VITAE

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EDUCATION

1988 Ph.D. Computer Science, University of Central Florida, Orlando (Dissertation Title: "k–γ–Insensitive Domination").

1984 M.S. Mathematical Sciences, Eastern Kentucky University, Richmond

1978 M.A. Mathematics/Education, Eastern Kentucky University, Richmond

1975 B.S. Mathematics/Education, Eastern Kentucky University, Richmond

EMPLOYMENT

Professor of Mathematics, East Tennessee State University, Johnson City, Tennessee. August 1999-Present.

Associate Professor of Mathematics, East Tennessee State University, Johnson City, Tennessee. January 1995-August 1999.

Associate Professor of Computer Science, East Tennessee State University, Johnson City, Tennessee. August 1993-December 1994. (Visiting Professor, New Mexico State University and University of Alabama at Huntsville, Spring 1994.)

Assistant Professor of Computer Science, East Tennessee State University, Johnson City, Tennessee. August 1988–August 1993.

Graduate Teaching Assistant, University of Central Florida, Orlando, Florida. August, 1985–May, 1988. (Visiting Instructor of Computer Science, University of Central Florida, Orlando, Florida. January, 1986–May, 1986.)

Assistant Professor of Computer Science, Prestonsburg Community College, Prestonsburg, Kentucky. August, 1983–May, 1985.

Instructor of Computer Science and Mathematics, Pikeville College, Pikeville, Kentucky. August, 1981–June, 1983.

Engineer/Manager, South Central Bell Telephone Company, Pikeville, Kentucky. June, 1978–July, 1981.

High School Mathematics Teacher, Pike County Board of Education, Kentucky. August, 1975–June, 1978.

RESEARCH INTERESTS

My primary research interest is graph theory.

BOOKS PUBLISHED

1. *Fundamentals of Domination in Graphs*, Marcel Dekker, Inc., New York, 1998 (with Stephen Hedetniemi and Peter Slater).

2. *Domination in Graphs: Advanced Topics*, Marcel Dekker, Inc., New York, 1998 (edited by Teresa Haynes, Stephen Hedetniemi and Peter Slater).

REFEREED PUBLICATIONS

1. Extremal 2-2-insensitive graphs, *Congr. Numer.* 67 (1988) 158-166 (with Robert C. Brigham and Ronald D. Dutton).

2. A Multi-layered G–network for massively parallel computation, *Frontiers 88: The IEEE Proceedings of the Second Symposium on the Frontiers of Massively Parallel Computation* (1988) 519-520 (with Ratan K. Guha).

3. Changing and unchanging of the graphical invariants: minimum and maximum degree, maximum clique size, node independence number, and edge independence number, *Congr. Numer.* 72 (1990) 239-252 (with Linda M. Lawson, Robert C. Brigham, and Ronald D. Dutton).

4. Changing and unchanging of the node covering number of a graph, *Congr. Numer.* 77 (1990) 157-162 (with Linda M. Lawson).

5. The G–network and its inherent fault tolerant properties, *Internat. J. Comput. Math.* 31 (1990) 167-175 (with Ratan K. Guha, Robert C. Brigham, and Ronald D. Dutton).

6. CARDD : Computer aided representative-graph determiner and drawer, *Congr. Numer.* 77 (1990) 163-168 (with Michael W. Powell and Linda M. Lawson).

7. On a graph transformation where nodes are replaced by complete subgraphs, *Congr. Numer.* 78 (1990) 99-107 (with Paul Schmidt).

8. Characterization of the caterpillars obtained from a unique animal, *J. Combin. Inform. System Sci.* 15 (1990) 247-255 (with Robert C. Brigham, Ronald D. Dutton, and Frank Harary).

9. Changing and unchanging the domination number of a graph, *J. Combin. Math. Combin. Comput.* 9 (1991) 57-63 (with Julie Carrington and Frank Harary).

10. Some remarks on k–insensitive graphs in network system design, an invited paper in *Sankhyā Ser. A* 54 (1992) 177-187 (with Ratan K. Guha).

11. The effects of graph modifications on edge independence and edge covering numbers, *J. Combin. Math. Combin. Comput.* 9 (1992) 56-72 (with Linda M. Lawson).

12. Observations regarding distance n graphs, *Congr. Numer.* 89 (1992) 55-64 (with James W. Boland and Linda M. Lawson).

13. E–graphs, a generalization of several network designs, an invited paper in *Bull. Inst. Combin. Appl.* 7 (1993) 39-46 (with Linda M. Lawson).

