Curriculum Vitae

Personal Dates

Name:	Ken-ichi Kawarabayashi
Birthday/-Place:	22.05.1975 in Tokyo, Japan
Citizenship:	Japan

Married in 2003.

Current Position and Address

Professor

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)

Visiting Position

May 2002	Visiting Assistant Professor of University of the Southern Denmark Univ.
March 2005	Visiting Professor of Georgia Institute of Technology.
July 2005 - Oct 2005	Visiting Professor of University of the Southern Denmark Univ.
Feb - April 2007	Visiting Professor of Simon Fraser University, Canada.
May - June 2007	Visiting Professor of University of Hamburg
July 2007 - Feb. 2009	Visiting Professor of Simon Fraser University, Canada.

Teaching Experience

October 1998 - January 1999	Teaching Assistant, Keio University, Computer Science and Programming.
October 2003 - January 2004	Graduate Course, Tohoku University, Graph Theory and its application.
April 2004 - August 2004	Graduate Course, Tohoku University, Algorithm aspect of Graph Theory.
October 2004 - January 2005	Undergraduate Course, Topics in Computer Science
October 2006 - February 2007	Graduate Course Topics in Discrete Math
November 2006	MiniCourse for Graduate Student for Nagoya Univ. Recent Advance in Discrete Math.
July 2009	MiniCourse for Graduate Student in Japan at Tokyo Institute of Technology. Recent Advance in Discrete Math.
October 2006 - February 2007	Graduate Course Topics in Graph Theory
October 2009 - February 2010	Graduate Course Topics in Discrete Math

Award

1. Fujiwara Prize (for an outstanding student in Keio Univ.) in 2000.
2. Takebe Prize (for an outstanding young Japanese mathematician.) in 2001.

3. Keio Univ, Alumni Award in 2003.
4. Inoue Research Award for Young Scientists 2003
5. Kirkman Prize (from the Institute of Combinatorics and its Applications), in 2003.
6. Young Researchers prize from Japan Society for the Promotion of Science in 2006.
7. Best Paper Award of 17th International Symposium on Algorithms and Computation (ISAAC 2006).
8. IBM Japan Science prize in Computer Science, 2008.
9. Inoue Research Award, 2009, February.
10. Funai Research (special) Award, 2011, March.

Organization and Program 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. Program Committee, Siam Discrete Math Conference, June, 2010.
10. Program Committee, the 35th International Symposium on Mathematical Foundations of Computer Science (MFCS 2010), August, 2010.
11. Organizer, Kyoto Prize Satellite Workshop in Tokyo, November, 2010, Tokyo.
12. Organizer, 3rd Pacific Workshop on Discrete Mathematics, Hawai, December, 2010.
13. Program Committee, ACM-SIAM Symposium on Discrete Algorithms, (SODA'11).
14. Organizer, Shonan meeting on Graph Algorithm and Combinatorial Optimization, Shonan, Feb., 2011.
15. Organizer, Second Bertinoro workshop on Graphs and Algorithm, Bertinoro, 2011, Dec.
16. Organizing Committee, ISAAC 2011, Yokohama, Dec..
17. Local Committee, ACM-SIAM Symposium on Discrete Algorithms, (SODA'12).

Referee

1. **Journal referees:** J. ACM, Journal of Combin. Theory Ser. A & B., Combinatorica, Journal of Graph Theory, Siam J. Computing, Siam J. Discrete Math, Discrete Math, Discrete Applied Math., Europ. J. Combinatorics, Elect. J. Combinatorics, Ann. Combinatorics, Combinatorics, Probability and Computing, Graphs and Combinatorics, Discrete Math and Theoretical Computer Science, Ars Combinatoria, Aust. J. Combinatorics, Discuss. Math. Graph Theory, Information Proceeding Letter, Lecture Note in Computer Science, International Math. Research, Tohoku Math., New York Journal of Mathematics, International Journal of Computer Mathematics, Journal of Applied Mathematics and Computing, Algorithmica, ACM Transaction on Algorithms, Applied Mathematics Letter, Information Proceeding letter.
2. **Conference referee:** Soda'07–12, Stoc'07,'09,'11, Focs'07,'10, Graph Drawing'07, ISAAC'07&08, Kyoto CCGT'07, Latin'08, IWPEC'08, TGGT'08, Coccon'08, ESA'08, ICALP'10&11, WG'10, Approx'10, FSTCS'11.
3. **Grant Proposal Referee:** NSA (USA, 06, 07, 10), NWO (Netherlands, 08,09), JNSF(KAKENHI) (Japan, 09,10), NZNSF (New Zealand, 2010)
4. **Others:** Math Reviews. (So far, 20 papers)

Editor of Journals

1. Siam Journal of Discrete Mathematics, Editor (2010–).
2. Journal of Graph Theory, Editor (2008–).
3. Discrete Mathematics and Theoretical Computer Science, Editor (2009–).
4. Graphs and Combinatorics, Editor (2010–).
5. International Journal of Combinatorics, Editor (2008–).

