



1. **Name:** Piyal Bhattacharya
2. **Designation:** State Aided College Teacher
3. **Department:** Environmental Science
4. **Date of joining:** 1st September, 2008
5. **Contact Address:** 56 Q, Banerjee Para Road, Kolkata: 700 041
6. **Email:** piyal@kpcoll.ac.in

7. **Academic Qualifications:**

Degree	Stream	College / University	Year of Passing
Ph.D.	Environmental Science	Department of Environmental Science, University of Kalyani	2011
M.Sc.	Environmental Science	Department of Environmental Science, University of Kalyani	2005
B.Sc.	Chemistry	St. Xavier's College, Kolkata (University of Calcutta)	2003

8. **Professional Membership:**

- I. Life Member of 'International Society for Fluoride Research'
- II. Life Member of 'Indian Science Congress Association'

9. **Total Experience:**

- 9A) **Teaching Experience:** 14 Y
- 9B) **Industry Experience:** NIL
- 9C) **Research Experience:** 16 Y

10. **Experience Details:**

Completed West Bengal Government sponsored research project entitled “*A Comprehensive Investigation on Arsenic Flow in Rice Ecosystem in Arsenic Affected District of West Bengal with A View to Develop Strategies for Selection of Appropriate Cultivable Rice Varieties*” from 2006 to 2008. Ph.D. research topic was “*Studies on Arsenic Bioaccumulation on Rice System and Its Possible Consequences*” under the supervision of Prof. S. C. Santra from the Department of Environmental Science, University of Kalyani, West Bengal during 2007– 2011. UGC Minor Research Project completed (Period: 21.08.2014–20.08.2016; Total Grant: Rs. 4,10,000.00; Sanction Number: F. PSW-198/13-14) entitled “*Studies on pollution dynamics and possible risk of bioaccumulation of heavy metals in biota including seasonal migratory birds of Mathura oxbow lake, West Bengal*”. DST–SERB Young Scientist (Start-Up Research) project entitled “*Fluoride Enrichment in Agricultural Soils with Potential Impacts on Rice and other Crops, and Vegetables Cultivated in Lateritic Zones of West Bengal, India*”

completed. (Period: 15.12.2015–14.03.2019; Total Grant: Rs. 12,36,000.00; Sanction Number: YSS/2015/000454).

11. **Area of Research:** Arsenic and Fluoride contamination in different environmental components and their accumulation in cultivated crops, especially rice, pluses and vegetables

12. **Publications:**

12 A) Number of Publication in International Journal:	20
12 B) Number of Publication in National Journal:	02
12C) Number of Publication in International Conference Proceedings:	02
12D) Number of Publication in National Conference Proceedings:	02
12e) Number of Books / Books chapters:	10

13) **List of Publication:**

13A) **International Journal:**

Author(s)	Title of the Paper	Details of Journal or Conference	Publisher
J Roy, AC Samal, JP Maity, Piyal Bhattacharya, A Mallick, SC Santra	Distribution of heavy metals in the sediments of Hooghly, Jalangi and Churni river in the regions of Murshidabad and Nadia districts of West Bengal, India	International Journal of Experimental Research and Review (ISSN: 2455-4855) (Citation: 1)	International Academic Publishing House
AC Samal, Piyal Bhattacharya, P Biswas Maity, J Bundschuh, SC Santra	Variety-specific arsenic accumulation in 44 different rice cultivars (<i>O. sativa</i> L.) and human health risks due to co-exposure of arsenic-contaminated and drinking water	Journal of Hazardous Materials, (ISSN: 0304-3894) (Impact Factor: 10.588 ; Citation: 37)	Elsevier
Piyal Bhattacharya, S Adhikari, AC Samal, R Das, A Deb, et al.	Health risk assessment of co-occurrence of toxic fluoride and arsenic in groundwater of Dharmanagar region, North Tripura (India)	Groundwater for Sustainable Development, (ISSN: 2352-801X) (Citation: 51)	Elsevier
Piyal Bhattacharya and AC Samal	Fluoride contamination in groundwater cultivated foodstuffs of India and its associated health risks: A review	Research Journal of Recent Sciences (ISSN: 2277-2502) (Citation: 42)	International Science Community Association
Piyal Bhattacharya, AC Samal, S Banerjee, J Pyne, SC Santra	Assessment of potential health risk of fluoride consumption through rice, pulses and vegetables in addition to consumption of fluoride-contaminated drinking water of West Bengal, India	Environmental Science and Pollution Research, Springer (ISSN: 0944-1344) (Impact Factor: 2.741)	Springer International Publishing
Piyal Bhattacharya	Assessment of arsenic accumulation by different varieties of rice (<i>Oryza sativa</i> L.) irrigated with arsenic-contaminated groundwater in West Bengal (India)	Environmental Pollution and Protection (ISSN: 2519-1063)	Isaac Scientific Publishing Company
Piyal Bhattacharya, AC Samal, T Bhattacharya, SC Santra	Sequential extraction for the speciation of trace heavy metals in Hooghly River sediments, India	International Journal of Experimental Research and Review (ISSN: 2455-4855) (Citation: 1)	International Academic Publishing House
AC Samal, Piyal Bhattacharya, A Mallick,	A study to investigate fluoride contamination and fluoride exposure	Environmental Science and Pollution Research, Springer (ISSN: 0944-1344)	Springer International Publishing

