CURRICULUM VITAE OF DORON ZEILBERGER

Last Update: Sept. 21, 2008

Address

Doron Zeilberger, Department of Mathematics, Hill Center-Busch Campus, Rutgers University 110 Frelinghuysen Rd Piscataway, NJ 08854-8019 (732) 445-1326. zeilberg@math.rutgers.edu .

Home Page: http://www.math.rutgers.edu/~zeilberg/

Personal Data

Date of Birth: July 2, 1950.

Place of Birth: Haifa, Israel.

Marital Status: Married (Jane Legrange), three children (Celia, Tamar, Hadas).

Citizenship: USA (naturalized Jan 1988.)

Education

University of London, B.Sc. with First Class Honours, 1972.

The Weizmann Institute of Science, Israel, Ph.D., 1976.

Employment History

2001- : Rutgers University (New Brunswick), Board of Governors Professor.

2000-2001: Temple University, Laura H. Carnell Professor.

1990- 1999: Temple University, Professor.

1988-1990: Drexel University, Professor.

1983-1988: Drexel University, Associate Professor.

1982-1983: University of Pennsylvania, Lecturer.

1980-1982: The Weizmann Institute of Science, Senior Scientist.

1979-1980: University of Illinois, Urbana, Visiting Lecturer.

1978-1979: Georgia Institute of Technology, Visiting Assistant Professor.

1977-1978 and Fall 1993: Institute for Advanced Study, Princeton, Member.

Current Research Interests

Experimental Mathematics, Computer Algebra, Combinatorics and Special Functions.

Prizes

1) 1983-With David Bressoud won $50 from Richard Askey and George Andrews for the proof of the q-Dyson conjecture.

2) 1985-Won 10 bottles of wine from G. Xavier Viennot for a bijection between binary trees with n leaves and Strahler number k and ordered trees with n vertices and pruning order k.

3) 1986-With Laurent Habsieger won $50 from Richard Askey for a proof of the G_2 case of Macdonald's root system conjecture.

4) 1987- Won $50 from Richard Askey for a proof of the G_2- dual case of the Macdonald-Morris conjecture.

5) 1990- The Lester R. Ford award for "the best paper in the American Mathematical Monthly in 1989". Given for my paper "Kathy O'Hara's constructive proof of the unimodality of the Gaussian polynomials". (Monetary Award: $500). Reference: *Notices of the AMS* **37**, #8 (Oct 1990), p. 1034; *Focus* **10** #6 (Nov-Dec 1990) p. 9.

6) 1998-The AMS Leroy Steele prize for 'seminal contributions to research', joint with Herb Wilf. (Monetary award: (1/2)($4000)). Reference:*Notices of the AMS* **45**, #4 (Apr. 1998), pp. 504-508;

7) 1998-With Aaron Robertson (jointly) and Tomasz Schoen (independently) won $100 from Ron Graham for a determining the asymptotic minimal number of Schur triples.

8) 2004-Euler Medal for "outstanding contributions to combinatorics", Institute of Combinatorics and Its Applications.

Invited, Plenary, and Keynote Conference Talks

May 1982 - Oberwolfach.

May 1985 - Arizona State Andrews Conference.

June 1985 - Colloque de Combinatoire Enumerative, UQAM, Montreal.

December 1986 - Gillis Symposium, Rehovot, Israel.

March 1988-Workshop on q-series, Institute of Mathematics and its applications, Minnesota.

July 1988 - Oberwolfach.

June 1989 - Joint AMS SIAM meeting on Probabilistic and Analytical Methods in Combinatorics, Arcata, Ca.

May 1990 - Séminaire Lotharingien de combinatoire, Alsace (Principal Speaker).

December 1990 - Special Session on algebraic combinatorics, Canadian Mathematical Society Annual Conference, Waterloo, Ontario.

May 1991 - Formal Power Series and Algebraic Combinatorics III, Bordeaux, France.