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 -	The Japan Society for the Promotion of Science, Grant-in-Aid for Scientific Research

List of publications

Paper published

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. Hamiltonian Cycles in Factor-Critical Graphs, (with A. Saito and K. Ota), Discrete Math **240** (2001) 71–82.

8. F-factor and vertex disjoint F in Graphs, Ars Combinatoria **62** (2001) 183–187.

9. Path Factor in Claw-Free Graphs, (with K. Ando, Y. Egawa, A. Kaneko, H. Matsuda), Discrete Math **243** (2002) 195–200.

10. K_4^--factor in graphs, J. Graph Theory **39** (2002) 111–128.

11. One or two disjoint circuits cover independent edges; Lovász-Woodall Conjecture, J. Combin. Theory Ser. B **84** (2002) 1–44.

12. Path-factor in cubic graphs, (with H. Matsuda, Y. Oda and K. Ota), J. Graph Theory **39** (2002) 188–193.

13. Graph partition into paths containing specified vertices, Discrete Mathematics **248** (2002) 271–278.

14. Hamiltonian Cycles in n-extendable graphs, (with A. Saito and K. Ota), J. Graph Theory **40** (2002) 75–82.

15. Contractible edges and triangles in k-connected graphs, J. Combin. Theory Ser. B **85** (2002) 207–221.

16. Contractible edges and Bowtie in k-connected graphs, (with K. Ando, A. Kaneko and K. Yoshimoto), Ars Combinatoria **64** (2002) 239–247.

17. On separable self-complementary graphs (with A. Nakamoto, Y. Oda, K. Ota, S. Tazawa and M. Watanabe), Discrete Math. **257** (2002) 165–168.

18. 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.

19. 2-connected 7-coverings in 3-connected graph on surfaces, (with A. Nakamoto and K. Ota), J. Graph Theory **43** (2003) 26–36.

20. Some forbidden subgraph conditions for a graph to have a k-contractible edge, (with K. Ando), Discrete Math **267** (2003) 3–11.

21. Cycles Having the Same Modularity, (with K. Ando, M. Hagita, A. Kaneko, M. Kano, and A. Saito), Discrete Math. **265** (2003) 23–30.

22. On two equimatchable graph classes (with M. Plummer and A. Saito), Discrete Math **266** (2003) 263–274.

23. Covering vertices of a graph by k vertex disjoint cycles, (with Y. Egawa, M. Hagita and H. Wang), Discrete Math **270** (2003) 114–124.

24. Subgraphs of Graphs on Surfaces with High Representativity, (with A. Nakamoto and K. Ota), J. Combin. Theory Ser. B. **89** (2003) 207–229.

25. Vertices of degree 6 in 6-contraction-critical graphs, (with K. Ando and A. Kaneko), Discrete Math **273** (2003) 55–69.

26. K-Linked Graphs with Girth Condition, J. Graph Theory **45** (2004) 48–50.

27. Cycles through prescribed vertex set in n-connected graphs, J. Combin. Theory Ser. B. **90** (2004) 315–323.

28. 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.

29. Vertex disjoint K_4^- in graphs, Discuss. Math. Graph Theory **24** (2004) 249–262.

30. A theorem on paths in locally planar triangulations, European J. Combin. **25** (2004), 781–784.

31. Rooted minor problems in highly connected graphs, Discrete Math. **287** (2004), 121–123.

32. 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.

33. Orientable and non-orientable genera for some complete tripartite graphs, (with C. Stephen and X. Zha), Siam J. Discrete Math. **18** (2005) 479-487.

34. Detecting Even Holes, (with M. Chudnovsky and P. Seymour), J. Graph Theory, **48** (2005) 85-111.

35. Nonseparating paths with two prescribed endvertices in 4-connected graphs, (with O. Lee and X. Yu), Annals of Combinatorics **9** (2005) 47-56.