MM Ali, J Pyne, SC Santra	dose assessment in lateritic zones of West Bengal, India	(Impact Factor: 2.741; Citation: 11)	
Piyal Bhattacharya	Transfer of heavy metals from lake water to biota: a potential threat to migratory birds of Mathura Lake, West Bengal, India	International Journal of Experimental Research and Review (ISSN: 2455-4855)	International Academic Publishing House
Piyal Bhattacharya	A review on the impacts of microplastic beads used in cosmetics	Acta Biomedica Scientia (ISSN: 2348-2168) (Citation: 1)	Memed International
Piyal Bhattacharya, AC Samal, J Majumdar, S Banerjee, SC Santra	In vitro assessment on the impact of soil arsenic in the eight rice varieties of West Bengal, India	Journal of Hazardous Materials, Elsevier (ISSN: 0304-3894) 262:1091-1097. (Impact Factor: 6.065; Citation: 25)	Elsevier B.V.
SC Santra, AC Samal, Piyal Bhattacharya, S Banerjee, A Biswas, J Majumdar	Arsenic in food chain and community health risk: A study in Gangetic West Bengal	Procedia Environmental Sciences, Elsevier (ISSN: 1878-0296) 18:2-13. (Citation: 49)	Elsevier B.V.
S Banerjee, J Majumdar, AC Samal, Piyal Bhattacharya, SC Santra	Biotransformation and bioaccumulation of arsenic by <i>Brevibacillus brevis</i> isolated from arsenic contaminated region of West Bengal	IOSR Journal of Environmental Science Toxicology and Food Technology (ISSN: 2319-2399) 3(1):1-10. (Citation: 18)	International Organization of Scientific Research
AC Samal, S Kar, Piyal Bhattacharya, SC Santra	Human exposure to arsenic through foodstuffs cultivated using arsenic contaminated groundwater in areas West Bengal, India	Journal of Environmental Science and Health, Part A, Taylor & Francis (ISSN: 1093-4529) 46(11):1259-1265. (Impact Factor: 1.164; Citation: 44)	Taylor & Francis Group
T Bhattacharya, S Chakraborty, F Bhumika, Piyal Bhattacharya	Heavy metal concentrations in street and leaf deposited dust in Anand city, India	Research Journal of Chemical Sciences (ISSN: 2231-606X) 1(5):61-66. (Citation: 37)	International Science Community Association
P Bhattacharya, AC Samal, J Majumdar, SC Santra	Arsenic contamination in rice, wheat, pulses and vegetables: A study in an arsenic affected area of West Bengal, India	Water Air and Soil Pollution, Springer (ISSN: 0049-6979) 213:3-13. (Impact Factor: 1.702; Citation: 123)	Springer International Publishing
P Bhattacharya, AC Samal, J Majumdar, SC Santra	Accumulation of arsenic and its distribution in rice plant (<i>Oryza sativa</i> L.) in Gangetic West Bengal, India	Paddy and Water Environment, Springer (ISSN: 1611-2490) 8(1):63-70. (Impact Factor: 0.916; Citation: 92)	Springer International Publishing
P Bhattacharya, AC Samal, J Majumdar, SC Santra	Uptake of arsenic in rice plant varieties cultivated with arsenic rich groundwater	Environment Asia (ISSN: 1906-1714) 3(2):34-37. (Citation: 19)	Thai Society of Higher Education Institutes on Environment
P Bhattacharya, AC Samal, J Majumdar, SC Santra	Transfer of arsenic from groundwater and paddy soil to rice plant (<i>Oryza sativa</i> L.): A micro level study in West Bengal, India	World Journal of Agricultural Sciences (ISSN: 1817-3047) 5(4):425-431. (Citation: 56)	International Digital Organization for Scientific Information