July 1991 - Minisymposium on constructive combinatorics, ICIAM, Washington, DC.

March 1993 - Special session in combinatorics, AMS Meeting, Knoxville, TN.

May 1993 - JERUSALEM Combinatorics

September 1993 - Workshop on "combinatorics and computer algebra", Cornell University, Ithaca, NY. (Principal speaker)

May 1994 - Algebraic Combinatorics III, Ann Arbor, MI.

Nov 1994 - AMS, Richmond, VA. (Hour Speaker.)

Jan. 1995 - Oberwolfach

June 1995 - Principal Lecturer, Fields Institute workshop on Special Functions, on 'special functions and computer algebra.

Jan. 1996 - Oberwolfach

June 1996 - Wilf symposium

July 1996 - SOCA 96', Nankagi Inst., Tijanin, China.

Oct. 1996 - MSRI, Berkely, Workshop on Enumeration and Posets.

May 1997 - Workshop on experimental mathematics and combinatorics., CRM, Montreal.

Aug. 1997 - Number Theory and Combinatorics, Penn State, (plenary).

June 1998 - AMS Summer conference on special functions, q-series, and combinatorics, Mt. Holyoke.

July 1998 - IWOP 4, Madrid, Spain , (plenary).

Aug. 1998 - Combinatorics and Physics, Los Alamos.

Oct. 1998 - MSRI workshop on computer algebra (plenary).

Nov. 1998 - EPADEL MAA sectional meeting (plenary).

Nov. 1999 - Symbolic Computation, Combinatorics, and Physics, Gainseville (plenary).

Sept. 2000 - LACIM 2000, Montréal .

March 2001 - Frontiers of Mathematics Lecturer (3 talks), Texas A&M

March 2001 - CombinaTexas

April 2001 - MAA NJ Section (plenary).

June 2001 - IJCAR, Siena, Italy (plenary).

Aug. 2001 - ICDEA, Augsburg, Germany

May 2002 - ECCAD 2002, Queens, NY (plenary).

July 2002 - IMA Workshop on Special Functions for the Digital age, Minneapolis.

Aug. 2002 - International Congress on Mathematical Software 2002, Beijing

Sept. 2002 - DMSCSD 2002, Albany (plenary)

Oct. 2002 - Bruno Buchberger's 60th Birthday Conference, RISC-Linz (plenary).

April 2003 - Joyal Symposium, LACIM, Montreal.

May 2003 - Zeilberger MiniConference, MIT, Cambridge, MA.

June 2003 - "Alternating Sign Matrices Conference", in honor of David Robbins, IDA-CCR, Princeton, NJ.

Oct. 2003 - Howard-Hayden Lecturer, Univ. of Kentucky.

Sept. 2004 - ADG2004, Gainseville, keynote .

March 2005 - 3rd conference on Pattern Avoidance, (keynote)

March 2005 - Special year in Combinatorics and Number Theory, Gainseville, History Lecture

July 2005- Mathematics and Narrative, Mykonos, Greece.

March 2006- 37th International Southeastern Conference on Combinatorics, Graph Theory, and Computing, Boca Raton, Florida (plenary).

April 2006-Waterloo Workshop on Computer Algebra, in honor of S.A. Abramov.

April 2006- Graduate Student Combinatorics Conference, Madison, Wisconsin (keynote).

Oct. 2006-"Enumerative Combinatorics", Harvey Mudd College, Claremont, CA (plenary)

Jan. 2007- Special Session on Experimental Mathematics, AMS Annual Meeting, New Orleans, LA.

Feb. 2007-"Distinguished Lecture Series" (Feb. 20, 2007) Math. Assoc. America, Washington, DC.

Feb. 2007-"Combinatorial Problems Raised by Statistical Mechanics", Univ. of Montréal. (plenary)

Oct. 2007- Center For Communication Research [Inst. for Defense Analyses] (internal) conference, Princeton, NJ. (keynote)

Nov. 2007- Symposium to Celebrate Gregory Chaitin's 60th Birthday, IBM Watson Research, Yorktown Heights, NY

Jan. 2008- Special Session on Applications of Computer Algebra to Combinatorics, AMS Annual Meeting, San Diego, CA.

