

PALLAVI MITRA, Ph.D

**Assistant Professor • Environmental Scientist •
Researcher • Academic Content Developer**

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ACADEMIC PROFILE

Environmental Science academic and researcher with sustained experience in university and open-distance education, industrial pollution management, environmental monitoring, laboratory-based research, academic assessment and self-learning material development. Her work spans hexavalent chromium remediation, wastewater treatment, photocatalysis and nanomaterials, ecotoxicology, wetlands, solid waste, environmental management, ESG and sustainability. She combines research, teaching, blended pedagogy, dissertation supervision, academic service and inter-institutional collaboration.

Core Academic and Research Domains

ENVIRONMENTAL RESEARCH

- Industrial pollution management
- Water and wastewater treatment
- Hexavalent chromium remediation
- Photocatalysis, ZnO and nanomaterials

SUSTAINABILITY

- Wetland and ecosystem services
- Solid waste management
- Environmental management and EIA
- ESG and corporate sustainability

ACADEMIC PRACTICE

- ODL and blended pedagogy
- SLM development and editing
- Assessment design and evaluation
- Dissertation supervision and academic events

Career Highlights

CURRENT APPOINTMENT

Assistant Professor in Environmental Studies, Centre for Distance and Online Education, Rabindra Bharati University since 7th September 2018.

QUALIFICATION

SET qualified in Environmental Science (WBSET/23-0426; Roll No. 10005668), West Bengal College Service Commission, 2022.

INNOVATION

Granted Indian Patent for "Ceramic Glazing Pigment from Chrome-Iron Sludge" (662/Kol/2014).

RECOGNITION

J. Sinha Roy Memorial Award for the Best Paper of the Journal of Indian Leather Technologists Association, 2011.

PRESENT EMPLOYMENT AND ACADEMIC RESPONSIBILITIES

Assistant Professor in Environmental Studies | Centre for Distance and Online Education, Rabindra Bharati University, Kolkata

Since 7 September 2018

- Conducting Personal Contact Programmes (PCPs).
- Designing and setting question papers for Internal Assessments (IA).
- Evaluation of IA and term-end examination answer scripts.
- Preparation, editing and updating of Self-Learning Materials (SLMs).
- Supervising student dissertation and research work.
- Organising academic and cultural events, including seminars, workshops and related activities.
- Implementing communication tools and ensuring effective blended pedagogy.
- Developing and applying innovative methods of teaching, learning and evaluation.
- Representing the University through participation and paper presentations in seminars, webinars and conferences.
- Engaging in academic exchange of ideas and collaborative research with other universities and institutes.
- Serving as Examiner and Subject Expert for other State Universities and organisations.

ACADEMIC QUALIFICATIONS

2015	Ph.D. in Environmental Science University of Calcutta, under new UGC Regulations (2009). Thesis: "On the reduction of hexavalent chromium present in wastewater", under the supervision of Prof. Sampa Chakrabarti, Department of Chemical Engineering, University of Calcutta, Kolkata.
2011	P.G. Diploma in Environmental Management Annamalai University.
2008	M.Sc. in Environmental Science University of Calcutta. Cumulative Grade Point (6-point scale): 4.78 (A+) [70%].
2006	B.Sc. in Zoology Honours Scottish Church College, University of Calcutta, with 58.5%.
2003	Higher Secondary Examination West Bengal Council of Higher Secondary Education, with 70.2%.
2001	Madhyamik Examination West Bengal Board of Secondary Education, with 75.25%.

RESEARCH EXPERIENCE

May 2013 – Jun 2018	Project Scientist "Capacity Building for Industrial Pollution Management Project", funded by the World Bank, at West Bengal Pollution Control Board, Government of West Bengal, Kolkata (NABL-accredited laboratory).
Sep 2012 – May 2013	Senior Research Assistant "Utilization of chrome-iron sludge emanating from chemical reduction of hexavalent chromium by zerovalent iron (ZVI) as a substitute of conventional cement", funded by TEQIP Phase II, Government of India, at the Department of Chemical Engineering, University of Calcutta, Kolkata.
Mar 2009 – Mar 2012	Project Fellow "On the Removal of Hexavalent Chromium from Wastewater", UGC Major Research Project, Government of India, at the Department of Chemical Engineering, University of Calcutta, Kolkata.
Sep 2008 – Feb 2009	Junior Project Scientist "Environmental monitoring of Mathura Beel and preparation of its management action plan", R & D project, Government of West Bengal, Institute of Environmental Studies and Wetland Management, Kolkata.

