

Pallav Jyoti Pal

CONTACT INFORMATION	Department of Mathematics Krishna Chandra College, Hetampur- 731124, Birbhum, West Bengal, India	Voice: +91 9434641986 Fax: (03462) 270506 E-mail: pallav.pjp@gmail.com Date of birth: 20/12/1978
RESEARCH INTERESTS	Nonlinear dynamics, Bifurcations & Chaos, Delay Differential Equations, Mathematical Modelling, Mathematical Epidemiology, Stochastic Differential Equations, Numerical Simulations.	
EDUCATION	(I) Ph D (2013) in Mathematical Biology (Thesis title: “ Studies on some aspects of nonlinear population dynamics ”) from Visva-Bharati (A Central University), Santiniketan-731235, India (II) M Sc (2001) in Applied Mathematics, University of Calcutta, Kolkata-700073, India (III) B Sc (1999) in Mathematics (Honours), Vidyasagar Evening College, Kolkata- 700006, University of Calcutta, India	
TEACHING EXPERIENCE	(I) August 16th, 2002 to February 05th, 2015: Faculty in the Department of Mathematics, Dumkal Institute of Engineering & Technology, Basantapur- 742406, Murshidabad, West Bengal, India. (II) February 06th, 2015 to till date: Asst Prof, Department of Mathematics, Krishna Chandra College, Hetampur-731124, Birbhum, West Bengal, India.	
RESEARCH EXPERIENCE	July, 2008 to December, 2013: Research Scholar, Department of Mathematics, Visva-Bharati (a Central University), Santiniketan-731 235, West Bengal, India	
OTHER QUALIFICATIONS	(I) Qualified National Eligibility Test (NET) CSIR June, 2002. (II) Qualified Graduate Aptitude Test in Engineering (GATE) with All-India-Rank 98, Percentile-91.20.	
ACHIEVEMENTS	Council of Scientific and Industrial Research (CSIR) fellowship for Doctoral Research in Mathematics, sponsored by CSIR, Government of India.	
PUBLICATIONS	<ol style="list-style-type: none">1. Gui Quan Sun, Sahabuddin Sarwardi, Pallav Jyoti Pal and Md Sabiar Rahman. The spatial patterns through diffusion-driven instability in modified Leslie-Gower and Holling-type II predator-prey model. <i>Journal of Biological Systems, World Scientific</i> 18(3), 593-603, 2010.2. Pallav Jyoti Pal, Sahabuddin Sarwardi, Tapan Saha and Prashanta Kumar Mandal. Mean square stability in a modified Leslie-Gower and Holling-type II predator-prey model. <i>Journal of Applied Mathematics & Informatics</i> 29(3-4): 781-802, 2011.3. Pallav Jyoti Pal, Tapan Saha, Moitri Sen and Malay Banerjee. A delayed predator-prey model with strong Allee effect in prey population growth. <i>Nonlinear Dynamics, Springer</i> 68(1-2):23-42, 2012.4. Pallav Jyoti Pal, Mainul Haque, Tapan Saha, and Kimun Ryu. A predatory commensalism model in a deterministic and a stochastic environment, <i>Dynamics of Continuous, Discrete and Impulsive Systems Series B: Applications & Algorithms, Watam Press</i> 20:1-32, 2013.	