Jan. 2008-MAA Short Course in Combinatorics

April 2008 - MAA NJ Section (plenary).

May 2008-Waterloo Workshop on Computer Algebra, in honor of Gregory Egorychev's 70th Birthday.

Dec. 2008-Austro-Asian Combinatorics Conference, New Zealand.

Further Information:

1) Held one month visiting professorships, University of Strasbourg, March 1983, May 1990, July 1994.

2) Invited speaker in the special years in Combinatorics, MIT, 1984-1985; Mittag-Leffler Inst., Sweden, 1991-92.

3) Erdös Number:2 (via J.Gillis).

4) Considered an outstanding teacher.

5) Co-editor (with P. Paule) of special issue of J. Symbolic Computation on "combinatorics and computer algebra", 1992.

6) Member of Program Committee, Formal Power Series and Algebraic Combinatorics IV, (June 92, Montréal), and V (June 93, Florence), and VI (June 94, Rutgers).

7) "Bourbakisé" (Expose 746, by P. Cartier, appeared in the 1991-92 volume of the Séminaire Bourbaki, Astérisque **206**.)

8) Member of International Advisory Committee of the Special Functions workshop to be held at the Fields Inst., June, 1995.

9) Member of Scientific Committee for special year on "Combinatorics and Theory of Groups", CRM, Montreal, 1996-1997.

10) "Gosper's and Zeilberger's Algorithms" is subject classification 33F10 of Math Reviews.

11) Chosen by Persi Diaconis as "favorite (still living!) mathematician".

Grants and Contracts:

NSF DMS-8400204: "Proving Identities by Combinatorial Methods" (1984-1986), Principal Investigator, $24,000.

NSF DMS-8600243: "Towards a General Theory of Combinatorial Bijections" (1986-1988), Principal Investigator, $36,000.

NSF DMS-8800663:"Constant Term Identities and Combinatorial Enumeration" (1988-1991), Principal Investigator. $60,000.

NSF DMS-8901610:"Asymptotic Methods in Combinatorics" (1989-1992), co-Principal Investigator (joint with Prof. Jet Wimp, Drexel University). $120,00.

NSF DMS-9123836:"Computer-Generated and Computer-Assisted research in Combinatorics and Special Functions, (1992-1995) Principal Investigator, $180,000.

NSF DMS-9500646:"Combinatorics, Special Functions, and Computer Algebra"(1995-1998), Principal Investigator, $120,000.

NSF DMS-9732602:"Targeted Proofs Machines in Combinatorics" (1998-2001), Principal Investigator, $180,000.

NSF DMS-9732602:"Targeted Proofs Machines in Combinatorics" (1998-2001), Principal Investigator, $180,000.

NSF DMS-00403:"Symbolic Computation and Combinatorics" (2001-2004), Principal Investigator, $180,000.

NSF DMS-0401124:"Automating Combinatorics" (2004-2009), Principal Investigator, $239,023 .

Service to the Profession:

Co-Editor in Chief of *Advances in Applied Mathematics.*

Member of Editorial Boards of: J. of Difference Eq. and Applications, Electronic J. of Combinatorics, Ramanujan Quarterly, Annals of Combinatorics, INTEGERS, J. of Symbolic Computation.

Ph.D. Theses Supervised:

Sheldon Parnes, Temple, 1993, [Industry, Coloardo].

Ethan Lewis, Penn, 1994, [IBM, Israel].

Craig Orr, Temple, 1994, [National Security Agency].

John Majewicz, Temple, 1997, [Comm. College of Phila].

John Noonan, Temple, 1997, [Mt. Vernon Nazarene College, OH].

Tewodros Amdeberhan, Temple, 1997, [currently visiting professor at Tulane University].

