

Vita
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Born: April 20, 1946

Married, Two Children

Citizen of U.S.

Degrees:

B.S. Massachusetts Institute of Technology, 1965

Ph.D. Harvard University (advisor A. Gleason), 1970

Member of A.M.S., M.A.A., and S.I.A.M.

Putnam Competition Winner 1962

M.A.A. Olympiad Committee 1975-78

N.A.S. Exchange Fellow, Budapest 1976-77

Sloane Foundation Fellow, 1977-81

Editor: Combinatorica, 1979-present

Putnam Competition Committee, 1980

Weizmann Institute (Israel) visitor, 1980

University of Reading (U.K.) visitor, 1981

IREX Exchange Fellow, Budapest, 1984

Ford Award, 1984

Budapest Semesters in Math Advisory Board, 1984-present

Associate Editor: American Math Monthly, 1986-1991

Ford Prize Committee, 1986-89

NSF-CBMS Lecturer, Durango, 1986

M.I.T. visitor, 1987, 1990, 2001

Microsoft visitor, 2003

Editor: SIAM J. of Discrete Math, 1987-1995

Brain Boggles (as Maxwell Carver), Discover, 1987-89

Editor: Discrete Mathematics, 1988-1996
ARIDAM lecturer, 1988
Polya Prize Committee, 1990
Vice Chair, SIAM Disc Math Group, 1991-1993
Editor, The Annals of Applied Probability, 1990-1994
St. Flour (France) Probability School, Lecturer 1991
Cofounder: Random Structures and Algorithms, 1990-??
Institute for Mathematics and Its Applications, visitor 1993
AMS Program Committee for National Meetings 1994-5, chair 1995
Invited Speaker, International Congress of Mathematicians, Zürich, 1994
Nachdiplom Lectures, ETH (Zurich), Summer 1995
University of Melbourne, Australia, Jan-Apr 1998
Institute for Advanced Study, visitor 1997, 1998
Chair, SIAM Disc Math Group, 1997-1999
Erdos Memorial Lectures, Hebrew University 2001
Fellow of the American Mathematical Society 2013
Fellow of SIAM, 2017
Yandex (Moscow) Lecture Series, 2014
Honorary Member, Hungarian Academy of Sciences, 2025

Publications of Joel H. Spencer

1. Intentionally complemented distributive lattices, *Portugaliae Mathematics*, vol. 25, Fasc. 2, 99-104 (1966) (with N.E. Belnap, Jr.).
2. Maximal consistent families of triples, *Journal of Combinatorial Theory* 5, 1-8 (1968).
3. A characterization of clique graphs, *Journal of Combinatorial Theory Series B*, 10, 102-108 (1971) (with Fred S. Roberts).
4. Minimal completely separating systems, *Journal of Combinatorial Theory*, 8, 446-447 (1970).
5. Minimization of ± 1 matrices under line shifts, *Colloquium Mathematicum (Poland)* 23, 165-171 (1971) (with Tom Brown).
6. Optimal ranking of tournaments, *Networks* 1, 135-138 (1972).
7. Imbalances in k-colorations, *Networks* 1, 379-385 (1972) (with P. Erdős).
8. A constructive solution to a tournament problem, *Canadian Math Bulletin* 14, 45-47 (1971) (with R.L. Graham).
9. On cliques in graphs, *Israel Journal of Math.* 9, 419-421 (1971).
10. Directed graphs as unions of partial orders, *Pacific Journal of Math.* 39, 149-161 (1971) (with P. Fishburn).
11. A remark on coloring integers, *Canadian Math. Bulletin* 14, 45-47 (1971).
12. On small graphs with forced monochromatic triangles, in *Lecture Notes in Mathematics*, vol. 186, *Recent Trends in Graph Theory*, Springer Verlag 1971, 137-141 (with R.L. Graham).
13. Turan's Theorem for k-graphs, *Discrete Mathematics* 2, 183-186 (1972).
14. Minimal scrambling sets of simple orders, *Acta Math. Hung.* 22, 349-353 (1971).
15. Probabilistic methods in combinatorial math (book) (with P. Erdős) (1974) Academic Press/Akadamia Kiado, Publishers.