13B) National Journal:

Author(s)	Title of the Paper	Details of Journal or Confer	Publisher
AC Samal, Piyal Bhattacharya, S Banerjee, J Majumdar, SC Santra	Distribution of arsenic in the estuarine ec of Nayachar Island, West Bengal, India	Earth Science India (ISSN: 0974-8356(II):70-76.	The Society of Earth Scientists

AC Samal, S Kar, Piyal Bhattacharya , SC Santra	Arsenic toxicity in Bengal delta and its management strategies	Environica 5(1):151–182	University of Burdwan
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13C) **International Conference:**

Author(s)	Title of the Paper	Details of Conference	Publisher
Piyal Bhattacharya	A study to investigate the importance of oxbow lake in West Bengal, India	International Conference on Chemical, Biological and Environment Sciences ICCBES'2014 (ISBN: 978938446810-1), Pattaya, Thailand (Citation: 1)	ICCBES
Piyal Bhattacharya , AC Samal, SC Santra	Dynamics of arsenic phytotoxicity in rice varieties of Gangetic Bengal, India	Indo-Australian workshop on Arsenic, Jawaharlal Nehru University, New Delhi, p 80–82	Jawaharlal Nehru University

13D) **National Conference:**

Author(s)	Title of the Paper	Details of Conference	Publisher
Piyal Bhattacharya	Analysis of fluoride distribution and community health risk in Purulia district of West Bengal, India	9 th National Level Science Symposium (ISBN: 9788192952123), Christ College, Rajkote, India pp 88–92. (Citation: 1)	Christ College, Rajkot, India
Piyal Bhattacharya , AC Samal, J Majumdar, S Banerjee, SC Santra	Arsenic toxicity in four different varieties of rice (<i>Oryza sativa</i> L.) of West Bengal, India	UGC sponsored national seminar on Advances in Environmental Science and Technology, Vivekananda College, Kolkata, p 99–105. (Citation: 1)	Vivekananda College

13E) **Book/ Book chapters:**

Author(s)	Title of the Book/Book Chapter	Publisher
JP Maity, Piyal Bhattacharya , AC Samal	An overview of environmental impact assessment (EIA)	DESKU EIACP PC RP Newsletter on Environmental Biotechnology (ISSN: 0974–2476)
Piyal Bhattacharya	Role of Environmental organizations in world politics. In: B Chakraborty, D Nandy (eds) Role of International Organizations in World Politics.	Blue Roan Publishing, India (ISBN: 9788194187493)
AC Samal and Piyal Bhattacharya	Biotechnology policy in India. In: SC Santra, A Mallick (eds) Progress Biotechnology in India.	ENVIS Centre on Environmental Biotechnology, University of Kalyani, West Bengal, India (ISBN: 978-93-5267-783-2) p 190–215
Piyal Bhattacharya , AC Samal, SC Santra	A greenhouse pot experiment to study arsenic accumulation in rice varieties selected from Gangetic Bengal, India. In: AL Ramanathan, S Johnston, Mukherjee, B Nath (eds) Safe and Sustainable use of Arsenic-Contaminated Aquifers in the Gangetic plain.	Springer International Publishing, Switzerland and Capital Publishing Company, India (ISBN: 978-33-19-16123-5), p 265–274.
Piyal Bhattacharya and AC Samal	Arsenic in rice and its possible mitigation strategies: A review. In: A D	Shilpa Nagari Prakashani, Berhampur