Melkamu Zeleke, Temple, 1998, [Wiiliam Patterson Univ., Wayne, NJ].

Aaron Robertson, Temple, 1999, [Colgate Univ., Hamilton, NY].

Akalu Tefara, Temple, 2000, [Grand Valley State Univ., MI, visiting Assoc. Prof. MIT (2007)].

Anne Edlin, Temple, 2000, [Lasalle University, PA]

Xinyu Sun, Temple, 2004, [Texas A&M (2004-2007), Tulane(2007-)]

Xiadong Wen, Temple, 2005 [Wolfram Research]

Vince Vatter, Rutgers, 2005 [St. Andrews Univ., Scotland, then D.E. Shaw, Darthmouth (2008-)]

Moa Apagodu, Rutgers, 2006 [Virginia Commonwealth University]

Lara Pudwell, Rutgers, 2008 [Valparaiso University, Indiana]

Thotsaporn Thanatipanonda, Rutgers, 2008 [Dickinson College]

Arvind Ayyer (joint with Joel Lebowitz), Rutgers, 2008 [Saclay, France].

Current Ph.D. Students:

Andrew Baxter, Emilie Hogan, Paul Raff, and Eric Rowland.

Co-Chair of Organizing Committee: 'Classical Combinatorics', an International Conference in honor of Dominique Foata, July 7-10, 2000.

Past Courses Taught:

Calculus: 1982-1983 (Penn), 1983-1990 (Drexel), 1990-2000 (Temple): Number of students ranging from 12 (Honours) to 250 (large lecture). Whenever there is a common final, my sections, score, on the average, between 10 to 20 points (out of 100) higher than the average section. I was the only professor at Penn (1982-1983) who made it to the list of "best teachers" in all his four courses. Calculus I (Fall 2003), Calculus I (Fall 2004), Calculus II (Fall 2005), Calculus III (Fall 2006), Calculus I (Fall 2008).

Other Past Undergraduate Courses: Linear Algebra, Differential Equations, Advanced Calculus for Engineering, Mathematical Programming, Computer Algebra, Problem-Solving. Multivariate Calculus, Graph Theory..

Past Graduate Courses: Computer Algebra and Experimental Mathematics (1990, 1992, 1994, 1996, 1998, 1999). Combinatorics (1991, 1993, 1995, 1997, 2000, 2001, 2003, 2004). Famous Open Problems (1999). Experimental Mathematics (Fall 2001, 2003-2008), Probability (Spring 2002), Combinatorics I and II(Fall 2002 and Spring 2003 respectively). Discrete Algorithms (Spring 2005).

Current Course (Spring 2008)
Calculus I.

Software Development
My website `http://www.math.rutgers.edu/~zeilberg/` has many computer-algebra packages available free of charge. They are used not only by mathematicians, but also by scientists, especially physicists, computer-scientists, and engineers, who need combinatorial sums and special functions on a regular basis. My algorithms are now part of `Maple` (the packages `sumtools` and `SumTools`), and soon will also be part of Mathematica.

Curriculum Development
An innovative grad course in Experimental Math is currently under development, that will hopefully turn into the first textbook in this new area.

Seminar Organizer
With graduate student Andrew Baxter I am organizing a very successful and innovative seminar on Experimental Mathematics.

Refereed Journal PUBLICATIONS

Most of my papers are available on-line in: `http://www.math.rutgers.edu/~zeilberg/papers1.html`.

1. (With D. Nicholson, P. Rabinowitz and N. Richter) *On the Error in the Numerical Integration of Chebyshev Polynomials*, Math. Computation **25**, 79-86 (1971).