16. The number of semigroups of order n , Proc. Amer. Math. Soc. 55 (1976) 227-232 (with D.J. Kleitman and B. Rothschild).
17. Families of k -independent sets, Discrete Mathematics (with D. Kleitman) 6 (1973) 255-262.
18. Editor, The Art of Counting (book) 1973 (M.I.T. Press).
19. Random regular tournaments, Period Math. Hung., 5 (2) (1974) 105-120.
20. On a conjecture of Erdős and Hajnal, Math. Lapok, 22, (1973) 1-2 (in Hungarian).
21. Puncture sets, J. Comb. Theory, (A), 17 (1974) 329-336.
22. A deception game, Amer. Math. Monthly 80 (1973) 416-417.
23. Maximal asymmetry of graphs, Acta Math. Hung., 27 (1976) 47-53.
24. Euclidean Ramsey Theorems I, J. Comb. Theory A. 14 (1973) 241-363 (with P. Erdős, R.L. Graham, P. Montgomery, B.L. Rothschild, E.G. Straus).
25. Euclidean Ramsey Theorems II, Infinite and Finite Sets, Keszthely (Hungary) 1973, 529-557 (with P. Erdős, et. al.).
26. Euclidean Ramsey Theorems III. Infinite and Finite Sets, Keszthely (Hungary) 1973, 529-557 (with P. Erdős et.al.).
27. A generalized Rota conjecture for partitions, Studies in Applied Math., 53 (1974) 239-242.
28. Ramsey Theorems for multiple copies of graphs, Trans. Amer. Math. Soc. 209 (1975) 87-99 (with P. Erdős, S. Burr).
29. Ramsey's Theorem - A new lower bound, J. Comb. Th. Ser. A 18 (1975) 108-115.
30. Nonconstructive methods in discrete mathematics (in Studies in Combinatorics, MAA 1978, G.C. Rota ed.), pp. 142-178.
31. Restricted Ramsey configurations, J. Comb. Th., Ser. A., 19 (1975) 278-286.
32. Factoring the complete graph into factors with large star number, J. Comb. Th. Ser. B. 18 (1975) 180-183 (with P. Erdős, N. Sauer, J. Schaer).

33. Optimal doubling in backgammon, *Operations Research* 23 (1975) 1063-1071 (with E.B. Keeler).
34. Intersection Theorems for Systems of Sets, *Canadian Math Bulletin* 20 (2) 1977, 249-254.
35. Asymptotic Lower Bounds for Ramsey Functions, *Discrete Math* 20 (1977), 69-76.
36. Edge Disjoint Placements of Graphs, *J. Comb. Theory B* 25 (1978), 295-302.
37. Balancing Families of Sets, *J. Comb. Theory A* 25 (1978), 29-37 (with J.E. Olson).
38. On Extremal Density Theorems for Linear Forms (in *Number Theory and Algebra*, Academic Press, 1977), 103-107 (with R.L. Graham and H.S. Witsenhausen).
39. Balancing Games, *J. Comb. Theory B* 23 (1977), 68-74.
40. An Elementary Proof of a Theorem of Kronecker, *The Fibonacci Quarterly* 15 (1977), 9-10.
41. Optimally Ranking Unrankable Tournaments, *Periodica Math Hung* 11 (1980), 131-144.
42. All Finite Configurations are Almost Ramsey, *J. Comb. Theory A* 27 (1979), 401-403.
43. Strong Independence of Graph Copy Functions (in *Graph Theory and Related Topics*, Academic Press, 1978; J.A. Bondy, U.S.R. Murty, eds.) pp. 165-172 (with P. Erdős and L. Lovász).
44. Ramsey's Theorem for Spaces, *Trans. Amer. Math. Soc.* 249 (1979), 363-371.
45. A General Ramsey Product Theorem, *Proc. Amer. Math. Soc.* 73 (1979), 137-139 (with R.L. Graham).
46. Coping with Errors in Binary Search Procedures, *J. Computer and Syst. Sci.* 20 (1980), 396-404 (with D.J. Kleitman, A.R. Meyer, R.L. Rivest, K. Winklman).
47. Ramsey Theory (book), John Wiley (1980) (ix + 174 pp.), 2nd ed., John Wiley (1990) (xi+196 pp.) (with R.L. Graham and B.L. Rothschild).
48. Evolution of the n-cube, *Computers and Math with Applications*, 5 (1979), 33-40 (with P. Erdős).

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50. Extremal Problems, Partition Theorems, Symmetric Hypergraphs, Combinatorica 1 (1981), 303-307.

51. Extremal Graph Theory, Bela Bollobas (book review), Bull. A.M.S. 2 (1980), 492-496.

52. Counting Magic Squares, Amer. Math. Monthly 87 (1980), 397-9.

53. Coloring n-sets Red and Blue, J. Comb. Theory A 30 (1981), 112-113.

54. Balancing Unit Vectors, J. Comb. Theory A 30 (1981) , 349-350.

55. Discrete Ham Sandwich Theorems, European J. Combinatorics 2 (1981), 291-298.

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58. Sequences with small discrepancy relative to n events, Compositio Math. 47 (1982) 365-392.

