

Curriculum Vitae

Prantik Banerjee, M.Sc., Ph.D.

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Current Position:

Assistant Professor, Environmental Science, School of Basic and Applied Sciences, Adamas University, Kolkata (DoJ: 2nd September 2019)

LinkedIn: <https://www.linkedin.com/in/drprantikbanerjee>

Vidwan portal: <https://vidwan.inflibnet.ac.in/profile/162238>

Google Scholar: <https://scholar.google.co.in/citations?user=3B5TBjMAAAAJ>

Orcid Id: 0000-0002-1828-0835

Scopus Id: 56321079100

Researcher Id: K-1529-2014

Summary:

- ✓ More than **15 years** of experience (including doctoral research work) in environmental management/remediation/analysis and more than **5 years** of experience of being involved as faculty member in different institutions.
- ✓ Global Association of Risk Professionals - **Sustainability and Climate Risk (GARP-SCR) Certificate Holder.**
- ✓ **Co-founded UG and PG programmes in Environmental Science at the Adamas University, Kolkata.**
- ✓ Experience of working in **NABL accredited (ISO/IEC-17025) laboratory** and handling state of the art analytical instruments (Central Lab, West Bengal Pollution Control Board).
- ✓ Qualified for **UGC NET - Lectureship (Assistant Professorship) twice** in Environmental Sciences, in June and December 2012.
- ✓ Qualified for Senior Research Fellowship (Council for Scientific and Industrial Research, Govt. of India, New Delhi) in February 2012.
- ✓ Awarded Project Fellowship by Centre for Research in Nanoscience and Nanotechnology, University of Calcutta (2009)
- ✓ Successfully organized several field trips, industry visits, excursions, treks/nature hikes for students.
- ✓ Invited as guest speaker, learning module author, external examiner (both theory and viva-voce) and moderator for examinations under various private/state colleges and universities.

- ✓ Apart from conventional academics, actively involved in travelling, photography, theatre, music, A/V editing and reviewing films.

Courses taught currently:

PG Level: Energy and Environment, Environmental Chemistry, Atmospheric Science, Ecology and Biodiversity, Natural Resources, Air Pollution and Control Technology, Water Pollution and Control Technology, Environmental Geosciences, Environmental Instrumentation, Solid and Hazardous Waste Management, Design for water and wastewater systems, Environmental Impact Assessment and Regulatory Framework, Industrial Pollution prevention and Clean Technologies, Environmental Economics, Law and Policies

UG Level: Earth and Earth Surface Processes, Physics and Chemistry of the Environment, Atmospheric Science, Water and Water Resources Management, Ecology, Solid Waste Management.

Administrative responsibilities:

1. Organising workshops, seminars, and webinars
2. Former Single Point of Contact of Student Affairs for School of Basic and Applied Sciences
3. NAAC Criteria 1 coordinator for programmes in Environmental Science

Mentorship:

1. Ph.D.: 1 (ongoing, as supervisor), 1 (ongoing, as co-supervisor)
2. M.A./M.Sc. dissertation: 16 (completed)

Research Projects:

1. Adamas University funded SEED Research project entitled “Potential of Algal Biochar/ZnO composite photocatalysts in photocatalytic oxidation of textile dyes and in developing LDPE/Photocatalyst self-degrading films”. Sanctioned amount: Rs. 85000

Professional courses

- **Certificate course on Carbon Accounting and Sustainable Designs in Product Lifecycle Management** in November 2024, organised by *IIT, Kanpur* (Platform: NPTEL, Duration: 12 weeks)
- **Certificate course on Fundamentals of ESG & Sustainability**, organised by Ramanujan College, University of Delhi in collaboration with ESG Research Foundation and Indian Accounting Association - NCR Chapter (Duration: 2 months)
- **Certificate Programme on Environmental Impact Assessment**, in July 2012, organized by *Centre for Science and Environment, New Delhi, India.*

