rossman), SODA'18, 234–246.
80. Using k -way Co-occurrences for Learning Word Embeddings (with D. Bollegala and Y. Yoshida), AAAI'18.
81. Think Globally, Embed Locally — Locally Linear Meta-embedding of Words (with D. Bollegala and K. Hayashi), IJCAI'18, 3970–3976.
82. Causal Bandits with Propagating Inference Reviewer Matching Request (with S. Ito, H. Sumita, D. Hatano, T. Fukunaga, N. Kakimura, A. Yabe), ICML'18, 5449–5458.
83. Representation Learning on Graphs with Jumping Knowledge Network (with K. Xu, C. Li, Y. Tian, T. Sonobe, S. Jegelka) ICML'18, 5449–5458.
84. Regret Bounds for Online Portfolio Selection with a Cardinality Constraint (with S. Ito, H. Sumita, D. Hatano, T. Fukunaga, N. Kakimura), NeurIPS 2018: 10611–10620.
85. Polynomial Planar Directed Grid Theorem (with H. Meike and S. Kreutzer), SODA'19, 1465–1484.

86. Stochastic Submodular Maximization with Performance-Dependent Item Costs (with T. Konishi, T. Fukunaga and S. Fujita), *AAAI'19*, 1485–1494.
87. Polylogarithmic approximation for Euler genus on bounded degree graphs (with A. Sidiropoulos), *STOC'19*, 164–175.
88. Cross-Lingual Mapping of Non-Isomorphic Embedding with Iterative Normalization (with Mozhi Zhang, Keyulu Xu, Stefanie Jegelka, and Jordan Boyd-Graber), *ACL'19*, 3180–3189.
89. Oracle-Efficient Algorithms for Online Linear Optimization with Bandit Feedback (with S. Ito, H. Sumita, D. Hatano, K. Takemura, T. Fukunaga, N. Kakimura), *NeurIPS 2019*, 10589-10598.
90. Improved Regret Bounds for Bandit Combinatorial Optimization (with S. Ito, H. Sumita, D. Hatano, K. Takemura, T. Fukunaga, N. Kakimura), *NeurIPS 2019*, 12027-12036.
91. A nearly $5/3$ -approximation FPT Algorithm for Min-k-Cut (with B. Lin), *SODA'20*, 990–999.
92. The directed flat grid theorem (with A. Giannopoulou, S. Kreutzer, and O. Kwon), *SODA'20*, 239–258.
93. What Can Neural Networks Reason About? (with Keyulu Xu, Jingling Li, Simon S. Du, Mozhi Zhang, and Stefanie Jegelka), *ICLR'20*.
94. Delay and Cooperation in Nonstochastic Linear Bandits, (with S. Ito, H. Sumita, D. Hatano, K. Takemura, T. Fukunaga, N. Kakimura), *NeurIPS 2020*.
95. Near-Optimal Regret Bounds for Contextual Combinatorial Semi-Bandits with Linear Payoff Functions (with S. Ito, H. Sumita, D. Hatano, K. Takemura, T. Fukunaga, N. Kakimura), *AAAI 2021*.
96. How Neural Networks Extrapolate: From Feedforward to Graph Neural Networks (with Keyulu Xu, Jingling Li, Simon S. Du, Mozhi Zhang, and Stefanie Jegelka), *ICLR'21*.
97. Embeddings of Planar Quasimetrics into Directed ℓ_1 and Polylogarithmic Approximation for Directed Sparsest-Cut (with A. Sidiropoulos), to appear in *FOCS'21*.

5. Respectful Conferences in CS (* indicated core A, including ICALP, IPCO, STACS, ALNEX, AISTATS, CIKM, SDM, DISC, EDBT, ECML, FCT, EAACL, ISAAC, APPROX., IC3N*.)

1. Algorithmic Graph Minor Theory: Improved Grid Minor Bounds and Wagner’s Contraction (with E. Demaine and M. Hajiaghayi), 17th International Symposium on Algorithms and *Computation** (ISAAC 2006). Lecture Notes in Computer Science, volume 4288, Calcutta, India, December 18-20, 2006, pages 3-15.
2. The induced disjoint paths problem (with Y. Kobayashi), *IPCO'08**, 47–61.
3. An improved algorithm for cycles through elements, *IPCO'08**, 374–384.
4. Approximating list-coloring on a fixed surface, *ICALP'08**, 333–344.

