

Faculty Research for 2016

1. **J.R. Graef, L. Kong,** and B. Yang, Positive solutions for a fractional boundary value problem, *Applied Mathematics Letters* 56 (2016), 49–55.
2. **J.R. Graef, L. Kong,** Y. Tian, and M. Wang, Three solutions for second-order impulsive differential inclusions with Sturm-Liouville boundary conditions via nonsmooth critical point theory, *Topological Methods in Nonlinear Analysis* 47 (2016), 1–18.
3. **J.R. Graef,** A. Baliki and M. Benchohra, Global existence and stability for second order functional evolution equations with infinite delay, *Electronic Journal of Qualitative Theory of Differential Equations* (2016), No. 23, 1–10.
4. B.C. Dhage, S.B. Dhage, and **J.R. Graef,** Dhage iteration method for initial value problems for nonlinear first order hybrid integro-differential equations, *Journal of Fixed Point Theory and Applications* 18 (2016), 309–326.
5. **J.R. Graef,** C. Tunc and S. Sevgin, Behavior of solutions of nonlinear functional Volterra integro-differential equations with multiple delays, *Dynamic Systems and Applications* 25 (2016), 39–46.
6. **J.R. Graef,** S. Heidarkhani, and **L. Kong,** Multiple solutions for systems of Sturm-Liouville boundary value problems, *Mediterranean Journal of Mathematics* 13 (2016), 1625–1640.
7. B.C. Dhage, S.B. Dhage, and **J.R. Graef,** Local attractivity and stability analysis of a nonlinear quadratic fractional integral equation, *Applicable Analysis* 95 (2016), 1989–2003.
8. S. R. Grace, **J.R. Graef,** and E. Tunc, Oscillatory behavior of a third-order neutral dynamic equation with distributed delays, Proceedings of the Tenth Colloquium on the Qualitative Theory of Differential Equations, *Electronic Journal of Qualitative Theory of Differential Equations*, 2016, No. 14, 1–14
9. J.M. Davis, P.W. Eloe, **J.R. Graef,** and J. Henderson, Positive solutions for a singular fourth order nonlocal boundary value problem, *International Journal of Pure and Applied Mathematics* 109 (2016), 67–84.
10. **J.R. Graef,** S. Heidarkhani, and **L. Kong,** Multiple periodic solutions for perturbed second-order impulsive Hamiltonian systems, *International Journal of Pure and Applied Mathematics* 109 (2016), 85–104.
11. S. R. Grace, **J.R. Graef,** and E. Tunc, Asymptotic behavior of solutions of forced fractional differential equations, *Electronic Journal of Qualitative Theory of Differential Equations* (2016), No. 71, 1–10 (Special issue dedicated to Tibor Krisztin on the occasion of his sixtieth birthday).
12. F. Domingo, E. Dale, **C. Gao,** A single-center retrospective review of postoperative infectious complications in the surgical management of mandibular fractures: Postoperative antibiotics add no benefit, *J. Trauma Acute Care Surg.* (2016), 81(6), 1109–1114.

