

Curriculum Vitae of Punarbasu Chaudhuri

Designation: *Associate Professor*, in Dept. of Environmental Science, University of Calcutta

Date of Birth: May 21st 1976.

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Nature of work: Postgraduate teaching and Research

Area of Research interest: Mangrove Ecology & Bioprospecting, Climate change, Green Chemistry, Geochemistry and Geoinformatics, Microplastics.

Qualifications

- **Post doctoral** research on effect of coastal pollution on mangroves from University of Sydney as *Endeavour* Fellow of Government of Australia, 2012.
- **Ph.D.** in Environmental Science from Department of Environmental Science, University of Kalyani in 2008 on “Studies on Fungal Biodiversity of mangrove vegetation of West Bengal, India”
- **Post-graduation (M.Sc.)** in Environmental Science with specialization in Environmental Biology and Pollution Management from Environmental Biology and Pollution Management in 2000 and stood **First Class First** from University of Kalyani.
- **Graduation (B.Sc.)** with Botany (Hons), Zoology & Chemistry from Vidyasagar College, affiliated to University of Calcutta in 1998.

Academic attainments

- Member of 39th Indian Expedition to Antarctica, (2019-20), organized by NCPOR, Ministry of Earth Sciences, GOI. to study apportioning nurdles and microplastics on the way to Antarctica.
- Recipient of Shastri Indo-Canadian Fellowship (2018) to participate in BaySys Sub-Arctic expedition in the CCGS Amundsen to study the impact of climate change on polar environment.
- Recipient of Science Academies’ (IASc-INSA-NASI) Summer Research Fellowship (2014) at School of Environmental Sciences, Jawaharlal Nehru University.
- Appointed as Australian Award Ambassador in India by Govt of Australia, 2014.
- Recipient of *Endeavour* Award 2012 of Government of Australia for Post doctoral research
- Qualified National Eligibility Test (NET) for Lectureship / Assistant Professorship in Environmental Science conducted by Agricultural Scientist Recruitment Board of Indian Council of Agricultural Research (2002).
- Junior Research Fellowship awarded by University Grants Commission for Doctoral level research work (Aug.2001-Oct. 2003).
- Certificate of Merit for securing 1st Class 1st position in Post Graduate Examination from University of Kalyani (2000).
- National Scholarship Ministry of Human Resource Development, Govt. of India for good performance in undergraduate studies (1998).
- Vidyasagar College Centenary Scholarship from Vidyasagar College for securing highest marks from the college in undergraduate examination (1998).
- Abanindra Guha Life Science Endowment from Vidyasagar College for securing highest marks among all life science subjects from the college in undergraduate examination (1998).

Experiences

Teaching Experiences

Nineteen years teaching experience in Interdisciplinary fields of Environmental Science, Biotechnology, Microbiology, Genetics and Neuroscience.

Research Experiences

Presently engaged in research works on Mangrove Ecology, Environmental biology, Environmental monitoring, Different aspects of Biodiversity since 2004.

Ph.D. level research on 'Studies on Fungal Bio-diversity of mangrove vegetation of West Bengal', from Department of Environmental Science, University of Kalyani from Aug. 2001- Sept. 2006

Research Projects undertaken:

Sl no	Title of Project	Funding Agency	Amount	Duration	Status
1.	Evaluation of anti fungal properties of mangrove plants of Sundarban.	UGC, New Delhi	2 lakhs	2010- 12	Completed
2.	Ecological Studies in Durgapur and Bankura Region	SGS India Ltd.	0.7 Lakhs	2010-11	Completed
3.	Framing Environmental Management Policy for backward areas of Sundarban using Geo-information Technology (Co-Investigator)	DSA Phase I program on Environment Management of UGC	2.5 lakhs	2011-16	Completed
4.	Preparation of People's Biodiversity Register of Kolkata (Co-Investigator)	Society for Environment and Development and State Biodiversity Board	1.25 lakhs	2011-12	Completed
5.	Studies on migration of mangroves in Hooghly estuary and its potentiality assessment as climate change indicator	DST, Government of India	20 lakhs	2013-16	Completed
6.	Health Impact of house hold level air pollution	The Energy and Resource Institute (TERI)	1.6 lakhs	2014-15	Completed
7.	Effect of Climate change on Mobilization of Trace Elements from Acid Sulfate Soils in Coastal Mangrove Habitats of Sundarban	UGC-DAE, Govt of India	7.6 lakhs	2014-17	Completed
8.	Studies on 10Be inventory in Sundarban Mangrove Ecosystem	Inter-University Accelerator Centre, New Delhi	Travel and experimental support	2015-19	Completed
9.	Green synthesis of iron nanoparticles from manglicolous fungi of Indian Sundarban and their application in sequestration of heavy metals from contaminated water	DBT, Govt of India	56 lakhs	2016-18	Completed
10.	Bio-prospecting of PGPRs isolated from stress environment and their application in the sustainable agriculture	UGC UPE Phase II, University of Calcutta	6 lakhs	2017-19	Completed
11.	Study to understand the pollination ecology as well as the applicability of placing apiary boxes in the forested areas of the Sundarbans (Co-investigator)	WWF, India	30 lakhs	2017-20	Completed
12.	Capacity building to enhance apiculture productivity through Melissopalynological training using Foldscope.	DBT, GoI	8 lakhs	2018-19	Completed
13.	Spatiotemporal Assessment of air quality and its health effect using geoinformatics: A case study form Kolkata	DST, GoWB	18.78 lakhs	2018-20	Ongoing
14.	Studies on conjugation of PET/SPECT radioisotopes with environmentally benign nature resourced chemical reagents	UGC-DAE, Govt of India	7.6 lakhs	2019-21	Ongoing
15.	Environmental Impact of Anthropogenic Activities on Wetland Bio-Diversity of Rudrasagar lake, the Ramsar Site of Tripura	DBT, GoI	70 lakhs	2019-21	Ongoing
16.	Application of 14C bomb spike to understand the history of anthropogenic contaminations in Antarctica	Inter-University Accelerator Centre, Govt. of India	Travel and experimental support	2021-23	Ongoing

Research guidance:

Number of researchers

PH.D (AWARDED) : **05**PH.D (SUBMITTED) : **01**PH.D (REGISTARED) : **02**M.PHIL : **01**M.TECH : **03****Publication Index:**

Sl. No.	Journal Indexing Website	No of Publications	Citation	h-index
1	Web of Science	60	432	15
2	Scopus	61	746	17

Detail resume link- <https://research.caluniv.ac.in/researcher/punarbasa-chaudhuri>Website link- <http://punarbasa.com/>**Some of the recent significant publications:**

