Academic Publications – Graham Brightwell

Articles published

The main list includes all research articles published in journals, in refereed conference proceedings, or as invited chapters in books. Expository chapters in books, co-edited volumes, work released only in preprint form, and book reviews, are listed separately after the main list.

1985

1. Universal correlations in finite posets, *Order* **2** (1985) 129–144.

1986

2. Some correlation inequalities in finite posets, *Order* **2** (1986) 387–402.
3. (with B. Bollobás and J. Nešetřil) Random graphs and covering graphs of posets, *Order* **3** (1986) 245–255.

1987

4. (with B. Bollobás) Graphs whose every orientation contains almost every relation, *Israel J. Math.* **59** (1987) 112–128.

1988

5. Linear extensions of infinite posets, *Discrete Math.* **70** (1988) 113–136.
6. (with B. Bollobás) Transitive orientations of graphs, *SIAM J. Comp.* **17** (1988) 1119–1133.

1989

7. Semiorders and the 1/3–2/3 conjecture, *Order* **5** (1989) 369–380.
8. (with B. Bollobás) Long cycles in graphs with no subgraphs of minimal degree 3, *Discrete Math.* **75** (1989) 47–53.
9. (with B. Bollobás) Parallel selection with high probability, *SIAM J. Disc. Maths.* **3** (1989) 21–31.
10. (with P. Winkler) Sphere orders, *Order* **6** (1989) 235–240.

1990

11. Events correlated with respect to every subposet of a fixed poset, *Graphs and Combinatorics* **6** (1990) 111–131.
12. (with P. Winkler) Maximum hitting time for random walks on graphs, *Random Structures and Algorithms* **1** (1990) 263–276.
13. (with P. Winkler) Extremal cover times for random walks on trees, *Journal of Graph Theory* **14** (1990) 547–554.

1991

14. (with B. Bollobás) Box-spaces and random partial orders, *Trans. Amer. Math. Soc.* **324** (1991) 59–72.

15. (with J. Nešetřil) Reorientations of covering graphs, *Discrete Math.* **88** (1991) 129–132.

16. (with R. Gregory) Structure of random discrete spacetime, *Phys. Rev. Lett.* **66** (1991) 260–263.

17. (with P. Winkler) Counting linear extensions, *Order* **8** (1991) 225–242. (An extended abstract also appears as "Counting linear extensions is #P-complete," *Proc. 23rd ACM Symposium on the Theory of Computing (STOC)* (1991) 175–181.

1992

18. (with C. D. Wright) The 1/3–2/3 conjecture for 5-thin posets, *SIAM J. Disc. Maths.* **5** (1992) 467–474.

19. (with N. Biggs and D. Tsoubelis) Theoretical and practical studies of a competitive learning process, *Network* **3** (1992) 285–301.

20. (with B. Bollobás) The height of a random partial order: concentration of measure, *Annals of Applied Probability* **2** (1992) 1009–1018.

21. (with E. Scheinerman) Fractional dimension of partial orders, *Order* **9** (1992) 139–158.

22. Random k-dimensional orders: width and number of linear extensions, *Order* **9** (1992) 333–342.

1993

23. (with W. T. Trotter) The order-dimension of convex polytopes, *SIAM J. Disc. Maths.* **6** (1993) 230–245.

24. (with B. Bollobás) Cycles through specified vertices, *Combinatorica* **13** (1993) 147–155.

25. (with P. Fishburn and P. Winkler) Interval orders and LEM cycles, *Ars Combinatoria* **36** (1993) 283–288.

26. (with E. Scheinerman) Representations of planar graphs, *SIAM J. Disc. Maths.* **6** (1993) 214–229.

27. (with Y. Kohayakawa) Ramsey properties of orientations of graphs, *Random Structures and Algorithms* **4** (1993) 413–428.

28. On the complexity of diagram testing, *Order* **10** (1993) 297–303.

1994

29. Linear extensions of random orders, *Discrete Math.* **125** (1994) 87–96.

30. (with N. Alon, B. Bollobás and S. Janson) Linear extensions of a random partial order, *Annals of Applied Probability* **4** (1994) 108–123.

31. (with W.T. Trotter) Incidence posets of trees in posets of large dimension, *Order* **11** (1994) 159–167.

32. (with H. Kierstead, A. Kostochka and W.T. Trotter) The dimension of suborders of the Boolean lattice, *Order* **11** (1994) 127–134.

1995

33. (with M. Anthony and C. Cooper) On the Vapnik-Chervonenkis dimension of a random graph, *Discrete Math.* **138** (1995) 43–56.

34. (with B. Bollobás) Random high dimensional orders, *Adv. Appl. Prob.* **27** (1995) 161–184.

35. (with M. Anthony and J. Shawe-Taylor) On specifying Boolean functions by labelled examples, *Discr. Appl. Math.* **65** (1995) 1–25. (An extended abstract also appears as "On exact specification by examples" with D. Cohen as an additional author, in *Proc. of the 4th Annual ACM Workshop on Computational Learning Theory (COLT)* (1992) 311–318.)

