

CURRICULUM VITAE

1. *Name:* Soumitro Banerjee
2. *Present Position:* Retired Professor
3. *Official Address:* Department of Physical Sciences
Indian Institute of Science Education & Research–Kolkata
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India
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4. *Home address:* B7 / 170 Kalyani, Dist. Nadia, WB 741235
Mobile phone: +91-9432598503
5. *Date of birth:* 17 October 1960
6. *Awards and Honours:* (in reverse chronological order)
 - J C Bose National Fellowship, 2nd term** awarded by Dept. of Science & Technology, Govt. of India (2021-2025)
 - J C Bose National Fellowship, 1st term** awarded by Dept. of Science & Technology, Govt. of India (2015-2020)
 - Fellow of the National Academy of Sciences, India (NASI)** (2014)
 - Fellow of the IEEE** (2013)
 - Fellow of The World Academy of Sciences (TWAS)** (2012)
 - Fellow of the West Bengal Academy of Science & Technology (WBAST)** (2011)
 - Fellow of the Indian National Science Academy (INSA)** (2007)
 - Fellow of the Indian Academy of Sciences, Bangalore (IASc)** (2005)
 - Fellow of the Indian National Academy of Engineering (INAE)** (2004)
 - Citation Laureate Award, 2004** : Identified as a “Highly Cited Researcher” by Thomson Scientific’s Web of Science
 - Shanti Swarup Bhatnagar Prize** (2003) The most prestigious scientific award in India, Awarded by the Council for Scientific and Industrial Research, Government of India.
 - Boyscast Fellowship** awarded by the Dept. of Science & Technology (1996)
7. *Educational Qualification:*
 - Degree: Bachelor of Engineering
Year: 1981
University: University of Calcutta
College: Bengal Engineering College
Subject: Electrical Engineering

- Degree: Master of Technology
Year: 1983
Institution: Indian Institute of Technology, Delhi
Subject: Energy Studies
- Degree: Doctor of Philosophy
Year: 1988
Institution: Indian Institute of Technology, Delhi
Title: Magnetic Energy Storage Units for Improvement of Power System Stability.

8. *Employment:*

- Post: Lecturer
Employer: Indian Institute of Technology, Kharagpur
Period of employment: December 1985 to July 1990
- Post: Assistant Professor
Employer: Indian Institute of Technology, Kharagpur
Period of employment: July 1990 to February 1998
- Post: Associate Professor
Employer: Indian Institute of Technology, Kharagpur
Period of employment: February 1998 to May 2003
- Post: Professor
Employer: Indian Institute of Technology, Kharagpur
Period of employment: June 2003 to April 2009
- Post: Professor
Employer: Indian Institute of Science Education & Research–Kolkata
Period of employment: May 2009 to October 2025

9. *Administrative experience:*

- Interim Director, IISER Kolkata, 2024 December to 2025 May
- Dean of Academic Affairs (IISER Kolkata): 2018-2023
- Dean of Students' Affairs (IISER Kolkata): 2010 to 2014
- Dean of Faculty Affairs (IISER Kolkata): 2010 to 2011
- Warden, Patel Hall of Residence (IIT Kharagpur): 2007-2009
- Member, Managing Committee, Technology Students' Gymkhana (IIT Kharagpur) 2001-2003.

10. *Books written:*

- (a) Soumitro Banerjee and George C. Verghese, (Editors) "Nonlinear Phenomena in Power Electronics: Attractors, Bifurcations, Chaos, and Nonlinear Control", IEEE Press, New York, 2001.

- (b) Soumitro Banerjee, “Dynamics for Engineers,” John Wiley & Sons, London, 2005.
- (c) S. N. Bhadra, D. Kastha and S. Banerjee, “Wind Electrical Systems,” Oxford University Press, New Delhi, India, 2005.
- (d) Soumitro Banerjee, “A Brief History of Science”, Breakthrough Science Society, India, 2017.
- (e) Soumitro Banerjee, “Research Methodology for Natural Sciences”, IISc Press, Bengaluru, India, 2022, Second Edition: 2025.

11. *Sponsored projects executed:*

- “Design and development of a computerized Braille library system for the blind”, sponsor: DST, period: December 1993 to December 1995,
- “Control of chaos in power electronic circuits”, sponsor: DST, period: April 1995 to April 1998,
- “Development of the theory of nonsmooth bifurcations in hybrid dynamical systems,” Sponsor: BRNS, period: July 2003 to June 2006,
- “Application of Chaos in dc-dc converters for reduction of EMI” Sponsor: ISRO, period: November 2005 to March 2009,
- “Investigations into the character of parameter space of piecewise smooth systems” Sponsor: DST-DAAD, period: June 2009 to May 2011,
- J. C. Bose National Fellowship. Sponsor: DST, 1st term 2015–2020.
- J. C. Bose National Fellowship. Sponsor: DST, 2nd term 2021–2025.

