

Joel H. Spencer
Professor of Mathematics and Computer Science
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Personal:

Born: April 20, 1946
Married, Two Children
Citizen of U.S.

Education:

B.S. Massachusetts Institute of Technology, 1965
Ph.D. Harvard University (advisor A. Gleason), 1970

Employment:

S.U.N.Y. at Stony Brook 1975-1988
M.I.T. 1972-1975
U.C.L.A. 1971-1972
Rand Corporation 1968-1971
Bell Laboratories 1967-1968

Awards:

Putnam Competition Winner 1962
Sloan Foundation Fellow, 1977-81
Ford Award, 1984
Invited Speaker, International Congress of Mathematicians, Zürich, 1994

Visits

N.A.S. Exchange Fellow, Budapest 1976-77
Weizmann Institute (Israel) visitor, 1980
University of Reading (U.K.) visitor, 1981
IREX Exchange Fellow, Budapest, 1984
M.I.T. visitor, 1987, 1990, 2001
Institute for Mathematics and Its Applications, visitor 1993
Institute for Advanced Study, visitor 1997 Winter, 1998 Fall
University of Melbourne, Australia, Jan-Apr 1998
Microsoft, Sept-Dec 2003
Mittag-Leffler, Sweden, March-April 2009

Lecture Series:

NSF-CBMS Lecturer, Durango, 1986
ARIDAM lecturer, 1988
St. Flour (France) Probability School, Lecturer 1991
Nachdiplom Lectures, ETH (Zurich), Summer 1995
Erdos Memorial Lectures, Hebrew University (Jerusalem), 2001
ICTP Lectures (Trieste), 2002
Caesarea Rothschild Lectures, Haifa University, 2008
EPFL (Lausanne), 2009

Journals:

Random Structures and Algorithms, Co-Founder, Co-Editor-in-Chief 1990-2007
Editor: *Combinatorica*, 1979-present
Associate Editor: *American Math Monthly*, 1986-1991
Editor: *Discrete Mathematics*, 1988-1996
Editor, *The Annals of Applied Probability*, 1990-1994

Professional:

Member of A.M.S., M.A.A., and S.I.A.M.
M.A.A. Olympiad Committee 1975-78
Putnam Competition Committee, 1980
Budapest Semesters in Math Advisory Board, 1984-present
Ford Prize Committee, 1986-89
Polya Prize Committee, 1990
Vice Chair, SIAM Disc Math Group, 1991-1993
Chair, SIAM Disc Math Group, 1997-9
AMS Program Committee for National Meetings 1994-6 , chair 1995-6
AMS Council, 1997-9
Committee on Meetings and Conferences (AMS), Chair, 1997-9
AMS Executive Committee 1998-2001
Young Scholars Award Committee (chair) 1999-2003
Judge, National Finals, Siemens Competition, 2002-7
AMS Nominating Committee, 2004-06
MAA Polya Lecturer Committee, 2005-present

Recreation:

Brain Bogglers (as Maxwell Carver), *Discover*, 1987-89

Books

1. Probabilistic methods in combinatorial math, (with P. Erdős) (1974) Academic Press/Akademia Kiado, Publishers.
2. Editor, The Art of Counting, 1973 (M.I.T. Press).
3. Ramsey Theory ,John Wiley (1980) , 2nd Ed., John Wiley (1990) (with R.L. Graham and B.L. Rothschild). 3rd Ed. (in preparation)
4. Ten Lectures on the Probabilistic Method, (1987), 2nd Ed. (1994) SIAM.
5. 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.
6. The Probabilistic Method, John Wiley (1992) (with N. Alon and P. Erdős). 2nd Ed., Wiley (2000). 3rd Ed., Wiley (2008)
7. The Strange Logic of Random Graphs, Springer-Verlag (2001)

Selected Recent Work

1. New bounds on crossing numbers, Discrete and Computational Geometry 14 (2000), 623–644 (with J. Pach and G. Toth).
2. The tenacity of zero-one laws, Electronic J Combinatorics 8 (2001), R17, 15pp (with K. St. John)
3. Random Dyadic Tilings of the Unit Square, Random Structures & Algorithms, 21 (2002), 225-251 (with Svante Janson and Dana Randall)
4. A Halfliar's Game, Theoretical Computer Science, 313 (2004), 353-369 (with Ioana Dumitriu)
5. A Scaling Result for Explosive Processes, Electronic J. Combinatorics R31 (2004) (with M. Mitzenmacher and R. Oliveira)
6. Random Subgraphs of Finite Graphs: I. The Scaling Window under the Triangle Condition, Random Structures & Algorithms 27 (2005), 137-184. (with Christian Borgs, Jennifer T. Chayes, Remco van der Hofstad and Gordon Slade)

7. Counting Connected Graphs Asymptotically (with Remco van der Hofstad), *European Journal of Combinatorics* 27 (2006), 1294-1320
8. Birth Control for Giants (with Nick Wormald), *Combinatorica*, 27 (2007), 587-628
9. Deterministic Random Walks on the Integers (with Joshua Cooper, Benjamin Doerr and Gabor Tardos), *European Journal of Combinatorics* 28 (2007), 2072-2090
10. Explosive Percolation in Random Networks, *Science*, 323 (5920) 1453-1455. (2009) (with Raissa D'Souza and Dimitris Achlioptas)
11. Dynamics of Stochastic Neuronal Networks and the Connections to Random Graph Theory, 5 *Math. Model Nat. Phenom.*, to appear (with L. deVille and C. Peskin)