Curriculum Vitae

Dr. Soumya Chakraborty

Personal Profile:

Date of Birth

June 26, 1997

Gender

Male

Fathers Name

Sudarshan Chakraborty

Mothers Name

Malati Chakraborty

Marital Status

Married

Nationality

Indian

Category
General

Contact Information:

Address for communication

Gurupally, Dakshin Gobindapur (N),
Kakdwip, South 24 Parganas,
Pin-743347,
West Bengal, India.

Email:soumyachakraborty150@gmail.com

Orcid Id: https://orcid.org/0000-0002-1551-7526

Google Scholar:
https://scholar.google.com/citations?hl=en&user=aABNxzwAAAAJ

Mobile No.: 8768049884

Education :

Examination	Board/University	Percentage of marks/ CGPA	Year of Passing
Secondary (10^{th})	W.B.B.S.E.	84.86%	2012
Higher Secondary (12^{th})	W.B.C.H.S.E.	87.40%	2014
B.Sc (Honours)	Jadavpur University	85.25%	2017
M.Sc	Jadavpur University	90.30%	2019
Ph.D. Course Work	Jadavpur University	85%	2021 (Degree Awarded at 1^{st} October, 2024)

Research Interest:

Nonlinear Dynamics, Center manifold Theory, Bifurcation, Lyapunov Stability, Discrete Dynamical system analysis, Three-form field, Theoretical and observational aspects of cosmology.

Research Experience:

1) Worked as a Project Assistant, Department of Mathematics, Jadavpur University from July, 2019 to December, 2019 and the project grant was funded by RUSA 2.0 sponsored scheme. Name of the project: **Source of non conventional energy in cosmology and water waves: Analytic and Algebraic study.**

2) I have worked as a Junior Research Fellow from 02.01.2020 to 31.01.2022 and Senior Research Fellow from 01.02.2022 to 30.09.2024 at the Department of Mathematics, Jadavpur University (**PhD awarded at 1st October, 2024**).
Title of the Thesis: **Study of some homogeneous and isotropic cosmological models in the perspective of dynamical system analysis.**

Teaching Experience:

1) I have worked as an Assistant Professor (Guest Faculty) of Mathematics at Vedanta College, Kolkata-700054 (affiliated to University of Calcutta) from 09.10.2023 to 29.11.2024.

2) I have worked as an Assistant Professor of Mathematics at Swami Vivekananda University, Barrackpore, Kolkata-700121 from 02.12.2024 to 10.01.2026.

3) I have been working as an Assistant Professor of Mathematics at Adamas University, Barasat – Barrackpore road, Kolkata-700126 from 13.01.2026 till date.

Certifications:

1. Dynamical System and Control – NPTEL-AICTE (IIT Madras)
   Issued: May 2025 | Duration: 12 weeks | Score: 75% (Elite Silver Certificate)
   Complete through SWAYAM (Govt. of India platform)
   Included rigorous online assignments and proctored exam (FDP)
   Certified by Prof. Andrew Thangaraj, IIT Madras

2. Basic Linear Algebra – NPTEL (IIT Bombay)
   Issued: March 2025 | Duration: 8 weeks | Score: 76% (Top 5% - Elite Silver Certificate)
   Complete through SWAYAM (Govt. of India platform)
   Included rigorous online assignments and proctored exam
   Certified by Prof. Sridhar Iyer, IIT Bombay

3. Introduction to Abstract and Linear algebra – NPTEL (IIT Kharagpur)
   Issued: August 2025 | Duration: 8 weeks | Score: 90% (Elite Gold Certificate)
   Complete through SWAYAM (Govt. of India platform)
   Included rigorous online assignments and proctored exam (FDP)
   Certified by Prof. Haimanti Banerji, IIT Kharagpur

