

## CURRICULUM VITAE OF LANE CLARK

### PROFESSIONAL AFFILIATION (Most Recent 1991-2014)

Department of Mathematics  
Southern Illinois University Carbondale  
Carbondale, IL 62901-4408

### EDUCATION

Ph.D.           University of New Mexico (Albuquerque); Mathematics; 8 August 1980  
M.S.           University of Colorado (Boulder); Mathematics; 1976  
B.S.           University of Wisconsin (LaCrosse); Mathematics and Philosophy; 1971

### PROFESSIONAL POSITIONS

2014–           Southern Illinois University Carbondale; Mathematics; Professor Emeritus  
2000–2014      Southern Illinois University Carbondale; Mathematics; Tenured Full Professor  
1993–2000      Southern Illinois University Carbondale; Mathematics; Tenured Associate Professor  
1991–1993      Southern Illinois University Carbondale; Mathematics; Assistant Professor  
1986–1991      University of New Mexico (Albuquerque); Mathematics; Assistant Professor  
1984–1986      University of New Mexico (Albuquerque); Mathematics; Visiting Assistant Professor  
1982–1984      California State University Long Beach; Mathematics; Lecturer  
1980–1982      Louisiana State University (Baton Rouge); Mathematics; Assistant Professor

### HONORS

EDITOR of the journal *ISRN Combinatorics* (2012–)  
EDITOR of the journal *International Scholarly Research Notices* (2014–)  
FOUNDATION FELLOW of the INSTITUTE OF COMBINATORICS AND ITS APPLICATIONS (2/27/1991)

### PUBLICATIONS OF LANE CLARK

#### Books

1. COMBINATORICS (Forthcoming).
2. PROBABILISTIC COMBINATORICS (Forthcoming)
3. COMPLEX ANALYSIS: A BRIEF INTRODUCTION (In Preparation)

#### Edited Volumes

4. Editor of special volume *Ars Combinatoria* **35A** (1993). (with J.A. Bondy and L.A. Székely)

#### Refereed Research Articles

I have published research articles in about fifty different journals. There are about 2000 citations of these publications at present.

5. MINIMUM GRAPHS WITH COMPLETE  $k$ -CLOSURE, *Discrete Mathematics* **30** (1980), no. 2, 95–101. (with R.C. Entringer and D.E. Jackson) [MR 0566425 (81k:05064); ZFM 0448.05039; PЖMат, 1980, 10B474]
6. HAMILTONIAN PROPERTIES OF CONNECTED, LOCALLY CONNECTED GRAPHS, *Congressus Numerantium* **32** (1981), 199-204. [MR 0681880 (84d:05120); ZFM 0495.05041]
7. SMALLEST MAXIMALLY NONHAMILTONIAN GRAPHS, *Congressus Numerantium* **35** (1982), 431–434. (with R.C. Entringer) [ZFM 0522.05069]
8. HAMILTONIAN-LIKE INDICES OF GRAPHS, *Ars Combinatoria* **15** (1983), 131–148. (with N.C. Wormald) [MR 0706294 (84g:05089); ZFM 0536.05046]

