SCHOOL OF MATHEMATICS
LIST OF RESEARCH PUBLICATIONS
2005

Category 3 : Published Conference Proceedings

1. **M. Berger**
    Vygotsky's theory of concept formation and mathematics education"
    Proceedings of the 29th Conference of the International Group for
    the Psychology of Mathematics Education, Vol. 2. pp.153-160.
    University of Melbourne, Australia, 2005.

2. **A. Davison**
    "The Lie derivative and Lie Symmetries"
    Group Analysis of Differential Equations, Proc. of 10th International
    Conference in MOdern GRoup ANalysis (eds.) Ibragimov, N.H., Sophocleous, C. and Damianou,
    P.A., pp.58-63, 2004.

3. **J.F.T. Hartney** and **A.M. Matlala**
    "On the nilpotence of the S-radical in matrix near-rings"
    Nearrings and Nearfields, Proc. of the Conference on Nearrings and Nearfields, (eds.) Kiechle, H.,
    Kreuzer, A. and Thomsen, M.J.,
    pp.217-224. Springer, Hamburg, Germany, 2005.

4. **J.F.T. Hartney** and **D.S. Rusznyak**
    "A right radical for right D.G. near-rings"
    Nearrings and Nearfields, Proc. of the Conference on Nearrings and
    Nearfields, (eds.) Kiechle, H., Kreuzer, A. and Thomsen, M.J.,
    pp.217-224, 2005. Springer, Hamburg, Germany.

5. **A.G. Johnpillai** and **A.H. Kara**
    "Nonclassical potential symmetries and exact solutions of partial
    differential equations"
    Group Analysis of Differential Equations, Proc. of 10th International
    Conference in MOdern GRoup ANalysis (eds. Ibragimov, N.H.,
    Sophocleous, C. and Damianou, P.A.), pp.114-119, 2004.

Category 4 : DE Accredited Journals

1. **M. Berger** and P. Cretchley,
    "Technology and mathematics learning at university level:
    A South African Perspective"
    African Journal of Research in SMT Education, **9**(2) (2005) 97-108.
    SA List - No. 18

2. A.H. Bokhari, **A.H. Kara** and F.D. Zaman,
    "On soliton and other exact solutions of the combined KdV and modified and generalized KdV
    equations, Il Nuovo Cimento della societa Italiana di Fisica B, **120** (2005) 393-396.

3. **Y. Gryshko** and A. Khelif
    "Monochrome symmetric subsets of colored groups"
    Journal of Combinatorial Theory, Series A , **112** (2005) 212-221

4. T. Hayat, **A.H. Kara** and E. Momoniat
    "The Unsteady Flow of a Fourth-Grade Fluid Past a Porous Plate"
    Mathematical and Computer Modelling, **41** (2005) 1347-1353.
    ISI database

5. **M. Hockman**
   "Dynamic Geometry: An agent for the reunification of algebra and geometry"
   Pythagoras: Journal for the Association for Mathematics Education of South Africa, **61** (2005) 31-41
   S.A. List - No. 124

6. **A.H. Kara**
   "Equivalent Lagrangians and the inverse variational problem with applications"
   Quaestio A nes Mathematica, **27** (2004) 207-216
   S.A. List - No. 126

7. **A.H. Kara** and C.M. Khalique
   "Nonlinear evolution-type equations and their exact solutions using inverse variational methods"
   Journal of Physics A: Mathematical and General, **38** (2005) 4629-4636
   ISI List

8. **I. Naidoo**
   "A note on precompact uniform frames"
   Topology and its Applications, **153** (2005) 941-947
   ISI database

9. P.P. Ntumba and **T.A. Batubenge**
   "On the way to Frölicher lie groups"
   Quaestiones Mathematicae, **28** (2005) 73-93.
   SA List - No. 126

Category 4A : Non--Accredited Journals

1. **M. Berger**
   "Heaps, Complexes and Concepts (Part 1)"
   For the Learning of Mathematics, **24** (2004), 2-6.

2. **M. Hockman**
   "Curriculum design and tertiary education"
   International Journal of Mathematical Education in Science and Technology, **36** No. 2-3 (2005) 175-191.

Category 3 : Published Conference Proceedings

1. **W-C. Kuo, C.C.A. Labuschagne** and **B.A. Watson**
   "A zero-one law for Riesz space and fuzzy processes"
   Fuzzy Logic, Soft Computing and Computational Intelligence,
   pp.393-397.
   Tsinghau University Press and Springer, 2005.