- **P.G. Diploma in Environmental Management** (Duration: 1 year, through correspondence), in 2011, from *Annamalai University, Annamalai Nagar, Tamil Nadu, India.*
- **Coursera, LinkedIN Learning, Faculty Development Programmes, Faculty Orientation Programmes.**

Academic qualifications

- **Ph.D.** in Environmental Science, University of Calcutta, Kolkata, India (**under the new UGC regulations, 2009**) in **2015, under the supervision of** Prof. (Dr.) Sampa Chakrabarti, Professor, Dept. of Chemical Engineering, University of Calcutta, Kolkata. Title of thesis: **Removal of Organic and Heavy Metal Pollutants Present in Wastewater by Photocatalysis using Micro and Nano sized Zinc Oxide Particles under Artificial and Solar Radiation.**
- **M.Sc. in Environmental Science, 2008**
University of Calcutta, Kolkata, India.
Cumulative Grade Point (6 point scale): 4.57 (A+)
- **B.Sc. Chemistry (Hons.), 2006 (2 yr. Part I + 1 yr. Part II)**
Surendranath College, Kolkata, University of Calcutta, India
Percentage of marks obtained in the Hons. subject: 55.6%
- **Indian School Certificate Examination, 2003**
St. Augustine's Day School, Kolkata (under Council for Indian School Certificate Examination, New Delhi, India) with an aggregate score of 75%
- **Indian Certificate of Secondary Education, 2001**
St. Augustine's Day School, Kolkata (under Council for Indian School Certificate Examination, New Delhi, India) with an aggregate score of 84.6%

Previous positions held:

1. Guest faculty for Environmental Sciences at Jogamaya Devi College, Vidyasagar University, Directorate of Distance Education Centre for Postgraduate in Environmental Science, from 2015-16 academic session to 2018-2019 academic session.
2. Guest faculty for Environmental Sciences at Vijaygarh Jyotish Ray College, Kolkata, 4th December 2017 to August 2019.
3. Guest faculty for Environmental and Society at Dept. of Computer Sciences, University of Calcutta, from August 2018 to August 2019.
4. Guest faculty for Environmental Sciences at Netaji Nagar College for Women, Kolkata, from January 2019 to August 2019.
5. Project Scientist (World Bank assisted Capacity Building for Industrial Pollution Management Project) (31st May 2013 – 4th January 2018) at West Bengal Pollution Control Board, Govt. of West Bengal, Kolkata, India. Nature of duties/responsibilities: Analysis of various physico-chemical parameters in solid, liquid and air matrices (maintaining

accreditation standards laid by NABL). Developing SOPs for experiments and analysis of samples (hazardous in nature predominantly), assisting purchase, installation, commissioning and handling of laboratory instruments, reconnaissance, site assessment and monitoring reports from the pilot sites and data obtained from other laboratories, facilitate preparation of the World Bank standard project completion report, maintain records and official documents.

Research Interests: Sustainability, Carbon Accounting, Environmental Economics, Removal of toxic species (metal ions, dyes, organic compounds) from industrial effluents, Photocatalytic degradation and adsorption techniques, Development of nanosized semiconductor photocatalysts

