THE BHAWANIPUR EDUCATION SOCIETY COLLEGE

ACADEMIC DEPARTMENT: MATHEMATICS

FACULTY ACADEMIC PROFILE / CV

Full Name of the Faculty Member: Pritam Saha

Designation: College Whole Time Teacher

Specialization: Applied Mathematics, Mathematical Modeling, Nonlinear Dynamics, Mathematical Biology.

BIOGRAPHICAL SKETCH

Pritam Saha is currently associated as College Whole Time Teacher, in the Department of Mathematics, The Bhawanipur Education Society College, affiliated to University of Calcutta. He submitted the thesis for obtaining his Ph.D degree from the Department of Applied Mathematics, University of Calcutta on Mathematical biology viz Mathematical Epidemiology. He has 5 years of experience in Research. He has published his research papers in international journals.

CONTACT INFORMATION

- **Contact Address (Office):** 5, Lala Lajpat Rai Sarani, Kolkata-700020, West Bengal, India
- **Contact Number (Office):**
- **E-Mail ID (Official):** pritam.saha@thebges.edu.in
- **Mobile Number: 7501041790 / 9593295617**

ACADEMIC QUALIFICATIONS

Abbreviation of the Degree	Name of the College / University	Class Obtained	Area of Specialization	Year of Passing
Ph.D.	Department of Applied Mathematics, University of Calcutta	N. A	Mathematical Biology	2025
M.Sc. (Mathematics)	Department of Mathematics, University of Kalyani	1st Class	Mathematics	2016
B.Sc. (Mathematics Hons.)	Chakdaha College	1st Class	Mathematics Honours	2014

POSITION HELD (FULL TIME)

College Whole Time Teacher, **Department of Mathematics, The Bhawanipur Education Society College, University of Calcutta**, March 2025 – Present.

RESEARCH EXPERIENCE

- Pritam Saha served as Junior Research Fellow (JRF) from 9th January, 2020 to 8th January, 2022 at Department of Applied Mathematics, University of Calcutta.
- He also served as Senior Research Fellow (SRF) from 9th January, 2022 to 8th January, 2025 at Department of Applied Mathematics, University of Calcutta.

RESEARCH INTERESTS

- Mathematical Biology
- Nonlinear Dynamics
- Stochastic analysis
- Bifurcation Theory

PUBLICATIONS IN EDITED BOOKS

1. **P. Saha**, U. Ghosh: Global dynamics and control strategies of an epidemic model having logistic growth, non-monotone incidence with the impact of limited hospital beds, **Nonlinear Dyn** (SCI) (2021), 105: 971–996.
2. **P. Saha**, B Mondal, U Ghosh: Dynamical behaviors of an epidemic model with partial immunity having nonlinear incidence and saturated treatment in deterministic and stochastic environments, **Chaos, Solitons& Fractals**(SCI) (2023) 174, 113775.
3. **P. Saha**, SK Biswas, MHA Biswas, U Ghosh: An SEQAIHR model to study COVID-19 transmission and optimal control strategies in Hong Kong, 2022, **Nonlinear Dyn** (SCI) (2023) 111 (7), 6873-6893.
4. **P. Saha**, GC Sikdar, JK Ghosh, U Ghosh: Disease dynamics and optimal control strategies of a two serotypes dengue model with co-infection, **Mathematics and Computers in Simulation** (SCI) 209 (2023) 16-43.
5. **P. Saha**, B Mondal, U Ghosh: Global Dynamics and Optimal Control of a Two-Strain Epidemic Model with Non-monotone Incidence and Saturated Treatment, **Iranian Journal of Science** (SCIE) (2023)1-17.
6. **P. Saha**, U. Ghosh: **Complex dynamics and control analysis of an epidemic model with non-monotone incidence and saturated treatment**, **Int. J. Dynam. Control** (SCIE) (2022) https://doi.org./10.1007/s40435-022-009697.
7. **P. Saha**, GC Sikdar, U Ghosh: Transmission dynamics and control strategy of single-strain dengue disease**, Int. J. Dynam. Control** (SCIE) (2022) 11 (3) 1396-1414.
8. **P. Saha**, K. Pal, U Ghosh: Effects of vaccination and saturated treatment on COVID-19 transmission in India: Deterministic and stochastic approaches, **Journal of Biological Systems** (SCIE) 2024.
9. **P. Saha**, K. Pal, U Ghosh: Dynamic analysis of deterministic and stochastic SEIR models incorporating the Ornstein-Uhlenbeck process, **Chaos** (SCI) doi: 10.1063/5.0243656.
10. **P. Saha**, A. Haque, S. Islam, U. Ghosh: Dynamic complexities of a modified Laslie-Gower model in deterministic and stochastic environments**, Modeling Earth Systems and Environment** (SCIE) https://doi.org/10.1007/s40808-024-02179-w.
11. J K Ghosh, **P. Saha**, M Kamrujjaman, U Ghosh: Transmission Dynamics of COVID-19 with Saturated Treatment: A Case Study of Spain, **Brazilian Journal of Physics**(SCI) 53 (3), 54,2023.
12. S. Biswas, **P. Saha,** U Ghosh**:** Effects of Sexual and Vertical Transmission on Zika Virus Dynamics under Environmental Fluctuations, **International Journal of Biomathematics** (SCIE) 2024.
13. M. Kamrujjaman**, P. Saha**, M. S. Islam, U. Ghosh: Dynamics of SEIR model: A case study of COVID-19 in Italy**, Results Control Optim**(**SCOPUS**) (2022) https://doi.org/10.1016/j.rico.2022.100119.