36. 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.

37. Graph Minors and Linkage Problem I, (with G. Chen, R. Gould, F. Pfender and B. Wei), J. Graph Theory **49** (2005) 75-91.

38. Acute triangles in 4-connected maximal plane graphs, (with A. Nakamoto, Y. Oda and M. Watanabe), Discrete Math **292** (2005) 95–106.

39. Some properties of 5-contraction critical graphs, (with K. Ando and A. Kaneko), Graph and Combin. **21** (2005) 27–37.

40. Any 7-chromatic graph has a K_7-minor or a $K_{4,4}$-minor, (with B. Toft), Combinatorica **25** (2005) 327–353.

41. Improvement of the theorem of Duchet and Meyniel on Hadwiger's Conjecture (with B. Toft), J. Combinatorial Theory Ser. B. **96** (2005), 152–167.

42. 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.

43. Existence of two long cycles (with Y. Egawa, S. Fujita and H. Wang), Discrete Math. **205** (2005), 154–169.

44. Dominating number in cubic graphs with large girth (with M. Plummer and A. Saito), J. Graph Theory **52** (2006) 1–6.

45. Non-zero disjoint cycles in highly connected graphs (with P. Wollan), J. Combin. Theory Ser. B. **96** 296–301.

46. 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.

47. 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.

48. 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.

49. 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.

50. Chords of longest circuits in locally planar graphs (with J. Niu and C. Q. Zhang), Europ. J. Combinatorics **28** (2007) 315–321.

51. 2-connected spanning subgraphs with low maximum degree in locally planar graphs, (with M. Ellingham), J. Combin. Theory Ser. B. **97** (2007) 401–412.

52. On the connectivity of minimum and minimal counterexamples to Hadwiger's Conjecture, J. Combin. Theory Ser. B. **97** (2007), 144–150.

53. The Erdos-Posa property for orientable surface (with A. Nakamoto), Discrete Math **307** (2007), 764–768.

54. Some recent progress and applications on Graph Minor Theory, A survey (with B. Mohar), Graph and Combinatorics **23** (2007), 1–46.

55. Half integral packing, Erdős-Pósa property and Graph minors, ACM-SIAM Symposium on Discrete Algorithms (SODA'07) 1187–1196.

56. A relaxed version of Hadwiger's conjecture for list-coloring (with B. Mohar), J. Combin. Theory Ser. B. **97** (2007), 647–651.

57. Rooted minor problems in graphs (with L. Jorgensen), J. Graph Theory **55** (2007) 191–207.

58. Computing crossing number in linear time (with B. Reed), 39th ACM Symposium on Theory of Computing (STOC'07), 382–390.

59. Independence number and clique minors (with Z. Song), J. Graph Theory **56** (2007), 219–226.

60. Some remarks on the odd Hadwiger's conjecture, (with Z. Song), Combinatorica **27** (2007), 429–438.

61. Non-separating cycles consisting of contractible edges in k-connected graphs, (with Y. Egawa and K. Inoue), Siam Discrete Math, **21** (2007), 1061–1070.

62. 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.

63. Contractible edges in minimally k-connected graphs, (with K. Ando and A. Kaneko), Discrete Math **308** (2008), 597–602.

64. 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.

65. Fractional coloring and the odd Hadwiger's conjecture (with B. Reed), Europ. J. Combinatorics **29** (2008), 411–417.

66. A nearly linear time algorithm for half-integral disjoint paths packing (with B. Reed), ACM-SIAM Symposium on Discrete Algorithms (SODA'08), 446–454.

67. The induced disjoint paths problem (with Y. Kobayashi), IPCO'08, 47–61.

68. An improved algorithm for cycles through elements, IPCO'08, 374–384.

69. Contractible elements in k-connected graphs not containing some specified graphs, (with S. Fujita) J. Graph Theory **58** (2008), 97–109.

70. 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.

71. Approximating list-coloring on a fixed surface, ICALP'08, 333–344.

72. Connectivity keeping edges in graphs of large minimum degree (with S. Fujita), J. Combin. Theory Ser. B, **98** (2008), 805–811.

73. Improved upper bounds on the crossing number (with V. Dujmovic, B. Mohar and D. Wood), SOCG'08, 375–384.

74. 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.

75. Locally planar graphs are 5-choosable (with M. DeVos and B. Mohar), J. Combin. Theory Ser. B, **98**, (2008) 1215–1232.