14. Extremal graphs domination insensitive to the removal of k edges, *Discrete Appl. Math.* 44 (1993) 295-304 (with Robert C. Brigham and Ronald D. Dutton).

15. Applications of E–graphs in network design, *Networks* 23 (1993) 473-479 (with Linda M. Lawson).

16. Node and edge clique cover numbers of E–graphs, *Congr. Numer.* 95 (1993) 173–178 (with Linda M. Lawson).

17. On the codomination number of a graph, *Proyecciones* 12 (1993) 149–153 (with Frank Harary and Martin Lewinter).

18. Domination from a distance, *Congr. Numer.* 103 (1994) 89–96 (with Linda M. Lawson and James W. Boland).

19. Invariants of E–graphs, *Internat. J. Comput. Math.* 54 No. 3, 4 (1994) (with Linda M. Lawson).

20. Conditional graph theory IV: Dominating sets, *Utilitas Math.* 48 (1995) 179–192 (with Frank Harary).

21. Paired-domination and the paired-domatic number, *Congr. Numer.* 109 (1995) 65–72 (with Peter J. Slater).

22. Nordhaus-Gaddum inequalities for domination in graphs, *Discrete Math.* 155 (1996) 99–105 (with Frank Harary).

23. On graphs having equal domination and codomination numbers, *Utilitas Math.* 50 (1996) 53–64 (with Robert C. Brigham, Ronald D. Dutton, and Frank Harary).

24. Domination in inflated graphs, *Congr. Numer.* 118 (1996) 143–154 (with Jean E. Dunbar).

25. A note on changing and unchanging the color cost of a graph, *Congr. Numer.* 119 (1996) 185–191 (with Frank Harary and Linda Lawson).

26. Domination in graphs: a brief overview, *J. Combin. Math. Combin. Comput.* 24 (1997) 225–237.

27. Independence, domination, and generalized maximum degree, *Congr. Numer.* 125 (1997) 145–152 (with Jean Dunbar, Lisa Markus, Gayla Domke, and Debra Knisley).

28. The domatic number of a graph and its complement, *Congr. Numer.* 126 (1997) 53–63 (with Jean E. Dunbar and Michael Henning).

29. The k-tuple domatic number of a graph, *Math. Slovaca* 48 (1998) 161–166 (with Frank Harary).

30. Efficient and excess domination in graphs, *J. Combin. Math. Combin. Comput.* 26 (1998) 83–96 (with Frank Harary and Peter J. Slater).

31. Generalized maximum degree and totally regular graphs, *Utilitas Math.* 54 (1998) 211-221 (with Debra Knisley).

32. Bondage, insensitivity and reinforcement, *Domination in Graphs : Advanced Topics*, Chapter 17, eds. Haynes, Hedetniemi, and Slater (1998) 471–489 (with Jean Dunbar, Erich Teschner, and Lutz Volkmann).

33. Paired-domination in graphs, *Networks* 32 (1998) 199–206 (with Peter Slater).

34. Domination critical graphs with respect to the relative complement, *Australas. J. Combin.* 18 (1998) 115–126 (with Michael Henning).

35. Total domination edge critical graphs, *Utilitas Math.* 54 (1998) 229–240 (with L.C. van der Merwe and C. M. Mynhardt).

36. Criticality index of total domination, *Congr. Numer.* 131 (1998) 67–73 (with L.C. van der Merwe and C. M. Mynhardt).

37. On perfect neighborhood sets in graphs, *Discrete Math.* 199 (1999) 221-225 (with Gerd Fricke, Sandra Hedetniemi, Stephen Hedetniemi, and Michael Henning).

38. Nordhaus-Gaddum type results for the domatic number of a graph, *Combinatorics, Graph Theory, and Algorithms*, John Wiley & Sons, Inc. Vol. 1 (1999) 303–312 (with Jean E. Dunbar and Michael Henning).

39. Independence, domination, and uniform maximum degree, to appear in *Combinatorics, Graph Theory, and Algorithms*, John Wiley & Sons, Inc. Vol. 1 (1999) 291–302 (with Jean Dunbar, Lisa Markus, Gayla Domke, and Debra Knisley).

40. 3-domination critical graphs with arbitrary independent domination numbers, *Bull. Inst. Combin. Appl.* 27 (1999) 85–88 (with Lucas van der Merwe and C.M. Mynhardt).

41. Extremal domination insensitive graphs, *J. Combin. Math. Combin. Comput.* 31 (1999) 113–127.

42. Realizability of (j,t)-critical graphs for sets of values, *Congr. Numer.* 137 (1999) 65–75 (with Ben Phillips and Peter Slater).

