CURRICULUM VITAE

Joan P. Hutchinson
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EDUCATION

Ph.D. 1973 University of Pennsylvania, Philadelphia, PA
Graduate student and teaching assistant 1969-73
Thesis: "Polynomial identities for skew-symmetric matrices"
Advisor: Professor Herbert S. Wilf
Specialization: Combinatorial analysis, graph theory, graph algorithms and graph drawing
M.A. 1971 University of Pennsylvania, Philadelphia, PA
1968-69 Graduate student, University of Warwick, Coventry, England
B.A. 1967 Smith College, summa cum laude, honors mathematics major, elected member of Phi Beta Kappa and Sigma Xi.

EMPLOYMENT

2004- Professor Adjunct, Department of Mathematics, University of Colorado at Denver
1990- Professor of Mathematics and Computer Science, Macalester College (shared appointment with Stan Wagon)
2001, Feb. 4-17, Van Vleck Visiting Scholar in Mathematics, Wesleyan University, Conn.
2000 (fall) Member of Math Sciences Research Institute, Berkeley, Calif.
1997-2000 Adjunct Professor of Mathematics, University of Colorado at Denver
1993 (fall) Visiting Professor of Mathematics, University of Michigan, Ann Arbor (supported by N.S.F. grant #USE-9150422, Curriculum Development for Freshmen Level Combinatorics).
1989-1990 Visiting Professor of Mathematics, University of Washington, Seattle, WA, sponsored by the N.S.F. Visiting Professorships for Women program and the University of Washington
1976-1990 Smith College; 1989-90, Professor of Mathematics (shared appointment with Stan Wagon)
1985 (fall) Member of the Mathematical Sciences Research Institute, Berkeley, CA
1982 (fall) Visitor, University of Colorado, Boulder, CO
1978-79 Benedict Distinguished Visiting Professor, Carleton College, Northfield, MN
1975-76 Assistant Professor, Tufts University, Medford, MA
1973-75 John Wesley Young Research Instructor, Dartmouth College, Hanover, NH
1967-68 Applications Programmer, Harvard University Computer Center, Cambridge, MA
Summer 1967 Scientific Intern, Woods Hole Oceanographic Institute Woods Hole, MA

Born: April 19, 1945, Philadelphia, PA

PUBLICATIONS

Books

with M. O. Albertson, Discrete Mathematics with Algorithms
John Wiley & Sons, 1988, 546 pp.

-----, Discrete Mathematics with Algorithms, Instructors Manual,
John Wiley & Sons, 1988, 93 pp.