76. A weakening of the odd Hadwiger's conjecture, Combin. Prob. Computing, **17** (2008), 815–821.

77. 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.

78. Long cycles without hamiltonian paths (with K. Ozeki and T. Yamashita), Discrete Math., **308**, (2008), 5899–5906.

79. K_6-minor in triangulations in the Klein bottle (with R. Mukae and A. Nakamoto), Siam. J. Discrete Math, **23** (2009), 96–108.

80. 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.

81. 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.

82. 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.

83. 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.

84. List-Color-Critical Graphs on a Fixed Surface (with B. Mohar), ACM-SIAM Symposium on Discrete Algorithms, (SODA'09), 1166–1175.

85. Note on non-separating and removable cycles in highly connected graphs (with S. Fujita), Discrete Applied Math, **159** (2009), 398–399.

86. Removable paths in non-bipartite graphs (with O. Lee and B. Reed), J. Combin. Theory Ser. B, **99** (2009), 30–38.

87. 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.

88. N-flips in even triangulations on surfaces (with A. Nakamoto and Y. Suzuki), J. Combin. Theory Ser. B, **99** (2009), 229–246.

89. Linear Connectivity forces large complete bipartite minors (with T. Bohme, J. Maharry and B. Mohar), J. Combin. Theory Ser. B, **99** (2009), 557–582.

90. 6-critical graphs on the Klein bottle (with D. Kral, J. Kyncl, and B. Lidicky), Siam J. Discrete Math, **23** (2009), 372–383.

91. List-coloring graphs without $K_{4,k}$-minors, Discrete Applied Math, **157**, (2009), 659–662.

92. Algorithmic Graph Minor Theory: Improved Grid Minor Bounds and Wagner's Contraction (with E. Demaine and M. Hajiaghayi), Algorithmica, **54** (2009), 142–180.

93. 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.

94. Note on coloring graphs without odd-K_k-minors, J. Combin. Theory Ser. B **99** (2009), 738–741.

95. Bounding the size of equimatchable graphs of fixed genus (with M. Plummer), Graphs and Combinatorics **25** (2009), 91–99.

96. Hadwiger's Conjecture is decidable (with B. Reed), the 41st ACM Symposium on Theory of Computing (STOC'09) 445–454.

97. Highly parity linked graphs, (with B. Reed), Combinatorica **29** (2009), 215–225.

98. Approximation Algorithms via Structural Results for Apex-Minor-Free Graphs, (with E. Demaine and M. Hajaghayi), 35th International Colloquium on Automata, Languages and Programming (ICALP'09), 316–327.

99. Planarity allowing few error vertices in linear time, 50th Annual Symposium on Foundations of Computer Science (FOCS 2009), 639–648.

100. Dominating sets in triangulations on surfaces (with T. Honjo and A. Nakamoto), J. Graph Theory, **63** (2010), 17–30.

101. 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.

102. 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.

103. 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.

104. An (almost) Linear Time Algorithm For Odd Cycles Transversal (with B. Reed), ACM-SIAM Symposium on Discrete Algorithms, (SODA'10), 365–378.

105. Star-coloring and Acyclic-coloring of locally planar graphs (with B. Mohar), Siam. J. Discrete Math. **24** (2010), 56–71.

106. A simple algorithm for 4-coloring 3-colorable planar graphs (with K. Ozeki), Theoretical Computer Science, **411** (2010), 2619–2622.

107. Odd cycle packing (with B. Reed), 42nd ACM Symposium on Theory of Computing (STOC'10), 695–704.

108. 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.

109. Double-critical graphs and complete minors (with A. S. Pedersen and B. Toft), Electric J. Combinatorics, R87, (2010).

110. Linkless and flat embeddings in 3-space and the Unknot problem (with S. Kreutzer and B. Mohar), the 26th Annual ACM Symposium on Computational Geometry, 97–106.

111. Contractible small subgraphs in k-connected graphs (with S. Fujita), Graphs and Combinatorics **26** (2010), 499–511.

112. An improved algorithm for the half disjoint paths problem (with Y. Kobayashi), Approx and Random 2010, 287-297.

113. An $O(\log n)$ approximation algorithm for the edge-disjoint paths problem in eulerlian planar graphs and 4-edge-connected planar graphs (with Y. Kobayashi), Approx and Random 2010, 274-286.

114. 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.

