



# SCHOOL OF MATHEMATICS

## LIST OF RESEARCH PUBLICATIONS

### 2002

1. G.E. Andrews, A. Knopfmacher, P. Paule and B. Zimmermann, “Engel expansions of q-series by computer algebra”, *Symbolic Computation, Number Theory, Special Functions, Physics and Combinatorics*, University of Florida, Gainesville, USA, *Symbolic Computation, Number Theory, Special Functions, Physics and Combinatorics*, 4, pp. 33-57, 2002.
2. P.A. Binding, P.J. Browne and B.A. Watson, “Inverse spectral problems for left-definite Sturm-Liouville equations with indefinite weight”, *Journal of Mathematical Analysis and Applications*, **271** (2002), 383-408.
3. P.A. Binding, P.J. Browne and B.A. Watson, “Spectral asymptotics for Sturm-Liouville equations with indefinite weight”, *Transactions of the American Mathematical Society*, **354**(10) (2002), 4043-4065.
4. P.A. Binding, P.J. Browne and B.A. Watson, “Sturm-Liouville problems with boundary conditions rationally dependent on the eigenparameter. II”, *Journal of Computational and Applied Mathematics*, **148** (2002), 147-168.
5. P.A. Binding, P.J. Browne and B.A. Watson, “Sturm-Liouville problems with boundary conditions rationally dependent on the eigenparameter. I”, *Proceedings of the Edinburgh Mathematical Society*, **45** (2002), 631-645.
6. W.J. Block and C.J. van Alten, “The finite embeddability property for residuated lattices, pocrim and BCK-algebras” *Algebra Universalis*, **48**(3) (2002), 253-271.
7. A.V. Boyd and J.N. Ridley, “The return of Secret Santa”, *The Mathematical Gazette*, **85** (2001), 307-311.
8. B. Cheng and G.L. Mullen, “Constructions for mutually orthogonal frequency hyperrectangles with a prescribed type”, *Discrete Mathematics*, **242**(1-3) (2002), 55-64.
9. R. Denk, M. Faierman and M. Möller, “An elliptic boundary problem for a system involving a discontinuous weight”, *Manuscripta Mathematica*, **108** (2002), 289-317.
10. R. Denk, M. Möller and C. Tretter, “The spectrum of a parametrized partial differential operator occurring in hydrodynamics”, *Journal of the London Mathematical Society – Second Series*, **65**(2) (2002), 483-492.
11. K.A. Driver and K.H. Jordaan, “Convergence of ray sequences of Padé approximants for  ${}_2F_1$ ”, *Quaestiones Mathematicae*, **25**(4) (2002), 539-545.
12. K.A. Driver and K.H. Jordaan, “Zeros of  ${}_3F_2$  polynomials”, *Numerical Algorithms*, **30** (2002), 323-333.

13. K.A. Driver and K.H. Jordaan, “Zeros of the hypergeometric polynomial  $F(-n, b; c; z)$ ”, Fourth Int. Symposium on Algorithms for Approximation, University of Huddersfield, UK, *Algorithms for Approximation IV*, 15 – 20 July 2001: pp. 436-444, 2002.
14. K.A. Driver and M. Möller, “Quadratic and cubic transformations and zeros of hypergeometric polynomials”, *Journal of Computational and Applied Mathematics*, **142** (2002), 411-417.
15. M. Drmota and H. Prodinger, “The height of q-binary search trees”, *Discrete Mathematics and Theoretical Computer Science*, **5** (2002), 97-108.
16. M. Faierman, “Eigenvalue asymptotics for an elliptic boundary problem involving an indefinite weight”, *Integral Equations and Operator Theory*, **43** (2002), 131-154.
17. M. Faierman, A. Markus, V. Matsaev and M. Möller, “On n-fold expansions for ordinary differential operators”, *Mathematische Nachrichten*, **238** (2002), 62-77.
18. T. Feroze and A.H. Kara, “Group theoretic methods for approximate invariants and Lagrangians for some classes of”, *Int. Journal of Nonlinear Mechanics*, **37**(2) (2002), 275-280.
19. P.J. Grabner and H. Prodinger, “Sorting algorithms for broadcast communications: Mathematical analysis”, *Theoretical Computer Science*, **289** (2002), 51-67.
20. F. Hubalek, H.K. Hwang, W. Lew, H. Mahmoud and H. Prodinger, “A multivariate view of random bucket digital search trees”, *Journal of Algorithms*, **44** (2002), 121-158.
21. A.G. Johnpillai and A.H. Kara, “Nonclassical Potential Symmetries of Differential Equations”, *Nonlinear Dynamics*, **30** (2002), 167-177.
22. A.H. Kara and F.M. Mahomed, “A basis of conservation laws for partial differential equations”, *Journal of Nonlinear Mathematical Physics*, **9** (2002), 60-72.
23. A. Knopfmacher, “John Knopfmacher – Mathematical and other memories”, *Quaestiones Mathematicae*, **24**(3) (2001), 263-267.
24. A. Knopfmacher and M.E. Mays, “Graphical compositions I: Basic enumeration”, *Integers*, **1** (2001), 1-11.
25. A. Knopfmacher and D.S. Lubinsky, “Mathematica evidence that Ramanujan kills Baker-Gammel-Wills”, *Applied Mathematics and Computation*, **128** (2002), 289-302.
26. A. Knopfmacher and H. Prodinger, “A simple card guessing game revisited”, *The Electronic Journal of Combinatorics*, **8**(2) (2002), 1-9.
27. A. Knopfmacher and R.C. Warlimont, “Arithmetical semigroups related to trees and polyhedra, II – Maps on surfaces”, *Mathematische Nachrichten*, **235** (2002), 59-81

