



Dr. Hariharan S

Assistant Professor

Department of Mathematics

School of Engineering

Dayananda Sagar University, Bengaluru, Karnataka, India

Official Email: hariharan-maths@dsu.edu.in

Personal Website: [Hariharan S](#)

1. ABOUT

Dr. Hariharan Soundararajan is an Assistant Professor in the Department of Mathematics, School of Engineering, at Dayanand Sagar University, Bengaluru. He holds a Ph.D. in Mathematics from NIT Goa, where his thesis examined the qualitative analysis of time-dependent disease dynamic models under Dr. L. Shangerganes, along with an M.Sc. from Bharathiar University. With five years of research experience in mathematical modeling, differential equations, fractional-order systems, and reaction-diffusion epidemic models, he has authored 17+ peer-reviewed papers in journals such as Scientific Reports, Applicable Analysis, and Mathematical Methods in the Applied Sciences. He has presented at international conferences in Singapore, Tokyo, and across India, and earned recognitions including GATE, CSIR-UGC-JRF, MHRD fellowships, and SERB travel grants. Skilled in MATLAB, Mathematica, and Python, he teaches core mathematics courses to Engineering and Pharmacy students, combining strong research expertise with a passion for high-quality academic teaching and mentorship.

2. RESEARCH INTERESTS

- Differential Equation
- Epidemic Modelling
- Control Theory

3. ACADEMIC QUALIFICATIONS

- Ph.D. in Mathematics, from National Institute of Technology, Goa - Awarded in Feb-2025
- M.Sc. in Mathematics, Bharathiar University. (2017-2019)
- B.Sc. in Mathematics, from N.G.M. Arts and Science College, Pollachi. (2014-2017)

4. PROFESSIONAL EXPERIENCE

His teaching spans foundational to advanced courses across multiple semesters since 2022. Earlier, during his Ph.D. at NIT Goa, he served as a Teaching Assistant, gaining valuable exposure to academic mentorship and classroom instruction at the postgraduate research level. He brings hands-on teaching experience in mathematics education, currently instructing Engineering and Pharmacy students at Dayanand Sagar University in subjects such as Calculus, Linear Algebra, Differential Equations, Numerical Methods, and Remedial courses.

5. RESEARCH HIGHLIGHTS

- **Publications:** 17+ peer-reviewed research articles in reputed international journals (including Q1/Q2-ranked publications), primarily on mathematical epidemiology, reaction-diffusion models, and fractional-order dynamical systems.
- **Patents:** Published a one Indian patent in the title “Multilevel Teen Health Diagnostic Ecosystem Using Predictive Growth–Metabolic Modelling and Team-Based Graph-Theoretic Recovery Synchrony for Early Illness Detection”.
- **Awards/Recognitions:** GATE, CSIR-UGC-JRF, MHRD Junior and Senior Research Fellowships, and travel/financial grants from SERB, and ICIAM-2023 (Waseda University, Tokyo).
- **Academic/Conference Roles:** Presented research papers at multiple national and international conferences, including SciCADE-2024 (NUS, Singapore) and ICIAM-2023 (Tokyo, Japan).
- **Reviewer/Editorial Activities:** Actively serving as a reviewer for 10+ peer review Journals.

6. SELECTED PUBLICATIONS

- Hariharan, S., Shangerganesh, L., Manimaran, J., Zaky, M. A., Babatin, M., & Hendy, A. S.; Spatio-temporal dynamical behavior of a nonlinear reaction-diffusion model with population variability. *Applicable Analysis*; (2026). <https://doi.org/10.1080/00036811.2026.2629418> (Q2)
- **S. Hariharan**, J. Manimaran, L. Shangerganesh; Stability analysis for a time-fractional SIR epidemic disease model with varying population sizes; *Rocky Mountain Journal of Mathematics*; 55 (1), (2025). <https://doi.org/10.1216/rmj.2025.55.211> (Q2)
- Suganya D., Bhuvaneswari V., **Hariharan S.**, Shangerganesh L.; A fractional tuberculosis host population model with dynamical analysis; *Discontinuity, Nonlinearity, and Complexity*; 15(1) (2026). <https://doi.org/10.5890/DNC.2026.03.006> (Q3)
- Dhandapani, S., Venkatasubramaniam, B., Alsulami, I. M., Alsulami, A., **Soundararajan, H.**, & Lingeshwaran, S. (2026). A dynamical approach for a fractional-order SEIL epidemic model embedding time delay. *AIMS MATHEMATICS*, 11(6), 15725-15744.

7. ACADEMIC PROFILES

- Google Scholar: [Hariharan Soundararajan](#)
- ORCID: [0000-0002-1279-7833](#)
- Scopus: [58659951200](#)
- Personal Website: [Personal Website-Hariharan S](#)

8. Ph. D. Students

- **Ms. Akshatha K N**- Full Time (Co-Guide)
- **Mr. Sachin G** -Full Time (Co-Guide)
- **Ms. Shrusti N** -Part time (Co-Guide)
- **Mr. Chandan Kumar** -Part time (Co-Guide)
- **Ms. Bhoomika V** -Full time (Guide)