Publications

A. Refereed Journal Publications

➤ **Published/Accepted**

1. Indrani Ghosh, **Prantik Banerjee**, *Removal of Antibiotics by Algae: Elucidating the Removal Mechanisms, Treatment Systems and Post-Treatment Antibiotic Resistance*, **African Journal of Biomedical Research**, 27 (2024) 790-804.
2. Suchismita Majumdar, Anirban Roy, Ishita Nandi, **Prantik Banerjee**, Swapna Banerjee, Mahua Ghosh, Sampa Chakrabarti, *Paper Coated with Sonochemically Synthesized ZnO Nanoparticles: Enhancement of Properties for Preservation of Documents*, **Journal of Technical Association of the Pulp and Paper Industry (Tappi Journal)**, 16 (2017) 25-33.
3. Sampa Chakrabarti, **Prantik Banerjee**, *Preparation and characterization of multifunctional cotton fabric by coating with sonochemically synthesized zinc oxide nanoparticle-flakes and a novel approach to monitor its self-cleaning property*, **The Journal of the Textile Institute** (Taylor and Francis), 106 (2015) 963-969.
4. Amrita Dutta, **Prantik Banerjee**, Debasish Sarkar, Sekhar Bhattacharjee, Sampa Chakrabarti, *Degradation and mineralization of Trypan Blue, a commercial azo dye in wastewater by sunlight assisted modified photo-Fenton reaction*, **Desalination and Water Treatment** (Taylor and Francis), 56 (2015) 1498-1506.
5. Sampa Chakrabarti, Xin Liu, Changning Li, **Prantik Banerjee**, Saikat Maitra, Mark T. Swihart, *Single-pot heating method for synthesis of iron-doped zinc oxide nanoparticles: Influence of precursor composition and temperature*, **International Journal of Materials Engineering Innovation** (Inderscience), 6 (2015) 18-31.
6. **Prantik Banerjee**, Dipesh Das, Pallavi Mitra, Mahuya Sinha, Sanjit Dey, Sampa Chakrabarti, *Solar photocatalytic treatment of wastewater with zinc oxide nanoparticles and its ecotoxicological impact on Channa punctatus – a freshwater fish*, **Journal of Materials and Environmental Science**, 4 (2014) 1206-1013.
7. Pallavi Mitra, **Prantik Banerjee**, Debasish Sarkar, Sampa Chakrabarti, *Utilization of Commercial steel wool for the reduction of hexavalent chromium in aqueous solution – batch kinetic studies and rate model*, **International Journal of Environmental Science and Technology** (Springer), 11 (2014) 449-460.

8. Pallavi Mitra, **Prantik Banerjee**, Sampa Chakrabarti, Sekhar Bhattacharjee, *Utilization of solar energy for photoreduction of industrial wastewater containing hexavalent chromium with zinc oxide semiconductor catalyst*, **Desalination and Water Treatment** (Taylor and Francis), 51 (2013) 5451-5459.
9. Isita Nandi, Pallavi Mitra, **Prantik Banerjee**, Anirban Chakrabarti, Mahua Ghosh and Sampa Chakrabarti, *Ecotoxicological impact of sunlight assisted photoreduction of hexavalent chromium present in wastewater with zinc oxide nanoparticles on common Anabaena Flos-aquae*, **Ecotoxicology and Environmental Safety** (Elsevier), 86 (2012) 7-12.
10. **Prantik Banerjee**, Pallavi Mitra, Sampa Chakrabarti, Sekhar Bhattacharjee, *Zinc Oxide nanoparticles for the photocatalytic reduction of hexavalent chromium in wastewater under sunlight*, **Environmental Science: An Indian Journal** (TSI Publications), 7 (2012) 288-295.
11. **Prantik Banerjee**, Sampa Chakrabarti, Saikat Maitra and Binay K. Dutta, *Zinc Oxide Nanoparticles - Sonochemical Synthesis, Characterization and Application for Photo-remediation of Heavy Metal*, **Ultrasonics Sonochemistry** (Elsevier), 19 (2012) 85-93.

