



# SCHOOL OF MATHEMATICS

## LIST OF RESEARCH PUBLICATIONS

### 2004

1. M. Archibald, "Restrictions on the position of the maximum/minimum in a geometrically distributed sample", 3<sup>rd</sup> Colloquium on Mathematics & Computer Science, Vienna, Austria, *Mathematics and Computer Science III*, 13-17 September, pp. 283-294, 2004.
2. F. Bassino and H. Prodinger, " $(q, \delta)$ -Numeration systems with missing digits", *Monatshefte für Mathematik*, **141** (2004), 89-99.
3. M. Berger, "The functional use of a mathematics sign", *Educational Studies in Mathematics*, **55** (2004), 81-102.
4. M. Berger, "Heaps, complexes and concepts (part 2)", *For the Learning of Mathematics*, **24**(3) (2004), 11-17.
5. P.A. Binding, P.J. Browne, W.J. Code and B.A. Watson, "Transformation of Sturm-Liouville problems with decreasing affine boundary conditions", *Proceedings of the Edinburgh Mathematical Society*, **47** (2004), 533-552.
6. P.A. Binding, P.J. Browne and B.A. Watson, "Recovery of the m-function from spectral data for generalized Sturm-Liouville problems", *Journal of Computational and Applied Mathematics*, **171** (2004), 73-91.
7. P.A. Binding, P.J. Browne and B.A. Watson, "Equivalence of inverse Sturm-Liouville problems with boundary conditions rationally dependent on the eigenparameter", *Journal of Mathematical Applications*, **291** (2004), 246-261.
8. P. Binding, H. Langer and M. Möller, "Oscillation results for Sturm-Liouville problems with an indefinite weight function", *Journal of Computational and Applied Mathematics*, **171** (2004), 93-101.
9. C. Brezinski, K. Driver and M. Redivo-Zaglia, "Quasi-orthogonality with applications to some families of classical orthogonal polynomials", *Applied Numerical Mathematics*, **48** (2004), 157-168.
10. Davison, A.H. and A.H. Kara, "Potential symmetry generators and associated conservation laws of perturbed nonlinear equations", *Applied Mathematics and Computation*, **156** (2004), 271-285.
11. K.A. Driver and S.J. Johnston, "Quasi-orthogonality and zeros of some  ${}_3F_2$  hypergeometric polynomials", *Quaestiones Mathematicae*, **27** (2004), 365-373.
12. M. Fairman, R. Mennicken and M. Möller, "The essential spectrum of a model problem in 2-dimensional magnetohydrodynamics: A proof of a conjecture by J. Descloux and G. Geymonat", *Mathematische Nachrichten*, **260-270** (2004), 129-149.

13. P. Grabner, C. Heuberger and H. Prodinger, "Distribution results for low-weight binary representations for pairs of integers", *Theoretical Computer Science*, **319** (2004), 307-331.
14. S. Hassi, M. Möller and H. De Snoo, "Singular Sturm-Liouville problems whose coefficients depend rationally on the eigenvalue parameter", *Journal of Mathematical Analysis and Applications*, **295** (2004), 258-275.
15. P. Hitczenko and A. Knopfmacher, "Gap-free samples of geometric random variables", First Workshop on Analytic Algorithmics and Combinatorics, New Orleans, Louisiana, USA, *Proceedings of the Sixth Workshop on Algorithm Engineering and Experiments and the First Workshop on Analytic Algorithmics and Combinatorics*, 10 January, pp. 194-198, 2004.
16. A. Knopfmacher and N. Robbins, "On Pell partitions", *Fibonacci Quarterly*, **42**(4) (2004), 348-352.
17. A. Knopfmacher and H. Prodinger, "The number of descents in samples of geometric random variables", 3<sup>rd</sup> Colloquium on Mathematics & Computer Science, Vienna, Austria, *Mathematics and Computer Science III*, 13-17 September, pp. 339-350, 2004.
18. D. Kubayi and D.S. Lubinsky, "A Hilbert transform representation of the error in Lagrange interpolation", *Journal of Approximation Theory*, **129** (2004), 94-100.
19. W-C. Kuo, C.C.A. Labuschagne and B.A. Watson, "Riesz Space and Fuzzy Upcrossing Theorems", *Soft Methodology and Random Information Systems*, pp.101-108. Springer-Verlag, Berlin-Heidelberg-New York, 2004.
20. W-C. Kuo, C.C.A. Labuschagne and B.A. Watson, "Discrete-time stochastic processes on Riesz spaces", *Indagationes Mathematicae - New Series*, **15**(3) (2004), 435-451.
21. C.C.A. Labuschagne, "Riesz reasonable cross norms on tensor products of Banach lattices", *Quaestiones Mathematicae*, **27** (2004), 243-266.
22. C.C.A. Labuschagne, "Characterizing the one-sided tensor norms  $\delta_p$  and  ${}^t\delta_p$ ", *Quaestiones Mathematicae*, **27** (2004), 339-363.
23. A. Love and S.Z. Luyckx, "Empirical quantitative relationships among grain size, mean free path, contiguity and cobalt content in WC-Co hardmetal", *Transactions of the Royal Society of South Africa*, **58**(2) (2004), 145-148.
24. A. Love and S.Z. Luyckx, "The relationship between the abrasion resistance and the hardness of WC-Co alloys", *Journal of the South African Institute of Mining and Metallurgy*, **104**(10) (2004), 579-582.
25. M. Möller, "The essential spectrum of a system of singular ordinary differential operators of mixed order: Part III: A strongly singular case", *Mathematische Nachrichten*, **272** (2004), 104-112.