5. Approximation Algorithms via Structural Results for Apex-Minor-Free Graphs, (with E. Demaine and M. Hajaghi), 35th International Colloquium on Automata, Languages and Programming (*ICALP'09*)*, 316–327.
6. An improved algorithm for the half disjoint paths problem (with Y. Kobayashi), *Approx and Random** 2010, 287-297.
7. An $O(\log n)$ approximation algorithm for the edge-disjoint paths problem in eulerian planar graphs and 4-edge-connected planar graphs (with Y. Kobayashi), *Approx and Random** 2010, 274-286.
8. Message duplication reduction in dense mobile social network (with F. Nazir), International Conference on Computer Communication Networks, (*IC3N'10*)*, 1–6.
9. The Distance-Optimal Inter-League Schedule for Japanese Pro Baseball (with R. Hoshino), the ICAPS 2011 Workshop on Constraint Satisfaction Techniques for Planning and Scheduling Problems (COPLAS), 71–78.
10. Linear-Space Approximate Distance Oracles for Planar, Bounded-Genus, and Minor-Free Graphs (with P. Klein and C. Sommer), *ICALP** 2011, 135–146.
11. Linear min-max relation between the treewidth of H -minor-free graphs and its largest grid minor (with Y. Kobayashi), Symposium on Theoretical Aspects of Computer *Science** (STACS), 278–289, 2012.
12. Edge-disjoint Odd Cycles in 4-edge-connected Graphs (with Y. Kobayashi), Symposium on Theoretical Aspects of Computer *Science** (STACS), 206–217, 2012.
13. Shortest-Path Queries for Complex Networks: Exploiting Low Tree-width Outside the Core, (with T. Akiba and C. Sommer), *EDBT** 2012 - 15th International Conference on Extending Database Technology, 144–155.
14. Balancing the Traveling Tournament Problem for Weekday and Weekend Games (with R. Hoshino), the Twenty-Fifth Annual Conference on Innovative Applications of Artificial Intelligence (IAAI-13).
15. Approximating Multi Commodity Network Design on Graphs of Bounded Pathwidth and Bounded Degree (with K. Eickmeyer), *SAGT 2013*: 134-145.
16. Coloring 3-colorable graphs with $o(n^{1/5})$ colors (with M. Thorup), Proceedings of the 31st Symposium on Theoretical Aspects of Computer *Science** (STACS 2014), (2014), 458—469.
17. Fast Shortest-path Distance Queries on Road Networks by Pruned Highway Labeling (with T. Akiba, Y. Iwata, Y. Kawata). *ALLENEX** 2014, 147-154.
18. Towards the Graph Minor Theorems for Directed Graphs (with S. Kreutzer), *ICALP'15**, 3-10
19. Scalable Sensor Localization via Ball-Decomposition Algorithm (with Y. Kawase and T. Maehara), the 14th IFIP International Conferences on *Networking** 2015, 1–9.
20. Successor-Invariant First-Order Logic on Graphs with Excluded Topological Subgraphs (with K. Eickmeyer), *CSL'16*, 18:1-18:15.

21. Fully Dynamic Shortest-Path Distance Query Acceleration on Massive Networks. *CIKM** 2016: 1533-1542
22. Maximizing Time-decaying Influence in Social Networks (with N. Ohsaka, Y. Yamaguchi, N. Kakimura), *ECML* PKDD'16*, 132–147.
23. FO Model Checking on Map Graphs (with K. Eickmeyer), *FCT'17**, 204–216.
24. Online Regression with Partial Information: Generalization and Linear Projection (with S. Ito, H. Sumita, D. Hatano, T. Fukunaga, N. Kakimura, A. Yabe), *AISTATS'18**, 1599–1607.
25. Additive non-approximability of chromatic number in proper minor-closed classes (with Z. Dvorak), *ICALP'18**, 1-47: 12.
26. A Deterministic Distributed 2-Approximation for Weighted Vertex Cover in $O(\log n \log \Delta / \log^2 \log \Delta)$ Rounds (with R. B. Basat, G. Even, G. Schwartzman), *SIROCCO'18*, 226–236.
27. NoSingles: a Space-Efficient Algorithm for Influence Maximization (with D. Dpopova, N. Osaka, A. Thomo) *SSDBM '18*, 18:1-18:12
28. Boosting PageRank Scores by Optimizing Internal Link Structure (with N. Osaka, N. Kakimura, T. Fukunaga, S. Fujita), *DAXA'18*, 424–439 .
29. Adapting Local Sequential Algorithms to the Distributed Setting (with G. Schwartzman), *DISC'18**, 35:1-35:17.
30. Intrinsic Dimensionality Estimation within Tight Localities (with L. Amsaleg, O. Chelly, M. Houle, M. Radovanovic, W. Treeratanajaru), *SDM** 181–189, 2019.
31. Parameterized Distributed Algorithms (with R. Ben Basat and G. Schwartzman), *DISC'19**, 15.
32. Optimal Distributed Covering Algorithms (with R. Ben Basat, G. Even and G. Schwartzman), *DISC'19**, 16.
33. Improved Distributed Approximations for Maximum-Weight Independent Set (with S. Khoury, A. Schild, G. Schwartzman), *DISC'20**, 283–285.
34. RelWalk - A Latent Variable Model Approach to Knowledge Graph Embedding (with Hakimi, D. Bollegala, Y. Yoshida), *EACL'21**, 1551–1565.
35. A Parameter-Free Algorithm for Misspecified Linear Contextual Bandits (with S. Ito, H. Sumita, D. Hatano, K. Takemura, T. Fukunaga, N. Kakimura), *AISTATS2021** 3367-3375.