13. L. Zhu, D. Finkelstein, **C. Gao**, L. Shi, Y. Wang, D. Lopez-Terrada, K. Wang, S. Utley, S. Pounds, G. Neale, D. Ellison, A. Onar-Thomas, R.J. Gilbertson, Multi-organ mapping of cancer risk, *Cell* 166 (2016), Issue 5, 1132–1146.
14. Y. Liang, D. Wu, Y. Li, **C. Gao**, J. Ma, and W. Wu, Big data-enabled multiscale serviceable analysis about aging bridges, *J. of Digital Comm. and Networks* 62 (2016), Issue 3, 97–107.
15. C. Murphy, B. Foster, and **C. Gao**, Temporal dynamics in rhizosphere bacterial communities of three perennial grassland species, *Agronomy* (2016), 6(1), Issue 17, 117.
16. B. Shamsaei and **C. Gao**, Comparison of some machine learning and statistical algorithms for classification and prediction of human cancer type, 2016 IEEE-EMBS International Conference on Biomedical and Health Informatics, Proceedings of IEEE Engineering in Medicine and Biology Society, 296–299.
17. **L. Kong**, Homoclinic solutions for a higher order difference equation with p -Laplacian, *Indag. Math.* **27** (2016), 124–146.
18. **L. Kong**, Multiple solutions for fourth order elliptic problems with $p(x)$ -biharmonic operators, *Opuscula Math.* 36 (2016), 252–264.
19. **L. Kong** and Qingkai Kong, Positive solutions of a singular fractional boundary value problem, *Enlightenment of Pure and Applied Mathematics* 2 (2016), 143–152.
20. **J.R. Graef** and **Lingju Kong**, Multiple Solutions of Boundary Value Problems, A Variational Approach, *Trends in Abstract and Applied Analysis*, Volume 1, World Scientific Publishing Company, New Jersey, 2016.
21. **L. Kong**, Positive radial solutions for quasilinear biharmonic equations, *Comput. Math. Appl.* 72 (2016), 2878–2886.
22. **J.R. Graef**, **L. Kong**, and Xueyan Liu, Existence of positive solutions to a discrete fourth order periodic boundary value problem, *J. Difference Equ. Appl.* 22 (2016), 1167–1183.
23. **J.R. Graef**, **L. Kong**, Q. Kong, and M. Wang, On a fractional boundary value problem with a perturbation term, *J. Appl. Anal. Comput.* 7 (2017), 57–66.
24. F. Gesztesy, S. Hofmann, and **R. Nichols**, On stability of square root domains for non-self-adjoint operators under additive perturbations, *Mathematika* 62 (2016), 111–182.
25. J. Behrndt, F. Gesztesy, H. Holden, and **R. Nichols**, Dirichlet-to-Neumann maps, abstract Weyl–Titchmarsh M -functions, and a generalized index of unbounded meromorphic operator-valued functions, *J. Differential Equations* 261 (2016), 3551–3587.
26. X. Wang and **J. Wang**, Disease dynamics in a coupled cholera model linking within-host and between-host interactions, *Journal of Biological Dynamics*, 2016. DOI: 10.1080/17513758.2016.1231850.
27. A. Timalina, G. Hou, and **J. Wang**, Computing fluid-structure interaction by the partitioned approach with direct forcing, *Communications in Computational Physics*, 2016. DOI: <https://doi.org/10.4208/cicp.080815.090516a>
28. T. Huynh, G. Hou and **J. Wang**, Communicating wave energy: An active learning experience for students, *American Journal of Engineering Education*, vol. 7, 37–46, 2016.

29. X. Wang, D. Posny, and **J. Wang**, A reaction-convection-diffusion model for cholera spatial dynamics, *Discrete and Continuous Dynamical Systems – Series B*, vol. 21(8), 1–25, 2016.
30. S. Mushayabasa, D. Posny, and **J. Wang**, Modeling the intrinsic dynamics of foot-and-mouth disease, *Mathematical Biosciences and Engineering*, vol. 13, 425–442, 2016.
31. D. Posny, C. Modnak, and **J. Wang**, A multigroup model for cholera dynamics and control, *International Journal of Biomathematics*, vol. 9(1), 1650001, 2016.
32. **A. Ledoan**, Explicit formulas for the distribution of complex zeros of a family of random sums, *J. Math. Anal. Appl.* 444 (2016), Issue 2, 1304–1320.
33. Millett K. C. and **Panagiotou E.**, 2016, Linking in systems with one-dimensional periodic boundaries, Algebraic Modeling of Topological and Computational Structures and Applications, PROMS, Springer Proceedings in Mathematics and Statistics
34. Millett K. C. and **Panagiotou E.**, 2016, Entanglement transitions in one dimensional confined flows, *Fluid Dyn. Res.* 50 011416.
35. Igram S., Millett K. C. and **Panagiotou E.**, 2016, Resolving critical degrees of entanglement in olympic rings systems, *J. Knot Theory Ramif.* 25 14.
36. Hattingh, J. H.; **Saleh, O. A.; Van der Merwe, L. C.; Walters, T. J.** Nordhaus-Gaddum results for the induced path number of a graph when neither the graph nor its complement contains isolates. *Graphs Combin.* 32 (2016), no. 3, 987–996.
37. **Aniekan A. Ebiefung**. How to draw and recognize misleading graphs Part I, Proceedings of the 28th Annual International Conference in Collegiate Mathematics, 2016.