115. Non-separating even cycles in highly connected graphs (with S. Fujita), Combinatorica **30**, (2010), 565–580.

116. Algorithms for finding an induced cycle in planar graphs (with Y. Kobayashi), Combinatorica, **30**, (2010), 715–734.

117. A separator theorem in minor-closed classes (with B. Reed), the 51st Annual Symposium on Foundations of Computer Science (FOCS 2010), 153–162.

118. Immersing small complete graphs (with M. DeVos, B. Mohar and H. Okamura), Ars Mathematica Contemporanea **3** (2010) 139–146.

119. Contractible triples in highly connected graphs (with S. Fujita), Annals of Combinatorics **14** (2010), 457–465.

120. Non-separating subgraphs after deleting many disjoint paths (with K. Ozeki), J. Combin. Theory Ser. B **101**, (2011), 54–59.

121. 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.

122. Packing cycles through prescribed vertex set (with N. Kakimura and D. Marx), J. Combin. Theory Ser. B **101**, (2011), 54–59.

123. 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.

124. 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.

125. 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.

126. 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.

127. 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.

128. 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).

129. The Multi-Round Balanced Traveling Tournament Problem (with R. Hoshino), the 21st International Conference on Automated Planning and Scheduling (ICAPS'11), 106–113.

130. Linear-Space Approximate Distance Oracles for Planar, Bounded-Genus, and Minor-Free Graphs (with P. Klein and C. Sommer), ICALP 2011, 135–146.

131. Toughness of $K_{a,t}$-minor-free graphs (with G. Chen, Y. Egawa, B. Mohar, K. Ota), Electric J. Combinatorics, P148.

132. 2- and 3-factors of graphs on surfaces (with K. Ozeki), J. Graph Theory, **67** (2011), 306–315.

133. 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.

134. Scheduling Bipartite Tournaments to Minimize Total Travel Distance (with R. Hoshino), Journal of Artificial Intelligence Research, **41** (2011), 527–561.

135. Three-coloring triangle-free planar graphs in linear time (with Z. Dvorak and R. Thomas), ACM transaction on Algorithms **7** No. 41 (2011).

Papers accepted

1. Degree Sum Conditions and Graphs Which are not Covered by k Cycles, to appear in Discrete Math.

2. Vertices of degree 7 in 7-contraction-critical graphs (with K. Ando and A. Kaneko), to appear in Discrete Math.

3. Approximating list-chromatic number of minor-closed family of graphs (with B. Mohar), to appear in Theor. Comput. Science.

4. Non separating subgraphs in highly connected graphs (with S. Fujita), to appear in J. Combin. Theory Ser. B.

5. From the plane to higher surfaces, (with C. Thomassen), to appear in J. Combin. Theory Ser. B.

6. Minors in 5-connected non-planar large graphs (with J. Maharry), to appear in J. Graph Theory.

7. $K_{3,k}$-minors in large 7-connected graphs, (with T. Bohme, J. Maharry and B. Mohar), to appear in J. Combin. Theory Ser. B.

8. K_6 minors in 6-connected graphs of bounded tree-width (with S. Norine, R. Thomas and P. Wollan), to appear in J. Combin. Theory Ser. B.

9. K_6 minors in large 6-connected graphs (with S. Norine, R. Thomas and P. Wollan), to appear in J. Combin. Theory Ser. B.

10. Message duplication reduction in dense mobile social network (with F. Nazir), to appear in International Conference on Computer Communication Networks (ICCCN'10).

11. The disjoint paths problem in quadratic time (with Y. Kobayashi and B. Reed), to appear in J. Combin. Theory Ser. B.

12. The Erdos-Posa property for clique minors in highly connected graphs (with R. Diestel and P. Wollan), to appear in J. Combin. Theory Ser. B.

13. On the excluded minor structure theorem for graphs of large treewidth (with R. Diestel, T. Muller and P. Wollan), to appear in J. Combin. Theory Ser. B.

14. Improved Algorithm for the Half-Disjoint Paths Problem (with Y. Kobayashi), to appear in Siam J. Discrete Math.

15. Linkless and flat embeddings in 3-space (with S. Kreutzer and B. Mohar), to appear in Discrete and Computational Geometry.

16. Connectivities for k-knitted graphs and for minimal counterexample to Hadwiger's Conjecture (with G. Yu), to appear in J. Combin. Theory Ser. B.

17. The minimum k-way cut of bounded size is fixed-parameter tractable (with M. Thorup), to appear in the 52nd Annual Symposium on Foundations of Computer Science (FOCS 2011).

