

Dr. Sowmya M

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Associate Professor

Educational Qualification MSc, MS, Ph.D. (University of Louisiana at Lafayette, USA)

Experience Teaching: 21 Years, Research: 10 Years

Area of Interest Fractional Differential Equations,
Numerical Analysis.

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List of Publications

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List of International Journal Publications:

1. Sowmya M, A.S. Vatsala and D.S. Stutson, Generalized Monotone Method For Ordinary And Caputo Fractional Differential Equations, *Dynamic Systems and Applications*, 24, 2015, 429-437.
2. A.S.Vatsala, Sowmya M, Generalised Iterative Methods for Caputo Fractional Differential Equations via Coupled Lower And Upper Solutions with Superlinear Convergence, *Nonlinear Dynamics & Systems Theory*, 15, 2015, 198-208.
3. A.S.Vatsala, Sowmya M, Superlinear convergence for Caputo fractional differential equations with applications, *Dynamic Systems and Applications*, 22, 2013, 479-492.

4. A.S.Vatsala, Sowmya M, Numerical Approach via Generalized Monotone Method for System of Caputo Fractional Differential Equations, *Neural, Parallel, and Scientific Computations*, 21, 2013, 347-360.
5. A.S.Vatsala, Sowmya M, Numerical Approach via Generalized Monotone Method for Scalar Caputo Fractional Differential Equations, *Neural, Parallel, and Scientific Computations*, 21, 2013, 19-30.
6. Ralph Baker Kearfott, Yi Wang, Xinyu Li, Qian Wang and Sowmya M, On Smooth Reformulations and Direct Non-Smooth Computations in Global Optimization for Minimax Problems, *Journal of Global Optimization*, 57, 2013, 1091-1111.
7. A.S.Vatsala, Noel C, Sheila H, Zenia N, Dayonna P, Jasmine W and Sowmya M, Numerical Application Of Generalized Monotone Method for Population Models, *Neural, Parallel, and Scientific Computations*, 20, 2012, 359-372.

Dr. Sowmya M-International Conference Proceedings Publications

1. Sowmya Muniswamy, Vidya Patil, Numerical Analysis of RLC Electrical Circuits Using Caputo Fractional Differential Operator, First International Conference on Technologies for Smart Green Connected Society 2021, ECS Transactions, 107 (1) 14381-14390 (2022)
2. M Sowmya, AS Vatsala, Mixed generalized iterative method for scalar first order non-linear initial value problem with applications, 11th International Conference in Nonlinear Problems in Aviation and Aerospace at , AIP Conference Proceedings, 2046(2018)020098(1-8).
3. M Sowmya, AS Vatsala, Generalized monotone method and numerical approach for coupled reaction diffusion systems, AIP Conference Proceedings 1798 (1), 020153.
4. AS Vatsala, M Sowmya, Laplace transform method for linear sequential Riemann Liouville and Caputo fractional differential equations, AIP Conference Proceedings 1798 (1), 020171.

Consultancy

Selected as a Subject Expert for content development of the Course "Complex Analysis I" of the LPU Degree Programs for UpGrad Education Pvt. Ltd. with a Work Order of Rs. 3,40,000/- (Rupees Three Lakh Forty Thousand Only). Effective Date: 23rd October 2020, End Date: 23rd March 2021. Received an amount of Rs. 93,925/- on 19/03/2021.

Text Book

Engineering Mathematics I, Publishers-Cengage Publishers, 2018