



# Dr. SANTOSH KUMAR SHARMA | CV

Ph.D, Mathematical Science

Magadh University Bodh-Gaya, Bihar

Mob. +91 7739623441

santoshmumath@gmail.com

| Course | College/University          | Year                      | Class |
|--------|-----------------------------|---------------------------|-------|
| Ph.D   | Magadh University Bodh-Gaya | Awarded, October 23, 2024 | xx.x  |
| M.SC   | Magadh University Bodh-Gaya | 2012-2014                 | 1st   |
| B.SC   | K.L.S College, Nawada       | 2009-2012                 | 1st   |

## ABOUT ME

- I am **Dr. Santosh Kumar Sharma**. I earned my Ph.D. in Mathematical Science from Magadh University in Bodh Gaya, Bihar, India, on October 23, 2024, and I received my M.Sc. from the same university in 2014. My research interests include the mathematical modelling of environmental and ecological systems, epidemics, and social dynamics. I have published approximately five research articles in reputable international journals and have presented papers at five national and international seminars and conferences. I serve as a regular reviewer for journals published by Wiley, Taylor & Francis, PLOS ONE (ISSN-1932-6203), Smart Science (ISSN-2308-0477), the Journal of Asian and African Studies (ISSN-0021-9096), the International Journal of Differential Equations, and the Journal of Medical Internet Research. Additionally, I am a life member of several professional societies, including Bharata Ganita Parisad and Bihar Mathematical Society, and I am a member of the Odisha Mathematical Society for 2023-2024. I also hold a life membership in MTTF, where I serve as an advisor (Registration No. AD220109), and I am a life member of ISFSEA. I am open to research collaborations in my areas of expertise, and my working papers can be found on Google Scholar, Research Gate, Research ID, and the Vidawan Portal.

## ADDRESS

- Mother's Name:-** Smt. Gita Sharma
- Father's Name:-** Shri Umesh Sharma
- Date of Birth:-** January 26, 1992
- Marital Status:-** Unmarried
- Nationality:-** Indian
- Sex:-** Male
- Vill.+ P. O.-Babhnour, P. S.-Narhat, Dist.-Nawada, Pin.- 80511, Bihar (India)**

## TITLE OF THE THESIS

- Mathematical Studies of Insight Control of Infectious Disease Modelling.**
- Thesis Supervisors:** Dr. Amar Nath Chatterjee, Assistant Professor & H.O.D., Department of Mathematics, K.L.S College, Nawada (Bihar)

## SKILLS & INTERESTS

- Languages:** Reading, writing, and speaking competencies in English and Hindi.
- Tools & Libraries:** Mathematica,  $\text{\LaTeX}$
- Interests:** Data Analysis, Machine Learning

## COURSES TAUGHT

- B.Sc.:-** Calculus, Numerical Analysis & Computer Programming, Real and Complex Analysis, Differential Equations, Integral Transforms, Linear Algebra, Matrices.
- M. Sc.:-** Differential Equations, Partial Differential Equations, Complex Analysis, Mathematical Methods, Mathematical Modeling, Computational Bioinformatics.

## RESEARCH INTEREST

- Mathematical Modeling of Environmental & Ecological Systems.
- Mathematical Modeling of Epidemics.
- Mathematical Modeling of Social Dynamics.
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## RESEARCH PROFILE

- **Scopus Id:-** 58098595400
- **Orcid Profile:-**0000-0003-1814-3889
- **Google Scholar:-** FG4CBX0AAAAJ
- **Research id:-** www.researchid.co/rid76403
- **Vidyan Profile:-** vidwan.inflibnet.ac.in/profile/421296
- **Research Gate:-** www.researchgate.net/profile/Santosh-Sharma-38