18. The Graph Minor Algorithm with Parity Conditions (with B. Reed and P. Wollan), to appear in the 52nd Annual Symposium on Foundations of Computer Science (FOCS 2011).

19. An $O(logn)$-approximation algorithm for the disjoint paths problem in Eulerian planar graphs (with Y. Kobayashi), to appear in ACM transaction on Algorithms.

20. Spanning closed walks and TSP in 3-connected planar graphs (with K. Ozeki), to appear in ACM-SIAM Symposium on Discrete Algorithms, (SODA'12).

21. Erdős-Pósa property and its algorithmic applications — parity constraints, subset feedback set, and subset packing (with N. Kakimura and Y. Kobayashi), to appear in ACM-SIAM Symposium on Discrete Algorithms, (SODA'12).

22. List-Coloring Graphs without Subdivisions and without Immersions (with Y. Kobayashi, to appear in ACM-SIAM Symposium on Discrete Algorithms, (SODA'12).

23. A Linear Time Algorithm for the Induced Disjoint Paths Problem in Planar Graphs (with Y. Kobayashi), to appear in Journal of Computer and System Sciences.

Refereed Conference Proceeding

1. New approach to Lovász-Woodall conjecture. Paul Erdös and his mathematics (Budapest, 1999), 118–121, János Bolyai Math. Soc., Budapest, 1999

2. Relative Length of Longest Path and Longest Cycle, Electronic Notes in Discrete Mathematics. **5**, 2000, Page 201

3. Vertices of degree 6 in a 6-contraction critical graph (with K. Ando and A. Kaneko), Electronic Notes in Discrete Mathematics, **10**, 2001, 2-6.

4. Nonseparating Induced Cycles Consisting of Contractible Edges in k-Connected Graphs (with Y. Egawa and K. Inoue), Electronic Notes in Discrete Mathematics, **11**, 2002, 253-264.

5. Contractible edges in minimally k-connected graphs (with K. Ando and A. Kaneko), Electronic Notes in Discrete Mathematics, **11**, 2002, 20-29.

6. Non-zero disjoint cycles in highly connected group labeled graphs (with P. Wollan), Electronic Notes in Discrete Mathematics, **22**, 2005, 271-275.

7. Linear time algorithm for computing crossing numbers (with B. Reed), to appear in KyotoCGGT 2007.

8. Six-critical graphs on Klein bottle (N. Chenette, D. Kral, J. Kyncl, B. Lidicky, L. Postle, N. Streib, R. Thomas, and C. Yager), Electronic Notes in Discrete Mathematics for TGGT'08, 235–239

9. N-flips in triangulation on a fixed surface (with A. Nakamoto and Y. Suzuki), Electronic Notes in Discrete Mathematics for TGGT'08, 99–104

10. The induced disjoint paths problem (with Y. Kobayashi), to appear in Proc. the first Asian Association for Algorithms and Computation Annual Meeting (AAAC08).

11. Even disjoint cycles packing (with S. Chiba, S. Fujita and T. Sakuma), to appear in EuroComb'09 (Electronic Notes in Discrete Mathematics).

Plenary Speaker at Conferences

1. The Sixth Annual Paul Erdös Memorial Lecture, One of invited speakers, University of Memphis, March 2002.

2. The Fifth Slovenian Conference in Graph Theory. June. 2003.

3. Graph Theory Workshop in Atlanta, East meets West, June 2004.

4. The 4th Japan-Hungary conference in Discrete Math. Budapest, June, 2005.

5. The Wuhan International Workshop on Graph Structure Theory, Huazhong (Central China) Normal University, Wuhan, Hubei, China, July. 2005.