43. Extremal graphs for inequalities involving domination parameters, *Discrete Math.* 216 (2000) 1–10 (with Xu Baogen, Ernie Cockayne, Stephen Hedetniemi, and Zhou Shangchao).

44. Double domination in graphs, *Ars Combin.* 55 (2000) 201–213 (with Frank Harary).

45. The domatic numbers of factors of a graph, *Ars Combin.* 56 (2000) 161–173 (with Michael Henning).

46. Path-free domination, *J. Combin. Math. Combin. Comput.* 33 (2000) 9–21 (with Michael Henning).

47. Stratified claw domination in prisms, *J. Combin. Math. Combin. Comput.* 33 (2000) 81–96 (with Gary Chartrand, Michael Henning, and Ping Zhang).

48. Distance-k independent domination sequences , *J. Combin. Math. Combin. Comput.* 33 (2000) 225–237(with Odile Favaron and Peter Slater).

49. The codomatic number of a cubic graph, *J. Combin. Math. Combin. Comput.* 32 (2000) 139–147 (with Jean E. Dunbar and Michael Henning).

50. A generalization of domination critical graphs, *Utilitas Math.* 58 (2000) 129–144 (with Ben Phillips and Peter Slater).

51. Induced-paired domination in graphs, *Ars Combin.* 57 (2000) 111–128 (with Linda Lawson and Dan Studer).

52. A characterization of domination 4-relative-critical graphs of diameter 5, *Australas. J. Combin.* 22 (2000) 19–36 (with Michael Henning).

53. Domination and independence subdivision numbers of graphs, *Discussiones Math. Graph Theory.* 20 (2000) 271–280 (with Sandra Hedetniemi and Stephen Hedetniemi).

54. Domination and total domination critical trees with respect to relative complements, *Ars Combin.* 59 (2001) 117–127 (with Michael Henning and Lucas van der Merwe).

55. Strong equality of upper domination and independence in trees, *Utilitas Math.* 59 (2001) 111–124 (with Michael Henning and Peter Slater).

56. Generalized maximum degree, *Utilitas Math.* 59 (2001) 155–165 (with Lisa Markus).

57. Stable and unstable graphs with total irredundance number zero, *Ars Combin.* 61 (2001) 33–46 (with Michael Henning, Stephen Hedetniemi, and Debra Knisley).

58. Total domination edge critical graphs with maximum diameter, *Discussiones Math. Graph Theory.* 21 (2001) 187–205 (with Lucas van der Merwe and C.M. Mynhardt).

59. Domination subdivision numbers, *Discussiones Math. Graph Theory.* 21 (2001) 239–253 (with Sandra Hedetniemi, Stephen Hedetniemi, David Jacobs, James Knisely, and Lucas van der Merwe).

60. Paired-domination in grid graphs, *Congr. Numer.* 150 (2001) 161–172 (with Kenneth Proffitt and Peter Slater).

61. Trees with equal domination and tree-free domination numbers, *Discrete Math.* 242 (2002) 93–102 (with Michael Henning).

62. Excellent trees, *Bull. Inst. Combin. Appl.* 34 (2002) 27–38 (with Gerd Fricke, Sandra Hedetniemi, Stephen Hedetniemi, and Renu Laskar).

63. A characterization of i-excellent trees, *Discrete Math.* 248 (2002) 69–77 (with Michael Henning).

64. Total domination critical graphs with respect to relative complements, *Ars Combin.* 64 (2002) 169–179 (with Michael Henning and Lucas van der Merwe).

65. Trees with unique minimum total dominating sets, *Discussiones Math. Graph Theory.* 22 (2002) 233–246 (with Michael Henning).

66. Total irredundance in graphs, *Discrete Math.* 256 (2002) 115–127 (with Odile Favaron, Stephen Hedetniemi, Michael Henning, and Debra Knisley).

67. Total domination supercritical graphs with respect to relative complements, *Discrete Math.* 258 (2002) 361–371 (with Michael Henning and Lucas van der Merwe).

68. Total domination good vertices in graphs, 26 (2002) 305–315 *Australas. J. Combin.* (with Michael Henning).

69. Domination goodness index, *Congr. Numer.* 156 (2002) 171–179 (with Genie Jackson).

70. Domination in graphs applied to electrical power networks, *SIAM J. Discrete Math.* 15(4) (2002) 519–529 (with Sandra Hedetniemi, Stephen Hedetniemi, and Michael Henning).