9. SMALLEST MAXIMALLY NONHAMILTONIAN GRAPHS, *Periodica Mathematica Hungarica* **14** (1983), no. 1, 57–68. (with R.C. Entringer) [MR 0697357 (84i:05065); ZFM 0489.05038; PЖMaт, 1984, 2B528]
10. ON HAMILTONIAN LINE GRAPHS, *Journal of Graph Theory* **8** (1984), no. 2, 303–307. [MR 0742882 (85i:05157); ZFM 0535.05044; PЖMaт, 1984, 12B742]
11. EXTREMAL SPANNING TREES OF CUBIC GRAPHS, *Congressus Numerantium* **47** (1985), 205–216. (with R.C. Entringer) [MR 0830682 (87k:05061); ZFM 0622.05036]
12. LONGEST CYCLES IN 3-CONNECTED PLANAR GRAPHS, *Congressus Numerantium* **47** (1985), 199–204. [MR 083068 (87e:05092); ZFM 0622.05037]
13. ON CYCLE-STAR GRAPH RAMSEY NUMBERS, *Congressus Numerantium* **50** (1985), 187–192. [MR 0833550 (87g:05161); ZFM 0593.05049]
14. CUBIC GRAPHS WITH THE MINIMUM NUMBER OF CYCLES, *Congressus Numerantium* **53** (1986), 49–62. (with C.A. Barefoot and R.C. Entringer) [MR 0885233 (88k:05102); ZFM 0623.05033]
15. ON CIRCUITS AND PANCYCLIC LINE GRAPHS, Selected Papers for the 250th Anniversary of Graph Theory, *Journal of Graph Theory* **10** (1986), no. 3, 411–425. (with A. Benhocine, N. Köhler and H.J. Veldman) [MR 0856126 (87i:05126); ZFM 0608.05056]
16. ON SMALLEST MAXIMALLY NONHAMILTONIAN GRAPHS, *Congressus Numerantium* **53** (1986), 215–220. (with R.P. Crane, R.C. Entringer and H.D. Shapiro) [MR 0885251 (88e:05076); ZFM 0641.05035]
17. COMPUTATIONAL COMPLEXITY OF INTEGRITY, *The Journal of Combinatorial Mathematics and Combinatorial Computing* **2** (1987), 179–191. (with R.C. Entringer and M.R. Fellows) [MR 0925112 (89c: 05046); ZFM 0636.05033]
18. THE MINIMUM NUMBER OF CYCLES IN GRAPHS WITH GIVEN CYCLE RANK AND SMALL CONNECTIVITY, *The Journal of Combinatorial Mathematics and Combinatorial Computing* **3** (1988), 169–181. (with R.C. Entringer) [MR 0952055 (89e:05124); ZFM 0664.05033]
19. REALIZATION OF SUBLAYER RELATIVE SHIELDING ORDER IN ELECTROMAGNETIC TOPOLOGY, *PIERS: Proceedings of Progress in Electromagnetic Research Symposium (1989)*, Boston, MA, July 25–26, 1989, pp. 99–100. (with C.E. Baum)
20. COMPLETE  $k$ -CLOSURES IN RANDOM GRAPHS, in *Recent Studies in Graph Theory* (V.R. Kulli, Ed.), Vishwa International Publications, Gulbarga, India, 1989, 81–86. (with R.C. Entringer) [MR 1041300 (91c:05163)]
21. THE BISECTION WIDTH OF CUBIC GRAPHS, *Bulletin of the Australian Mathematical Society* **39** (1989), no. 3, 389–396. (with R.C. Entringer) [MR 0995136 (90m:05072); ZFM 0681.05040; P ЖMaт, 1990, 1B574]
22. THE NUMBER OF CUTVERTICES IN GRAPHS WITH GIVEN MINIMUM DEGREE, *Discrete Mathematics* **81** (1990), no. 2, 137–145. (with R.C. Entringer) [MR 1054971 (91e:05050); ZFM 0698.05038; P ЖMaт, 1991, 3B572]
23. CYCLES OF LENGTH 0 MODULO 3 IN GRAPHS, in *Graph Theory, Combinatorics and Applications: Proceedings of the Sixth Quadrennial International Conference on the Theory and Applications of Graphs* (Y. Alavi, G. Chartrand, O.R. Oellermann and A.J. Schwenk, Eds.) **1**, John Wiley & Sons, New York, 1991, 87–101. (with C.A. Barefoot, J.E. Douthett, R.C. Entringer and M.R. Fellows) [MR 1170770 (93c:05067); ZFM 0840.05048]
24. EXTREMAL PROBLEMS FOR LOCAL PROPERTIES OF GRAPHS, *The Australasian Journal of Combinatorics* **4** (1991), 25–31. (with R.C. Entringer, J.E. McCanna and L.A. Székely) [MR 1129266 (92g:05106); ZFM 0767.05055]