26. K. Morris, "On parameters in monotonically labelled trees", 3<sup>rd</sup> Colloquium on Mathematics & Computer Science, Vienna, Austria, *Mathematics and Computer Science III*, 13-17 September, pp.261-263, 2004.
27. K. Morris, A. Panholzer and H. Prodinger, "On some parameters in heap ordered trees", *Combinatorics, Probability and Computing*, **13** (2004), 677-696.
28. A. Panholzer and H. Prodinger, "Spanning tree size in random binary search trees", *Annals of Applied Probability*, **14**(2) (2004), 718-733.
29. A. Panholzer and H. Prodinger, "Analysis of some statistics for increasing tree families", *Discrete Mathematics and Theoretical Computer Science*, **6** (2004), 437-460.
30. A. Panholzer, H. Prodinger and M. Riedel, "Permuting in place: Analysis of two stopping rules", *Journal of Algorithms*, **51** (2004), 170-184.
31. H. Prodinger, "On the moments of a distribution defined by the Gaussian polynomials", *Journal of Statistical Planning and Inference*, **119** (2004), 237-239.
32. H. Prodinger, "A note on a paper of GH Weiss and M Dishon", *Fibonacci Quarterly*, **42**(4) (2004), 290-291.
33. H. Prodinger, "Compositions and Patricia tries: No fluctuations in the variance!", First Workshop on Analytic Algorithms and Combinatorics, New Orleans, Louisiana, USA, *Proceedings of the Sixth Workshop on Algorithm Engineering and Experiments and the First Workshop on Analytic Algorithmics and Combinatorics*, 10 January, pp. 211-215, 2004.
34. H. Prodinger, "The kernel method: A collection of examples", *Séminaire Lotharingien de Combinatoire*, **50** (2004), 1-9.
35. J.N. Ridley and M.E. Mays, "Compositions of unions of graphs", *Fibonacci Quarterly*, **42**(3) (2004), 222-230.
36. M. Rollnick, A.H. Bapoo, B. Davidowitz, M. Keane and L. Magadla, "Who will pass your course? Towards developing study approaches profiles for access students in science", 12<sup>th</sup> Annual Conference of the Southern African Association for Research in Mathematics, Science and Technology Education, Cape Town, *Proceedings of the 12<sup>th</sup> Annual Conference of SAARMSTE*, 14-17 January, pp. 880-887, 2004.
37. C.J. van Alten, "The termwise equivalence of the varieties of  $l$ -group cones and cancellative generalized hoops", *Quaestiones Mathematicae*, **27** (2004), 39-45.
38. C.J. van Alten and J.G. Raftery, "Rule separation and embedding theorems for logics without weakening", *Studia Logica*, **76** (2004), 241-274.
39. J. Von Zur Gathen, A. Knopfmacher, F. Luca, L.G. Lucht and I.E. Shparlinski, "Average order in cyclic groups", *Journal de Théorie des Nombres de Bordeaux*, **16** (2004), 107-123.