28. K. Kobindarajah and D.S. Lubinsky, “ $L_p$  Markov-Bernstein inequalities on all arcs of the circle”, *Journal of Approximation Theory*, **116** (2002), 343-368.
29. D.G. Kubayi, “Bounds for weighted Lebesgue functions for exponential weights. II”, *Acta Mathematica Hungarica*, **97**(1-2) (2002), 37-54.
30. G. Louchard and H. Prodinger, “Probabilistic analysis of Carlitz compositions”, *Discrete Mathematics and Theoretical Computer Science*, **5** (2002), 71-96.
31. D.S. Lubinsky, “On mean convergence of trigonometric interpolants, and their unit circle analogues, for general arrays”, *Analysis*, **22** (2002), 97-107.
32. D.S. Lubinsky, “Weighted maximum over minimum modulus of polynomials, applied to ray sequences of Padé approximants”, *Constructive Approximation*, **18** (2002), 285-308.
33. D.S. Lubinsky, “Some polynomial problems arising from Padé approximation”, *Rendiconti – Del Circolo Matematico Di Palermo*, **II** Suppl. 68 (2002), 49-63.
34. D.S. Lubinsky, “On weighted mean convergence of Lagrange interpolation for general arrays”, *Journal of Approximation Theory*, **118** (2002), 153-162.
35. D.S. Lubinsky and H.P. Mashele, “ $L_p$  boundedness of  $(C,1)$  means of orthonormal expansions for general exponential weights”, *Journal of Computational and Applied Mathematics*, **145** (2002), 387-405.
36. D.S. Lubinsky and G. Mastroianni, “Converse quadrature sum inequalities for Freud weights. II”, *Acta Mathematica Hungarica*, **96**(1-2) (2002), 147-168.
37. H.P. Mashele, “The Mhashar-Prestin operators for general exponential weights”, *Rendiconti – Del Circolo Matematico Di Palermo*, **II** Suppl. 68 (2002), 671-681.
38. W.W.J. Mwakapenda, “The status and context of change in mathematics education in Malawi”, *Educational Studies in Mathematics*, (2002), 251-281.
39. A. Panholzer and H. Prodinger, “Bijections for ternary trees and non-crossing trees”, *Discrete Mathematics*, **250** (2002), 181-195.
40. A. Panholzer and H. Prodinger, “Binary search tree recursions with harmonic toll functions”, *Journal of Computational and Applied Mathematics*, **142** (2002), 211-225.
41. A. Panholzer and H. Prodinger, “Moments of level numbers of leaves in binary trees”, *Journal of Statistical Planning and Inference*, **101** (2002), 267-279.
42. A. Panholzer and H. Prodinger, “A generating functions proof of a curious identity”, *Integers*, **2** (2002), 1-3.

43. H. Prodinger, "Digits and beyond", pp. 355-377. In: Chauvin B, Flajolet P, Gardy D, et al (eds), *Trends in Mathematics and Computer Science II: Algorithms, Trees, Combinatorics and Probabilities*, First Edition, Birkhäuser, Basel, Boston, Berlin, 2002.
44. H. Prodinger, "Combinatorics of geometrically distributed random variables: Value and position of large left-to-right maxima", *Discrete Mathematics*, **254** (2002), 459-471.
45. H. Prodinger and W. Szpankowski, "Optimal versus randomized search of fixed length binary words", *IEEE Transactions on Information Theory*, **48**(9) (2002), 2614-2621.
46. C.J. van Alten, "Representable biresiduated lattices", *Journal of Algebra*, **247** (2002), 672-691.
47. R.C. Warlimont, "Converse prime element theorems for arithmetical semigroups", *Mathematische Nachrichten*, **237** (2002), 147-168.