25. THRESHOLD FUNCTIONS FOR LOCAL PROPERTIES OF GRAPHS: TRIANGLES, Selected Papers from the Capital City Conference on Combinatorics and Theoretical Computer Science (Washington, DC, 1989), *Discrete Applied Mathematics* **34** (1991), no. 1–3, 83–105. (with R.C. Entringer and L.A. Székely) [MR 1137988 (93a:05112); ZFM 0744.05046; CCAC 1992.19643]
26. THE MINIMUM NUMBER OF SUBGRAPHS IN A GRAPH AND ITS COMPLEMENT, *Journal of Graph Theory* **16** (1992), no. 5, 451–458. [MR 1185009 (93g:05099); ZFM 0773.05061]
27. SMALLEST MAXIMALLY NONHAMILTONIAN GRAPHS II, *Graphs and Combinatorics* **8** (1992), no. 3, 225–231. (with R.C. Entringer and H.D. Shapiro) [MR 1185401 (94b:05129); ZFM 0758.05066; PЖMAT, 1993, 9B334; CCAC 1993.288; EEAB 1993.578]
28. AN INEQUALITY FOR DEGREE SEQUENCES, *Discrete Mathematics* **103** (1992), no. 3, 293–300. (with R.C. Entringer and L.A. Székely) [MR 1171782 (93g:05139); ZFM 0767.05013; PЖMAT, 1993, 11B217]
29. THRESHOLD FUNCTIONS FOR LOCAL PROPERTIES OF GRAPHS: TRIANGLES, in *Combinatorics and Theoretical Computer Science: Proceedings of the Capital City Conference on Combinatorics and Theoretical Computer Science, Washington, DC, 1989* (R. Simion, Ed.), *Topics in Discrete Mathematics* **1**, North-Holland, New York, 1992, 83–105. (with R.C. Entringer and L.A. Székely)
30. A LINEAR TIME ALGORITHM FOR GRAPH PARTITION PROBLEMS, *Information Processing Letters* **42** (1992), no. 1, 19–24. (with F. Shahrokhi and L.A. Székely) [MR 1160440 (93b:68069); ZFM 0765.68045; PЖMAT, 1993, 10B228; CCAC 1992.40310]
31. PERFECT DOMINATION IN RANDOM GRAPHS, *The Journal of Combinatorial Mathematics and Combinatorial Computing* **14** (1993), 173–182. [MR 1238868 (94e:05138); ZFM 0793.05106]
32. EXTREMAL PROBLEMS FOR THE BONDY-CHVÁTAL CLOSURE OF A GRAPH, in *Graphs, Matrices, and Designs: Festschrift in Honor of Norman J. Pullman* (R. Rees, Ed.), Marcel Dekker, New York, 1993, 73–83. (with R.C. Entringer, Paul Erdős, H. Sun and L.A. Székely) [MR 1209184 (94a; 05105); ZFM 0797.05056]
33. SUBDIVISION THRESHOLDS FOR TWO CLASSES OF GRAPHS, Selected Papers from the 13th British Combinatorial Conference (Guildford, 1991), *Discrete Mathematics* **125** (1994), no. 1–3, 15–30. (with C.A. Barefoot, A.J. Depew, R.C. Entringer and L.A. Székely) [MR 1263728 (94m:05099); ZFM 0794.05051; PЖMAT, 1994, 12B482]
34. THE EDGE ARBORICITY OF A RANDOM GRAPH, *Congressus Numerantium* **103** (1994), 123–128. [MR 1382390 (96k:05180); ZFM 0835.05063]
35. GENERALIZED CHROMATIC NUMBERS OF RANDOM REGULAR GRAPHS, in *Graph Theory, Combinatorics, and Algorithms: Proceedings of the Seventh Quadrennial International Conference on the Theory and Applications of Graphs* (Y. Alavi and A.J. Schwenk, Eds.) **1**, John Wiley & Sons, New York, 1995, 209–219. (with Béla Bollobás) [MR 1405811 (97e:05169); ZFM 0842.05082]
36. ENUMERATION OF LABELLED MULTIPARTITE MULTIGRAPHS BY DEGREE PARITIES, *Congressus Numerantium* **108** (1995), 133–140. [MR 1369282 (96h:05101); ZFM 0904.05044]
37. CYCLE-SATURATED GRAPHS OF MINIMUM SIZE, Selected Papers in Honour of Paul Erdős on the Occasion of his 80th Birthday (Keszthely, 1993), *Discrete Mathematics* **150** (1996), no. 1–3, 31–48. (with C.A. Barefoot, R.C. Entringer, T.D. Porter, L.A. Székely and Zs. Tuza) [MR 1392717 (97e:05123); ZFM 0856.05058; PЖMAT, 1998, 5B307]
38. THE NUMBER OF HAMILTONIAN CYCLES IN A RECTANGULAR GRID, *Bulletin of the Institute of Combinatorics and its Applications* **16** (1996), 77–80. [MR 1374630 (96i:05108); ZFM 0847.05061]
39. A GENERALIZED COLORING OF GRAPHS, *The Journal of Combinatorial Mathematics and Combinatorial Computing* **24** (1997), 49–63. (with A.T. Amin, J.P. McSorley, H. Wang and G. Zhang) [MR 1451515 (98d:05051); ZFM 0885.05065; CCAC 1997.70246; EEAB 1997.81802]

