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EXPERTISE: Applied Mathematics, Nonlinear Dynamics, Plasma Physics, Differential Equations

EDUCATION

Bachelor of Science (1988),
Bankura Christian College,
Burdwan University

Master of Science (1991),
IIT Kharagpur

Ph. D. (1996)
ISI Kolkata, Jadavpur University

HONOURS

Visiting Scientist (2006)
East West University, Bangladesh

Visiting Scientist (2007)
POSTECH, South Korea

Post Doc Scientist (2009)
University of Malaya, Malaysia

Visiting Scientist (2010)
University of Malaya, Malaysia

Visiting Scientist (2018)
East West University, Bangladesh

ADDITIONAL SKILLS

- Fluent in English, Hindi
- Poet, Philosopher
- Photographer

PROFESSIONAL EXPERIENCE

- Professor-in-charge, Centre for Mathematics Education, Visva-Bharati (2017-2023)
- Head of the Mathematics Department , Visva-Bharati (2015-2017)
- Professor at Visva-Bharati (2009-Present)
- Associate Professor at Visva-Bharati (2006-2008)
- Reader at Visva-Bharati (2002-2005)
- Senior Lecturer at Visva-Bharati (2000-2002)
- Lecturer at Visva-Bharati (1999-2000)
- Lecturer at Bhairab Ganguly College, North 24 Paraganas (1997-1999)
- Scientist B, Defence Research & Development Organisation, Lonavla, Pune (1995-1997)

RESEARCH PROJECT

1. Nonlinear and Computational Mathematics (2015), Coordinator, Amount-13950000
2. Nonlinear Structure in Quantum Plasma (2013), PI, Amount-655006
3. Large Amplitude Solitary Waves and Double Layers in Astrophysical and Dusty Plasma (2003), PI, Amount-752001

Number of research papers published in journals : 211

Number of research papers published in proceedings of International Conferences: 07

Number of Popular Science Articles : 04

Citation – 4124
H-index- 36
i-10 index- 119

PUBLICATION

01. P. Chatterjee and R. Roychoudhury (1994), Effect of ion temperature on large amplitude ion acoustic solitary waves in relativistic plasma , Phys. *Plasmas* Vol-1, pp 2148.
02. P.Chatterjee and R. Roychoudhury (1995),The effect of finite ion temperature on solitary waves in a plasma with an ion beam., *Phys. Plasmas* Vol-2, pp 1352.

03. P. Chatterjee and R. Roychoudhury (1995) ,Arbitrary amplitude electron acoustic solitary waves in a plasma, *J. Plasma Phys*.Vol-53, pp 25.

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05. P. Chatterjee and R. Roychoudhury (1997), Effect of finite ion-temperature on ion acoustic solitary waves in a two temperature electron plasma system, *Can. Journal of Phys*. Vol-75, pp 337.

06. R. Roychoudhury and **P. Chatterjee** (1998),Effect of finite ion temperature on large amplitude solitary kinetic Alfven waves, *Phys. Plasmas* Vol-5, pp 3828.

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09. , R. Roychoudhury and **P. Chatterjee** (2000),Large amplitude solitary waves in a relativistic non isothermal plasma with warm ions, *Can. J. Phys*. Vol-78, pp 267.

10. P. Chatterjee (2004)Large amplitude ion-acoustic solitary waves in a relativistic multi-component plasma, , *Indian J. Phys*. Vol-78(6), pp 505.

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14. , **P. Chatterjee** and R. Jana(2004), Effect of electron inertia on the speed and shape of ion-acoustic solitary waves in relativistic plasma, *Czech J. Phys*, Vol-54 pp.489.

15. **P. Chatterjee** and R. Jana(2005), Speed and shape of dust acoustic solitary waves in presence of dust streaming, , *Z. Naturforschung*, Vol-60a, year 2005 pp.275.

16. P. Chatterjee , R Jana and B. Sen (2005),Speed and shape of electron acoustic solitary waves in plasma, , *Indian J. Phys*, Vol-79(5), pp 523.

17. P. Chatterjee (2005),Effect of ion temperature on the speed and shape of ion-acoustic solitary waves in plasma, , *Bull. Cal. Math. Soc*., 97(4), pp 311.
18. P. Chatterjee and B. Sen (2006),Speed and shape of dust acoustic solitary waves in three component dusty plasma with vortex like ion distribution, , *Indian J. Physics*, Vol-80(2) pp 195-199.