Articles

1. Eulerian graphs and polynomial identities for sets of matrices, Proc. Nat. Acad. Sci. U.S.A. 71(1974) 1314-6. MR 50 #2209.
2. Cancelling Eulerian graphs, Graphs and Combinatorics (R.A. Bari and F. Harary, eds.), Lecture Notes in Mathematics #406, Springer-Verlag, Berlin, 1974. MR 51 #2981.
3. Eulerian graphs and polynomial identities for skew-symmetric matrices, Canad. J. Math. 27(1975) 590-609. MR 53 #7858.
4. with H. S. Wilf, On Eulerian circuits and words with prescribed adjacency patterns, J. Combinatorial Theory (A) 18(1975) 80-7. MR 51 #10115.
5. On words with prescribed overlapping subsequences, Utilitas Math. 7(1975) 241-50. MR #12602.
6. Maps made from Eulerian graphs need fewer colors, Proc. Fifth British Combinatorial Conference, Congr. Numer. 15, 1975. MR 53 #2728.
7. with M. O. Albertson, The maximum size of an independent set in a non-planar graph, Bull. Amer. Math. Soc. 81(1975) 554-5. MR 51 #267.
8. ___, The maximum size of an independent set in a toroidal graph, Proc. Sixth Southeastern Conference on Combinatorics, Graph Theory and Computing, 1975.MR 52 #13453.
9. _____, The independence ratio and genus of a graph, Trans. Amer. Math. Soc 226(1977) 161-173. MR 55 #10303.
10. Let me count the ways: Women in Combinatorics, Association for Women in Mathematics Newsletter 7(1977) 3-7.
11. with M. O. Albertson, On the independence number of a graph, J. Graph Theory 2(1978) 1-8. MR 58 #10545 a,b.
12. with S. H. Whitesides, On a generalized regularity condition, Theory and Application of Graphs (Proc. Internat. Conf., Western Mich. Univ., Kalamazoo, Mich., 1976, Lecture Notes in Mathematics #642, Springer-Verlag, Berlin, 1978. MR 80b:05047.
13. with M. O. Alberston, Hadwiger's conjecture and six-chromatic toroidal graphs, Graph Theory and Related Topics. Academic Press, N. Y., 1979. MR 82k:05047a.
14. _____, The three excluded cases of Dirac's map-color theorem, Annals of the N. Y. Academy of Sciences, Volume 319, 7-17. MR 81c:05037.
15. _____, Hadwiger's conjecture for graphs on the Klein bottle, Discrete Math. 29(1980) 1-11. MR 81a:05046.
16. _____, On six-chromatic toroidal graphs, Proc. London Math. Soc. 41(1980) 533-556 MR 82k:05047b.
17. with P. B. Trow, Some pigeonhole principle results extended, Amer. Math. Monthly 87(1980) 648-51. MR 82g:05016.
18. with G. McNulty, Partitions which are complementary orbits of graphs of genus g, Discrete Math. 45(1983) 255-275. MR 84j:05055
19. with E. Gethner, Connected graphs with complementary edge-orbits, Ars Combinatoria 12(1981) 135-146. MR 84h:05065
20. Automorphism properties of embedded graphs, J. Graph Theory 8 (1984) 35-49.
21. A five color theorem for graphs on surfaces, Proc. Amer. Math. Soc. 90 (1984) 497-504. MR 85d:05115

22. with J. Gilbert and R. E. Tarjan, A separator theorem for graphs of bounded genus, J. Algorithms 22(1984) 391-407. Also Cornell University, Department of Computer Science Technical Report #82-506.MR 86h:68145
23. with S. Wagon, A forbidden subgraph characterization of infinite graphs of finite genus, Graphs and Applications, Proc. First Colorado Symposium on Graph Theory John Wiley & Sons, N.Y. 1985. MR 86b:05025
24. with L. B. Krompart, Connected planar graphs with three or more orbits, Graph Theory and its Applications to Algorithms and Computer Science, John Wiley & Sons, N.Y. 1985. MR 87a:05079
25. with L. B. Krompart, Partitions that arise from connected planar graphs with three orbits, Ars Combinatoria 20(1985) 111-124. MR 87c:05063
26. with G. L. Miller, Deleting vertices to make graphs of positive genus planar, Discrete Algorithms and Complexity Theory, Academic Press, Boston, 1986
27. On short noncontractible cycles in embedded graphs, SIAM J. Discrete Math, 1(1988) 185-192.
28. On genus-reducing and planarizing algorithms for embedded graphs, Graphs and Algorithms, Proceedings of a Summer Research Conference, Boulder, CO, July, 1987, Contemporary Mathematics Series, Amer. Math. Soc., Vol. 89, 1989
29. with M. Albertson, D. Berman, and C. Thomassen, On homeomorphically irrreducible spanning trees, J. Graph Theory, 14 (1990) 247-258.
30. with A. Dean, Relations among embedding parameters for graphs, Graph Theory, Combinatorics, and Applications, Proc. Sixth Quadrennial Inter national Conf. on the Theory and Applications of Graphs, Western Michigan University, New York, Wiley, 1991.
31. with A. Dean and E. Scheinerman, On the thickness and arboricity of a graph, J. Combinatorial Theory (B), 52 (1991) 147-151.
32. Book review of N. Hartsfield and G. Ringel's Pearls in Graph Theory, a Comprehensive Introduction, Amer. Math. Monthly 98 (1991) 873-875.
33. with J. R. Griggs, On the r-domination number of a graph, Discrete Math, 101 (1992) 65-72. also in Topics in Discrete Mathematics, Vol. 6, North-Holland, Amsterdam, 1992, 395-402.
34. Summertime and the livin' is ..., AWM Newsletter, 22 (1992) 9-11.
35. Coloring ordinary maps, maps of empires, and maps of the Moon Math. Magazine Vol. 66 No. 4, October 1993, 211-225.
36. When three people shake the same number of hands, Congressus Numerantium 95 (1993) 31-35.
37. with A. Dean, Rectangular Visibility Representations of Bipartite Graphs, Extended Abstract, Lecture Notes in Computer Science #894, Graph Drawing, R. Tamassia and I.G. Tollis, eds., Springer-Verlag, Berlin, 1995, pp. 159-166.
38. with A. Davidow, J. P. Huneke, Homeomorphically irreducible spanning trees in planar and toroidal graphs, Graph Theory, Combinatorics, and Applications: Proceedings Seventh Quadrennial International Conference on the Theory and Applications of Graphs, Vol. 1, Y. Alavi and A. Schwenk, eds., John Wiley and Sons, Inc., 1995, pp. 265-276.
39. Three-coloring graphs embedded on surfaces with all faces even-sided, J. Combinatorial Theory, Series B 65 (1995) 139-155.
40. with T. Shermer and A. Vince, On Representations of some Thickness-two Graphs, Extended Abstract, Lecture Notes in Computer Science #1027 (Symposium on Graph Drawing, GD'95, Passau, Germany, Sept. 1995), F. Brandenburg ed., Springer-Verlag, Jan, 1996, pp. 324-332.
41. with A. Dean, Rectangular Visibility Representations of Bipartite Graphs, Discrete Applied Math 75, (1997) 9-25.
42. with P. Bose, A. Dean, and T. Shermer, On Rectangular Visibility Graphs, Graph Drawing, Lecture Notes in Computer Science #1190 (Symp. on Graph Drawing, GD '96, Berkeley, Calif, USA, Sept.