40. THE NUMBER OF ORIENTATIONS OF A TREE ADMITTING AN EFFICIENT DOMINATING SET, *Ars Combinatoria* **45** (1997), 201–207. (with D.W. Bange and A.E. Barkauskas) [MR 1447770 (97m:05121); ZFM 0933.05107; PЖMAT, 1999, 4B313]
41. ON THE NUMBER OF 1-FACTORS IN THE  $n$ -CUBE, *Congressus Numerantium* **127** (1997), 67–69. (with J.C. George and T.D. Porter) [MR 1604993 (98i:05127); ZFM 0901.05056]
42. REMARKS ON THE SIZE OF CRITICAL EDGE-CHROMATIC GRAPHS, *Discrete Mathematics* **171** (1997), no. 1–3, 287–293. (with D. Haile) [MR 1454459 (98a:05066); ZFM 0874.05027]
43. A SURVEY OF COUNTING BICOLOURED TREES, *Bulletin of the Institute of Combinatorics and its Applications* **21** (1997), 33–45. (with J.E. McCanna and L.A. Székely) [MR 1470303 (98h:05094); ZFM 0883.05074]
44. ON THE MAXIMUM NUMBER OF CHORDS IN A CYCLE OF A GRAPH, *Ars Combinatoria* **46** (1997), 129–132. (with T.D. Porter) [MR 1470793 (98d:05075); ZFM 0933.05082; PЖMAT, 1998, 4B263]
45. PARITY DIMENSION FOR GRAPHS, *Discrete Mathematics* **187** (1998), no. 1–3, 1–17. (with A.T. Amin and P.J. Slater) [MR 1630664 (99f:05057); ZFM 0957.05058; PЖMAT 00.06-13B.302]
46. EFFICIENT DOMINATION OF THE ORIENTATIONS OF A GRAPH, *Discrete Mathematics* **178** (1998), no. 1–3, 1–14. (with D.W. Bange, A.E. Barkauskas and L.H. Host) [MR 1483735 (98i:05085); ZFM 0906.05033; PЖMAT, 1999, 3B372]
47. ASYMPTOTIC NORMALITY OF THE GENERALIZED EULERIAN NUMBERS, *Ars Combinatoria* **48** (1998), 213–218. [MR 1623023 (98m:05003); ZFM 0963.05011; PЖMAT, 1999, 11B243]
48. ON THE CIRCUMFERENCE OF CLASS 2 GRAPHS, *Utilitas Mathematica* **53** (1998), 243–253. (with M.N. Ellingham and D.K. Menser) [MR 1622040 (99a:05046); ZFM 0910.05027]
49. ASYMPTOTIC NORMALITY OF THE WARD NUMBERS, *Discrete Mathematics* **203** (1999), no. 1–3, 41–48. [MR 1696232 (2000d:11101); ZFM 1007.11048]
50. ON THE REPRESENTATION OF  $M$  AS A WEIGHTED SUM OF THE NUMBERS  $-N, \dots, N$ , *Journal of Combinatorics, Information & System Sciences* **24** (1999), no. 2–4, 169–174. [MR 1871781 (2002i:11012); ZFM 1219.11013]
51. ON THE STEINER DISTANCE OF TREES FROM CERTAIN FAMILIES, *The Australasian Journal of Combinatorics* **20** (1999), 47–68. (with A. Meir and J.W. Moon) [MR 1723861 (2000m:05063); ZFM 0936.05039]
52. AN ASYMPTOTIC EXPANSION FOR THE NUMBER OF PERMUTATIONS WITH A CERTAIN NUMBER OF INVERSIONS, *The Electronic Journal of Combinatorics* **7** (2000), no. 1, Research Paper R50 (11 pages). [MR 1785146 (2001e:05011); ZFM 0969.05005]
53. AN ASYMPTOTIC EXPANSION FOR THE NUMBER OF PERMUTATIONS WITH A CERTAIN NUMBER OF INVERSIONS, *The Journal of Combinatorics* **7** (2000), no. 2, Research Paper R50 (11 pages).
54. A NEW UPPER BOUND FOR THE NUMBER OF HAMILTONIAN CYCLES IN THE  $n$ -CUBE, *Journal of Combinatorics, Information & System Sciences* **25** (2000), no. 1–4, 35–37. [MR 1807732 (2001h:05004); ZFM 1219.05085]
55. ON THE REPRESENTATION OF  $m$  AS  $\sum_{k=-n}^n \epsilon_k k$ , *International Journal of Mathematics and Mathematical Sciences* **23** (2000), no. 1, 77–80. [MR 1741328 (2001c:11011); ZFM 0983.11004]
56. ON THE GENERAL RANDIĆ INDEX FOR CERTAIN FAMILIES OF TREES, *Ars Combinatoria* **54** (2000), 223–235. (with J.W. Moon) [MR 1742418 (2000i:05046); ZFM 0991.92040]
57. THE STRONG MATCHING NUMBER OF A RANDOM GRAPH, *The Australasian Journal of Combinatorics* **24** (2001), 47–57. [MR 1852808 (2002e:05130); ZFM 0982.05077]