TEACHING EXPERIENCE

2011–13	Guest Lecturer in Environmental Studies Savitri Girls' College, Kolkata.
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ACHIEVEMENTS, PATENT AND RECOGNITION

1. **Qualified SET** in Environmental Science in 2022 (WBSET/23-0426; Roll No. 10005668), conducted by the West Bengal College Service Commission.
2. **Granted Indian Patent** for the invention entitled "Ceramic Glazing Pigment from Chrome-Iron Sludge" (662/Kol/2014) under the Patents Act, 1970 (39 of 1970) and the Patents Rules, 2003. Inventors: Dr. Sampa Chakrabarti, Prof. Saikat Maitra, Dr. Ram Chandra Das and **Pallavi Mitra**.
3. "Removal of hexavalent chromium from wastewater by reduction with zerovalent iron and subsequent precipitation by alkali", Mandip Saha Roy, **Pallavi Mitra**, Debasish Sarkar and Sampa Chakrabarti, Journal of Indian Leather Technologists Association, 3 (2011), 165–172, was selected as the Best Paper of the journal in 2011 and received the **J. Sinha Roy Memorial Award**.

PROFESSIONAL COURSES AND WORKSHOPS

2012	Certified "Training Programme on Understanding EIA: From Screening to Decision Making", organised by Anil Agarwal Green College, Centre for Science and Environment, New Delhi.
19–22 Feb 2018	Four-day hands-on training programme on operation of Energy Dispersive X-Ray Fluorescence Spectrometer (Make: PANalytical; Model: Epsilon 5), organised by West Bengal Pollution Control Board.
15 Nov 2019	One-day workshop on "Transgender Awareness & Role of Social Work: Beyond the Binary Connotation", organised by the Directorate of Distance Education, Rabindra Bharati University.
18–20 May 2020	Three-day online Internal Auditor Training Course (as per ISO 14001:2015 and ISO 45001:2018) on Environmental, Occupational Health and Safety Management Systems (EHS-MS), organised by CII-Centre of Excellence for Sustainable Development.
27 Apr–3 May 2020	One-week National-Level Online Workshop on "Digital Teaching for Smart Learning", organised by Titus II Teachers College, Tiruvalla, Kerala, in association with MES'S Pillai College of Education and Research, Chembur, Mumbai.
5–6 May 2020	Two-day online course on "Research Methodology – An Overview", organised by S.S.S. Samiti's M.P. Mirji College of Commerce, Belagavi.
8–14 Jun 2020	One-week Online Faculty Development Programme on Open Source Tools for Research, organised by Teaching Learning Centre, Ramanujan College, University of Delhi, sponsored by the Ministry of Human Resource Development.
22–28 Jun 2020	One-week Science Leadership Workshop, organised by Central University of Punjab.
12 Jul 2020	Certified Microsoft Innovative Educator, Microsoft Educator Centre.
15–21 Jul 2020	One-week Online National Faculty Development Programme on E-Contents and ICT Tools for Innovative and Effective Teaching, organised by KS Jain Institute of Engineering and Technology, Modinagar, Ghaziabad.
17–18 Jul 2020	Two-day National Online Workshop on "Effective Online Teaching Aids for Environmental Studies", organised by the Department of Environmental Studies, S K Somaiya College of Arts, Science & Commerce, Vidyavihar, Mumbai.
2022	Online certificate course on "Geographic Information System in QGIS: Basic of GIS Analysis", offered by Udemy India LLP.
14–18 Dec 2022	Online Training on Sustainable Solid Waste Management, IEC/BCC in Source Segregation, organised by Centre for Science and Environment, New Delhi.
30 Aug 2024	UGC-DEB-funded one-day workshop titled "Implementation of NEP-2020 in Environmental Studies (VAC-1)", organised by the Department of Environmental Science, School of Sciences, Netaji Subhas Open University, Kolkata.
Jan 2025	Successfully completed the three-credit SWAYAM online course "From Theory to Practice: Implementing ESG and Sustainability in Business", offered by the Indian Institute of Management Bangalore.

SCHOLARLY PUBLICATIONS AND ACADEMIC CONTRIBUTIONS

Publication Snapshot

1 EDITED BOOK	11 REFEREED JOURNAL ARTICLES	10 BOOK CHAPTERS / SLM UNIT
1 NEWSLETTER ARTICLE	6 CONFERENCE PROCEEDINGS	8 ORAL CONFERENCE PRESENTATIONS

Book Published / Edited

- Facts and Artifacts of the Society.** Edited by Ms. Arunima Dhar and Dr. **Pallavi Mitra**. Indian Society of Professional Social Work (ISPSW), Department of Psychiatric Social Work, NIMHANS, Bangalore – 5600029, ISBN No. 978-81-958055-1-8, 2023.