1996 Proceedings), S. North, ed., Springer-Verlag, Berlin, 1997, pp. 25-44.
43. with S. Wagon, Four-coloring Planar Maps, Mathematica in Education and Research, 6, no. 1, (1997) 42 - 51.
44. with F. R. K. Chung, A tribute to Herbert S. Wilf in celebration of his 65th birthday, The Wilf Festschrift (Philadelphia, PA, 1996). Electron. J. Combin. 4 (1997), no. 2, Foreword, 5 pp.
45. with S. Wagon, Kempe revisited, Amer. Math. Monthly, 105 (1998) 170-174.
46. with A. Dean, Rectangle-visibility layouts of unions and products of trees, the (electronic) Journal of Graph Algorithms and Applications, 2 (1998) 1-21.
47. with T. Shermer, A. Vince, On Representations of some Thickness-two graphs, Computational Geometry, Theory and Applications, 13 (1999) 161-171.
48. with Karen L. Collins, Four-coloring six-regular graphs on the torus, Graph Colouring and Applications, P. Hansen and O. Marcotte, eds., CRM Proceedings and Lecture Notes, Vol. 23 (1999) 21-34.
49. with M. O. Albertson, Extending colorings of locally planar graphs, J. Graph Theory, 36 (2001) 105-116.
50. with G. Chen, W. Piotrowski, W. Shreve, and B. Wei, Degree sequences with repeated values, Ars Combinatoria 59 (2001), pp. 33-44.
51. with D. Archdeacon, A. Nakamoto, S. Negami, and K. Ota, Chromatic Numbers of Quadrangulations of closed surfaces, J. Graph Theory, 37 (2001) 100-114.
52. On polar visibility representations of graphs, Proceedings of Graph Drawing 2001, (P. Mutzel, M. Juenger, and S. Leipert, eds.), Lecture Notes in Computer Science #2265, Springer-Verlag, Berlin, 2002, pp 422-434, (previously appeared, incorrectly printed, in Proceedings of Graph Drawing 2000, (J. Marks, ed.), Lecture Notes in Computer Science #1984, Springer-Verlag, Berlin, 2001, pp. 63 - 76.)
53. Arc- and Circle-Visibility Graphs, Australasian J. Combinatorics 25 (2002) 241-262.
54. On 3- and 4-coloring nearly triangulated surfaces, Proc. 32nd Southeastern Conf. on Combinatorics, Graph Theory, and Computing, 2001, Congressus Numerantium 150 (2001) 129-143.
55. with Bruce Richter and Paul Seymour, Colouring Eulerian Triangulations J. Combinatorial Theory, Series B 84 (2002) 225-239.
56. with M.O. Albertson, Graph Coloring Extensions: When Hadwiger's Conjecture and Embeddings Help, Electronic J. Combinatorics, 9 (1) (2002), R37.
57. with M.O. Albertson, Extending precolorings of subgraphs of locally planar graphs, European J. of Combinatorics, 25 (6) (2004), 863-871 (invited contribution to special issue on Topological Graph Theory and Graph Minors).
58. with Y. Chang, M. S. Jacobson, J. Lehel, and D. B. West, The visibility number of a graph, SIAM J. Discrete Math 148, no. 3, (2004) 462-471,
59. with A. Dean and E. Gethner, Unit bar-visibility layouts of triangulated polygons: Extended Abstract, Graph Drawing: 12th Internat'l Symposium, GD 2004, (J. Pach, ed.), Lecture Notes in Computer Science #3383, Springer-Verlag, Berlin, 2005, pp. 111-122.
60. A note on rectilinear and polar visibility graphs, Discrete Applied Math 148, no. 3, (2005) 263-272.
61. with A. Kündgen, Orthogonal art galleries with interior walls, Discrete Applied Math 154 (2006) 1563-1569. (available online 3/13/06 http://dx.doi.org/10.1016/j.dam.2006.01.006)
62. with E. H. Moore, Distance constraints in graph color extensions, J. Combinatorial Theory, Series B, 97, no. 4, (2007) 501-517.
63. with G. Chen, K. Keating, and J. Shen, Characterizations of [1,k]-Bar Visibility Trees, Electronic J. Combinatorics 13 (1) (2006) R90. (www.combinatorics.org/Volume_13/PDF/v13i1r90.pdf)
64. On list-coloring outerplanar graphs, submitted 2007.
65. Coloring graphs on surfaces, invited chapter in Topological Graph Theory (J. Gross and T. Tucker,