58. CENTRAL AND LOCAL LIMIT THEOREMS FOR EXCEDANCES BY CONJUGACY CLASS AND BY DERANGEMENT, *Electronic Journal of Combinatorial Number Theory* **2** (2002), Article #A03 (9 pages). [MR 1896148 (2003c:60043); ZFM 0988.05006]
59. RANDOM SUBGRAPHS OF CERTAIN GRAPH POWERS, *International Journal of Mathematics and Mathematical Sciences* **32** (2002), no. 5, 285–292. [MR 1939270 (2003h:05167); ZFM 1004.05054]
60. EXPONENT-DEPENDENT PROPERTIES OF THE CONNECTIVITY INDEX, *Indian Journal of Chemistry, Section A* **41A** (2002), 457–461. (with I. Gutman, M. Lepović and D. Vidović)
61. ON THE ENUMERATION OF SPANNING TREES OF THE COMPLETE MULTIPARTITE GRAPH, *Bulletin of the Institute of Combinatorics and Its Applications* **38** (2003), 50–60. [MR 1977021 (2004d:05094); ZFM 1050.05066]
62. AN ASYMPTOTIC EXPANSION FOR THE CATALAN-LARCOMBE-FRENCH SEQUENCE, *Journal of Integer Sequences* **7** (2004), Issue 2, Article 04.2.1 (5 pages). [MR 2084693 (2005h:11046); ZFM 1073.11014]
63. LIMIT THEOREMS FOR ASSOCIATED WHITNEY NUMBERS OF DOWLING LATTICES, *The Journal of Combinatorial Mathematics and Combinatorial Computing* **50** (2004), 105–113. [MR 2075859 (2005b:06007); ZFM 1053.06003]
64. ASYMPTOTIC DISTRIBUTION OF THE SUM OF THE LENGTHS OF ASCENTS OR OF DESCENTS IN PERMUTATIONS, *KAM DIMATIA* (2005), Research Paper 2005-757 (6 pages).
65. COMMENT ON “PROPERLY COLOURED HAMILTONIAN PATHS IN EDGE-COLOURED COMPLETE GRAPHS WITHOUT MONOCHROMATIC TRIANGLES”, *Ars Combinatoria* **76** (2005), 239–240. [MR 2152763; ZFM 1164.05345]
66. LOCAL EXTREMA IN RANDOM TREES, *International Journal of Mathematics and Mathematical Sciences* **2005** (2005), no. 23, 3867–3882. [MR 2203777 (2006j:05181); ZFM 1087.05016]
67. SOME APPLICATIONS OF SPANNING TREES IN  $K_{s,t}$ , *The Journal of Combinatorial Mathematics and Combinatorial Computing* **62** (2007), 139–146. (with A.T. Mohr and T.D. Porter) [MR 2343287 (2008f:05034); ZFM 1130.05018]
68. ASCENTS AND DESCENTS IN RANDOM TREES, *Journal of Discrete Mathematical Sciences & Cryptography* **11** (2008), no. 4, 483–492. [MR 2456290 (2009j:05044); ZFM 1206.05034]
69. LIMIT THEOREMS FOR POINCARÉ POLYNOMIALS OF THE BRUHAT ORDER ON  $S_n$ , *International Journal of Pure and Applied Mathematics* **44** (2008), no. 2, 177–188. [MR 2415912; ZFM 1193.05019]
70. THE EXPONENT IN THE GENERAL RANDIĆ INDEX, *Journal of Mathematical Chemistry* **43** (2008), no. 1, 32–44. (with I. Gutman) [MR 2449405 (2009f:05061); ZFM 1147.05302]
71. ENUMERATING LABELLED GRAPHS WITH CERTAIN NEIGHBORHOOD PROPERTIES, *Congressus Numerantium* **190** (2008), 193–206. (with S.H. Holliday, J.P. McSorley and T.D. Porter) [MR 2489802; ZFM 1169.05021]
72. ON THE INDEPENDENT DOMINATION NUMBER OF A RANDOM GRAPH, *Congressus Numerantium* **192** (2008), 179–191. (with D.B. Johnson) [MR 2489842; ZFM 1181.05065]
73. COMMENT ON “THE EXPECTATION OF INDEPENDENT DOMINATION NUMBER OVER RANDOM BINARY TREES”, *Ars Combinatoria* **87** (2008), 257–261. (with J.P. McSorley) [MR 2414021 (2009c:05165); ZFM 1224.05364]
74. ON A COLORING PROBLEM ON THE  $n$ -CUBE, *Bulletin of the Institute of Combinatorics and Its Applications* **55** (2009), 49–56. [MR 2478207 (2010a:05078); ZFM 1177.05036]
75. THE EXISTENCE OF DOUBLE ERROR-CORRECTING PERFECT CODES IN RANDOM GRAPHS, *International Journal of Contemporary Mathematical Sciences* **4** (2009), no. 8, 355–370. [MR 2554848; ZFM 1223.05272]