2. *Uniqueness Theorems for Harmonic Functions of Exponential Growth*, Proc. Amer. Math. Soc. **61**, 335-340 (1976).
3. *Binary Operations in the set of solutions of a Partial Difference Equation*, Proc. Amer. Math. Soc. **62**, 242-244 (1977).
4. *A new approach to the theory of Discrete Analytic Functions*, J. Math. Anal. Appl. **57**, 350-367 (1977).
5. (With H.Dym) *Further properties of Discrete Analytic Functions*, J. Math. Anal. Appl. **58**, 405-418 (1977).
6. *A new basis for Discrete Analytic Functions*, J. Australian Math. Soc. **23** (series A), 95-104 (1977).
7. *Discrete Analytic Functions of exponential growth*, Trans. Amer. Math. Soc. **226**, 181-189 (1977).
8. *A discrete analog of the Paley-Wiener theorem in a half plane*, J. Australian Math. Soc. (Series A) **23**, 376-378 (1978).
9. *A new proof of Ehrenpreis's semi-local Quotient Structure Theorem*, Amer. J. Math. **100**, 1317-1332 (1978).
10. *The Pompeiu problem for discrete space*, Proc. Natl. Acad. Sci. **75**, 3555-3556 (1978).
11. *Solutions of exponential growth to systems of partial differential equations*, J. Diff. Eq. **31**, 287-295 (1979).
12. *The algebra of linear partial difference operators and its applications*, SIAM J. Math. Anal. **11**, 919-934 (1980).
13. *Some comments on Rota's umbral calculus*, J. Math. Anal. Appl. **74**, 456-463 (1980).
14. *A lattice walk approach to the q-counting of multiset permutations*, J. Math. Anal. Appl. **74**, 192-199 (1980).
15. *Partial difference equations in $m_1 \geq ... \geq m_n \geq 0$ and their applications to combinatorics*, Discrete Math **31**, 65-77 (1980).
16. *Enumerating words by their number of mistakes*, Discrete Math **34**, 89-91 (1981).
17. *All binomial identities are verifiable*, Proc. Natl. Acad. Sci. **78**, 4000 (1981).
18. *Sister Celine's technique and its generalizations*, J. Math. Anal. Appl. **85**, 114-145 (1982).
19. (With D. Franzblau) *A bijection proof of the hook length formula*, J. Algorithms **3**, 317-343 (1982).
20. (With D. Bressoud) *A short Rogers-Ramanujan bijection*, Discrete Math. **38**, 313-315 (1982).
21. *A combinatorial proof of Dyson's conjecture*, Discrete Math. **41**, 317-321 (1982).
22. (With S. R. Caplan) *T. L. Hill's graphical method for solving linear equations*, Advances in Appl. Math. **3**, 377-383 (1982).
23. (With L. Shapiro) *A Markov chain occurring in Enzyme Kinetics*, J. Math. Biology **15**, 351-357 (1982).
24. (With J. Gillis) *A direct combinatorial proof of a positivity result*, European J. Comb. **4**, 221-223 (1983).
25. *Andre's reflection proof generalized to the many-candidate ballot problem*, Discrete Math **44**, 325-326 (1983).
26. (With J. Gillis and B. Reznick) *Elementary methods in positivity theory*, SIAM J. Math. Anal. **14**, 396-398 (1983).
27. *A combinatorial proof of Newton's identities*, Discrete Math. **49**, 319 (1984).
28. *A short hook-length bijection inspired by the Greene-Nijenhuis-Wilf proof*, Discrete Math. **51**, 101-108 (1984).
29. *Garsia and Milne's proof of the inclusion-exclusion principle*, Discrete Math. **51**, 109-110 (1984).