59. Canonical Configurations, J. Comb. Theory A 34 (1983) 325-330.

60. Unit Distances, J. Comb. Theory A, 37 (1984) 231-238 (with Jozsef Beck).

61. Short Theorems with Long Proofs, Amer. Math. Monthly 90 (1983) 365-366.

62. Large Numbers and Unprovable Theorems, Amer. Math. Monthly 90 (1983) 669-675.

63. Balancing Matrices with Line Shifts, Combinatorica 3 (1983) 299-304 (with Jozsef Beck).

64. Integral Approximation Sequences, Math Programming 30 (1984) 88-98 (with Jozsef Beck).

65. Guess a Number - with Lying, Math Magazine 57 (1984) 105-108.

66. What's not Inside a Cayley Graph, Combinatorica 3 (1983) 239-241.

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80. Combinatorics by Coin Flipping, *Coll. Math. J.* 17 (1986) 407-412.
81. Functions that never agree, *Eur. J. Comb.* 7 (1986), 207-210 (with A.R. Calderbank, P.C. Fishburn).
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86. Ascending Waves, *J. Comb. Th. - Ser. A* 52 (1989) 275-287 (with N. Alon).
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93. Coloring the Projective Plane, *Discrete Math* 73 (1988), 213-220.
94. Monochromatic Sumsets, *J. Comb. Th. - Ser. A* 50 (1989), 162-163. (with P. Erdős)
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96. A Useful Elementary Correlation Inequality, *J. Comb. Th. - Ser. A* 50 (1989), 305-307 (with R. Boppana)
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103. Graph Distance and Euclidean Distance on the Grid *in* Topics in Combinatorics and Graph Theory (1990) (with J. Pach and R. Pollack), 555-559
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105. Extremal Subgraphs of Random Graphs, *J. Graph Theory*, 14 (1990), 599-622 (with L. Babai and M. Simonovits)
106. Counting Extensions, *J. Combinatorial Th. (Ser. A)*, 55 (1990), 247-255
107. Gaps in difference sets, and the graph of nearly equal distances, *in* The Victor Klee Festschrift (P. Gritzman, B. Sturmfels, eds.), AMS, 1991 (with P. Erdős, E. Makai, J. Pach)
108. Lopsided Lovász Local Lemma and Latin Transversals, *Disc. Appl. Math.* ,30 (1991), 151-154 (with P. Erdős)
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111. Uncrowded Graphs, *in* Mathematics of Ramsey Theory, (J. Nešetřil, V. Rödl, eds.) Springer-Verlag (1991) , Berlin, pp 253-262
112. Set Systems with No Union of Cardinality 0 Modulo m , *Graphs and Combinatorics* 7 (1991), 97-99 (with N. Alon, D. Kleitman, R. Lipton, R. Meshulam, M. Rabin)
113. When does the Zero-One Law hold?, *J. Amer. Math. Soc.* 4, (1991) 451-468 (with T. Luczak)
114. Coloring Random and Semi-Random k -Colorable Graphs, *J. of Algorithms* 19. (1995) 204-234 (with A. Blum)

115. Three Thresholds for a Liar, Combinatorics, Probability and Computing 1 (1992) 81-93 (with P. Winkler)
116. Ulam's Searching Problems with a Fixed Number of Lies, Theoretical Computer Science 95 (1992), 307-321
117. Probabilistic Construction of Proportional Graphs, Random Structures & Algorithms, 3 (1992) 127-138 (with S. Janson)
118. Zero-One Laws with Variable Probability, Journal of Symbolic Logic 58 (1993), 1-14
119. The Probabilistic Method (book) (xiii+254 pp.) , John Wiley (1992), 2nd ed. (2000), 3rd ed. (2008) (with N. Alon)
120. Sparse Random Graphs: A Continuum of Complete Theories *in* Sets, Graphs and Numbers, Colloquia Math Soc. János Bolyai 60, Budapest 1991, pp 679-690
121. Random Sparse Unary Predicates, Random Structures & Algorithms 5 (1994), 375-394 (with S. Shelah)
122. Nine Lectures on Random Graphs, in Ecole d' Eté de Probabilités de Saint-Flour XXI-1991 (P.L. Hennequin, ed.) Lecture Notes in Mathematics 1541, Springer-Verlag. pp 293-347
123. Can You Feel the Double Jump?, Random Structures & Algorithms, 5 (1994), 191-204 (with S. Shelah)
124. Randomization, Derandomization, and Antirandomization: Three Games, Theoretical Computer Science 131 (1994), 415-430
125. The Janson Inequality, in Combinatorics, Paul Erdős is Eighty (volume 1), Keszthely (Hungary), 1993, 421-432
126. A Problem in Covering Progressions, Stud. Sci. Math. Hung. 30 (1994), 1-6 (with P. Erdős)
127. From Erdős to Algorithms, Discrete Math. 136 (1994), 295-304
128. Sidon Sets with Small Gaps (with P. Tetali) in Discrete Probability and Algorithms, (Aldous, et. al., eds) IMA Volumes in Math and its Application, vol. 72, Springer-Verlag., pp 103-110