- Jhahan, E., Bhattacharyya, S., Chaudhuri, A., Sarkar, N., Akhtar, S. and Chaudhuri, P. (2022). Optimization and application of UVC irradiation for prevention of fungal biodeterioration of vegetable tanned and chrome tanned leather. *J Leather Sci Eng* 4, 28. <https://doi.org/10.1186/s42825-022-00104-4>
- Tudu, P., Sen, P., & Chaudhuri, P. (2022). Quantification of Water-Soluble Inorganic Ions of PM10 Particles in Selected Areas of Kolkata Metropolitan City, India. *Aerosol Science and Engineering*, 1-17.
- Bhattacharyya, S. & Akhtar, S. & Chaudhuri, A. & Mahanty, S. & Chaudhuri, P. & Sudarshan, M.. (2022). Affirmative nanosilica mediate approach against fungal biodeterioration of concrete materials. *Case Studies in Construction Materials*. 17. e01258. 10.1016/j.cscm.2022.e01258.
- Tudu, P. & Gaine, T. & Mahanty, S. & Mitra, S. & Bhattacharyya, S. & Chaudhuri, P. (2022). Impact of COVID-19 lockdown on the elemental profile of PM 10 present in the ambient aerosol of an educational institute in Kolkata, India. *Environmental Quality Management*. 10.1002/tqem.21862.
- Islam, M. M., Bhattacharya, R., Sarkar, B., Maiti, P. K., Mahanty, S., **Chaudhuri, P.**, ... & Mandal, S. (2022). Different soil salinity imparts clear alteration in rhizospheric bacterial community dynamics in rice and peanut. *Archives of Microbiology*, 204(1), 1-17.
- Ghosh, S., Bakshi, M., Mahanty, S., & **Chaudhuri, P.** (2022). Assessment of role of rhizosphere process in bioaccumulation of heavy metals in fine nutritive roots of riparian mangrove species in river Hooghly: Implications to global anthropogenic environmental changes. *Marine pollution bulletin*, 174, 113157.
- Naskar, N., Gangopadhyay, K., Lahiri, S., **Chaudhuri, P.**, Sharma, R., Kumar, P., ... & Ghosh, A. (2021). New AMS 14C dates of a multicultural archaeological site from the paleo-deltaic region of west Bengal, India: cultural and geo-archaeological implications. *Radiocarbon*, 1-11.
- Gaine, T., Tudu, P., Ghosh, S., Mahanty, S., Bakshi, M., Naskar, N., ... & **Chaudhuri, P.** (2021). Differentiating Wild and Apiary Honey by Elemental Profiling: a Case Study from Mangroves of Indian Sundarban. *Biological Trace Element Research*, 1-20.
- Ghosh, S., Bakshi, M., Mahanty, S., & **Chaudhuri, P.** (2021). Understanding potentially toxic metal (PTM) induced biotic response in two riparian mangrove species *Sonneratia caseolaris* and *Avicennia officinalis* along river Hooghly, India: Implications for sustainable sediment quality management. *Marine Environmental Research*, 172, 105486.
- Mahanty, S., Tudu, P., Ghosh, S., Chatterjee, S., Das, P., Bhattacharyya, S., Das, S., Acharya, K. & **Chaudhuri, P.** (2021). Chemometric study on the biochemical marker of the manglicolous fungi to illustrate its potentiality as a bio indicator for heavy metal pollution in Indian Sundarbans. *Marine Pollution Bulletin*, 173, 113017.