30. (With D. Foata) *Weighted derangements and Laguerre polynomials*, Actes Sémin. Lotharingien de combinatoire **8**, 20-29 (1984).
31. (With E. A. Bender) *Some asymptotic bijections*, J. Comb. Th. (Ser A) **38**, 96-98 (1985).
32. (With D. Bressoud) *A proof of Andrews' q-Dyson conjecture*, Discrete Math. **54**, 201-224 (1985).
33. (With J. Wimp) *Resurrecting the asymptotics of linear recurrences*, J. Math. Anal. Appl. **111**, 162-177 (1985).
34. *A combinatorial approach to matrix algebra*, Discrete Math. **56**, 61-72 (1985).
35. (With D. Bressoud) *Bijecting Euler's partitions recurrence*, Amer. Math. Monthly **92**, 55-56 (1985).
36. (With M. Werman) *Bijecting Cassini's Fibonacci identity*, Discrete Math. **58**, 109 (1986).
37. *Toward a combinatorial proof of the Jacobian conjecture?*, Proc. of the "Colloque de combinatoire énumérative", G.Labelle and P.Leroux, editors, Lecture Notes in Math. **1234**, 370-380, Springer-Verlag, Berlin (1987).
38. *A proof of the G_2 case of Macdonald's root system-Dyson conjecture*, SIAM J. Math. Anal. **18**, 880-883 (1987).
39. (With D. Bressoud) *Generalized Rogers-Ramanujan identities*, Advances in Math. **78**, 42-75 (1989).
40. *A q-Foata proof of the q-Saalschütz identity*, European J. Comb. **8**, 461-463 (1987).
41. *Enumerating totally clean words*, Discrete Math. **64**, 313-315 (1987).
42. *One line proofs of the unimodality of The Gaussian polynomials $G(n,k)$, for $k = 3, 4$*, Ars Comb., **24**, 165-166 (1987).
43. *A bijection from ordered trees to binary trees that sends the pruning order to the Strahler number*, Discrete Math. **82**, 89-92 (1990).
44. (With J. Gillis and J. Jedwab) *A combinatorial interpretation of the integral of the products of Legendre polynomials*, SIAM J. Math. Anal. **19**, 1455-1461 (1988).
45. *A unified approach to Macdonald's root-system conjectures*, SIAM J. Math. Anal. **19**, 987-1013 (1988).
46. *A Stembridge-Stanton style proof of the Habsieger-Kadell q-Morris identity*, Discrete Math. **79**, 313-322 (1989/90).
47. (With D. Foata) *Laguerre polynomials, weighted derangements, and positivity*, SIAM J. Discrete Math. **1**, 425-433 (1988).
48. (With D. Foata) *Linearization coefficients for the Jacobi polynomials*, Actes Séminaire Lotharingien **16**, 73-86, Publ. I.R.M.A., Strasburg (1988).
49. *Six Etudes in generating functions*, Intern. J. Computer Math. **29**, 201-215 (1989).
50. *A combinatorial problem that arose in biophysics*, Fibonacci Quarterly **27**, 372 (1989).
51. *On a conjecture of R.J.Simpson about exact covering sequences*, Amer. Math. Monthly **96**, 243 (1989).
52. *Kathy O'hara's constructive proof of the unimodality of the Gaussian polynomials*, Amer. Math. Monthly **96**, 590-602 (1989).
53. *One line proofs of the unimodality of the Gaussian polynomials $G(n,k)$ for $k < 20$*, in: D. Stanton, ed., "q-Series and Partitions", (Proc., IMA, March 1988), IMA series **18**, Springer, 35-44 (1989).
54. (With D. Stanton) *The Odlyzko conjecture and O'Hara's unimodality proof*, Proc. Amer. Math. Soc. **107**, 39-42 (1989).
55. *Identities*, in: D. Stanton, ed., "q-Series and Partitions", (Proc., IMA, March 1988), IMA series **18**, 67-75 (1989).
56. *A Holonomic systems approach to special functions identities*, J. of Computational and Applied Math. **32**, 321-368 (1990).