5. **Pallav Jyoti Pal**, Mainul Haque and Prashanta Kumar Mandal. Dynamics of a predator-prey model with disease in the predator, *Mathematical Methods in the Applied Sciences*, John Wiley & Sons, Ltd, DOI: 10.1002/mma.2988, 2013.
6. **Pallav Jyoti Pal**, Prashanta Kumar Mandal and Kaushik Kumar Lahiri. A delayed ratio-dependent predator-prey model of interacting populations with Holling type III functional response, *Nonlinear Dynamics*, Springer, DOI 10.1007/s11071-013-1121-3, 2013.
7. **Pallav Jyoti Pal** and Prashanta Kumar Mandal. Bifurcation analysis of a modified Leslie-Gower prey-predator model with Beddington-DeAngelis functional response and strong Allee effect. *Mathematics and Computers in Simulation*, Elsevier 97:123–146, 2014.
8. **Pallav Jyoti Pal** and Tapan Saha. Qualitative analysis of a predator-prey system with double Allee effect in prey, *Chaos, Solitons & Fractals* 73, 36-63, 2015.
9. Suman Saha, **Pallav Jyoti Pal**, Ranjan Ghosh. Complexity of a delayed viral infection and countermeasure model in computer networks, *Proceedings of the National Symposium on Applied Nonlinear Dynamics & Chaos (ISBN-978-93-5107-250-8)*, Elsevier Science & Technology Publication, 56–69, 2014.
10. **Pallav Jyoti Pal** and Tapan Saha. Dynamical complexity of a ratio-dependent predator-prey model with strong additive Allee effect, *International Seminar on International Conference on Emerging Trends in Applied Mathematics*, Department of Applied Mathematics, University of Calcutta in collaboration with Saha Institute of Nuclear Physics, Calcutta, Springer, 2015.
11. Tapan Saha, **Pallav Jyoti Pal**, Malay Banerjee, Relaxation oscillation and canard explosion in a slow-fast predator-prey model with Beddington-DeAngelis functional response, *Nonlinear Dynamics*, 2021.
12. Tapan Saha, **Pallav Jyoti Pal**, Malay Banerjee, Slow-fast analysis of a modified Leslie-Gower model with Holling type I functional response, *Nonlinear Dynamics* 108 (4), 4531-4555, 2022.
14. Tapan Saha, **Pallav Jyoti Pal**, Relaxation oscillation and canard explosion in slow-fast predator-prey systems, *Advances in Mathematical and Computational Modeling of Engineering Systems*, 109-141, CRC Press, 2021.
15. Lakshmi Narayan Guin, **Pallav Jyoti Pal**, Jawaher Alzahrani, Nijamuddin Ali, Krishnendu Sarkar, Salih Djilali, Anwar Zeb, Ilyas Khan, Sayed M Eldin: Influence of Allee effect on the spatiotemporal behavior of a diffusive predator-prey model with Crowley-Martin type response function, *Scientific Reports* 13 (1), 4710, 2023.
16. Tapan Saha, **Pallav Jyoti Pal**, Unveiling the dynamics of canard cycles and global behaviour in a singularly perturbed predator-prey system with Allee effect in predator, *Computational and Applied Mathematics*, 43, 86 (2024).
17. Tapan Saha, PR Chowdhury, **Pallav Jyoti Pal**, M Banerjee, Normal form for singular Bautin bifurcation in a slow-fast system with Holling type III functional response, 2024, arXiv preprint arXiv:2307.12011 (Accepted in *Nonlinear Dynamics*, Springer).
18. Pallav Jyoti Pal, Gourav Mandal, Lakshmi Narayan Guin, Tapan Saha, Allee and hunting-induced bifurcation inquisition in a modified Leslie-Gower interacting species system (Communicated and under review)

EDITED BOOK

1. **Pallav Jyoti Pal**, Tapan Saha and Malay Banerjee. Proceedings of the National Symposium on Applied Nonlinear Dynamics & Chaos. ISBN-978-93-5107-250-8, Publisher: Elsevier Science & Technology Publication, 2014.

BOOK

1. Md. Ismail Hoque, Dr. Md. Sabiar Rahman, **Pallav Jyoti Pal**. Multivariate Calculus with Applications. ISBN-978-81-19777-27-3, Publisher: TECHNO WORLD, Kolkata-700007, 2024.