## RESEARCH PUBLICATIONS

- **Santosh Kumar Sharma**, Sourav Rana, and Amar Nath Chatterjee, "Dynamic Analysis of Nonlinear Stochastic DENGUE Epidemic Model" (Accepted in Journal of Applied Nonlinear Dynamics, Vol. 14(3), 2025).
- Amar Nath Chatterjee, **Santosh Kumar Sharma**, and Fahad Al Basir. "A Compartmental Approach to Modeling Measles Disease: a Fractional-Order Optimal Control Model". Fractal fractal.Vol. 8, no. 8, p. 88, 2024 | ))  
**DOI 10.3390/fractalfract8080446**
- **Santosh Kumar Sharma**, Amar Nath Chatterjee, and Fahad Al Basir. "Hopf bifurcation and optimal control of HCV/HIV co-infection dynamics within human: A theoretical study." Results in Control and Optimization 11 (2023):  
**DOI 10.1016/j.rico.2023.100234**
- **Santosh Kumar Sharma**, Amar Nath Chatterjee, and Bashir Ahmad. "Effect of Antiviral Therapy for HCV Treatment in the Presence of Hepatocyte Growth Factor." Mathematics 11.3 (2023): 751, **DOI 10.3390/math11030751**

## PAPER COMMUNICATED (In review/revision)

- **Santosh Kumar Sharma**, Amar Nath Chatterjee, and Fahad Al Basir "An analysis using mathematical modelling to determine the most efficient way to combat the new H1N1 influenza". (Communicated in a peer-reviewed journal).

## CONFERENCE PROCEEDINGS

- **70th ANNUAL CONFERENCE OF BGP** on 'RECENT ADVANCES IN MATHEMATICS AND APPLICATIONS-An International Meet' Jointly organized by Bharata Ganita Parisad and Department of Mathematics and Astronomy, University of Lucknow, Lucknow on (NCRAMA 2nd to 3rd December 2023 ), and presented a talk on "A Mathematical Model for Zika Virus Transmission With Optimal Control",
- International Conference on "Exploring Excellence in Mathematical Sciences" (ICEEMS-2023) held at Nalanda Open University, Nalanda, Bihar India and Bihar Mathematical Society (BMS), on 04th to 5th Nov 2023 and presented a talk on "Dynamic Analysis of Nonlinear Stochastic DENGUE Epidemic Model."
- International Conference on "Mathematical Analysis and Applications" and **50th Annual Conference of Odisha Mathematical Society (OMS)**, on 21st and 22nd January 2023 at Institute of Mathematics and Applications, Andharua, Bhubaneswar, and presented a talk on "A theoretical study of the HCV/HIV co-infection model with optimal control."
- **69th ANNUAL CONFERENCE OF BGP** on 'RECENT ADVANCES IN MATHEMATICS AND APPLICATIONS' Jointly organized by Bharata Ganita Parisad and the Department of Mathematics and Astronomy, University of Lucknow, Lucknow, on 24th to 25th September 2022 and presented a talk on "Effect of Antiviral Therapy for HCV Treatment in the presence of hepatocyte growth factor."

## REVIEWER IN NATIONAL/ INTERNATIONAL JOURNALS

- journal, PLOS ONE, ISSN 1932-6203
- journal, Smart science, ISSN 2308-0477
- Journal of Asian and African Studies, ISSN 0021-9096
- Wiley, International Journal of Differential Equations
- Journal of Medical Internet Research

## MEMBER OF PROFESSIONAL SOCIETIES

- **MTTF**, Life-Membership.
- **ISFSEA**, Life-Membership.
- **MTTF-Advisor**, Reg. No.-AD220109.
- **Bharata Ganita Parisad**, Life-Membership.
- **Bihar Mathematical Society**, Life-Membership.
- **Odisha Mathematical Society**, Member, 2023 – 24

## NAMES AND ADDRESSES OF REFEREES

- **Dr. Amar Nath Chatterjee**  
Assistant Professor & H.O.D  
Dept. of Mathematics, K.L.S College, Nawada  
Cont.:+91-7980114681
- **Professor (Dr.) Priti Kumar Roy**  
Department of Mathematics, Jadavpur University,  
188, Raja Subodh Chandra Mallick Rd,  
Jadavpur, Kolkata, West Bengal - 700032 (IND)  
Cont.:+91-9432095603
- **Professor (Dr.) A. K. Mishra**  
Department of Mathematics Institute of Science  
Banaras Hindu University Varanasi, 221 005, (IND)  
Cont.:+91-9450640474