- Ghosh, S., Das, R., Bakshi, M., Mahanty, S., & **Chaudhuri, P.** (2021). Potentially toxic element and microplastic contamination in the river Hooghly: Implications to better water quality management. *Journal of Earth System Science*, 130(4): 1-16.
- Ghosh, S., Bakshi, M., Mahanty, S., & **Chaudhuri, P.** (2021). Assessment of Human Induced Potentially Toxic Metal Aggregation and Decadal Change in Sediment Quality of River Hooghly: Implications to the Usage of Pneumatophores as a Potential Bio-indicator and Phytoremediator. *Water, Air, & Soil Pollution*, 232(10), 399. <https://doi.org/10.1007/s11270-021-05357-z>
- Bakshi, M., Ghosh, S., Mahanty, S., Gaine, T. & **Chaudhuri, P.** (2021). Ecotoxicological response of potentially toxic metal (PTM) pollution in estuarine mangrove habitat of Indian Sundarban. *Journal of Earth System Science*, 130(3): 1-18.
- Ghosh, S., Bakshi, M., Mahanty, S., Gaine, T., Bhattacharyya, S., Biswas, J. K., & **Chaudhuri, P.** (2021). Spatiotemporal distribution of potentially toxic elements in the lower Gangetic delta and their implications for non-carcinogenic health risk management. *Geoscience Letters*, 8(1): 1-14.
- Chaudhuri, A., Bhattacharyya, S., **Chaudhuri, P.**, Sudarshan, M., & Mukherjee, S. (2020). In vitro deterioration study of concrete and marble by *Aspergillus tamarii*. *Journal of Building Engineering*, 32, 101774.
- Mahanty, S., Chatterjee, S., Ghosh, S., Tudu, P., Gaine, T., Bakshi, M., Das, S., Das, P., Bhattacharyya, S., Bandyopadhyay, S., & **Chaudhuri, P.** (2020). Synergistic approach towards the sustainable management of heavy metals in wastewater using mycosynthesized iron oxide nanoparticles: Biofabrication, adsorptive dynamics and chemometric modeling study. *Journal of Water Process Engineering*, 37: 101426. <https://doi.org/https://doi.org/10.1016/j.jwpe.2020.101426>
- Dey, S., Mahanty, S., Saha, A., Kumar, P., Saha, R., Kar, C., **Chaudhuri, P.**, & Sukul, P. K. (2020). Bio-inspired perylene diimide coated super paramagnetic nanoparticles for the effective and efficient removal of lead (ii) from aqueous medium. *Materials Advances*, 1(6): 1817-1828.
- Naskar, N., Lahiri, S., Mitra, S., & **Chaudhuri, P.** (2020). Radiogenic quality assessment of ground and riverine water samples collected from Indian Sundarbans. *Environmental Research*, 109407.
- Chatterjee, S., Mahanty, S., Das, P., **Chaudhuri, P.**, & Das, S. (2020). Biofabrication of iron oxide nanoparticles using manglicolous fungus *Aspergillus niger* BSC-1 and removal of Cr (VI) from aqueous solution. *Chemical Engineering Journal*, 385, 123790.
- Ghosh, S., Bakshi, M., Gupta, K., Mahanty, S., Bhattacharyya, S., & **Chaudhuri, P.** (2020). A preliminary study on upstream migration of mangroves in response to changing environment along River Hooghly, India. *Marine Pollution Bulletin*, 151, 110840.
- Gupta, M., Mondal, S., Chakraborty, H., & **Chaudhuri, P.** (2020). Nature of spatial heterogeneity of the coastal, marine ecoregions along the eastern coast of India. *Journal of Earth System Science*, 129(1), 1-12.
- Chaudhuri, A., Basu, C., Bhattacharyya, S., & **Chaudhuri, P.** (2020). Development of health risk rating scale for indoor airborne fungal exposure. *Archives of Environmental & Occupational Health*, 75(7), 375-383.
- Banerjee, A., Biswas, J. K., Pant, D., Sarkar, B., **Chaudhuri, P.**, Rai, M., & Meers, E. (2019). Enteric bacteria from the earthworm (*Metaphire posthuma*) promote plant growth and remediate toxic trace elements. *Journal of environmental management*, 250, 109530.
- Naskar, N., Lahiri, S., & **Chaudhuri, P.** (2019). Quantitative estimation of total potassium and 40 K in surface soil samples of Indian Sundarbans. *Journal of Radioanalytical and Nuclear Chemistry*, 1-7.
- Naskar, N., Lahiri, S., & **Chaudhuri, P.** (2019) Estimation of radiological indices in Indian Sundarbans – a mangrove habitat, *Journal of Radioanalytical and Nuclear Chemistry*, (JRNC-D-19-00335R1)
- Mahanty, S., Bakshi, M., Ghosh, S., Chatterjee, S., Bhattacharyya, S., Das, P., Das, S. and **Chaudhuri, P.** (2019). Green Synthesis of Iron Oxide Nanoparticles Mediated by Filamentous Fungi Isolated from Sundarban Mangrove Ecosystem, India. *BioNanoScience*, 1-15.
- Sarkar, S., Mukherjee, A., Parvin, R., Das, S., Roy, U., Ghosh, S., **Chaudhuri, P.**, & Gachhui, R. (2019). Removal of Pb (II), As (III), and Cr (VI) by nitrogen-starved *Papiliotrema laurentii* strain RY1. *Journal of basic microbiology*, 59(10): 1016-1030.
- Jindal, A., Juneja, S., Bakshi, M., **Chaudhuri, P.**, & Bhattacharya, J. (2019). Mesoporous zinc silicate bio-composite: Preparation, characterization and in vitro evaluation. *Microporous and Mesoporous Materials*, 277, 124-131.