6. Graph Theory 2005, Odense, Denmark, September 2005.

7. Pacific Conference on Discrete Math, Hawai, December 2005.

8. Topological graph theory and crossing number, Banff, October, 2006.
9. Oberwolfach Meeting on Graph Theory March. 2007.
10. The 5th Japan-Hungary conference in Discrete Math. Sendai, April, 2007.
11. Latin-American Algorithms, Graphs and Optimization Symposium (LAGOS'07), Chile, Nov. 2007.
12. RIMS workshop on Combinatorial Optimization and Discrete Algorithm, 2008 June, RIMS, Kyoto University.
13. Cumberland Conference on Combinatorics, Graph Theory and Computing, 2008, May, Vanderbilt Univ. (Dedicated to Mike Plummer's 70's birthday.)
14. GRAPH THEORY AT SANDBJERG MANOR, August 17-23, Denmark, 2008. (Dedicated to Carsten Thomassen's 60th birthday.)
15. Graph Minor, Banff, October, 2008.
16. Graph Coloring and Structure, Princeton, May, 2009.
17. The 6th Japan-Hungary conference in Discrete Math. Budapest, May, 2009.
18. Korean workshop on Graphs and Algorithm, KAIST, May, 2009.
19. Fourth workshop in Graph Classes, Optimization, and Width Parameters, GROW 2009, in Bergen, October, 2009.
20. Danish Graph Theory, November, 2009.
21. Dagshtul meeting on fixed parameter tractable and algorithm, Dec. 2009.
22. Bertinora workshop on Graphs and Algorithm, Bertinoro, Dec. 2009.
23. Oberwolfach meeting on Graph Theory, Oberwolfach, Feb. 2010.
24. Second Workshop on Graphs and Matroids, 2010 at the School of Business and Economics of Maastricht University, August 2010.
25. International Conference on Recent Trends in Graph theory and Combinatorics, August, India, 2010.
26. New trends in Structure graph theory, Banff, September, 2010.
27. Workshop on Graph Decompositions, Algorithms and Logic, CIRM, Oct 18–22, 2010.
28. WALCOM, Workshop on Algorithm and Computation, in New Delhi, India on February 18-20, 2011.
29. Graph Theory 2011, Hotel Koldingfjord in Kolding, Denmark, April 28 - May 1.
30. KAIST, Discrete Math Day 2011, KAIST, May.

31. The 7th Hungarian-Japanese Symposium on Discrete Mathematics and Its Applications, RIMS, Kyoto, May 31–June 2.

32. EuroComb 2011, European Conference on Combinatorics, Graph Theory and Applications, Aug 29-Sep 2, Budapest, Hungary.

33. One day Graph Theory Day at Charles University, 2011, Nov.

34. Second Bertinoro workshop on Graphs and Algorithm, Bertinoro, 2011, Dec.

35. Conference devoted to the 50th birthday of Robin Thomas, Atlanta, 2012 May.

36. SIAM Discrete Math. Conf 2012, June.

Talks at Refereed Computer Science Conferences

1. FOCS 2005, Oct. 2005.

2. STOC 2006, May 2006.

3. ISAAC 2006, Best Paper presentation, Kalkota, December, 2006.

4. SODA 2007, New Orleans, Jan. 2007.

5. STOC 2007, June 2007.

6. SODA'08, 2008, January, San Francisco.

7. STOC'08, Victoria. May 2008.

8. IPCO'08, May, Italy, Bertinoro.

9. SOCG'08, Maryland. June 2008.

10. ICALP'08, Island, July 2008.

11. FOCS'08, Philadelphia, Oct. 2008.

12. SODA'09, New York, Jan. 2009.

13. STOC'09, Washington DC, June, 2009

14. ICALP'09, Greek, July, 2009.

15. FOCS'09, Atlanta, Oct. 2009.

16. SODA'10, Austin, Jan. 2010.

17. STOC'10, New England, June 2010.

18. SOCG'10, Salt Lake City, June 2010.

19. FOCS'10, Las Vegas, Oct. 2010.

20. STOC'11, San Jose, June 2011.

21. AAAI'11, San Francisco, August 2011.
22. FOCS'11, LA, Oct. 2011.
23. SODA'12, Kyoto, Jan. 2012.

Invited Talk at International Conferences

1. AMS Meeting at Las Vegas, Graph Theory, April, 2001.
2. AMS Meeting at Georgia Tech, Graphs and Matroids, March. 2002.
3. Siam Discrete Math Meeting 2002 at San Diego, Extremal Graph Section, Aug. 2002.
4. Siam Discrete Math Meeting 2004 at Nashville, Paths and Cycles in Graph Section, June 2004.
5. Siam Discrete Math Meeting 2004 at Nashville, Graph Minors Section. June 2004 June 2004.
6. Oberwolfach Meeting on Graph Theory Jan. 2005.
7. Siam Discrete Math Meeting 2006 at Victoria, Graph Minors Section, June 2006.
8. AMS National meeting in New Orleans, Graph Theory Section, Jan. 2007.
9. CANADAM, Banff May 2007.
10. Dagshtul meeting on fixed parameter tractable and algorithm, July 2007.
11. Workshop on Cycle Double Cover Conjecture, PIMS, August 2007.
12. Siam Discrete Math Meeting 2008 at Vermont, Graph Minors Section, June 2008.
13. CANADAM, Montreal, May, 2009.
14. Siam Discrete Math Meeting 2010 at Austin, Structure Graph Theory and Topological graph theory Sections, June 2010.

