

## **Faculty Research 2012**

1. **John R. Graef, Shapour Heidarkhani, and Lingju Kong**, A critical points approach for the existence of multiple solutions of a Dirichlet quasilinear system, *J. Math. Anal. Appl.* **388** (2012), 1268--1278.
2. **Lingju Kong and James. S. W. Wong**, Optimal existence theorems for positive solutions of second order multi-point boundary value problems, *Commun. Appl. Anal.* **16** (2012), 73--86.
3. **John R. Graef, Lingju Kong, and Bo Yang**, Positive solutions for a semipositone fractional boundary value problem with a forcing term, *Fract. Calc. Appl. Anal.* **15** (2012), 8--24.
4. **Qingkai Kong and Min Wang**, Positive solutions of nonlinear fractional boundary value problems with Dirichlet boundary conditions, *Electron. J. Qual. Theory Dier. Equ.*, No. 17 (2012), 1--13.
5. **Andrew Ledoan, Marco Merkli and Shannon Starr**, A universality property of Gaussian analytic functions, *J. Theoret. Probab.*, Vol. 25, No. 2 (2012), 496--504.
6. **Qingkai Kong and Min Wang**, Even order system boundary value problems with periodic boundary conditions, *Proceedings of Dynamic Systems and Applications* **6** (2012), 223-228.
7. **Gunasekera, S.** (2012). Generalized Inferences for the Common Shape Parameter of Several Pareto Populations. *Advances and Applications in Statistics*, **26**(2), 137-152.
8. **Gunasekera, S.** (2012). Statistical Inferences for Availability of a Series System with Pareto Failure and Repair Times. *Journal of Model Assisted Statistics and Applications*, Accepted for publication.
9. **Andrew Ledoan and Alexandru Zaharescu**, The pair correlation of homotetic images of zeros of the Riemann zeta-function, *J. Math. Anal. Appl.* **395** (2012), 275--283.
10. **Gunasekera, S.** (2012). Generalized Inferences for the Common Shape Parameter of Several Pareto Populations. *Advances and Applications in Statistics*, **26**(2), 137-152.
11. **Qingkai Kong and Min Wang**, Oscillation criteria for forced second order differential equations with deviating arguments, *Communications in Applied Analysis*, **16** (2012), 459-470.
12. **John R Graef, Lingju Kong, Qingkai Kong, and Min Wang**, Uniqueness of positive solutions of fractional boundary value problems with non- homogeneous integral boundary conditions, *Fractional Calculus and Applied Analysis*, **15** (2012), 509-528.
13. **John R. Graef and Lingju Kong**, Positive solutions for a class of higher order boundary value problems with fractional  $\mathcal{D}^{\alpha}$ -derivatives, *Appl. Math. Comput.* **218** (2012), 9682--9689.
14. **John R. Graef and Lingju Kong**, Positive almost periodic solutions for a first order functional differential equations with multiple time-varying delays and a forcing term, *Proceedings of Dynamic Systems and Applications*, Volume **6** (2012), 167--173.
15. **John R. Graef, Lingju Kong, and Qingkai Kong**, Application of the mixed monotone operator method to fractional boundary value problems, *Fract. Differ. Calc.* **2** (2012), 87--98.
16. **John R. Graef, Lingju Kong, and Bo Yang**, Positive solutions for a fourth order three point focal boundary value problem, *Nonlinear Dyn. Syst. Theory* **12** (2012), 171--178.
17. **S. Pounds, C. Gao, H. Zhang**, Empirical Bayesian Selection of Hypothesis Testing Procedures for Sequence Count Expression Data, *Statistical Applications in Genetics and Molecular Biology*, **5** (2012), 1544-6115.
18. **Lucas Van der Merwe and Mike Henning**. Maximum diameter of total domination edge critical graphs, *Discrete Mathematics*, **312** (2012) no. 2, 397-404.
19. **Lucas Van der Merwe, Mike Henning, Teresa Haynes, Nader Rad**. Erratum to: Total domination supercritical graphs with respect to relative complements, [*Discrete Math.* **258** (2002) 361{371}], *Discrete Math.*, **312** (2012) no. 5, 1076.
20. **Lucas Van der Merwe, Johan Hattingh and Ernst Joubert**. Criticlity index of total domination of a path, *Utilitas Mathematica*, **87** (2012) 285-291.