36. Random graph orders do not satisfy a 0-1 law, *Random Structures and Algorithms* **6** (1995) 231–237.

37. (with B. Bollobás) The width of random graph orders, *The Mathematical Scientist* **20** (1995) 69–90.

38. (with S. Felsner and W.T. Trotter) Balancing pairs and the cross-product conjecture, *Order* **12** (1995) 327–349.

39. (with T. Ott and P. Winkler) Target shooting with programmed random variables, *Annals of Applied Probability* **5** (1995) 834–853. (An extended abstract also appears in *Proc. 24th ACM Symposium on the Theory of Computing (STOC)* (1992) 691–698.)

40. (with E. Scheinerman) The dual of a circle order is not necessarily a circle order, *Ars Combinatoria* **41** (1995) 240–246.

1996

41. (with H.-J. Prömel and A. Steger) The average number of linear extensions of a partial order, *J. Combinatorial Theory (A)* **73** (1996) 193–206.

42. (with P. Franciosa) On the Boolean dimension of spherical orders, *Order* **13** (1996) 233–243.

43. (with B. Bollobás) The dimension of random graph orders, in *The Mathematics of Paul Erdős II*, (R.L. Graham and J. Nešetřil Eds.) pp. 51–69, Springer 1996.

44. (with S. Goodall) The number of partial orders of fixed width, *Order* **13** (1996) 315–337.

   1997

45. (with B. Bollobás) Random walks and electrical resistances in products of graphs, *Discr. Appl. Math.* **73** (1997) 69–79.

46. (with B. Bollobás) The structure of random graph orders, *SIAM J. Disc. Maths.* **10** (1997) 318–335.

47. (with C. Kenyon and H. Paugam-Moisy) Multilayer neural networks: one or two hidden layers?, in *Advances in Neural Information Processing Systems* **9** (Proceedings of NIPS*96, M.C. Mozer, M.I. Jordan and T. Petsche Eds.) MIT Press, 1997.

48. (with W. T. Trotter) The order-dimension of planar maps, *SIAM J. Disc. Maths* **10** (1997) 515–528.

   1998

49. (with K. Balińska and L. Quintas) Graphs whose vertices are graphs with bounded degree: distance problems, *Journal of Mathematical Chemistry* **24** (1998) 109–121.

   1999

50. Balanced pairs in partial orders, *Discrete Math.* **201** (1999) 25–52.

51. (with D. Grable and H.-J. Prömel) Forbidden induced partial orders, *Discrete Math.* **201** (1999) 53–80.

52. (with O. Häggström and P. Winkler) Nonmonotonic behavior in hard-core and Widom-Rowlinson models, *Journal of Statistical Physics* **94** (1999) 415–435.

53. (with B. Bollobás and A. Sidorenko) Geometrical techniques for estimating numbers of linear extensions, *European J. Combinatorics* **20** (1999) 329–335.

54. (with P. Winkler) Graph homomorphisms and phase transitions, *J. Combinatorial Theory (B)* **77** (1999) 221–262.

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55. (with P. Winkler) Gibbs measures and dismantlable graphs, *J. Combinatorial Theory (B)* **78** (2000) 141–166.

56. (with B. Bollobás) Convex bodies, graphs and partial orders, *Proc. London Math. Soc. (3)* **80** (2000) 415–450.

   2001

57. (with G.O.H. Katona) A new type of coding problem, *Stud. Sci. Math. Hung.* **38** (2001) 139–147.

58. (with G. Oriolo and F.B. Shepherd) Reserving resilient capacity in a network, *SIAM J. Disc. Maths* **14** (2001) 524–539.

2002

59. (with P. Winkler) Random colorings of a Cayley tree, in *Contemporary Combinatorics* (B. Bollobás ed.), Bolyai Society Mathematical Studies **10**, Springer (2002) 247–276.

60. (with P. Winkler) Hard constraints and the Bethe lattice: adventures at the interface of combinatorics and statistical physics, in *Proceedings of the International Congress of Mathematicians, Vol. III* (Beijing, 2002), 605–624, Higher Ed. Press, Beijing, 2002.

61. (with W.T. Trotter) A combinatorial approach to correlation inequalities, *Discrete Math.* **257** (2002) 311–327.

62. (with H.F. Dowker, R.S. García, J. Henson and R.D. Sorkin) General covariance and the 'problem of time' in a discrete cosmology, in *Correlations: Proceedings of the ANPA 23 conference, August 16–21, 2001, Cambridge, England* (K. Bowden Ed.) pp. 1–17, Alternative Natural Philosophy Association (2002). gr-qc/0202097.

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63. (with B. Bollobás and I. Leader) The number of 2-SAT functions, *Israel J. Math.* **133** (2003) 45–60.

64. (with G. Oriolo and F.B. Shepherd) Reserving resilient capacity for a single commodity with upper-bound constraints, *Networks,* **41** (2003) 87–96.