Invited Talk at University or Institute

1. Vanderbilt University, Department of Mathematics Colloquium, July 2001.
2. Emory University, Department of Mathematics Colloquium, Oct. 2001.
3. Georgia Institute of Technology, Combinatorics Seminar. Oct. 2001.
4. West Virginia University, Department of Mathematics Colloquium, Nov. 2001.
5. Microsoft Research, Theory Group, Jan. 2002.
6. University of Southern Denmark, Graph Theory Seminar, June 2002.
7. Hamburg University, Graph Theory Seminar. June 2002.
8. Princeton University, Discrete Math. Seminar. Sep. 2002.

9. Vanderbilt Univ., Department of Mathematics Colloquium, Oct. 2002.
10. Oberwolfach Meeting, Graph Theory, Jan. 2003.
11. Colloquium, Graduate School of Information Science, Tohoku Univ. Oct. 2003.
12. Colloquium, Department of Mathematics, Tohoku Univ. May 2004.
13. Graph Theory Seminar at Georgia State Univ. June 2004.
14. Graph Theory Seminar at Ljubljana University. Oct, 2004.
15. Vanderbilt Univ., Department of Mathematics Colloquium, March. 2005.
16. Discrete Math Seminar Talk at Ohio State Univ., March 2005.
17. Georgia Institute of Technology, Combinatorics Seminar. March. 2005.
18. Graph Theory Seminar, Keio Univ., September, 2005.
19. Discrete Math Seminar, Oct. 2005, McGill Univ.
20. Discrete Math Seminar, Hamburg Univ. May, 2007.
21. Discrete Math Seminar, Oct. 2007, McGill Univ.
22. Discrete Math Seminar, Dec. 2007, Simon Fraser Univ.
23. Graph Theory Seminar Feb. 2008, Georgia Tech.
24. Combinatorics Seminar Feb. 2008, Georgia Tech.
25. Combinatorics Seminar May 2008, Ohio State Univ.
26. Graph Theory Seminar May 2008, Hamburg Univ.
27. Colloquium, Humbolt-University Berlin, June 2008.
28. Colloquium, University of Maryland, Oct. 2008.
29. Discrete Math Seminar, Nov. 2008, Simon Fraser Univ.
30. Computer Science Seminar, Nov. 2008, Simon Fraser Univ.
31. Discrete Math. Seminar, Nov. 2009, KAIST.
32. Colloquium, Nov. 2009, KAIST.
33. Graph Theory Seminar, Jan., 2010, Georgia Tech.
34. Discrete Math. Seminar, Feb. 2010, Humbolt-University Berlin.
35. Graph Theory Seminar, June, 2010, Georgia Tech.

Plenary Talks in Japanese Conference

1. Mathematical Society of Japan 2004 Autumn Meeting, Hokkaido University (Sapporo), September 2004.
2. IEICE Technical Group Conference Registration System, Tohoku Univ., Oct. 2004.
3. RAMP 2004 Symposium, Kanazawa, Oct. 2004.
4. NHC meeting, Nagoya Univ. Nov. 2005.
5. IEICE Technical Group Conference Registration System, Nagoya Univ., Dec. 2006.

Contributed Talk at International Conference

1. Workshop on Graph Theory and Combinatorics at Yokohama, July 1998.
2. Paul Erdös and his Mathematics at Budapest, June 1999.
3. The 17th British Combinatorial Conference at Canterbury, July 1999.
4. The 9th Quadrennial International Conference on Graph Theory, Combinatorics, Algorithms, and Applications at Kalamazoo, June 2000.
5. The 6th International Conference on Graph Theory at Marseille, Sep. 2000.
6. The 3th International Conference on Discrete Computation and Geometry at Tokyo, Nov. 2000.
7. Horizon in Combinatorics at Vanderbilt Univ. May, 2001.
8. The 18th British Combinatorial Conference at Sussex, July 2001.
9. Kyoto CCGT. June 2007.
10. TGT 20th (2008), Nov., 2008, Yokohama.