- Das, P., Mahanty, S., Ganguli, A., Das, P., & **Chaudhuri, P.** (2019). Role of Manglicolous fungi isolated from Indian Sunderban mangrove forest for the treatment of metal containing solution: Batch and optimization using response surface methodology. *Environmental Technology & Innovation*, 13, 166-178.
- Sarkar, S., Mukherjee, A., Parvin, R., Das, S., Roy, U., Ghosh, S., **Chaudhuri, P.**, & Gachhui, R. (2019). Removal of Pb (II), As (III), and Cr (VI) by nitrogen-starved *Papiliotrema laurentii* strain RY1. *Journal of basic microbiology*, 59(10): 1016-1030.
- Bakshi, M., Ghosh, S., Ram, S. S., Sudarshan, M., Chakraborty, A., Biswas, J. K. & **Chaudhuri, P.** (2018). Sediment quality, elemental bioaccumulation and antimicrobial properties of mangroves of Indian Sundarban. *Environmental geochemistry and health*, 1-22.
- Ghosh, S., Bakshi, M., Mitra, S., Mahanty, S., Ram, S. S., Banerjee, S., & **Chaudhuri, P.** (2019). Elemental geochemistry in acid sulphate soils—A case study from reclaimed islands of Indian Sundarban. *Marine pollution bulletin*, 138, 501-510.
- Majumdar, A., Barla, A., Upadhyay, M. K., Ghosh, D., **Chaudhuri, P.**, Srivastava, S., & Bose, S. (2018). Vermiremediation of metal (loid) s via *Eichornia crassipes* phytomass extraction: A sustainable technique for plant amelioration. *Journal of environmental management*, 220: 118-125.
- Bakshi, M., Ghosh, S., Chakraborty, D., Hazra, S., & **Chaudhuri, P.** (2018). Assessment of potentially toxic metal (PTM) pollution in mangrove habitats using biochemical markers: A case study on *Avicennia officinalis* L. in and around Sundarban, India. *Marine Pollution Bulletin*, 133: 157-172.
- Naskar, N., Lahiri, S., & **Chaudhuri, P.** (2018). Anomalies in quantitative measurement of ⁴⁰K in natural samples. *Journal of Radioanalytical and Nuclear Chemistry*, 1-7.
- Chakraborty, V., Sengupta, S., **Chaudhuri, P.**, & Das, P. (2018). Assessment on removal efficiency of chromium by the isolated manglicolous fungi from Indian Sundarban mangrove forest: Removal and optimization using response surface methodology. *Environmental Technology & Innovation*, 10, 335-344.
- Biswas, J. K., Mondal, M., Rinklebe, J., Sarkar, S. K., **Chaudhuri, P.**, Rai, M., ... & Rizwan, M. (2017). Multi-metal resistance and plant growth promotion potential of a wastewater bacterium *Pseudomonas aeruginosa* and its synergistic benefits. *Environmental Geochemistry and Health*, 1-11.
- Naskar, N., Lahiri, S., **Chaudhuri, P.**, & Srivastava, A. (2017). Measurement of naturally occurring radioactive materials, ²³⁸U and ²³²Th-part 3: is efficiency calibration necessary for quantitative measurement of ultra-low level NORM?. *Journal of Radioanalytical and Nuclear Chemistry*, 314(1), 507-511.
- Bakshi, M., Ram, S. S., Ghosh, S., Chakraborty, A., Sudarshan, M., & **Chaudhuri, P.** (2017). Micro-spatial variation of elemental distribution in estuarine sediment and their accumulation in mangroves of Indian Sundarban. *Environmental monitoring and assessment*, 189(5): 221.
- Naskar, N., Lahiri, S., **Chaudhuri, P.**, & Srivastava, A. (2017). Measurement of naturally occurring radioactive materials, ²³⁸U and ²³²Th-part 3: is efficiency calibration necessary for quantitative measurement of ultra-low level NORM?. *Journal of Radioanalytical and Nuclear Chemistry*, 314(1), 507-511.

Book Chapters:

- Reeves, A., **Chaudhuri, P.** & Chakraborty, S. (2021). Fate and consequences of microplastics in the environment and their impact on biological organisms. In *Microbial Biodegradation and Bioremediation Techniques and Case Studies for Environmental Pollution*, Das S. & Dash, H.R. Chapter 4. Elsevier.
- Chaudhuri, P.**, & Bhattacharyya, S. (2021). Chapter3 - Impact of Covid-19 lockdown on the socioenvironmental scenario of Indian Sundarban. In A. L. Ramanathan, C. Sabarathinam, F. Arriola, M. V. Prasanna, P. Kumar, & M. P. Jonathan (Eds.), *Environmental Resilience and Transformation in Times of COVID-19* (pp. 25-36): Elsevier.
- Chaudhuri, P.**, & Bhattacharyya, S. (2021). Impact of Covid-19 lockdown on the socioenvironmental scenario of Indian Sundarban. In *Environmental Resilience and Transformation in Times of COVID-19* (pp. 25-36). Elsevier.
- Chaudhuri, S., **Chaudhuri, P.**, & Ghosh, R. (2020). The Impact of Embankments on the Geomorphic and Ecological Evolution of the Deltaic Landscape of the Indo-Bangladesh Sundarbans. In *River Deltas-Recent Advances*. IntechOpen.
- Chaudhuri, P.**, Chaudhuri, S., & Ghosh, R. (2019). The Role of Mangroves in Coastal and Estuarine Sedimentary Accretion in Southeast Asia. In *Sedimentation Engineering* (Ed. A. Amini). Intech Open. (ISBN: 978-1-78923-003-1) pp. 1-23.
- Biswas, J.K., **Chaudhuri, P.** (2018) State-of-the-art of living technologies for wastewater treatment: Ecotech approaches banking on Nature's library, In *Sustainable management of aquatic resources (Part II)* (Eds.