71. Global defensive alliances, *Proc. 17th Internat. Symp. Comput. Inform. Sci.*, I. Cicekli, N.K. Cicekli and E. Gelenbe, Eds., ISCIS XVII, October 28-30, 2002, Orlando, FL, USA, CRC Press, pp. 298-302. (with Stephen Hedetniemi and Michael Henning).

72. Total domination subdivision numbers, *J. Combin. Math. Combin. Comput.* 44 (2003) 115–128 (with Stephen Hedetniemi and Lucas van der Merwe).

73. Total domination edge critical graphs with minimum diameter, *Ars Combin.* 66 (2003) 79–96 (with Lucas van der Merwe and C.M. Mynhardt).

74. Strong equality of domination parameters in trees, *Discrete Math.* 260 (2003) 77–87 (with Michael Henning and Peter Slater).

75. H-forming sets in graphs, *Discrete Math.* 262 (2003) 159–169 (with Stephen Hedetniemi, Michael Henning, and Peter Slater).

76. A note on defensive alliances, *Bull. Inst. Combin. Appl.* 38 (2003) 37–41 (with Fricke, Lawson, Hedetniemi, and Hedetniemi).

77. Changing and unchanging domination : a classification, *Discrete Math.* 272 (2003) 65–79.

78. Stratification and domination in graphs, *Discrete Math.* 272 (2003) 171–185 (with Gary Chartrand, Michael Henning, and Ping Zhang).

79. Domination good vertices in graphs, *Utilitas Math.* 64 (2003) (with Genie Jackson).

80. Domination in graphs, Book Chapter, *Handbook of Discrete Mathematics* editors: Gross and Yellen.

81. Global defensive alliances in graphs, to appear in *Electronic J. Combinatorics* (with Henning and Hedetniemi).

82. Domination subdivision numbers in graphs, to appear in *Utilitas Math.* (with Odile Favaron and Stephen Hedetniemi).

83. On Nordhaus-Gaddum bounds for domination in graphs with specified minimum degree, to appear in *Utilitas Math.* (with Jean Dunbar and Stephen Hedetniemi).

84. Criticality index of total domination, to appear in *Utilitas Math.* (with C.M. Mynhardt and Lucas van der Merwe).

85. On paired and double domination in graphs, to appear in *Utilitas Math.* (with Mustapha Chellali).

86. Hereditary domination & independence parameters, to appear in *Discussiones Math. Graph Theory* (with Wayne Goddard and Debra Knisley).

87. Trees with unique minimum paired dominating sets, to appear in *Ars Combin.* (with Mustapha Chellali).

88. Hamiltonian domination, to appear in *Utilitas Math.* (with Gary Chartrand, Michael Henning, and Ping Zhang).

89. Total domination subdivision numbers, to appear in *Discussiones Math. Graph Theory* (with Michael Henning and Lora Hopkins).

90. Geodetic achievement and avoidance games for graphs, to appear in *Quaestiones Mathematicae* (with Michael Henning and Charlotte Tiller).

SUBMITTED FOR PUBLICATION

1. Detour domination, submitted to *Ars Combin.* (with Gary Chartrand, Michael Henning, and Ping Zhang).

2. Characterizations of trees with equal paired and double domination numbers, submitted to *J. Graph Theory*(with Blidia and Chellali), via email 2/27/02, home: tree4.tex; submitted to *Discrete Math.* online submission 4/30/02, tree4.ps.

3. Total domination vertex critical graphs, submitted to *Discrete Math.* (with Wayne Goddard, Michael Henning, and Lucas van der Merwe). Has been revised. Mike submitted. vcrit13.pdf

4. Broadcasts in graphs, submitted to *Discrete Applied Math.* (with Jean Dunbar, David Erwin, Sandra Hedetniemi, and Stephen Hedetniemi).

5. Bicritical domination, submitted to *Discrete Math.* (with Brigham, Henning, and Rall). I submitted online 4/24/03. Stored at ETSU and Home as bicritical.tex.

6. Power domination, submitted to *Discrete Applied Math.* (with David Atkins and Michael Henning). Mike submitted to SIAM J. Discrete Math. Rejected. Resubmitted to DAM.

7. Independent and double domination in graphs, submitted to *Utilitas Math.* (with Blidia, Chellali, Henning). revised 11/25/03 newdtree11.tex home.

8. Total domination subdivision numbers in trees, submited to *Discrete Math.* (with Michael Henning). Mike submitted online 5/1/03.

9. Locating and differentiating total domination, submitted to (with Henning and Howard).