14. B. Mondal, U. Ghosh, Md Rahman, **P. Saha**, S. Sarkar: Studies of different types of bifurcations analyses of an imprecise two species food chain model with fear effect and non-linear harvesting, **Mathematics and Computers in Simulation** (SCI) 192 (2022) 111–135.

PAPER PRESENTATIONS AT CONFERENCES

1. "Global dynamics and control strategies of an epidemic model having logistic Growth, non-monotone incidence with the impact of limited hospital beds", **P. Saha**, 22nd International Mathematics Conference 2021, Bangladesh Mathematical Society (BMS), (10-11 December 2021) (Virtual).
2. "Complex Dynamics and Control Analysis of an Epidemic Model with Non- Monotone Incidence and Saturated Treatment", **P. Saha**, International Conference on Mathematical Analysis and Applications (ICOMAA - 2022), Department of Mathematics, University of Kalyani, (June 28-29, 2022) (Virtual).
3. "Dynamics of SEIR Model: A case study of COVID-19 in Italy" **P. Saha**, International Conference on Computational and Mathematical Biology - (ICCMB-2021), Bangladesh Society for Mathematical Biology (BSMB), (30-31 July 2021).
4. "Dynamical behaviors of an epidemic model with partial immunity having nonlinear incidence and saturated treatment in deterministic and stochastic environments", **P. Saha**, Recent Trends in Applied Mathematics 2024(RTAM-2024), Department of Applied Mathematics, University of Calcutta, India, (March 14-15, 2024).
5. "AN SEQAIHR MODEL TO STUDY COVID-19 TRANSMISSION AND OPTIMAL CONTROL STRATEGIES IN HONG KONG, 2022", **P. Saha**, Introduction of Statistics in Probabilistic Approach and Study of Memory Effect Through The Eye of Fractional Calculus in Prey-Predator model, *by* Department of Mathematics, Umeschandra College.

Awarded as "Best Paper Presenter" for

"Dynamics of SEIR Model: A case study of COVID-19 in Italy" **P. Saha**, International Conference on Computational and Mathematical Biology - (ICCMB-2021), Bangladesh Society for Mathematical Biology (BSMB), (30-31 July 2021).

REVIEWER OF SCIENTIFIC JOURNAL

1. Nonlinear Dynamics 2. Scientific Reports 3. Chaos 4. Optimization and Engineering 5. Journal of Biological Systems 6. International journal of modeling and simulation 7. Modeling Earth Systems and Environment 8. Differential Equations and Dynamical Systems.

PARTCIPATION IN CONFERENCE

1. *Two Days National Seminar (Webinar) on "PURE AND APPLIED MATHEMATICS" Organised by Department of Mathematics (UG & PG), BEHALA COLLEGE Affiliated to University of Calcutta* held on August 9th - 10th, 2020.

2. The Webinar series "Online Summer School 2020 on Mathematics", organized by the Department of Mathematics, Presidency University, Kolkata during 27th June to 6th July 2020.

3. A Two-day International Webinar on Algebra, Analysis & Topology, organized by Department of Mathematics, Bankura University during 13th -14th August, 2020.

4. ONE DAY NATIONAL WEBINAR ON USAGE OF MATHEMATICAL TOOLS IN MATLAB, *DEPARTMENT OF MATHEMATICS*, KRISHNA UNIVERSITY, MACHILIPATNAM *on 6th August 2021*.

5. International webinar on "*MATHEMATICS AND ITS APPLICATION"* organised by Department of Mathematics, Nabadwip Vidyasagar College, West Bengal, PIN-741302.

6. 5-Day National Level Online Workshop On" Modelling, Complex Dynamics and Stochastic Differential Equation" organised by Calcutta Mathematical Society 21-25 November, 2020.

7. *International E-Conference on" Recent Advances in Biomathematics" by Bangladesh Society for Mathematical Biology (BSMB)* held on 18 – 19 December 2020.

8. National Conference on New Trends in Applied Mathematics (NCNTAM) 2021 organized by Department of Mathematics, University Institute of Engineering & Technology (U.I.E.T.) during October 11 - 12 , 2021.

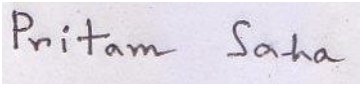
PARTICIPATION IN WORKSHOP

- "**Mathematical Modeling and Dynamical Systems with applications using Mathematica and Matlab**" organized by "**Indian Institute of Technology Roorkee (IITR)**" during July 11- July 18, 2022.
- Two days training workshop on **"Computational Tools for Solving Dynamic Models in Biological Systems"** organized by Bangladesh Society for

Mathematical Biology (BSMB) on 8-9 August 2021.

VISION STATEMENT

- Seeking a position to utilize my skills and abilities that offers professional growth while being resourceful in the field of Research, Academics, & Administration
- Motivate free and critical thinking among students so that they can excel in their future academic endeavors.
- Encouraging them to pursue knowledge and creativity.
- Inspiring scholarly enquiry that would develop students' Research skills and help them in their academic journey outside the college in the broader academic space.



Signature of the Faculty Member
Date: 17th March, 2025