



Dr. Prosanta Sarkar

Assistant Professor

Department of Mathematics

School of Engineering

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1. ABOUT

Dr. Prosanta Sarkar is an Assistant Professor in the Department of Mathematics at Dayananda Sagar University. He completed his M.Sc. in Pure Mathematics from Burdwan University in 2014 and qualified for the CSIR-UGC NET-JRF in 2016. He obtained his Ph.D. in Mathematics from the National Institute of Technology Durgapur, West Bengal, in 2021. His research focuses on Graph Theory, particularly Chemical Graph Theory, Graph Topological Indices, and Algebraic Graph Theory. He has published more than 20 research articles in reputed international peer-reviewed journals, along with three book chapters and a conference paper. He serves as an Editorial Board Member of *Scientific Reports* (Nature Portfolio) and actively reviews manuscripts for several international journals, including *Journal of Mathematical Chemistry*, *Arabian Journal of Chemistry*, *Journal of Supercomputing*, *Discover Applied Sciences*, and *Journal of Biomolecular Structure & Dynamics*.

2. RESEARCH INTERESTS

- Graph Topological Index
- Hybrid Graph Neural Network (HGNN)
- Machine Learning
- Spectral Graph Theory

3. ACADEMIC QUALIFICATIONS

- Ph.D. in Mathematics — National Institute of Technology Durgapur, West Bengal, 2021
- M.Sc. in Pure Mathematics— Burdwan University, 2014
- B.Sc. (H) — Kalyani University, 2012

4. PROFESSIONAL EXPERIENCE

- Assistant Professor — Ramgarh Engineering College, Jharkhand, India, 17 November 2022 to 27 September 2024.
- Assistant Professor — Dayananda Sagar University, Karnataka, India, 22 October 2024 to Till date.

5. RESEARCH HIGHLIGHTS

- Publications: 21 International Peer-reviewed Journals
- Book Chapters: 3
- Awards/Recognitions: **AICTE-QIP PG Certificate Programme in Machine Learning**, Indian Institute of Information Technology Surat, under the **AICTE-Sponsored Category, January–June 2026**.
- Reviewer/Editorial Activities:

Editorials: Editorial Board Member, *Scientific Reports*, Nature Portfolio

Membership: International expert panels Member of Slovak Research and Development Agency (SRDA), Slovakia.

6. SELECTED PUBLICATIONS

1. S. Mondal, P. Sarkar, and Z. Raja, Degree-Based Graph Energies as Molecular Descriptors in QSPR Analysis, *Chemical Papers*, 80, (2026), 3773–3786. (SCIE, Springer).
2. P. Sarkar, A. Pal, and S. Mondal, On Some Exponential Structure Descriptors and Their Applications to Benzenoid Hydrocarbons, *International Journal of Quantum Chemistry*, 125 (11), (2025), 1-15. (SCI, Wiley).
3. P. Sarkar, A. Pal, and S. Mondal, On Some Neighbourhood Degree-Based Structure Descriptors and Their Applications to Graphene, *European Physical Journal Plus*, 140, 13, (2025), 1-14. (SCI, Springer).
4. S. Kumar, P. Sarkar*, and A. Pal, A study on the energy of graphs and its applications, *Polycyclic Aromatic Compounds*, 44 (6), (2024), 4127-4136. (SCIE, Taylor & Francis).
5. P. Sarkar*, N. De, and A. Pal, On some topological indices and their importance in chemical sciences: A comparative study, *European Physical Journal Plus*, 137, 195 (2022), 1-12. (SCI, Springer).

7. ACADEMIC PROFILES

- Google Scholar: <http://scholar.google.com/citations?user=ik36YxEAAAAJ&hl=en>
- ORCID: <https://orcid.org/0000-0003-4878-0088>
- Scopus: <https://www.scopus.com/authid/detail.uri?authorId=57203859853>
- ResearchGate: <https://www.researchgate.net/profile/Prosanta-Sarkar>
- Web of Science: <https://www.webofscience.com/wos/author/record/ABI-5574-2020>

8. CONTACT

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