B. Book Chapters

1. “Overpopulation is an Environmental Problem”: *Facts and Artifacts*, Pallavi Mitra and **Prantik Banerjee**, chapter in the book entitled “Facts and Artifacts of the Society” (ed. by Arunima Dhar and Pallavi Mitra), Indian Society of Professional Social Work (ISPSW), Bengaluru, pp. 38-51, 2023.
2. *Zinc oxide (ZnO) – based Nanomaterials for Environmental Applications*, Sampa Chakrabarti, **Prantik Banerjee**, Pallavi Mitra, Anirban Roy, full chapter in the book entitled “*Handbook of Smart Photocatalytic Materials: Environment, Energy, Emerging Applications, and Sustainability*” (ed. C. M. Hussain and Ajay Kumar Mishra), Elsevier, pp. 73-107, 2020.
3. *Solar photocatalytic reduction of hexavalent chromium in wastewater using zinc oxide semiconductor catalyst: a comparison of performances between micro and nanoparticles*, Sampa Chakrabarti, **Prantik Banerjee**, Pallavi Mitra, full chapter in the book entitled “*Physical Chemical and Biological Treatment Processes For Water and Wastewater*” (ed. by Dr. Tushar Kanti Sen), Nova Science Publishers, Inc., Hauppauge, NY, USA, pp. 95-111, 2015

C. Dataset Publications

1. Dasgupta S, Ghosh M, Kumari N, Chakraborty S, Kumari Maity K, Bodhak N, Datta D, Chakraborty S, Ghosh I, Kumar Dey T, **Banerjee P**, Basu Roy A, Barman N, Barve V (2023). Survey of Waders and aquatic birds at three locations of Bakkhali, a coastal zone of West Bengal. Version 1.13. Nature Mates-Nature Club. Sampling event dataset <https://doi.org/10.15468/zr5mc8>

D. Papers/Abstracts in Conference Proceedings

1. Reduction of hexavalent chromium present in wastewater by steel wool in a continuous flow system, Sampa Chakrabarti, Pallavi Mitra, **Prantik Banerjee**, Debasish Sarkar, accepted at 5th International Conference on Environmental Science and Development-ICESD 2014 organized during 19th-21st February, 2014 in Singapore.
2. Photocatalytic degradation of azo-dye under sunlight with different types of sonochemically synthesized ZnO nanoparticles – A comparative study (Abstract), **Prantik Banerjee**, Saikat Maitra and Sampa Chakrabarti, presented at International Conference on Hydrology and Ground Water Expo (Hydrology 2012), organized by Omics Group Conferences (USA) at San Antonio, Texas, USA, September, 2012.
3. Self-Cleaning Cotton Fabric Using Sonochemically Synthesized Zinc Oxide Nanoparticles (Full paper), **Prantik Banerjee**, Indranil Nag, Somnath Chowdhury and Sampa Chakrabarti, presented at AICTE sponsored National Conference on Synthesis Characterization and Simulation in Nanoscience and Nanotechnology (Nanosim-2012), organized by Department of Physics and Department of Chemistry, JIS College of Engineering, Block A, Phase III, Kalyani, Nadia, February, 2012.
4. Oxidative degradation of Eosin Y dye in water with Fenton's reagent and comparison with photo phenton and sono fenton degradation (Abstract), Sampa Chakrabarti, Pallavi Mitra, **Prantik Banerjee**, Kaberi Tah and Saikat Pal, presented at International Conference on Advanced Oxidation Processes (AOP-2010) at Kottayam, Kerala, India, September, 2010.
5. Utilization of solar energy for photocatalytic oxidative degradation of azo dye in wastewater using zinc oxide nanoparticles (Full paper), **Prantik Banerjee**, Sampa Chakrabarti and Sekhar Bhattacharjee, presented at International Conference on Environment (ICENV 2010), organized by Universiti Sains Malaysia, at Penang, Malaysia, December, 2010.
6. Solar photo reduction of hexavalent chromium in wastewater with zinc oxide semiconductor catalyst (Full paper), Pallavi Mitra, **Prantik Banerjee**, Sampa Chakrabarti, Debasish Sarkar and Sekhar Bhattacharjee, presented at International Conference on Environment (ICENV 2010), organized by Universiti Sains Malaysia, at Penang, Malaysia, December, 2010.
7. Comparison of the photocatalytic oxidation of an azo dye using Zinc Oxide nanoparticles under artificial and solar radiation (Full paper), **Prantik Banerjee**, Saikat Maitra, Sampa Chakrabarti, and Sekhar Bhattacharjee, presented at International Conference on Nanoscience and Nanotechnology, organized by Jadavpur University, at Kolkata, West Bengal, India, December, 2010.
8. Sonochemical synthesis and characterization of zinc oxide nanoparticles using different solvents and study of its efficacy as a semiconductor photocatalyst for reducing hexavalent chromium in wastewater under tropical sunlight (Full paper), Sampa Chakrabarti and **Prantik Banerjee**, presented at Nanotech India 2010, International Conference organized by AG Nanotech Impex India P. Ltd at Kochi, Kerala, India, November, 2010.