eds.), Topics in Graph Theory series (L. Beineke and R. Wilson, eds.), Cambridge University Press (to appear)

Short notes:

"Alice B. Dickinson," Complexities, Women in Mathematics," (B. A. Case and A. M. Leggett, eds.), Princeton University Press, Princeton, 2005, pp. 207-8; also "Remembering Alice Dickinson," AWM Newsletter 17(6), 1987, 16-17,

A Note on "On 2-visibility drawings of non-planar graphs," Bull. I.C.A., 25 (1999), 100.

with Michele Intermont, "When Sound meets Symbol: a day of change ringing and mathematics at Kalamazoo College, Oct. 2, 1999, The Clapper, Vol. 26, No. 4, Fall 1999, p. 5.

Problems:

Problem #10478, American Mathematical Monthly, Vol. 102, No. 8, 1995, Art Galleries with Walls, proposed and solved, p.746.

(with S. Wagon) Kempe revisited, American Mathematical Monthly Problem Section, 105 (1998) 170-174.

(with S. Wagon) Solution to #6, 1997 Iranian Math. Olympiad, Final Round (2001: 234-235), Crux Mathematicorum 29, No. 6 (2003) 387-388

Crux Mathematicorum, Solution to 16th Korean Math Olympiad, April 2003, 32, no. 2 (2006), p.86.

Crux Math. Solution to 15th Korean Math. Olympiad, 33 (no. 3) 2007, pp. 154-55.