PAPER PRESENTED
IN INTERNATIONAL
CONFERENCE

1. Presented paper entitled “**Dynamical complexity of a ratio-dependent predator-prey model with strong additive Allee effect**” in “**International Seminar on International Conference on Emerging Trends in Applied Mathematics**”, Department of Applied Mathematics, University of Calcutta in collaboration with Saha Institute of Nuclear Physics, Calcutta during February 12–14, 2014.
2. Presented paper entitled “**Invariance of global dynamics for predator-prey models with a class of Allee effects**” in “**International conference on Environmental Biology and Ecological Modelling (ICEBEM-2014)**”, Department of Zoology, Centre for Advanced Studies, Visva-Bharati, Santiniketan, WB during February 24–26, 2014.
3. Presented paper entitled “**Dynamical complexity in a delayed predator-prey model with strong Allee effect in prey**” in “**3rd International Symposium on Complex Dynamical Systems and Applications (ICEBEM-2014)**”, organised by Physics and Applied Mathematics Unit & Agricultural and Ecological Research Unit, Indian Statistical Institute, Kolkata, WB during March 10–12, 2014.

PAPER PRESENTED
IN NATIONAL
SEMINAR

1. Presented paper entitled “**A predator-prey model with disease in the predator**” in National Seminar on “**Analysis of nonlinear Systems (ANS-2011)**”, organised by the Department of Mathematics, Visva-Bharati, Santiniketan, West Bengal, India during March 26–27, 2011.
2. Presented paper entitled “**Stability and bifurcation analysis of a delayed predator-prey model with strong Allee effect**” in National Seminar on “**Non-linear Aspects of Analysis and Algebra (NAAA-2012)**”, organised by the Department of Mathematics, Visva-Bharati, Santiniketan, West Bengal, India during March 24–25, 2012.
3. Presented paper entitled “**Canard cycles and relaxation oscillations in a slow-fast predator-prey system with Allee effect in predator**” in National Seminar on “**Applied Mathematics in Science & Technology 2023 (AMST 2023)**”, organised by the Department of Applied Mathematics, University of Calcutta, West Bengal, India during March 21–23, 2023.

WORKSHOP/
SYMPOSIUM
ATTENDED

1. Attended the **Workshop and Symposium on Mathematical Ecology**, organised by Indian Institute of Science Education and Research (IISER-Kolkata), Mohanpur, Nadia, West Bengal during December 7–14, 2010.

2. Attended the **Workshop on Stability & Bifurcation Analysis and Pattern Formation in Mathematical Ecology and Epidemiology**, organised by Department of Mathematics and Statistics, Indian Institute of Technology, Kanpur (IIT Kanpur), Uttar Pradesh, India during February 25–March 02, 2011.
3. Attended the **Workshop on Advanced Level Workshop on Differential Equations in Ecology and Epidemiology**, organised by Indian Institute of Technology Roorkee (IIT Roorkee), Uttarakhand, India during October 10–14, 2012.

WORKSHOP/
SYMPOSIUM
ORGANIZED

1. Acted as **coordinator** of a National level Workshop and Symposium entitled "' Applied Nonlinear Dynamics & Chaos" organized jointly by Government College of Engineering & Textile Technology, Berhampore and Dumkal Institute of Engineering & Technology, Basantapur, Murshidabad, West Bengal, India during May 26–31, 2014 under the aegis of TEQIP-II.

REVIEWER OF
REPUTED
INTERNATIONAL
JOURNALS

1. **Nonlinear Dynamics** – Springer,
2. **Differential Equations and Dynamical Systems** – Springer,
3. **Applied Mathematics and Computation** – Elsevier,
4. **International Journal of Bifurcations and Chaos** – World Scientific Publishing Co,
5. **Communications in Nonlinear Science and Numerical Simulation** – Elsevier,
6. **Nonlinear Analysis: Real World Applications**– Springer,
7. **Mathematical Methods in the Applied Sciences** –John Wiley & Sons, Ltd.,
8. **Qualitative Theory of Dynamical Systems** –Springer,
9. **International Journal of Biomathematics**, World Scientific,
10. **International Journal of Computer Mathematics**–Taylor & Francis,
11. **Journal of Applied Nonlinear Dynamics**–L & H Scientific Publishing,
12. **Abstract and Applied Analysis** – Hindawi Publishing Corporation,
13. **Discrete Dynamics in Nature and Society** – Hindawi Publishing Corporation,
14. **Applied Mathematics**–A Journal of Chinese Universities,
15. **Biophysical Reviews and Letters**–World Scientific,
16. **Advances in Difference Equations**–Springer open.