Papers presented at conferences

- i. **Oral: International Conference on Hydrology and Groundwater Expo, 2012**, organized by Omics Publishing Group (Los Angeles, USA) at **San Antonio, Texas, USA**, 10th-12th September, 2012. Title: *“Photocatalytic degradation of azo-dye under sunlight with different types of sonochemically synthesized ZnO nanoparticles – A comparative study”*.
- ii. **Oral: AICTE sponsored National Conference on Synthesis Characterization and Simulation in Nanoscience and Nanotechnology (Nanosim-2012)**, organized by Department of Physics and Department of Chemistry, JIS College of Engineering, Block A, Phase III, Kalyani, Nadia, West Bengal, 24th-25th February, 2012. Title: *“Self-Cleaning Cotton Fabric Using Sonochemically Synthesized Zinc Oxide Nanoparticles”*.
- iii. **Poster: International Conference on Environment (ICENV 2010)**, organized by Universiti Sains Malaysia, at **Batu Feringhii, Penang, Malaysia**, 13th-15th December, 2010. Title: *“Utilization of solar energy for photocatalytic oxidative degradation of azo dye in wastewater using zinc oxide nanoparticles”*.
- iv. **Oral: UGC sponsored State Level Seminar on “Groundwater Pollution and its Management: Perspective and Future Approaches”** organized by Netaji Nagar College for Women, Kolkata, West Bengal, India on 7th-8th December, 2010. Title: *“Arsenic Pollution in West Bengal: mitigation and policy options”*.
- v. **Oral: Nanotech India 2010**, International Conference organized by AG Nanotech Impex India P. Ltd at Kochi, Kerala, India from 19th-21st November, 2010. Title: *“Sonochemical synthesis and characterization of zinc oxide nanoparticles using different solvents and study of its efficacy as a semiconductor photocatalyst for reducing hexavalent chromium in wastewater under tropical sunlight”*.
- vi. **Oral: Seminar on Natural History Museums or Biosphere Reserve or Protected Areas as agents of Social Change and Development**, at Aranya Bhawan, Department of Forests, Govt. of West Bengal, Kolkata, West Bengal, India on 21st May, 2008, Title: *“Community Participation and Socio-Economic Impacts of Joint Forest Management”*.

Memberships

- Life Member (Membership No.: WB-002261), People for Animals, (PFA, India), Animal Welfare Organisation.
- Member, Peoples’ Association for Science and Environment (Registration No. S/2L/46723 of 2015 -2016), a forum dedicated to promotion of science and scientific discipline amongst school students)

Hobbies and interests

- Former Faculty Mentor of CSR Club and Photography Club at Adamas University
- Promotion of science and scientific awareness
- Animal Welfare

- Music (Guitar, Ukulele, Harmonica, Keyboards, Melodica)
- Trekking (Guided teams of school students in camping and trekking activities)
- Theatre (Performed in several amateur theatres in Kolkata)
- Photography (Nature and Wildlife, Travel)

I hereby declare that the above-mentioned informations are correct to the best of my knowledge and I bear the responsibility for the correctness of the same.



PRANTIK BANERJEE

Place: Kolkata

Date: 13/01/2025