Articles about me and my work:

What's Happening in the Mathematical Sciences, Amer. Math. Soc., Vol. 1, 1993, "Map-coloring theorists look at new worlds," pp. 43-46.

Mathematical Recreations by Ian Stewart, Scientific American, Aug. 1997, pp. 86-88, and Sept. 1997, pp. 92-94.

Chapter in Notable Women in Mathematics, A Biographical Dictionary, by Laura Koch, C.Morrow and T. Perl, eds., Greenwood, 1998

Grants and Awards Received

2005 Honoree at the Graph Theory with Altitude, a conference in honor of Joan P. Hutchinson on the occasion of her 60th birthday, May 16-20, University of Colorado at Denver

2004 grant from Assoc. Coll. of Midwest, Enhancing Scholarly Agendas Initiative to attend 36th SE Conf. on Combinatorics, Graph Theory and Computing, Floriday Atlantic University, Mar. 2005.

2003-4 co-PI with S. Fox, K. Saxe, and L. Shoop, Math. Assoc. of Amer./Tensor Foundation grant for the support of women in mathematics

1999 Winner of Deborah and Franklin Tepper Haimo Award for Excellence in College or University Teaching.

1998-2000 National Security Agency and American Mathematical Association research grant, "Three- and Four-Coloring Even Triangualations of Surfaces," #MDA904-99-1-0069.

1998 Mathematical Association of America North Central Section Teaching Award

1996 National Science Foundation grant #DMS-9612387, "Mathematical Sciences: A conference in combinatorics and graph theory; June 12-15, 1996; Philadelphia, PA"

1994 recipient of the Carl. B. Allendoerfer Award for the article, "Coloring ordinary maps, maps of empires, and maps of the moon" which appeared in *Mathematics Magazine*, 1993

1993 AWM travel grant for travel to Oberwolfach, Germany, June 1994.

1989-90 National Science Foundation Visiting Professorship for Women, University of Washington, Seattle, WA, "Structural and algorithmic problems in topological graph theory", #RII 8901458.

1984-88 Principal Investigator of National Science Foundation Grant for Scientific Research, Division of

Computer Research, Research at Undergraduate Institutions program, "Separator theorems for graphs" #DCR-8411690.

1986 National Science Foundation Grant recipient, to fund Japan-U.S. Joint Seminar on Discrete Algorithms and Complexity Theory, Kyoto, Japan, #INT-8514751

1986 Smith College Pew Foundation grant to attend First Japan Conference on Graph Theory, Hakone, Japan

1983 Smith College Pew Foundation grant to attend Mathematical Association of America short course, University of Maine at Orono.

1979 National Science Foundation Undergraduate Research Participation program, submitted with M. O. Albertson, #SPI 79-26984.

1977 Co-Principal Investigator with M. O. Albertson of National Science Foundation Grant for Scientific Research, "Chromatic classifications of Embedded Graphs", #MCS 77-03940-A01.

1977 Educational Foundation of America Summer Research Grants, through Smith College. Three Smith College students were supported and worked on a joint project with M. O. Albertson and myself.

1976 Co-Principal Investigator with M. O. Albertson of National Science.Foundation Grant for Scientific Research, "Chromatic and independence classifications for embedded graphs" #MCS 77-03940.

1974 National Research Council travel grant to International Congress of Mathematicians, Vancouver, Canada.

1974 NATO travel grant to Combinatorics Conference, Nijenrode, Netherlands.

Professional Activities

Council member of the Institute for Combinatorics and Applications, 2008-2010.

Member of the Program Committee for theMathematics Association of America MathFest, Aug. 2008.

Member of the Advisory Board for the Young Mathematicians Conference, 2007.

Member of Program Committee for the first meeting of the Canadian Discrete and Algorithmic Mathematics conference (CANADAM) to be held in Banff, Canada, May 28-31, 2007.

Member of SIAM committee to evaluate travel grants to the next International Conference on Industrial and Applied Mathematics, to be held at ETH, Zurich, July, 2007.