57. (With S. B. Ekhad) *A* 21^{st} *century proof of Dougall's hypergeometric identity*, J. Math. Anal. Appl. **147**, 610-611 (1990).
58. *A Fast Algorithm for proving terminating hypergeometric identities*, Discrete Math **80**, 207-211, (1990).
59. (With H. S. Wilf) *Rational functions certify combinatorial identities*, J. Amer. Math. Soc. **3**, 147-158 (1990).
60. (With J. Wimp) *How likely is Polya's drunkard to stay in* $x \geq y \geq z$ *?*, J. Statistical Physics **57**, 1129-1135 (1989).
61. (With G. Almkvist) *The method of differentiating under the integral sign*, J. Symbolic Computation **10**, 571-591 (1990).
62. *The method of creative telescoping*, J. Symbolic Computation **11**, 195-204 (1991).
63. (With D. Foata) *Denert's permutation statistic is indeed Euler-Mahonian*, Studies in Applied Math **83**, 31-59 (1990).
64. (With D. Foata) *Multibasic Eulerian polynomials*, Trans. Amer. Math. Soc. **328**, 843-862 (1991).
65. (With R. J. Simpson) *Necessary conditions for distinct covering systems with square-free moduli*, Acta Arithmetica **59**, 59-70 (1991).
66. (With H. S. Wilf) *Towards computerized proofs of identities*, Bulletin of the Amer. Math. Soc. **23**, 77-83 (1990).
67. *Gauss's* ${}_2F_1(1)$ *cannot be generalized to* ${}_2F_1(x)$, J. Comp. Appl. Math. **39**, 379-382 (1992).
68. (With I. Gessel) *Random Walk in a Weyl chamber*, Proc. Amer. Math. Soc. **115**, 27-31 (1992).
69. *Closed Form (pun intended!)*, in: "Special volume in memory of Emil Grosswald", M. Knopp and M. Sheingorn, eds., Contemporary Mathematics **143** 579-607, AMS, Providence (1993).
70. *Gert Almkvist's generalization of a mistake of Bourbaki*, in: "Special volume in memory of Emil Grosswald", M. Knopp and M. Sheingorn, eds., Contemporary Mathematics **143** 609-612, AMS, Providence (1993).
71. *Three recitations on Holonomic Systems and Hypergeometric Series*, Proceeding of the Séminaire Lotharingien de combinatoire **24**,5-37, IRMA, Strasbourg. (1993) (To be reprinted in Journal Symbolic Computation.)
72. *A constant term identity featuring the ubiquitous (and mysterious) Andrews-Mills-Robbins-Rumsey numbers* $\{1, 2, 7, 42, 429, ...\}$, J. Combinatorial Theory (ser. A) **66**, 17-27 (1994).
73. *A proof of Julian West's conjecture that the number of 2-stack-sortable permutations of length* n *is* $2(3n)!/((2n+1)!(n+1)!)$, Discrete Math. **102**, 85-93 (1992).
74. *Identities in search of identity*, J. Theoretical Computer Science **117**, 23-38 (1993).
75. (With Jane Friedman) A generalization of Odlyzko's conjecture: the coefficients of $(1-q)^j/((1-q^{2n})...(1-q^{2n+2j}))$ alternate in sign, Proc. Amer. Math. Soc. **118**, 1013 (1993).
76. (With H.S. Wilf) *An algorithmic proof theory for hypergeometric (ordinary and "q") multi-sum/integral identities*, Invent. Math. **108**, 575-633 (1992).
77. (With S.B. Ekhad) *A one-line WZ proof of a formula of Ramanujan for* π, in: "Geometry, Analysis, and Mechanics" (Volume to honor Archimedes's 2281st birthday), J. M. Rassias, ed., 107-108. World Scientific, Singapore (1994).
78.(with Jane Friedman and Ira Gessel) *Talmudic lattice path counting*, J. Combin. Theory Ser. A **68**, 215-217 (1994).
79. *Proof of q-analog of a constant term identity conjectured by Forrester*, J. Combinatorial Theory **66**, 311-312 (1994).
80. (With H. S. Wilf) *Rational function certification of hypergeometric multi-integral/sum/"q" identities*, Bulletin of the Amer. Math. Soc. **27**, 148-153 (1992).