76. LIMIT DISTRIBUTION OF ASCENT, DESCENT OR EXCEDANCE LENGTH SUMS OF PERMUTATIONS, *Applicable Analysis and Discrete Mathematics* **3** (2009), no. 2, 303–309. [MR 2555041 (2010k:60088); ZFM 1274.05005]
77. CENTRAL AND LOCAL LIMIT THEOREMS FOR GENERALIZED ROOK POLYNOMIALS, *Congressus Numerantium* **196** (2009), 119–126. (with D.B. Johnson) [MR 2584308; ZFM 1211.05176]
78. MULTIPLICITIES OF INTEGER ARRAYS, *Electronic Journal of Combinatorial Number Theory* **10** (2010), Article #A14 (13 pages). [MR 2644028 (2011j:11049)]
79. MULTIPLICITIES OF INTEGER ARRAYS, *Integers* **10** (2010), no. 2, 187–199. [ZFM 1227.11050]
80. GENERALIZED MATCHINGS IN FORESTS, *Congressus Numerantium* **204** (2010), 181–185. (with A.M. Schwartz) [MR 2762709; ZFM 1229.05227]
81. THE INDEPENDENT DOMINATION NUMBER OF A RANDOM GRAPH, *Discussiones Mathematicae Graph Theory* **31** (2011), no. 1, 129–142. (with D.B. Johnson) [MR 2809401 (2012c:05273); ZFM 1284.05244]
82. GENERALIZED MATCHINGS IN TREES, *Congressus Numerantium* **209** (2011), 129–136. (with A.M. Schwartz) [MR 2856342 (2012i:05215); ZFM 1247.05189]
83. THE DISTRIBUTION OF CERTAIN COMBINATORIAL ARRAYS, *Congressus Numerantium* **210** (2011), 33–39. (with Y. Dabab) [MR 2856351 (2012i:11092); ZFM 1283.11051]
84. DISTANCES IN KNESER GRAPHS, *Congressus Numerantium* **210** (2011), 79–85. (with D.B. Johnson) [MR 2856356 (2012i:05075); ZFM 1254.05052]
85. RAMSEY NUMBERS AND ADIABATIC QUANTUM COMPUTING, *Physical Review Letters* **108** (2012), no. 1, 010501-1 to 010501-4. (with F. Gaitan)
86. EXPERIMENTAL DETERMINATION OF RAMSEY NUMBERS, *Physical Review Letters* **111** (2013), no. 13, 130505-1 to 130505-6. (with Z. Bian, F. Chudak, F. Gaitan and W. Macready)  
This paper was selected for a *Viewpoint: Putting “Quantumness” to the Test* in the journal *Physics* **6** (2013), 105. In a congratulatory letter Gene D. Sprouse, Editor-In-Chief, American Physical Society (APS) wrote: “The APS published a total of about 18,000 articles last year (2012), but only around 100 Viewpoints will appear each year. This places your paper in an elite subset of our very best papers.”
87. EXPERIMENTAL DETERMINATION OF RAMSEY NUMBERS (4 pages), *2Physics*, November 10, 2013. (with Z. Bian, F. Chudak, F. Gaitan and W. Macready)
88. GRAPH ISOMORPHISM AND ADIABATIC QUANTUM COMPUTING, *Physical Review A* **89** (2014), no. 2, 022342-1 to 022342-20. (with F. Gaitan)
89. THE DISTRIBUTION OF RAMSEY NUMBERS, *Advances and Applications in Discrete Mathematics* **14** (2014), no. 1, 67–74. (with F. Gaitan) [MR 3243204; ZFM 1302.05202]
90. ON THE TREE DOMINATION NUMBER OF A RANDOM GRAPH, *Ars Combinatoria* **118** (2015), 227–241. (with D.B. Johnson) [MR 3330450; ZFM 1363.05238]
91. GENERALIZED RAMSEY NUMBERS THROUGH ADIABATIC QUANTUM OPTIMIZATION, *Quantum Information Processing* **15** (2016), no. 9, 3519–3542. (with F. Gaitan, W. Macready and M. Ranjbar) [MR 3537980; ZFM 1348.81176]
92. GENERALIZED ROOK POLYNOMIALS FOR CERTAIN FAMILIES OF BOARDS (13 pages), to appear.
93. LIMIT THEOREMS FOR THE NUMBER OF DESCENTS AND INVERSIONS OF  $r$ -MULTIPERMUTATIONS (10 pages), to appear.
94. LIMIT THEOREMS FOR WHITNEY NUMBERS OF DOWLING LATTICES (8 pages), to appear.