Refereed Journal Publications

- Green Social Work: A Pathway to Social and Environmental Justice in India.** Indranil Sarkar, **Pallavi Mitra** and Priya Banerjee. Journal of Academic Stand Against Poverty (e-ISSN 2690-3458), 7 (2025), 35–56.
- Photocatalytic reduction of hexavalent chromium in wastewater using ZnO – a comparison between UV and sunlight.** **Pallavi Mitra** and Sampa Chakrabarti. Journal of Basic and Applied Engineering Research, 6(1) (2019), 5–9.

3. **Solar photocatalytic treatment of wastewater with zinc oxide nanoparticles and its ecotoxicological impact on *Channa punctatus* – a freshwater fish.** Prantik Banerjee, Dipesh Das, **Pallavi Mitra**, Mahuya Sinha, Sanjit De and Sampa Chakrabarti. *Journal of Materials and Environmental Science*, 5(4) (2014), 1206–1213.
4. **Commercial steel wool for the reduction of hexavalent chromium in waste water: batch kinetic studies and rate model.** **Pallavi Mitra**, Prantik Banerjee, Debasish Sarkar and Sampa Chakrabarti. *International Journal of Environmental Science and Technology*, 11(2) (2014), 449–460.
5. **Utilization of solar energy for photoreduction of industrial wastewater containing hexavalent chromium with zinc oxide semiconductor catalyst.** **Pallavi Mitra**, Prantik Banerjee, Sampa Chakrabarti and Sekhar Bhattacharjee. *Desalination and Water Treatment*, 51 (2013), 5451–5459.
6. **Ecotoxicological impact of sunlight assisted photoreduction of hexavalent chromium present in wastewater with zinc oxide nanoparticles on common *Anabaena flos-aquae*.** Isita Nandi, **Pallavi Mitra**, Prantik Banerjee, Anirban Chakrabarti, Mahua Ghosh and Sampa Chakrabarti. *Ecotoxicology and Environmental Safety*, 86 (2012), 7–12.
7. **Zinc Oxide nanoparticles for the photocatalytic reduction of hexavalent chromium in wastewater under sunlight.** Prantik Banerjee, **Pallavi Mitra**, Sampa Chakrabarti and Sekhar Bhattacharjee. *Environmental Science: An Indian Journal (TSI Publications)*, 7(8) (2012), 288–295.
8. **Reduction of hexavalent chromium with zero-valent iron: batch kinetic studies and rate model.** **Pallavi Mitra**, Debasish Sarkar, Sampa Chakrabarti and Binay K. Dutta. *Chemical Engineering Journal*, 171 (2011), 54–56.
9. **Chemical reduction of hexavalent chromium in wastewater – effect of pH and dosing of Mohr salt.** **Pallavi Mitra**, Sandeep Karmakar, Debasish Sarkar and Sampa Chakrabarti. *Journal of Indian Leather Technologists Association*, 3 (2011), 328–334 (ISSN No. 00195738).
10. **Removal of hexavalent chromium from wastewater by reduction with zerovalent iron and subsequent precipitation by alkali.** Mandip Saha Roy, **Pallavi Mitra**, Debasish Sarkar and Sampa Chakrabarti. *Journal of Indian Leather Technologists Association*, 3 (2011), 165–172 (ISSN No. 00195738).
11. **Reduction of hexavalent chromium present in wastewater by steel wool in a continuous flow system.** Sampa Chakrabarti, **Pallavi Mitra**, Prantik Banerjee and Debasish Sarkar. *APCBEE Procedia*, 10 (2014), 59–63.