	(ed) Arsenic in groundwater: Complexities and challenges ahead in West Bengal.	(ISBN: 978-81-924432-07), p 188–206.
Piyal Bhattacharya and AC	A study to investigate the status of arsenic accumulation in rice, pulses and vegetables in arsenic affected areas of West Bengal, India. In: S Majumdar (ed) Contemporary Issues on Environment and Development in India and Adjacent Countries.	Sandhya Prakashani, Kolkata (ISBN: 978-81-928047-2-9), p 213–222.
Piyal Bhattacharya and SC S	Arsenic in rice	Lambert Academic Publishing, Germany (ISBN: 978-3-659-13000-7).
AC Samal, Piyal Bhattacharya , Santra, S Kar	Transfer of arsenic from contaminated groundwater and soils to crops and vegetables: A study in Gangetic delta of West Bengal, India. In: J Bundschuh, P Bhattacharya (eds) Arsenic in Geosphere and Human Health and Diseases.	Taylor and Francis, London (ISBN: 978-0-415-57898-1), p 197–199.
AC Samal, S Kar, P Bhattacharya , Santra	Assessment of potential health risk through arsenic flow in food chain—study in Gangetic delta of West Bengal. In: AL Ramanathan, P Bhattacharya, B Nepunac, T Dittmar, MBK Prasad (eds) Management and sustainable development of coastal zone environment.	Springer, Germany (ISBN: 978-90-481-3067-2), p 259–269.
AC Samal, P Bhattacharya , Santra	Soil bioremediation. In: CSK Mishra and P Champagne (eds) Biotechnology Applications.	IK International Publishing House, New Delhi (ISBN: 978-93-800-2629-9), p 333–358.

14. Sponsored Projects:

Sl. No.	Title	Agency	Period	Grant amount (Rs.)
1	Fluoride enrichment in agricultural soils with potential impacts on rice and other crops, and vegetables cultivated in lateritic zones of West Bengal, India (Sanction Number: YSS/2015/000454)	DST–SERB Scientist Research) Grant	Young (Start-Up 15.12.2015–14.03.2019)	12,36,000.00
2	Studies on pollution dynamics and possible risk of bioaccumulation of heavy metals in biota including seasonal migratory birds of Mathura oxbow lake, West Bengal (Sanction Number: F. PSW-198/13-14)	UGC Minor Research Project	21.08.2014–20.08.2016	4,10,000.00

15. **Number of M. Phil thesis guided:** NIL

16. **Number of Ph.D. thesis guided:** NIL

17. **Awards and Honours:** NIL

18. **Short term courses / Workshop organized:** NIL

19. **Short term courses/ Workshop attended (Minimum One week):** NIL

20. **Area of Specialization:** Environmental Process Monitoring and Management

21. **Additional academic or co- curricular activities undertaken:**

- Visiting Faculty of Department of Environmental Science, University of Kalyani, West Bengal

- Completed “Comprehensive Disaster Risk Management Framework” course jointly conducted by the Global Facility for Disaster Reduction and Recovery (The World Bank) and the National Institute of Disaster Management (Ministry of Home Affairs, Government of India) from 2nd June to 11th July, 2014.
- **Invited lectures:**
 1. ‘Fluoride Pollution in the Environment and Its Impacts on Human Health’ in the week long crash course on Understanding Environment organized by the Department of Environmental Science, S.R. Fatepuria College on 21-31 October, **2022**
 2. ‘Sources, Distribution, Impacts and Mitigation of Fluoride Pollution in West Bengal’ in an intra-departmental seminar organized by the Department of Microbiology, Kanchrapara College on 7th June, **2022**
 3. ‘Fluoride Pollution in the Environment: Health Impacts and Remediation’ in Lecture Session VII of Seven-Day International Webinar Series organized by Belda College, West Bengal on 28th June, **2020**
 4. “Present status and new threats from Arsenic and Fluoride contamination in West Bengal” in an intra-departmental seminar organized by the Department of Molecular Biology & Biotechnology, Kanchrapara College on 20th February, **2018**.
 5. “Present status and new threats from Arsenic contamination in West Bengal” in one day seminar on the occasion of release of the journal ‘*Review Sub-Continent*’, organized by Centre for Sub-Continental Studies on 26th January, **2015**.
 6. “Arsenic accumulation and its distribution in rice plants of West Bengal” in One Day seminar on “Water Pollution and Environment”, organized by Rishi Bankim Chandra College on 23rd April, **2014**.
 7. “Environment and Health” in NSS Winter Special Camp of Sudhiranjan Lahiri Mahavidyalaya on 19th January, **2013**.