19. B. Das and **P. Chatterjee** (2006),Speed and shape of solitary waves in relativistic warm plasma, , *Czech. Journal of Physics*, Vol-56 pp 389.

20. B. Das and **P. Chatterjee** (2006),Speed and shape of dust acoustic solitary waves with variable dust charge and two temperature ions, , *Phys. Plasmas* Vol-13, pp 062106.

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27. B. Sen, B Das and **P. Chatterjee** (2008),Effect of electron inertia on large amplitude solitary waves in presence of kinematic viscosity in dusty plasma, , *Euro Phys J. D.* 49, 211 .
28. P. Chatterjee, T. Saha and C. M Ryu (2008), Obliquely propagating ion acoustic solitary waves and double layers in a magnetized dusty plasma with anisotropic ion pressure, , *Phys. Plasmas*, 15, 123702.
29. T. Saha and **P. Chatterjee**, (2009),Obliquely propagating ion acoustic solitary waves in magnetized dusty plasma in the presence of nonthermal electrons, *Phys. Plasmas*, 16, 013707.

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RESEARCH SCHOLARS

Awarded Ph. D. Degree

Sl. No.	Name of the Student	Title of the thesis	Year
1.	Brindaban Das	Studies on Existence and Properties of solitary waves in plasma	2008
2.	Bholanath Sen	Studies on some problems of nonlinear waves in plasma	2010
3.	Kaushik Roy	Studies on some problems in non linear waves in dusty plasma and quantum plasma	2011
4.	Tarak Nath Saha	Some problems on nonlinear structures in magnetized plasma	2012

5.	Anindita Tarai	Studies on some problems on Chaos synchronization, chaos control and its applications	2012
6.	Uday Narayan Ghosh	Head on collision of solitary waves in plasmas	2013
7.	Sanjib Kumar Kundu	Studies on some problems of nonlinear wave propagation in plasma	2013
8.	Malay Kr Ghorui	Head-on collision of solitary waves in quantum plasmas.	2014
9.	Ganesh Mondal	Some studies of dressed solitons in dusty plasma and quantum plasmas.	2014
10.	Debkumar Ghosh	Spherical and cylindrical solitons and shocks in plasma	2014
11.	Utpal Samanta	Generation and interaction of solitary waves and shocks in magnetized plasma	2014
12.	Pankaj Mondal	Computational study on nonlinear structures in plasma	2015
13.	Akshay Mondal	Nonlinear Dynamics of Eco-epidemiological systems with special emphasis on food sources and food preferences	2015
14.	Asit Saha	Bifurcations and interactions of nonlinear waves in plasmas.	2016
15.	Nikhil Pal	Mathematical studies of ecological models with omnivory and switching	2016
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18.	Tapas Kumar Maji	Studies on collisions of solitons in plasmas	2019
19.	Rustam Ali	Quasiperiodicity, chaos and soliton turbulence in plasmas	2022
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21.	Eusob Ali Ahmed	Statistical Analysis in Mathematics Education: Comparative Analysis	2023
22.	Laxmikanta Mandi	Chaos and Hyperchaos in Plasmas	2023
23.	Anindya Paul (as co-guide)	Studies of some evolution equations in planer and non-planer geometry	2024

Working for Ph. D. Degree

SL. NO.	Name	Proposed Title of the thesis	Year of joining
1.	Snehalata Nasipuri	Multi-Soliton, Lump and Breather of Some Partial Differential Equations and Applications	2020
2.	Nanda Kanan Pal	Lax Pair , Darboux Transformation and solutions of some Fractional Differential Equations with and without noise.	2022
3.	Saugata Dutta	Fractal solution of some coupled differential equations	2022
4.	Dipan Kumar Saha	Solution of some autonomous and non-autonomous nonlinear PDE by Darboux Transformation	2022
5.	Suvojit Laha	Dynamics of Predator-prey model with fear effect	2022
6.	Jayshree Mondal	Collisions of some non-linear structures in plasma	2023

POETRY BOOKS

1. একা নদী (২২২২)
2. সহজ পুরাণ (২০১৮)

POPULAR SCIENCE BOOK

1.**আপেক্ষিকতাবাদ ও আইনস্টাইন (Relativity and Einstein) (with Prof G Kar, Dr Swarup Poria and Dr Samir Kukri) (2015)**

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