Book Chapters and Self-Learning Material

1. **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 and **Pallavi Mitra**. In *Physical Chemical and Biological Treatment Processes for Water and Wastewater*, Nova Science Publishers, 2015, pp. 95–111.
2. **Zinc oxide (ZnO)-based Nanomaterials for Environmental Applications.** Sampa Chakrabarti, Prantik Banerjee, **Pallavi Mitra** and Anirban Roy. In *Handbook of Smart Photocatalytic Materials*, Elsevier, 2020, pp. 73–107. DOI: <https://doi.org/10.1016/B978-0-12-819049-4.00009-X>.
3. **Role of corporate responsibility for ensuring social and environmental sustainability in an emerging economy like India.** Priya Banerjee and **Pallavi Mitra**. In *Multidimensional Aspects of Social Issues: Professional Interventions*, Taran Publication, 79, Vashist Nagar, Ambala Cantt, Haryana, 2021, pp. 329–400. DOI: 9788194733683.
4. **Socio-economic repercussion of the global pandemic on developing countries.** Aindrita Sarkar, **Pallavi Mitra** and Priya Banerjee. In *Multidimensional Aspects of Social Issues: Professional Interventions*, Taran Publication, 79, Vashist Nagar, Ambala Cantt, Haryana, 2021, pp. 465–513. DOI: 9788194733683.
5. **Public Participation in Restoration and Sustainable Use of Wetland Ecosystem Services in India.** **Pallavi Mitra**, Anwesha Halder and Priya Banerjee. In *Handbook of Research on Monitoring and Evaluating the Ecological Health of Wetlands*, IGI Global, 701 E. Chocolate Ave., Hershey, PA 17033, USA, 2022, pp. 280–303. DOI: 10.4018/978-1-7998-9498-8.ch017.
6. **Overpopulation is an Environmental Problem: Facts and Artifacts.** **Pallavi Mitra** and Prantik Banerjee. In *Facts and Artifacts of the Society*, Indian Society of Professional Social Work (ISPSW), Department of Psychiatric Social Work, NIMHANS, Bangalore – 5600029, 2023, pp. 38–51. ISBN No. 978-81-958055-1-8.
7. **Contributed Unit: PGES CC 402: Sustainable Development, Environmental Economics and Management.** Self-Learning Materials of M.Sc. in Environmental Science, School of Sciences, Netaji Subhas Open University.
8. **Application of Biochar in Microbial Fuel Cell (MFC).** **Pallavi Mitra**, Madhurima Bakshi, Priya Banerjee and Somdeep Ghosh. In *Microbial and Biochar Technology for Waste Valorization*, Academic Press, Elsevier, 125 London Wall, London, United Kingdom, 2026, pp. 265–290. ISBN: 978-0-443-27763-4.
9. **Advances in Photocatalytic Ceramic Materials for Energy and Environmental Applications.** Sampa Chakrabarti, **Pallavi Mitra** and Anirban Roy. In *Engineered Ceramics and Composite Materials*, CRC Press, 2385 NW Executive Center Drive, Suite 320, Boca Raton, FL 33431, 2026, pp. 189–213. ISBN: 978-1-003-73167-2.
10. **Role of the Conventions in the Conservation and Wise Use of Wetlands.** **Pallavi Mitra** and Priya Banerjee. In *Wetland Management for Biodiversity Conservation and Climate Change Mitigation*, Apple Academic Press Inc., 1265 Goldenrod Circle, NE, Palm Bay, FL 32905, USA, 2027, pp. 333–351. ISBN: 978-1-77964-269-1 (hbk).

Newsletter

1. **Solid Waste: From Prodigality in Production to Prospects.** **Pallavi Mitra** and Prantik Banerjee. *CEiBa Newsletter*, 2023, Volume 5–6, Issue 4–1, pp. 14–21. DOI: <https://www.researchgate.net/publication/369801318>.

Conference Proceedings

1. **Rapid Urbanization Effecting the Lives of Women of Rajarhat: A Perspective of Environmental Sustainable approach.** Arunima Dhar and **Pallavi Mitra**. Two-day International Seminar on Sustainable Development & Inclusive Growth: Methods to Methodology, organised by the PG Department of Geography and Department of Statistics, Lady Brabourne College, in collaboration with the School of Oceanographic Studies, Jadavpur University.