Published/Accepted/Communicated Papers in International Journals

SL. NO.	Title of Paper	Name of the Journal	SCIE/ SCOPUS Indexed	Volume, page, Year	Author
1.	**Dynamical system analysis of three-form field dark energy model with baryonic matter**	**European Physical Journal C**	**Yes**	**80**, 852 (2020)	**Soumya Chakraborty**, S. Mishra, S. Chakraborty https://link.springer.com/article/10.1140/epjc/s10052-020-8427-3
2.	**A dynamical system analysis of cosmic evolution with coupled phantom dark energy with dark matter**	**Int. J. Mod. Phys. D.**	**Yes**	**31**, 2150129 (2022)	**Soumya Chakraborty**, S.Mishra, S. Chakraborty https://www.worldscientific.com/doi/abs/10.1142/S0218271821501297
3.	**Dynamical system analysis of self-interacting three-form field cosmological model: stability and bifurcation**	**European Physical Journal C**	**Yes**	**81,** 439 (2021)	**Soumya Chakraborty**, S.Mishra, S. Chakraborty https://link.springer.com/article/10.1140/epjc/s10052-021-09221-6
4.	**Dynamical system analysis of quintessence dark energy model**	**Int. J. Geom. Meth. Mod. Phys.**	**Yes**	**22,** 2450250 (2025)	**Soumya Chakraborty**, S.Mishra, S. Chakraborty **https://www.worldscientific.com/doi/10.1142/S0219887824502505**
5	**A dynamical system analysis of bouncing cosmology with spatial curvature**	**General Relativity and Gravitation**	**Yes**	**56,** 83 (2024)	**Soumya Chakraborty**, S.Mishra, S. Chakraborty https://link.springer.com/article/10.1007/s10714-024-03265-1
6	**A study of interacting scalar field model from the perspective of the dynamical systems theory**	**Physics of the dark universe**	**Yes**	**40,** 101210 (2023)	G.Mandal, **Soumya Chakraborty**, S.Mishra, S.Biswas https://www.sciencedirect.com/science/article/abs/pii/S2212686423000444?via%3Dihub
7	**A dynamical system analysis of non-interacting cold dark matter and dark energy at perturbative level**	**Mod. Phys. Letter A**	**Yes**	**39,** 2450145 (2024)	**Soumya Chakraborty**, S.Mishra, S. Chakraborty https://www.worldscientific.com/doi/10.1142/S0217732324501451

8	**Study of interacting dark energy models using dynamical system analysis**	**Int. J. Geom. Meth. Mod. Phys.**	**Yes**	**2650107** (2025)	S.Mishra, **Soumya Chakraborty,** S. Chakraborty https://doi.org/10.1142/S0219887826501070

Awards and Honours

1) Inspire Scholarship Awardee from 2014-2019.

2) Awarded CSIR-UGC (NET) for JRF (AIR 72).

3) GATE 2019 (AIR 336).

4) Inspire Fellowship.

5) RUSA 2.0 Project Assistant Fellowship.

Talks delivered at National/International conference

1) Presented a contributory talk entitled **A Comparative study of LCDM Cosmology with Quintessence Dark Energy Model: A Discrete Dynamical System Analysis** in the National Conference on Mathematics: Various Aspects in Society held during March 13-14, 2023, organized by Jadavpur University.

2) Presented a paper entitled **Dynamical system analysis of three-form field dark energy model with baryonic matter** in the National Webinar on Foundations for Contemporary Mathematical Research held on November 8-10, 2021 organized by Department of Mathematics, Manipur University, Canchipur, Imphal, Manipur, India.

3) Presented a research paper **Dynamical system analysis of three-form field dark energy model with baryonic matter** in the International Conference of International Academy of Physical Sciences on Advances in Relativity and Cosmology organized by the Department of Mathematics, Birla Institute of Technology and Science- Pilani, Hyderabad Campus, Hyderabad, India during October 26-28, 2021.

4) Delivered a contributory talk on **A dynamical system analysis of the universe with spatial curvature: bouncing scenario** on March 21, 2023 in the National Seminar on Applied Mathematics in Science and Technology (AMST) held at the Department of Applied Mathematics, University of Calcutta.

5) Presented a paper titled **A dynamical system analysis of cosmic evolution with coupled phantom dark energy with dark matter** in National conference on advances in Mathematical Sciences (NCAMS-2022) held during 22-23 December 2022 at Department of Mathematics, Gauhati University as a part of Platinum Jubilee celebration from 26th January 2022 to 26th January 2023.

6) Presented a contributory talk entitled **A dynamical system analysis of bouncing cosmology with spatial curvature** in the International Conference on Mathematical Analysis and Applications in Modelling (ICMAAM 2023) at the Department of Mathematics, Jadavpur University during 9th-11th October 2023.

7) Presented a paper titled **Dynamical system analysis of an interacting dark energy model** in 3rd International Conference on Engineering Design and Computing (ICEDC) -2025 held during 4th-6th February, 2025 at Swami Vivekananda University.

Computational Skills:

Operating System: Windows, Ubuntu;
Programming Language - C;
Software: Matlab, Mathematica;
Completed the certificate and diploma course in Information Technology Application from Jadavpur Youth Computer Training Centre.

Extracurricular Activities

Drawing, Tabla

Language Skills

Fluent in English, Hindi and Bengali (speak and write)

References :

1. Prof. (ret.) Subenoy Chakraborty, Department of Mathematics, Jadavpur University, Kolkata-700032. Email-Id: schakraborty.math@gmail.com, Mobile- 9433356784.

2. Prof. Abhijit Lahiri, Department of Mathematics, Jadavpur University, Kolkata-700032
Email Id: lahiriabhijit2000@gmail.com , Mobile- 8777781743.

3. Prof. Farook Rahaman, Department of Mathematics, Jadavpur University, Kolkata-700032
Email Id: farookrahaman@gmail.com, Mobile- 9831907279.

I certify that information furnished above are true to the best of my knowledge and belief.

(Soumya Chakraborty)
Place - Barrackpore
Date-17.02.2026