Category 4 : DE Accredited Journals

1. D. Aharonov, A. Beardon and **K. Driver**
   "Fibonacci, Chebyshev, and Orthogonal Polynomials"
   American Mathematical Monthly, **112** (2005), 612-630
   ISI database

2. **M. Archibald**
   "Position of the maximum in a sequence with geometric distribution"
   Discrete Mathematics and Theoretical Computer Science, **AD** (2005), 11-16
   ISI database

3. A.F. Beardon and **K.A. Driver**
   "The zeros of linear combinations of orthogonal polynomials"
   Journal of Approximation Theory, **137** (2005), 179-186
   ISI database

4. W.J. Blok and **C.J. Van Alten**
   "On the finite embeddability property for residuated ordered
   groupoids"
   Transactions of the American Mathematical Society, **357** No. 10 (2005), 4141-4157
   ISI database

5. **C. Brennan** and **A. Knopfmacher**
   "The distribution of ascents of size d or more in samples of
   geometric random variables"
   Discrete Mathematics and Theoretical Computer Science, **AD** (2005),
   343-352
   ISI database

6. C**. Brennan** and **A. Knopfmacher**
   "The first and last ascents of size d or more in samples of
   geometric random variables"
   Quaestiones Mathematicae, **28** (2005), 1-14
   SA List

7. **S. Currie** and **B.A. Watson**
   "Eigenvalue asymptotics for differential operators on graphs"
   Journal of Computational and Applied Mathematics, **182** (2005), 13-31
   ISI database

8. C. Heuberger, R. Katti, **H. Prodinger** and X. Ruan
   "The alternating greedy expansion and applications to computing digit
   expansions from left-to-right in cryptography"
   Theoretical Computer Science, **341** (2005), 55-72
   ISI database

9. P. Hitczenko and **A. Knopfmacher**
    "Gap-free compositions and gap-free samples of geometric random variables"
    Discrete Mathematics, **294** (2005), 225A-239
    ISI database

10. **A. Knopfmacher** and N. Robbins
    "Identities for the total number of parts in partitions of integers"
    Utilitas Mathematica, **67** (2005), 9-18
    ISI database

11. **Knopfmacher** and N. Robbins
    "Compositions with parts constrained by the leading summand"
    Ars Combinatoria, **76** (2005), 287-295
    ISI database

12. **W-C. Kuo, C.A. Labuschagne** and **B.A. Watson**
    "Conditional expectations on Riesz spaces"
    Journal of Mathematical Analysis and Applications, **303** (2005), 509-521
    ISI database

13. T. Kusche, R. Mennicken and **M. Möller**
    "Friedrichs extension and essential spectrum of systems of differential operators of mixed order"
    Mathematische Nachrichten, **278** No. 12-13 (2005), 1591-1606
    ISI database

14. **C.C.A. Labuschagne**
    "Equivalence of the Bocher norm and its transpose characterizes L_p -spaces"
    Journal of Mathematical Analysis and Applications, **308** (2005), 746-758
    ISI database

15. **H. Prodinger**
    "q-identities of Fu and Lascoux proved by the q-Rice formula"
    Quaestiones Mathematicae, **27** (2004), 391-395
    SA List

16. **C.J. Van Alten**
    "Congruence properties in congruence permutable and in ideal determined varieties, with applications"
    Algebra Universalis, **53** No. 4 (2005), 433-449
    ISI database

17. **C.J. Van Alten**
    "The finite model property for knotted extensions of propositional linear logic"
    The Journal of Symbolic Logic, **70** No. 1 (2005), 84-98
    ISI database

18. **R. Warlimont**
    "Permutations avoiding consecutive patterns, II"
    Archiv der Mathematik, **84** (2005), 496-502
    ISI database

Category 4A : Non--Accredited Journals

1. **S. Currie** and **B.A. Watson**
   "Dirichlet-Neumann bracketing for boundary-value problems
   on graphs"
   Electronic Journal of Differential Equations, **2005** (2005), 1-11

2. P.J. Grabner, C. Heuberger and **H. Prodinger**
   "Counting Optimal Joint Digit Expansions"
   Integers: The Electronic Journal of Combinatorial Number Theory,
   5 No. 3 (2005), Article A9, 19 pages.

3. P.J. Grabner, C. Heuberger, **H. Prodinger** and J.M. Thuswaldner
   "Analysis of Linear Combination Algorithms in Cryptography"
   ACM Transactions on Algorithms, **1** No. 1 (2005), 123-142

4. **Knopfmacher** and M. Mays
   "A survey of factorization counting functions"
   International Journal of Number Theory, **1** No. 4 (2005), 563-582

5. **H. Prodinger**
   "A curious identity proved by Cauchy's integral formula"
   The Mathematical Gazette, **89** No. 515 (2005), 266-267

6. **H. Prodinger**
   "Two q-identities from the Theory of Fountains and Histograms Proved
   with a Tri-Diagonal Determinant"
   Integers: The Electronic Journal of Combinatorial Number Theory, **5**
   No. 1 (2005), 1-3

7. **H. Prodinger**
   "More terms of the asymptotic solution of a difference equation
   considered by Ramanujan"
   The Australian mathematical Gazette, **31** No. 5 (2005), 340-341