Organizer, Minisymposium on Topological Graph Theory, SIAM Discrete Math Conference, University of Victoria, Canada, June 2006

Chair, SIAM Discrete Math Actiivity Group Nominating Committee, 2005; member 2007.

Member of the Math. Assoc. of Amer. Haimo Teaching Award Committee, 2004 - 2007.

Member of the Assoc. for Women in Math Selection Committee for Post-docs for the 2004 Annual Meetings; mentor for the AWM at the 2004 Annual Meetings, panelist for AWM presentation on "Developing ones career"

Member of the SIAM Coordinating Committee for the Joint Mathematics Meetings, 2003-2005, chair for 2005 meeting

Organizer, "Topics in Topological Graph Theory" minisymposium, SIAM 50th Anniversity and 2002 Annual Meeting, July, 2002.

Member, Editorial Board, Annali Lax New Mathematical Library, Jan. 2001-04

Vice-chair, SIAM Discrete Mathematics Special Interest Activity Group, 2000-2

Member of Organizing Committee, SIAM Discrete Mathematics Conference, Minneapolis, June, 2000

Organizer, Special Session on Topological Graph Theory, SIAM Discrete Mathematics Conference, University of Toronto, July, 1998.

Expert reader, Master's degree committee, Hamline University, for Eleonore Balbach, 1997-98

Organizer and co-chair, a Combinatorics and Graph Theory Conference in honor of Herb Wilf's 65th birthday, June 12-15, 1996, University of Pennsylvania, Philadelphia PA

Associate editor of the Journal of Graph Theory since1993 .

Member of Margaret Sherman's Ph.D. committee, North Dakota State University, 1996-97

Associate editor of the American Mathematical Monthly, 1986-1996; co-editor with Stan Wagon of the Teaching of Mathematics section, 1986-1988, processing over 400 papers.

Member of Allendoerfer Prize Committee, 1995-97; chair 1996-97.

Association for Women in Mathematics representative on the AMS-ASA-AWM-IMS-MAA-NCTM-SIAM Committee on Women in the Mathematical Sciences 1991-1994; chair of subcommittee on Hiring Data

Member of editorial board of the MAA Notes series, 1990-1992.

Reviewer for

Mathematical Reviews since 1976, American Mathematical Monthly (telegraphic reviews) 1978-79, 1990-92., National Science Foundation, Canadian NSERC, Grants for Scientific Research since 1979, Research Experiences for Undergraduates 1990, Undergraduate Research participation program 1979-81, Visiting Professorships for Women, 1985-1987, 1993, College Science Instrumentation Program, 1985 and 1986, AMS-NSA Research Grants since 1992, Cargill, Inc. Eloise Gerry Fellowships 1987

Referee

Acta Informatica, American Mathematical Monthly, Applied Geometry and Discrete Mathematics, V. Klee Festschrift, The College Mathematics Journal , Combinatorica, Computers and Math with Applications, Discrete Applied Mathematics, Discrete and Computational Geometry, Discrete Mathematics, European Journal of Combinatorics, Electronic Journal of Combinatorics, Graphs and Combinatorics, Journal of the Association for Computing Machinery (ACM) , Journal of Algorthms , Journal of the AMS, Journal of Combinatorial Theory, series B, Journal of Graph Algorithms and Applications, Journal of Graph Theory, Mathematica in Education and Research, Mathematics Magazine, Networks, Proceedings of the American Mathematical Society, SIAM Journal of Computing, SIAM Journal of Discrete Mathematics, Transactions of the American Mathematical Society, Utilitas Mathematica , Proceedings of the Sixth International Conference on Graphs and Applications, 1988, also Eighth, 1996, and Ninth, 2000, Mathematical Association of America Notes Monographs

Professional Memberships

Member of American Mathematical Society, Mathematical Association of America, Association for Women in Mathematics, Association for Computing Machinery - Special interest group on automata and computing theory, Society for Applied and Industrial Mathematics and Discrete Math. Special Interest Group.