129. Discrepancy in Arithmetic Progressions (with J. Matoušek), *J. American Math. Soc.* 9 (1996), 195-204
130. Probabilistic Methods in Combinatorics, *in* Proceedings of the ICM, Zürich, Switzerland 1994, Birkhäuser Verlag 1995, 1375-1383
131. Asymptotic Packing via A Branching Process, *Random Structures & Algorithms* 7 (1995), 167-172
132. A note on triangle-free graphs *in* Random Discrete Structures (D. Aldous, R. Pemantle, eds.), vol. 76, IMA Volumes in Mathematics and Its Applications, Springer-Verlag, 1995. pp 117-120. (with P. Erdős, S. Janson and T. Łuczak)
133. Modern probabilistic methods in Combinatorics *in* Surveys in Combinatorics 1995 (P. Rowlinson, ed.), London Math Society Lecture Note Series 218, Cambridge University Press, pp 215-231
134. Four Squares with Few Squares, *in* Number Theory: New York Seminar 1991 – 1995, (D. and C. Chudnovsky, M. Nathanson, eds.) Springer Verlag, 1996, 295-297
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138. Nearly perfect matchings in regular simple hypergraphs, *Israel J. Math.* 100 (1997), 171-187 (with Noga Alon and Jeong-Han Kim)
139. Enumerating Graphs and Brownian Motion, *Communications on Pure and Appl. Math.* 50 (1997), 293-296
140. Covering with latin transversals, *Discrete Applied Math.*, 57 (1995), 1-10 (with Noga Alon and Prasad Tetali)
141. Smoothness laws for random ordered graphs, *in* Logic and Random Structures, DIMACS series vol. 33, Amer. Math. Soc., (Ravi Boppana, James Lynch, eds.), 15-32 (with Ravi Boppana)

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146. An Asymptotic Isoperimetric Inequality, *GAFA, Geom. funct. anal.* 8 (1998), 411-436 (with N. Alon and R. Boppana)

147. Geometric discrepancy theory, *in* Advances in Discrete and Computational Geometry (B. Chazelle, J. Goodman, R. Pollack, eds.), Contemporary Mathematics vol. 223, American Math Soc., pp 355-368

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149. Uniformly Distributed Distances - A Geometric Application of Janson's Inequality, *Combinatorica* 19 (1999), 1-14 (with J. Pach)

150. On the limit values of probabilities for the first order properties of graphs, *in* Contemporary Trends in Discrete Mathematics, DIMACS Series vol. 49, Amer. Math. Soc., R. Graham et. al., eds., Amer. Math. Soc. 1999, pp 317-336 (with Lubos Thoma)

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154. Packing Ferrers Shaps, *Combinatorics Probability and Computing* 9 (2000), 205-211 (with N. Alon and Miklós Bóna)

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157. Discrete Probability, *in* Mathematics Unlimited 2001 and Beyond, Springer-Verlag, 2001, Bjorn Engquist, Wilfried Schmid (Eds.), pp.1095–1104.
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163. Crossing Numbers for Random Graphs, *Random Structures & Algorithms* 21 (2002), 347-358 (with Géza Toth)
164. Random Dyadic Tilings of the Unit Square, *Random Structures & Algorithms*, 21 (2002), 225-251 (with Svante Janson and Dana Randall)
165. A Halfiar's Game, *Theoretical Computer Science*, 313 (2004), 353-369 (with Ioana Dumitriu)
166. New results on the distribution of distances determined by a point set, *Bolyai Soc. Math. Studies* 11, Paul Erdos and his Mathematics, II, (Eds. G. Halasz, L. Lovasz, M. Simonovits, V. T. Sos) Springer, Berlin, J. Bolyai Math. Soc., Budapest, 2002, 499-511. (with E. Makai and J. Pach)

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