81. (With G.E. Andrews and S.B. Ekhad), *A short proof of Jacobi's formula for the number of representations of an integer as a sum of four squares*, Amer. Math. Monthly, **100**, 274-276 (1993).
82. *Towards a WZ proof of Mehta's integral*, SIAM J. Math. Anal. **25** , 812-814 (1994).
83. (With S. B. Ekhad) *A short and elementary, "formal calculus" proof of the Bieberbach conjecture (after L. Weinstein)*, Contemporary Math **178** 113-115, (1995).
84. (With D. Foata) *Combinatorial Proofs of Cappelli's and Turnbull's Identities from Classical Invariant Theory*, Electronic J. of Combinatorics
(`http://www.combinatorics.org`), **1**, R1 (7 pages) (1994).
85. *Proof of the alternating sign matrix conjecture*, Elect. J. Combinatorics
(`http://www.combinatorics.org`), **3(2)** [Foata Festschrift] R13, (50 pages)(1996).
86. *Theorems for a price: Tomorrow's semi-rigorous mathematical culture*, Notices of the Amer. Math. Soc. **40 # 8**, 978-981 (Oct. 1993). Reprinted: Math. Intell. **16**, no. 4, 11-14 (Fall 1994).
87. *Chu's 1303 identity implies Bombieri's 1990 norm-inequality [Via an identity of Beauzamy and Dégot]*, Amer. Math. Monthly **101**, 894-895 (1994).
88. *How Joe Gillis discovered Combinatorial Special Function Theory*, Math. Intell. **17**, no. 2, 65-66 (Spring 1995).
89. (With L. Ehrenpreis) *Two EZ proofs of* $\sin^2 z + \cos^2 z = 1$, Amer Math. Monthly **101**, 691 (1994).
90. (With C. Orr), *A computer algebra approach to the discrete Dirichlet problem*, J. Symbolic Comput. **18**, 87-90 (1994).
91. *On an identity of Daubechies*, Amer. Math. Monthly **100**, 487 (1993).
92. *The J.C.P. Miller Recurrence for Exponentiating a polynomial and its q-Analog*, J. Difference Eqs. and Appls. **1**, 57-60 (1995).
93. *Proof of the refined alternating sign matrix conjecture*, New York J. of Math. (elec.), (`http://nyjm.albany.edu`
2, 59-68 (1996).
94. (With D. Foata), *The Graphical Major Index*, J. Comp. Appl. Math., [specal issue on q-series], J. Comput. Applied Math (special issue on q-series) **68** 79-101 (1996).
95. (With J. Noonan), *Counting Permutations with a prescribed number of "forbidden" patterns*, Advances in Applied Math. **17**, 381-407 (1996).
96. *Reverand Charles to the aid of Major Percy and Fields-Medalist Enrico*, Amer. Math. Monthly **103**, 501-502 (1996).
97. *The method of undetermined generalization and specialization illustrated with Fred Galvin's amazing proof of the Dinitz conjecture*, Amer. Math. Monthly **103**, 233-240 (1996).
98. *An explicit formula for the number of solutions of* $X^2 = 0$ *in triangular matrices over GF(q)*, Elect. J. Comb(`http://www.combinatorics.org`). **3(1)**, R3 (3 pages)(1996).
99. *Self-Avoiding Walks, the language of science, and Fibonacci numbers*, J. Stat. Planning and Inference **54**, 135-138 (1996).
100. *If* A_n *has* $6n$ *dyes in a box, with which he has to fling at least* n *sixes, then* A_n *has an easier task than* A_{n+1}*, at Eaven Luck*, Amer. Math. Monthly **103**, 265 (1996).
101. (With S. B. Ekhad) *Curing the Andrews Syndrome*, J. of Difference Equations and Applications **4**, 299-310 (1997).
102. (With T. Amdeberhan) *Hypergeometric Series Acceleration via the WZ method* Elect. J. of Combinatorics (`http://www.combinatorics.org`), **4(2)** [Wilf Festschrifft volume], R3 (4 pages) (1997).
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