12. *Field of Specialization:* Nonlinear Dynamics

13. *Areas of interest:*

- Bifurcations in nonsmooth dynamical systems
- Nonlinear phenomena in power electronic circuits

14. *Extra-Institutional Services:*

- Associate Editor, IEEE Transactions on Circuits & Systems (part-II), 2003 to 2005
- Associate Editor, IEEE Transactions on Circuits & Systems (part-I), 2006 to 2007.
- Associate Editor, IEEE Circuits & Systems Society Newsletter, 2010 to 2012
- Editor in Chief, *Prakriti* (Bengali popular science magazine), 2006 to date
- Member, Editorial Board, Breakthrough (English popular science magazine), 1986 to date.
- Member, Engineering Sciences Research Committee, CSIR, 2009 to 2011.
- Member, Sectional Committee on Electrical Engineering, INAE, 2005 to 2007.
- Member, Sectional Committee on Engineering Sciences, IASc, 2010 to 2012.

- Member, Sectional Committee on Engineering Sciences, INSA, 2012 to 2014.
- Member, Sectional Committee on Electrical Engineering, INAE, 2013 to 2015.
- Member, Programme Advisory Committee in Electrical, Electronic and Computer Engineering, DST, 2012 to 2015.
- Member, Screening Committee (Engineering & Technology) for Inspire Faculty Fellowship Award, 2012 to 2019.
- Member, Board of Members, West Bengal Renewable Energy Development Agency (WBREDA), 2013 to 2015.
- Member, Subject Expert Committee on Engineering Sciences for the FIST programme of the DST, June 2016 to 2020.
- Convenor, Sectional Committee-V, INAE, 2019 to 2020
- Member, Indian National Commission for History of Science (Indian National Science Academy), 2018 to date

15. Conferences organized:

- (a) Organizer, Conference on Nonlinear Systems & Dynamics, December 16-18, 2016, IISER Kolkata.
- (b) Organizer, Workshop and Symposium on Mathematical Ecology, December 7-14, 2010, IISER Kolkata.
- (c) Member, Local Organizing Committee, 2nd International Symposium On Complex Dynamical Systems and Applications, Presidency University, Kolkata, India. January 9-11, 2012
- (d) Member, National Organizing Committee, Conference on Nonlinear Systems & Dynamics (Annual event, started in 2006 at IIT Kharagpur).
- (e) A Hundred Years of Quantum Mechanics, IISER Kolkata, 18-21 December 2024.

16. Keynote addresses delivered at International Conferences:

- (a) Keynote address on “Nonlinear Phenomena in Power Electronics” in the International Symposium on Nonlinear Theory and Applications (NOLTA), 2-6 September 2018, Tarragona, Spain.
- (b) Keynote address on “Dynamics of a quantum impact oscillator”, 16th International Conference on Dynamical Systems Theory and Applications, Lodz, Poland, December 6–9, 2021.
- (c) Keynote address on “Bifurcations of tori” in the 29th International Conference on Difference Equations and Applications (ICDEA 2024), 24-28 June, 2024, Paris, France.

17. Ph.D. students guided:

Name of student	Year	Thesis title
Krishnendu Chakrabarty	1995	Occurrence of Chaos and its Control in Piecewise Linear Systems with Switching Nonlinearity
Sukanya Parui	2003	Bifurcations in DC-DC Converters: Effects of Transition from Continuous Conduction Mode to Discontinuous Conduction Mode and Feedback Loop Delay
V. N. Madansure	2005	Bond graph modeling and analysis of photovoltaic systems connected to agricultural loads
Somnath Maity	2008	Analysis of quasiperiodic and subharmonic oscillations in DC-DC switching regulators and development of control strategies
Partha Sharathi Dutta	2009	Bifurcations in Nonsmooth Discrete Dynamical Systems: The Effects of Discontinuity and Square-Root Singularity
Biswambhar Rakshit	2009	Studies on some atypical bifurcation phenomena in continuous and discontinuous piecewise smooth maps
Santanu Kapat	2009	Control Methods for Improving the Performance of DC-DC Converters
Soma De	2010	Analysis of local and global bifurcations in piecewise smooth discrete dynamical systems
Rupam Mukherjee	2012	Electromagnetic Interference in Power Converters and its Impact on Analog and Digital Communication Systems
Kuntal Mandal	2012	Dynamical Analysis of Resonant DC-DC Converters
Dhrubajyoti Mandal	2018	Dynamics of Piecewise Smooth Maps with Periodic and Stochastic Variation in the Functional Form
Nivedita Bhadra	2019	Aspects of Temporal Perturbation in Dynamical Systems
Mahashweta Patra	2019	Global Bifurcations in Three Dimensional Piecewise Smooth Maps
Bichitra Kumar Lenka	2019	Dynamics and stability of some classes of fractional order systems
Soumyajit Seth	2020	Observations of Nonsmooth Bifurcation Phenomena in Switching Electronic Circuits
Arnab Acharya	2023	Measurements, wavefunction collapse and dynamics of the quantum impact oscillator
Debajyoti Guha	2025	Spectral Signatures of Bifurcations