95. LATTICE PATHS I (20 pages), to appear.
96. LATTICE PATHS II (24 pages), to appear.
97. DISTANCES IN BUBBLE-SORT GRAPHS (9 pages), to appear.
98. ON THE NUMBER OF SUBTREES OF A TREE, to appear.
99. LIMIT THEOREMS FOR CERTAIN LATTICE PATH STATISTICS (15 pages), to appear.
100. THE DEGREE DISTRIBUTION OF RANDOM MATCHABLE TREES, to appear.
101. THE DISTANCE DISTRIBUTION OF RANDOM MATCHABLE TREES, to appear.
102. DISTANCES IN TRANSPOSITION GRAPHS (9 pages), to appear.
103. LIMIT THEOREMS FOR ROOK POLYNOMIALS (10 pages), to appear.
104. GENERALIZED MATCHINGS IN GRAPHS (12 pages), to appear.

### Other

105. EXTREMAL PROBLEMS IN HAMILTONIAN GRAPH THEORY, Ph.D. Dissertation (Mathematics), University of New Mexico, Albuquerque, NM, (1980). [MR 2940977]
106. INTRODUCTION: ROGER ENTRINGER IS OVER 60, *Ars Combinatoria* **35A** (1993), 3–10. (with J.A. Bondy and L.A. Székely) [MR 1275220]

### Research Laboratory Publications (Non-Classified)

107. REALIZATION OF SUBLAYER RELATIVE SHIELDING ORDER IN ELECTROMAGNETIC TOPOLOGY (39 pages), *Kirtland Air Force Base Weapons Lab Interaction Note* 471, December 6, 1988. (with C.E. Baum)

### External Technical Reports and Preprint-Server Manuscripts (Only Those Cited Are Listed)

108. ON PANCYCLIC CIRCUITS AND LINE GRAPHS, Department of Applied Mathematics, University of Twente, Enschede, The Netherlands, *Memorandum* 533 (1985). (with A. Benhocine, N. Köhler and H.J. Veldman)
109. ON SMALLEST MAXIMALLY NONHAMILTONIAN GRAPHS, Department of Computer Science, University of New Mexico, *Technical Report CS 86-3* (1986). (with R.P. Crane, R.C. Entringer and H.D. Shapiro)
110. SMALLEST MAXIMALLY NONHAMILTONIAN GRAPHS II, Department of Computer Science, University of New Mexico, *Technical Report CS 86-4* (1986). (with R.C. Entringer and H.D. Shapiro)
111. COMPUTATIONAL COMPLEXITY OF INTEGRITY, Department of Computer Science, University of Idaho, *Technical Report 88-11* (1988). (with R.C. Entringer and M.R. Fellows)
112. ALGORITHMS FOR LEARNING AND TEACHING SETS OF VERTICES IN GRAPHS (11 pages), Department of Computer Science, University of Victoria, Victoria, British Columbia, *Technical Report DCS-212-IR* (1993). (with P.A. Evans, M.R. Fellows and W.D. Wallis)
113. ALGORITHMS FOR LEARNING AND TEACHING SETS OF VERTICES IN GRAPHS (11 pages), *arXivmath:CO/9411223* (1994). (with P.A. Evans, M.R. Fellows and W.D. Wallis)

### Research Publications in Preparation

114. GENERALIZED CHROMATIC NUMBERS OF RANDOM GRAPHS.
115. RUNS IN RANDOM TREES.
116. LIMIT THEOREMS FOR CERTAIN PERMUTATION STATISTICS.
117. LIMIT THEOREMS FOR POINCARÉ POLYNOMIALS OF THE BRUHAT ORDER ON  $S_n$  II.