6. Other papers.

1. Contractible edges in k -connected graph containing no K_4^- , (with K. Ando and A. Kaneko), *Sut J. mathematics*, **36** (2000) 99–103.
2. A Note on Hamiltonian Cycles in (k, n) -Factor-Critical Graphs, *Sut J. Mathematics*, **36** (2000) 259–266.

3. Vertex-Disjoint Cycles Containing Specified Edges in a Bipartite Graph, (with H. Enomoto, G. Chen, D. Lou, K. Ota and A. Saito.) *Australasian J. Combinatorics* **23** (2001) 37–48.
4. A Survey on Hamiltonian Cycles, *Interdisciplinary Information Science* **7** (2001) 25–39.
5. Contracting 4-Connected Plane Triangulations into an Octahedron, (with A. Nakamoto, Y. Oda and M. Watanabe), *Lecture Note on Computer Science* **2098** (2001) 217–221.
6. Note on contractible edges in k -connected graphs, *Australasian J. Combinatorics* **24** (2001) 165–168.
7. F -factor and vertex disjoint F in Graphs, *Ars Combinatoria* **62** (2001) 183–187.
8. Contractible edges and Bowtie in k -connected graphs, (with K. Ando, A. Kaneko and K. Yoshimoto), *Ars Combinatoria* **64** (2002) 239–247.
9. Vertex disjoint K_4^- in graphs, *Discuss. Math. Graph Theory* **24** (2004) 249–262.
10. On properties of a set of global roundings associated with clique connection of graphs (with K. Ishikawa and T. Tokuyama), *Interdisciplinary Information Science* **10** (2004) 159–163.
11. Erdos-Chvatal condition and 2-factors (with G. Chen, R. Gould, K. Ota, I. Schiermeyer, A. Saito), *Discuss. Math. Graph Theory* **27** (2007) 401–408.
12. Cliques in Odd-Minor-Free Graphs (with D. Wood), *CATS 2012*, 133–138.

Plenary and invited Speaker at Conferences

1. The Sixth Annual Paul Erdős Memorial Lecture, One of invited speakers, University of Memphis, March 2002.
2. The Fifth Slovenian Conference in Graph Theory. June. 2003.
3. Latin-American Algorithms, Graphs and Optimization Symposium (LAGOS'07), Chile, Nov. 2007.
4. Cumberland Conference on Combinatorics, Graph Theory and Computing, 2008, May, Vanderbilt Univ. (Dedicated to Mike Plummer's 70's birthday.)
5. GRAPH THEORY AT SANDBJERG MANOR, August 17-23, Denmark, 2008. (Dedicated to Carsten Thomassen's 60th birthday.)
6. Fourth workshop in Graph Classes, Optimization, and Width Parameters, GROW 2009, in Bergen, October, 2009.
7. Danish Graph Theory, November, 2009.
8. WALCOM, Workshop on Algorithm and Computation, in New Delhi, India on February 18-20, 2011.
9. Graph Theory 2011, Hotel Koldingfjord in Kolding, Denmark, April 28 - May 1.

10. 8th Annual Conference on Theory and Applications of Models of Computation (TAMC'11), Tokyo, May, 2011.
11. EuroComb 2011, European Conference on Combinatorics, Graph Theory and Applications, Aug 29-Sep 2, Budapest, Hungary.
12. Robin Thomas Festa at Charles University, 2011, Nov.
13. Conference devoted to the 50th birthday of Robin Thomas, Atlanta, 2012 May.
14. SIAM Discrete Math. Conf 2012, June.
15. Graph Theory and Interactions (LMS symposium), Durham, England, UK, 15-25 July 2013.
16. 16th Japan Conference on Discrete and Computational Geometry and Graphs (JCDCG2 2013), Sept. 17-19, Tokyo University of Science, Kagurazaka, Tokyo, Japan
17. The Japanese Conference on Combinatorics and its Applications (JCCA 2014), Aug 25-29, University of Tsukuba, Japan.
18. 23rd Workshop on Cycles and Colourings, Sept. 7-12, Novy Smokovec, High Tatras, Slovakia
19. 7th Cracow Conference on Graph Theory, Sept. 14-19, Rytro, Poland.
20. ICALP'15, Plenary
21. Topological graph theory conference in Yokohama, Nov. 2018
22. Waterloo Color, Sept. 2019.
23. Highlights of Algorithms, June, Paris, 2016.
24. DIMAP'10, Wawrick University, December, 2017.
25. Danish Graph Theory Conferences, August, 2018.
26. Waterloo coloring, September, 2019.
27. Australian Combinatorial Conference, December, 2019