21. **Lucas Van der Merwe, Johannes Hattingh, Ossama Saleh, Walters.** A Nordhaus-Gaddum-type result for the induced path number, *Journal of Combinatorial Optimization*, 24 (2012) no. 3, 329-338.
22. **Lucas Van der Merwe, Marc Loizeaux and Francesco Barioli.** A family of 4-critical graphs with diameter three, *Ars Combinatoria* 105 (2012), 83-93.
23. **J. Eckhardt, F. Gesztesy, R. Nichols, and G. Teschl,** Weyl—Titchmarsh theory for Sturm--Liouville operators with distributional potentials. Accepted for publication in *Opuscula Math.* (2012)
24. **F. Gesztesy, M. Mitrea, and R. Nichols,** Heat kernel bounds for elliptic partial differential operators in divergence form with Robin-type boundary conditions. Accepted for publication in *J. Anal. Math.* (2012).
25. **S. Avdonin and L. Pandolfi,** Simultaneous temperature and flux controllability for heat equations with memory, *Quarterly of Applied Mathematics*, (2012).
26. **S. Avdonin and V. Kozlov,** Stability estimate for an inverse problem in glaciology, *Analysis and Mathematical Physics*, (2012), vol. 2, no. 4, 367--387.
27. **S. Avdonin and J. Bell,** Determining a distributed parameter in a neural cable model via a boundary control method, *J. Mathematical Biology*, (2012).
28. **John R. Graef, Lingju Kong, and Qingkai Kong,** On a generalized discrete beam equation via variational methods, *Commun. Appl. Anal.* **16** (2012), 293--308.
29. **John R. Graef, S. Padhi, and S. Pati,** Periodic solutions of some models with strong allee effects, *Nonlinear Analysis: Real World Applications* 13 (2012), 569--581.
30. **John R. Graef, M. A. El-Beltagy,** and S. R. Grace, On the oscillation of third order neutral delay dynamic equation on time scales, *Computers & Mathematics with Applications* 63 (2012), 775--782.
31. **John R. Graef and M. Remili,** Some properties of monotonic solutions of  $x''' + p(t)x' + q(t)f(x)=0$ , *PanAmerican Mathematical Journal* 22 (2012), 31--39.
32. **B. Baculikova, J. Dzurina,** and John R. Graef, On the oscillation of higher order delay differential equations, *Nelineini Kolyvannya (Nonlinear Oscillations)* 15 (2012), 13--24. (English version: *Journal of Mathematical Sciences* 187 (2012), 387--400.)
33. **John R. Graef, T. Li, and E. Thandapani,** Oscillation of third-order neutral retarded differential equations, *International Journal of Pure and Applied Mathematics* 75 (2012), 511--520.
34. **S. Abbas and M. Benchohra, and John R. Graef,** Integro-differential equations of fractional order, *Differential Equations and Dynamical Systems* 20 (2012), 139--148.
35. **John R. Graef, P. K. Kar, S. Padhi, and S. Pati,** Positive solutions of differential equations with unbounded Green's kernel, *Applicable Analysis and Discrete Mathematics* 6 (2012), 159--173.
36. **John R. Graef and T. Moussaoui,** Positive solutions of a system of coupled second order equations with three point boundary conditions, *Rocky Mountain Journal of Mathematics* 42 (2012), 1169--1182.
37. **John R. Graef and S. Saker,** Oscillation of third-order nonlinear neutral functional dynamic equations on time scales, *Dynamic Systems and Applications* 21 (2012), 583--606.
38. **John R. Graef, S. R. Grace, S. Panigrahi, and E. Tunc,** On the oscillatory behavior of even order neutral delay dynamic equations on time-scales, *Electronic Journal of Qualitative Theory of Differential Equations* 2012 (2012), No. 96, pp. 1--12.
39. **M. Bartusek and John R. Graef,** Limit point/limit-circle results for equations with damping, *Abstract and Applied Analysis*, vol. 2012, Article ID 979138, 19 pages, 2012.
40. **Johannes Hattingh, Ossama Saleh, Lucas Van der Merwe, Terry Walters.** Nordhaus-Gaddum results for the sum of the induced path number of a graph and its complement, *Acta Mathematica Sinica, English Series*, 28 (2012), no. 12, 2365-2372

41. **Francesco Barioli and Lucas Van der Merwe.** On the maximum degree of 3t-critical graphs, JCMCC, 80 (2012), 225-242.
42. **Hattingh, Rad, Loizeaux, Matthews, Van der Merwe.** Total edge critical graphs with leaves, Discrete Math., 312 (2012), no. 24, 3482-3488.
43. **Aniekan Ebiefung.** A Generalization of the Relaxed Choice of Technology Model. Proceedings of the Southeast Institute for Operations Research and the Management Sciences, pp. 565—571, 2012.
44. **Aniekan A. Ebiefung, Idongesit Isaac.** An input-output Pollution Control Model and Product Section. Journal of Mathematical Research; Vol. 4, No. 5; 2012.