

**Auxilium College (Autonomous), Vellore-6**

**PG and Research Department of Mathematics**

**Books and Publications**

1. Priya P., and Sabarmathi A., Dynamic Efficacy of Soil Pollution using fractional order model- An Adomian Decomposition Approach, Tuijin Jishu/ Journal of Propulsion Technology, Vol. 44, No. 4, 2023, ISSN: 1001-4055.
2. Aruna G., and Jesintha Rosline J., Prism fuzzy number and its applications, AIP Conference Proceedings, AIP Publishing, Volume 2852, Issue 1,2023, ISSN: 1551-7616.
3. G. Aruna, and J. Jesintha Rosline, Properties of Quadrasophic Fuzzy Set and its applications, Reliability: Theory & Applications, Volume 18, No. 4 (76), 2023, pp.: 208 - 220, ISSN No.:1932-2321.
4. Priyanka Victor, Yuvarani, S., Preethi Victor, and Rajadurai P., An approach to Modified SIRI Epidemic Model using Markovian Retrial Queues, AIP Conference Proceedings, Volume 3180, Issue 1, 2024, pp.: 020015-1 to 020015- 14, ISSN: 1551-7616.
5. G. Aruna, and J. Jesintha Rosline, Neutral-Bipolar Fuzzy Sets and Its Applications, Trends in Mathematics, Volume 2, 2024, pp. 557-568, E. ISSN: (2297-024X), Print ISSN No.:2297-0215.
6. Priya P., and Sabarmathi A., Control Strategies for Fractional Order Soil Micro Plastic Pollution model and Preserving Nutrient Cycle Integrity, Multiscale and Multidisciplinary Modeling, Experiments and Design, Springer, Volume 7, Issue 1, 2024, pp.: 4589-4604.
7. Priya P., and Sabarmathi A., Bifurcation and optimal control analysis of fractal fractional order Soil-Plant Interaction model, Springer Proceedings in Physics, Vol. 397, 2024.
8. Priya P., and Sabarmathi A., Optimal Control on ABC fractal fractional order model of microplastic pollution in soil and its effect on nutrient cycle, Journal of Computational and Applied Mathematics, Elsevier, Volume 450,115997, 2024, ISSN: 0377-0427.

9. Priya P., and Sabarmathi A., Novel adaptive control approach to fractal fractional order deforestation model and its impact on soil erosion, *Scientific Reports, Sci Rep* 14, 27996, 2024,ISSN 2045-2322.
10. Priya P., and Sabarmathi A., Fractional order Commensurate model of contaminated soil-plant interactions with non-singular kernel, *International Journal of Computational and Applied Mathematics. Springer*, Volume 10, article number 150, 2024,ISSN: 2199-5796.
11. Priya P., and Sabarmathi A., Global Sensitivity analysis soil pollution using fractal fractional order model, *International Journal of Energy and Environment Science*, Volume 9, Issue 2, 2024, pp.: 38-51.
12. G. Aruna, and J. Jesintha Rosline, A dissimilarity relational bipolar operator in the analysis of obesity- induced illness, *Journal of Xidian University*, Volume 18, Issue 8, 2024, pp.: 462-469, ISSN No.: 1001-2400.
13. G. Aruna, and J. Jesintha Rosline, Quadrasophic Fuzzy Matrix and its applications, *Reliability: Theory & Applications*, Volume 19, No. 4 (80),2024, pp.: 120 - 131, ISSN No.:1932-2321.
14. G. Aruna, and J. Jesintha Rosline, A Dissimilarity Relational Bipolar Operator For Evaluating Obesity-Induced Diseases in Bipolar Fuzzy Environment, *Arthshastra, Indian Journal of Economics and Research*, Volume 13, Issue 4, 2024, pp.: 326- 332.
15. Kanchana M. and Lakshmi Bai R., Optimizing Shortest Path for Triangular and Trapezoidal Fuzzy Transportation Problems, *Journal of Xi'an University of Architecture & Technology*, Volume XVI, Issue 9, 2024, pp.: 55 -70, ISSN No.: 1006-7930.
16. Priya P., and Sabarmathi A., Exploring Bifurcation and Optimal Control Dynamics in Caputo Fractional Soil-Plant Interaction Systems, *Dynamics of Continuous, Discrete and Impulsive Systems Series A: Mathematical Analysis* 32, 2025, pp.: 67-76.
17. P.R. Besi, G.M. Vijayalakshmi and P. Priya, Covid-19 Dynamics With Time Delay Model Considering Super Immunity, *Dynamics of Continuous, Discrete and Impulsive Systems Series A: Mathematical Analysis* 32, 2025, pp.: 77-91.
18. K. Nandhini and S. Yuvarani, Analysis of a Preemptive Priority Retrial Queue with two types of customers, single vacation and negative customers, *Applied Mathematical Techniques and Bio-Inspired Computations*, 2025, pp.: 408-417, ISBN: 978-93-93333-67-4, E-ISBN: 9789393333971.

19. G. Aruna, J. Jesintha Rosline, Maria Singaraj, Mohammad Rezam Farahani, Mehdi Alaeiyan, and Murat Cancan, Integrating Fuzzy Numbers In Analyzing Students Decisions On Higher Education And Employment, *Journal of Combinatorial Mathematics and Combinatorial Computing*, Volume 124, 2025, pp. 277 - 290, ISSN: No.:0835-3026(Print), E-ISSN: 2817-576X.
20. G. Aruna, and J. Jesintha Rosline, Exploring Quadrasophic Fuzzy Set: Applications in Assessing Stress levels and Self-Esteem connections, *Reliability: Theory & Applications*, Volume 21, No. 1 (82), 2025, pp. 700 - 220, ISSN: No.:1932-2321.
21. A. Anthoni Amali, J. Jesintha Rosline, and G. Aruna, Alternate Quadra- Submerging Polar fuzzy Graph and its Decision Making Analysis, *Reliability: Theory & Applications*, Volume 20, No. 1 (82), 2025, pp. 157 -171, ISSN: No.:1932-2321.
22. G. Aruna, and J. Jesintha Rosline, Advancing MCDM Solutions with Prism Intuitionistic Fuzzy Numbers, *Intelligent and Fuzzy Systems, Lecture Notes in Networks and Systems LNNS*, Volume 1528, Springer, Cham 2025, pp. 185-192. ISBN: 978-3-031-97984-2.
23. Aruna G., Jesintha Rosline J., A Comparative Study of MCDM Approaches: Exploring the Influence of Additional Parameters in Mathematics, *Optimality*, 2(3), 2025, pp. 177-192. August <https://doi.org/10.22105/opt.v2i3.88>
24. V. Shakila and L. Sujatha, On Half Logistic-Gamma-G Class of Distribution and Estimation of Fuzzy Reliability, *International Journal of Fuzzy Systems*, 2025 (Published online: 13 August 2025), Springer Nature Link: <https://doi.org/10.1007/s40815-025-02090-1>
25. Aruna G., Jesintha Rosline J., A Statistical Exploration of the effects of Additional Parameters In Mathematics, *Reliability: Theory & Applications*, Volume 20, No. 4 (89), 2025, pp. 277 - 284, ISSN: No.:1932-2321.