(Selected, recent) Invited Lectures

Jan. 2008 Invited talk "On list-coloring outerplanar graphs," AMS Annual Meeting, SIAM Minisymposium on Graph Theory

Mar. 2007 Invited talk "On some extensions on the Art Gallery Theorem," MAA Sectional Meeting, Western Illinois University

Oct. 2006 Invited participant in Topological Graph Theory, PIMS, Banff Conference Center.

Aug. 2006 Invited plenary talk "When three colors suffice" at 4th Young Mathematicians Conference, Ohio State University.

May 2005 Invited talk "Some open problems in graph coloring" at Graph Theory with Altitude, a conference in honor of Joan P Hutchinson on the occasion of her 60th birthday

Mar. 2005 Contributted talk, SEConference on Comb., Graph Th., and Computing, "List-coloring triangulated polygons."

Feb. 2005 Pikes Peak Regional Undergraduate Mathematics Conference keynote speaker, "When three colors suffice."

Oct. 2004 UIUC Research seminar on "Graph color extensions"; also research seminar on "Open problems in graph coloring"

Sept. 2004 California State University at San Marcos, taught a week's class on "Graph Coloring"

Aug. 2004 J. Sutherland Frame lecture at MathFest'04, Providence RI, "When five colors suffice"; also at Discrete Math Days, Colorado College

Dec. 2003, invited speaker at Neil Robertson Celebration, Ohio State University, "Open questions on color-extensions for graphs on surfaces"

Oct. 2003, invited speaker at Amer. Math. Soc. Special Session on Graphs and Digraphs, "On bar-visibility graphs", University of Colorado at Boulder.

Aug. 2003, Discrete Math Days, invited speaker at University of Colorado at Denver, "On visibility graphs."

Apr. 2003 University of Puget Sound, colloquium speaker, "On Visibility Graphs", and mathematics seminar, "Three (or Four) types of graph coloring"

Mar. 2003 Invited main speaker at 34th Southeastern Conference on Combinatorics, Graph Theory and Computing, "Extending pre-colorings of graphs", and "On Visibility Graphs"
Colloquium speaker, Computer Science Department, University of Colorado at Denver, "On Visibility Graphs"

Feb. 2003, Carleton College colloquium speaker, "Three (or Four) Types of Graph Coloring

July 2002, Invited topical speaker at SIAM 50th Anniversary and 2002 Annual Meeting, Philadelphia, PA, "Some combinatorial aspects of topological graph theory"

June 2002, invited speaker at Conference in honor of Jan Mycielski, "Five-coloring graphs on surfaces"

Apr. 2002, Univ. of Syracuse Math Graduate Student Conference invited speaker , "Coloring graphs on surfaces: when does the embedding make coloring easier and when harder?"

Jan. 2002, Invited speaker in Special Session on Graph Theory, Annual AMS-MAA meetings, San Diego, CA, "Coloring graphs on orientable versus nonorientable surfaces."

May 2001 Invited speaker at University of Colorado at Denver, Combinatorics Seminar, "On 3-coloring more planar graphs and 3- and 4-coloring graphs on surfaces."

Apr. 2001, Invited speaker at Conference in Celebration of Smith College Alumnae Mathematicians, "Coloring maps and graphs on surfaces"

Mar. 2001, Invited speaker at the MAA Michigan Math Problem Contest, "How to color graphs when you have only two or three colors"

Feb. 2001, appointed Van Vleck Visiting Scholar in Mathematics, Wesleyan University, Conn., giving seminar "On 3-coloring more planar graphs and 3- and 4-coloring graphs on surfaces.", also given at 32nd Southeastern Conference on Combinatorics, Graph Theory and Computing, LSU, Baton Rouge.

Dec. 2000, Invited Speaker, 25th Australasian Conference on Combinatorial Mathematics and Combinatorial Computing, University of Canterbury, "On polar visibility graphs," and Algebraic and Topological Methods in Graph Theory 2000, University of Auckland, "On 3- and 4-coloring graphs on surfaces," New Zealand.

Oct. 2000, Noetherian Ring Seminar, Univ. of Calif., Berkeley, CA, and Mathematics Colloquium, Santa Clara University, "How to color graphs with only two or three crayons."