118. THE STRONG MATCHING NUMBER OF A TREE.  
 119. THE EXISTENCE OF PERFECT CODES IN RANDOM GRAPHS.

### Coauthors

Approximately half of my papers are singly-authored. I have more than fifty co-authors which include Paul Erdős and Béla Bollobás. My Erdős number is 1. Other distinguished co-authors include Adrian Bondy, Michael Fellows, Ivan Gutman, Amram Meir, John Moon, Peter Slater, László Székely, Zsolt Tuza, Henk Veldman and Nick Wormald.

### Research Interests (Mathematical Reviews Classification Guide)

I have published papers in combinatorics (05A10,16 & 05B35), graph theory (05C05,07,12,15,20,30,35,38,40,45, 55,70,80,99), probability (60C05 & 60F05), number theory (11A67 & 11B73, 75, 83 & 11D45 & 11K31) and theoretical computer science (68Q15,25 & 68R10). My primary interest is probabilistic combinatorics.

## PROFESSIONAL ACTIVITY

### Supported Participation at Major Professional Meetings

Invited & supported participant at the NSF-CBMS conference EXTREMAL GRAPH THEORY, Emory University, Atlanta GA, June 18–22, 1984. Principal Lecturer: Béla Bollobás.

Invited & supported participant at the NSF-CBMS conference PROBABILISTIC METHODS IN COMBINATORICS, Fort Lewis College, Durango CO, July 28–August 1, 1986. Principal Lecturer: Joel Spencer.

Invited & supported participant at the **Institute for Mathematics and Its Applications (IMA)**, University of Minnesota, Minneapolis MN, November 15–19, 1993. Program: EMERGING APPLICATIONS OF PROBABILITY. Workshop: *Random Discrete Structures*.

Supported participant at SEVENTH INTERNATIONAL CONFERENCE ON RANDOM STRUCTURES AND ALGORITHMS, Emory University, Atlanta GA, May 16–20, 1995.

Supported participant at TENTH INTERNATIONAL CONFERENCE ON RANDOM STRUCTURES AND ALGORITHMS, Adam Mickiewicz University, Poznan Poland, August 6–10, 2001.

Invited & supported visitor at the **Isaac Newton Institute for Mathematical Sciences**, Cambridge University, Cambridge England, August 26–September 6, 2002. Program: COMPUTATION, COMBINATORICS AND PROBABILITY. Workshop: *Combinatorial and Computational Aspects of Statistical Physics* (August 26–30), Workshop: *Random Graphs and Structures* (September 2–6).

Invited & supported member of **Mathematical Sciences Research Institute (MSRI)**, Berkeley CA, in residence January 3–May 13, 2005. Program: PROBABILITY, ALGORITHMS AND STATISTICAL PHYSICS. Workshop: *Markov Chains in Algorithms and Statistical Physics* (January 31–February 4), Workshop: *Phase Transitions in Computation and Reconstruction* (March 7–11), Workshop: *Models of Real-World Random Networks* (April 18–22).

Invited & fully supported visitor at the **Laboratory for Physical Sciences**, University of Maryland, College Park, January 2012.

Invited & fully supported visitor at the **Laboratory for Physical Sciences**, University of Maryland, College Park, July 2013.

### Professional Membership

Institute of Combinatorics and Its Applications  
 American Mathematical Society

## TEACHING

**Ph.D. Supervision (at Southern Illinois University Carbondale)**



Andrew Schwartz; DECOMPOSITIONS OF GRAPHS AND TREES; Ph.D. in Mathematics (August 2008).  
Tenured Associate Professor, Department of Mathematics, Southeast Missouri State University.

Darin Johnson; TOPICS IN PROBABILISTIC COMBINATORICS; Ph.D. in Mathematics (August 2009).  
Tenure-Track Assistant Professor, Department of Mathematical Sciences, Delaware State University (2009–2011). Resigned from Delaware State University and accepted position at NSA (Division of Theoretical Computer Science) at Ft. Meade, Maryland (August 2011–August 2013). He is now a permanent Staff Member in Laurel, Maryland (August 2013–present)

Yahya Dabab; TBD; Ph.D. in Mathematics (Expected December 2013). Yahya was officially my Ph.D. student. He and his brother were killed in a car accident 5/23/2012 while home in Saudi Arabia.