65. (with B. Bollobás) The number of k-SAT functions, *Random Structures and Algorithms* **22** (2003) 227–247.

66. (with H.F. Dowker, R.S. García, J. Henson and R.D. Sorkin) "Observables" in causal set cosmology, *Physical Review D* **67** (2003).

67. (with A. Bekmetjev, A. Czygrinow and G. Hurlbert) Thresholds for families of multi-sets, with applications, *Discrete Math.* **269** (2003) 21–34.

68. (with P. Tetali) The number of linear extensions of the boolean lattice, *Order* **20** (2003) 333–345.

2004

69. (with P. Winkler) Graph homomorphisms and long range action, in *Graphs, Morphisms and Statistical Physics* (J. Nešetřil and P. Winkler eds.), DIMACS Series in Discrete Mathematics and Computer Science **63** (2004) 29–47.

70. (with P. Winkler) A second threshold for the hard-core model on a Bethe lattice, *Random Structures and Algorithms* **24** (2004) 303–314.

2005

71. (with P. Winkler) Counting Eulerian Circuits is #P-complete, in *Proc. 7th ALENEX & 2nd ANALCO 2005 (Vancouver BC)* (C. Demetrescu, R. Sedgewick and R. Tamassia, eds.), SIAM Press, pp.259–262.

2006

72. (with B. Bollobás) How many graphs are unions of k-cliques?, *J. Graph Theory* **52** (2006) 87–107.

73. (with N. Alon, H.A. Kierstead, A.V. Kostochka and P. Winkler) Dominating sets in k-majority tournaments, *J. Combinatorial Theory (B)* **96** (2006) 374–387.

74. (with J. van den Heuvel and L. Stougie) A linear bound on the diameter of the transportation polytope, *Combinatorica* **26** (2006) 133–139.

2007

75. (with K. Panagiotou and A. Steger) On extremal subgraphs of a random graph, in *Proceedings of the 18th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA '07)*, 477–485. Extended version (29pp) submitted to journal.

2008

76. (with J. Henson and S. Surya) A 2D model of causal set quantum gravity: the emergence of the continuum, *Class. Quantum Grav.* **25** (2008) 105025.

2009

77. (with P. Winkler) Submodular percolation, *SIAM J. Disc. Maths* **23** (2009) 1149-1178.

2010

78. (with N. Georgiou) Continuum limits for classical sequential growth models, *Rand. Struct. Alg.* **36** (2010) 218-250.

79. (with V. Patel) Average relational distance in linear extensions of posets, *Discrete Math.* **310** (2010) 1016-1021.

80. (with G. Cohen, E. Fachini, M. Fairthorne, J. Körner, G. Simonyi and A.Tóth) Permutation capacities of families of oriented infinite paths, *SIAM J. Disc. Maths* **24** (2010) 441-456.

Articles to appear

81. (with M. Luczak) Order-invariant measures on causal sets, to appear in *Annals of Applied Probability.* (45pp)

82. (with M. Massow) Diametral pairs of linear extensions, to appear in *SIAM J. Disc. Maths.* (26pp)

Articles submitted for publication

83. (with B. Bollobás and R. Morris) Shadows of ordered graphs. (23pp)

84. (with M. Luczak) Order-invariant measures on fixed causal sets. (25pp)

85. (with P. Allen and J. Skokan) Ramsey-goodness—and otherwise. (25pp)

Articles in preparation

86. (with M. Luczak) Concentration of measure for web graphs.

87. (with P. Winkler) Forward processes and a "Lost Child" theorem.

88. The structure of CSG models.

89. Characterisations of quantum measures and quantum covers.

Expository chapters in books

1. Models of random partial orders, in *Surveys in Combinatorics 1993* (K. Walker Ed.) Cambridge University Press (1993) pp.53–83.

2. Partial orders, in *Graph Connections* (L. W. Beineke and R. J. Wilson Eds.) Oxford University Press (1997) pp.52–69.

3. (with D. West) Partially ordered sets, in *Handbook of Discrete and Combinatorial Mathematics* (K. H. Rosen Ed.-in-Chief), CRC Press (1999) pp.717–752.

Edited volume

1. (with I.B. Leader, A.D. Scott and A.G. Thomason) Combinatorics and Probability, CUP 2007.

Technical reports

(Includes only titles not otherwise in list.)

1. (with F.B. Shepherd) A resilience strategy for a single source-destination pair, *LSE CDAM Research Report CDAM-96-22* (1996). (This is a precursor of **58** in the main list.)

2. The number of linear extensions of ranked posets, *LSE-CDAM Research Report LSE-CDAM-2003-18* (2003).

Book reviews

1. D. Gusfield and R.W. Irving. The stable marriage problem: structure and algorithms. *Bull. LMS* **23** (1991) 402–404.

2. R. Diestel. Graph decompositions: a study in infinite graph theory. *Bull. LMS* **24** (1992) 90–92.

Book in preparation

1. (with W.T. Trotter) Finite Partially Ordered Sets.

Date of last update: 27/9/10