Sept. 2000, paper selected for and presented at Graph Drawing 2000, "On polar visibility graphs", Williamsburg, VA

July 2000, invited speaker, Workshop on Graph Colorings and Homomorphisms, Pacific Institute of Math Science, Simon Fraser University, "On 3- and 4-coloring Eulerian Triangulations of surfaces"

June 2000, invited speaker, Special Session on Graph Coloring,SIAM Discrete Mathematics meeting, Minneapolis, "On 3-Coloring some planar graphs"

Oct. 1999, Invited speaker, M.A.A. North Central Regional Conference, "On 2- and 3-coloring graphs"
Sonya Kovalevskaya Day, Kalamazaoo College, "The art and science of English bell ringing."
Metro State College, Denver, Mathematics Club, "The design and testing of printed circuit boards."

June 1999, Invited speaker, 4th Slovene International Conference on Graph Theory, "On 4-coloring Euler triangulations"

Mar. 1999, Invited speaker, Special session on Graph Theory, AMS meeting, University of Illinois, "On polar visibility graphs"

Feb. 1999, Sigma Xi lecture, Claremont Colleges, "A mathematical problem arising from chip design and testing"
Dickinson Undergraduate Lecture, Smith College, "On coloring maps and graphs with few colors"
CoNE lecture, Smith College, "On X.Zhu's star chromatic number methods applied to circulants."

Jan. 1999, Annual meetings of the AMS and MAA, San Antonio, Texas, Haimo Teach Award talk, "Coloring maps and graphs"

Nov. 1998, Carleton College Mathematics Colloquium, "On coloring graphs with few colors"

Aug. 1998, DIMACS Workshop on Graph Coloring, "On four-coloring even triangulations of the torus"

Dec. 1997, Claremont Colleges Mathematics Colloquium, "On coloring planar graphs"

Nov. 1997, Sonia Kovalevsky High School Mathematics Day, NDSU, keynote speech on "Coloring maps for fun and for math"

May 1997 Graph Coloring conference, University of Montreal, "On 4-coloring 6-regular graphs on the torus"
North Dakota State University, Departmental seminar, "Recent results on rectangle-visibility graphs"

Jan. 1997 Discrete Mathematics Seminar, University of Colorado at Denver, "Recent results on rectangle-visibility graphs"

Oct. 1996 Combinatorialists of New England, Smith College, "On 3- and 4-coloring graphs on the plane, the projective plane, and the torus; Variations on some themes of Heawood and Hadwiger
Wesleyan University Mathematics Department Colloquium and University of Colorado at Denver Discrete Mathematics Seminar, "On 2-, 3-, 4-, 5- and 6-coloring graphs on surfaces"

Oct. 1995, Grinnell College Mathematics Department, "Map coloring problems and an application to testing printed circuit boards" and "Some recent results on coloring planar graphs and their extensions".

Apr. 1995, Students' Choice Colloquium speaker, Virginia Polytechnic Institute and State University, "Recent 5-, 4-, and 3-color theorems."

Nov. 1994, Department Colloquium, North Dakota State University, "Recent 5-, 4-, and 3-color theorems."

June 1994, Graphentheorie, Oberwolfach, Germany, "On three-coloring graphs on surfaces"

June 1994, Special Session on Combinatorics, Canadian Mathematical Summer Meeting, Edmonton, Alberta, February 1994, "On coloring graphs on surfaces with very few colors"
University of Colorado at Denver Combinatorics Seminar, "Thickness-two graphs, their representations and applications"

November 1993, Coloring graphs on surfaces with very few colors. Univer sity of Illinois at Chicago Mathematics Colloquium and University of Michigan Combinatorics Seminar

October 1993, Representations of Thickness-two graphs, Smith College Combinatorics Day and University of Michigan Combinatorics Seminar

June 1993, Graphs on Surfaces conference, Johns Hopkins University, invited hour talk on "Three-colorable graphs on surfaces"