- B.K.Mahapatra, N.C.Roy and N.C.Pramanik), Narendra Publishing House, New Delhi, (ISBN 978-93-87590-11-3) pp.637-656
- Bakshi,M., S. Mahanty,S., **Chaudhuri, P.** (2017)Fungi mediated biosynthesis of nanoparticles and application in metal sequestration, In Handbook of Metal-Microbe Interactions and Bioremediation (Eds. S. Das and H.R. Dash), CRC Press, Taylor & Francis Group, NY, (ISBN 9781498762427) pp. 423-434.
- Chaudhuri, P., **Chaudhuri, P.**(2016) Application of Nanobiotechnology for Environmental Sustainability, In Recent Biotechnological Applications In India (Eds. S.C.Santra and A.Mallick), ENVIS Centre on Environmental Biotechnology, Department of Environmental Science, University of Kalyani, 156-173 (ISBN: 978 9i 5254 907 8) pp. 156-173
- Ghosh S, Bakshi M, **Chaudhuri P.** (2016) Migration of Mangroves as an indicator of climate change in Hooghly Estuary .in Climate and Society-A Contemporary Perspective (Eds. A. Haldar and L.N. Satpati) published by Dept. of Geography, University of Calcutta, Kolkata, India. (ISBN : 978-81-923448-0-5) pp. 9-20.
- Chaudhuri, P.**(2015) Mangrove ecosystems: present threats and potential sustainable uses, In Resource Use, Development and Environment: Interfaces and Implications (Ed. R.S. Sing) YS Books International, New Delhi, p. 299-326 (ISBN 93-83793-16-3) pp. 299-326.
- Bhattacharyya, S., Chaudhuri P., **Chaudhuri P.**,(2014) Bioremediation: Potential Area of Arsenic Removal, In Arsenic in groundwater: complexities and challenges ahead in West Bengal (ed A. Das), Shilpa Nagari Prakashani, Berhampur, Murshidabad, p. 176-187 (ISBN NO: 978-81-924432-07) pp.176-187
- Sengupta, C, **Chaudhuri, P.**, (2013) Utilization of organic compost: a tool for mitigating soil salinity In Soil Microbiology and Biotechnology (Ed. M. Miransari), Studium Press LLC, U.S.A. ISBN : 1-62699-014-X, pp. 143-198.
- Chaudhuri, P.**, Bakshi, M, (2013) Application of Geoinformatics in evaluating the effect of climate change on coastal forest, In Ecosystems and Climate Change (Eds. T. Mishra and S. Banerjee) Aavishkar Publishers, Jaypur (ISBN: 9788179104255) pp.139-155.

Technical Report:


- Dutta, S., Md. Rahman, H., **Chaudhuri, P.**, et al. (2018) Future Perspective of Environmental Biotechnology, CPCB sponsored Training program, The Energy and Resources Institute, New Delhi.

Book:

- Chaudhuri, P.** and Santra, S.C. (2013). *Mangrove Fungi of India*. Vedams eBooks (P) Ltd (New Delhi, India). ISBN 10: 8121107695 / ISBN 13: 9788121107693
- Sen, S., **Chaudhuri, P.**, Goswami, B., Satpati, L.N. (2017) Combating Environmental Hazards and Disasters: Issues and Approaches, University of Calcutta, ISBN 978-93-5268-753-4.

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