2. **Reduction of hexavalent chromium present in wastewater by steel wool in a continuous flow system.** Sampa Chakrabarti, **Pallavi Mitra**, Prantik Banerjee and Debasish Sarkar. Accepted at the 5th International Conference on Environmental Science and Development (ICESD 2014), 19–21 February 2014, Singapore.
3. **A kinetic study of reduction of hexavalent chromium containing wastewater by H₂O₂.** **Pallavi Mitra**, Amrita Dutta, Sujit Ghosh, Sekhar Bhattacharjee and Sampa Chakrabarti. International Conference on Hydrology and Ground Water Expo, 2012, Hilton San Antonio Airport, Texas, USA.
4. **Solar photo reduction of hexavalent chromium in wastewater with zinc oxide semiconductor catalyst.** **Pallavi Mitra**, Prantik Banerjee, Sampa Chakrabarti, Debasish Sarkar and Sekhar Bhattacharjee. International Conference on Environment (ICENV 2010), Penang, Malaysia.
5. **Oxidative degradation of Eosin Y dye in water with Fenton's reagent and comparison with photo-phenon and sono-fenton degradation.** Sampa Chakrabarti, **Pallavi Mitra**, Prantik Banerjee, Kaberi Tah and Saikat Pal. International Conference on Advanced Oxidation Processes (AOP-2010), 2010, Kottayam, India.
6. **Removal of hexavalent chromium from wastewater by reduction with steel wool and subsequent precipitation.** Sampa Chakrabarti, **Pallavi Mitra**, Debasish Sarkar and Sekhar Bhattacharjee. International Conference on Environmental Science and Technology, 2010, Bangkok, Thailand.

PAPERS PRESENTED AT CONFERENCES

In India

1. **Oral:** "A Comparative Study on Environmental and Social Perspectives of Green Revolution in India", International Seminar "Science Education in India Through the Ages", organised by the Society for the History of Science Kolkata (SHSK) and the Department of History, Banaras Hindu University, Varanasi, 11–13 November 2024, at Banaras Hindu University, Varanasi.
2. **Oral:** National Conference on Water, Sanitation and Human Health: Emerging Challenges, 2022, organised by Bharatiya Vidya Bhavan. Presentation: "Aspects of Solar Water Treatment".
3. **Oral:** International Seminar on Environmental Pollution and Awareness – Celebration of World Environment Day 2019, organised by Environmental Studies, Directorate of Distance Education, Rabindra Bharati University, in collaboration with the Department of Environmental Studies, Rabindra Bharati University, Kolkata, 9 June 2019. Presentation: "Terraformation of Deserts to mitigate Climate Change".
4. **Oral:** International Conference on "Basic/Applied Sciences, Bioprocess Techniques, Environmental Engineering and Clean Energy Technologies for Sustainable Swachha Bharat" (SYNERGY-2019), organised by Krishi Sanskriti at Jawaharlal Nehru University, New Delhi, 9 February 2019. Paper: "Photocatalytic reduction of hexavalent chromium in wastewater using ZnO – a comparison between UV and sunlight".
5. **Oral:** 8th All India Peoples' Technology Congress, 2011, organised by the Forum of Scientists, Engineers and Technologists (FOSET), Kolkata, February 2011. Paper: "Chemical reduction of hexavalent chromium in wastewater – effect of pH and dosing of Mohr salt".
6. **Oral:** UGC-sponsored State-Level Seminar on "Groundwater Pollution and its Management: Perspective and Future Approaches", organised by Netaji Nagar College for Women, Kolkata, December 2010. Paper: "Challenges of sustainable drinking water quality management in West Bengal".

Abroad

1. **Oral:** International Conference on Hydrology and Groundwater Expo, 2012, organised by Omics Publishing Group (Los Angeles, USA), San Antonio, Texas, USA, September 2012. Paper: "A kinetic study of reduction of hexavalent chromium containing wastewater by H₂O₂", sponsored by DST, Government of India.
2. **Oral:** International Conference on Environment (ICENV 2010), organised by the School of Chemical Engineering, Universiti Sains Malaysia (USM), Penang, Malaysia, December 2010. Paper: "Solar photo reduction of hexavalent chromium in wastewater with zinc oxide semiconductor catalyst", sponsored by the University of Calcutta.

PERSONAL PROFILE

NAME	Dr. Pallavi Mitra
FATHER'S NAME	Dr. Alope Kumar Mitra
MOTHER'S NAME	Mrs. Bithika Mitra
DATE OF BIRTH	13 October 1985
SEX	Female
MARITAL STATUS	Married
NATIONALITY	Indian
LANGUAGES KNOWN	Bengali, English and Hindi

EXTRA-CURRICULAR ACTIVITIES

- Junior Diploma (Sangeet Manjari), with distinction in Kabyageeti, from Bangia Sangeet Parishad.
- Diploma in Rabindra Sangeet, with distinction, from Dakshinee, Kolkata.

REFEREES

Prof. Saikat Maitra
Vice Chancellor
Techno India University, Kolkata
maitrasaikat@rediffmail.com

Prof. Kallol Paul
Vice Chancellor
University of Kalyani
vc_kalyani@klyuniv.ac.in

DECLARATION

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

Place: Kolkata

Yours faithfully,

(Pallavi Mitra)