

APURBA RATAN GHOSH



1. **Name** : Rtn. DR APURBA RATAN GHOSH
2. **Father's name** : Late Mahadeb Chandra Ghosh
3. **Caste** : General
4. **Address**
a) **Mailing address** : Dept. of Environmental Science
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5. **Present Designation** : **Professor**
Department of Environmental Science
The University of Burdwan, Burdwan-713104, WB
&
Ex- Director IQAC & Ex-Director
UGC-Academic Staff College (presently HRDC)
The University of Burdwan, Burdwan-713104, WB
Ex-Coordinator DST-FIST, GoI
6. **Nature of Appointment** : Permanent
7. **Date of Birth** : 24.11.1959
8. **Marital Status** : Married
9. **E-mail** : [apurbaghosh2010@gmail.com/](mailto:apurbaghosh2010@gmail.com) arghosh@envsc.buruniv.ac.in
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10. a. Educational Qualification:

- a) Bachelor of Science with Honors in Zoology passed in 1981 with High Second Class marks
b) Master of Science with special paper in Fish & Fisheries passed in 1985 (session 1981-1983) with First Class
c) Doctor of Philosophy in Science (Zoology) awarded in 1991

Thesis title: Arsenic and cadmium toxicity in the Alimentary canal and digestion of two Indian air-breathing teleosts *Notopterus notopterus* (Pallas) and *Heteropneustes fossilis* (Bloch)

d) Post Doctoral work on Toxicity of Cadmium and Arsenic on Ultrastructural level: SEM & TEM study

10.b. Professional Status

Sl. No	Name of Post	Employer	Last basic pay drawn with scale	Nature of assignment	Period with dates
1.	Asstt. Director	BU	2500/- pm (Fixed)	Ad-hoc	24.01.92-31.07.93
2.	Asstt. Director/ Lecturer	BU	2200-4000/- (Scale)	Lecturer	01.08.93-31.07.98
3.	Visiting Lecturer in Zoology	BU	Honorary	Guest Lecturer/ Part-time	18.09.1996 to 2004
4.	Asstt. Director/ Sr. Lecturer	BU	3000-5000/-	Sr. Lecturer	01.08.98-27.12.99
5.	Lecturer in Environmental Sc.	BU	8000-13,500/-	Permanent	28.12.99
6.	Asstt. Director (Hon)	BU	Honorary	(Addl. Charge)	28.12.99-07.02.00
7.	Sr. Lecturer in Environmental Sc.	BU	10,000-15,200/-	Sr. Lecturer	(contd. From 01.08.98)
8.	Dy. Director UGC-ASC	BU	Rs 1000/-	(Addl. Charge)	08.02.2000 to 2009
9.	Reader in Env. Sc.	BU	12,000-420-18,300/-	Permanent	01.08.02
10.	Guest Lecturer in Master of Business Administration	BU	Rs 100/- per lecture	Guest Lecturer	2003-2006
11.	Associate Professor in Env Sc.	BU	16,400-450-22,400/-	Permanent	1.08.2006
12.	Director (Professor) UGC-ASC	BU	16,400-450-22,400/- (unrevised)	Contractual (Full time)	31.12.09-31.12.12
13.	Professor – Env Sc.	BU	37,400-67,000/- (unrevised)	Permanent	01.07.2010
14.	Director-IQAC	BU	Honorary	Addln. Charge	2014 -2016
15.	Professor – Env Sc.	BU	37,400-67,000/- (unrevised)	Permanent	01.07.2010-contd.

11. Research Experience: Since 1986 till date (Total 35 years)

- a) One year on Hydrobiology and Limnology under the Ganga Action Plan Project
- b) Three years as Junior Research Fellow working on Heavy Metal Toxicity
- c) Two years as Senior Research Fellow on the same project
- d) Post Doctoral Works on Toxicity of Cadmium and Arsenic in Ultrastructural Level, SEM study & TEM study till date

12. a. Editor of National Journals

- a) Member of Board of Editors “Environment and Ecoplanning”
- b) Member of Board of Editors “Pollution Research”
- c) Member of Board Editor of “Journal of Environmental Biology”
- d) Referee of “The Western Journal of Research”
- e) Member of Board Editor of “International Journal of Environmental Sciences and Research”
- f) Member of Board Editor of “Fisheries Sciences”

b. Editor of News Letter

- i) Chief Editors: News Letter “ACADEMY”, Vol. 01 No. 01, 1997
- ii) Chief Editors: News Letter “ACADEMY”, Vol. 02 No. 01, 1998
- iii) Board of Editors: News Letter “ACADEMY”, Vol. 03 No. 01, 2002
- iv) Board of Editors: News Letter “ACADEMY”, Vol. 04 No. 01, 2004
- v) Board of Editors: News Letter “ACADEMY”, Vol. 05 No. 01, 2005
- vi) Board of Editors: News Letter “ACADEMY”, Vol. 06 No. 01, 2007
- vii) Board of Editors: News Letter “ACADEMY”, Vol. 07 No. 01, 2009

c. Editor: Books

- i) Education Environment and Society (1995)
- ii) Environment: Issues and Challenges Volume I (1999)
- iii) Environment: Issues and Challenges Volume II (2000)
- iv) Environment: Issues and Challenges Volume III (2010)
- v) *Paribesh Bidya* (book for UG studies) (2000)
- vi) *Paribeshvidya* (book for new syllabus of UG studies) (2012)

d. Author: Books (Chapters)

- i. Environmental Concerns, 2011; Agrobios (India); Editor Debabrata Das Gupta [ISBN No. (10): 81-7754-428-4; (13):978-81-7754-428-2]
- ii. Climate Change - Man and Environment, 2012; Editor Goutam Kumar Saha [ISBN No. 978-81-7035-771-1]

- iii. Food and Environmental Security – The Imperatives of Indigenous Knowledge Systems, 2013; Agrobios (India); Editor Debabrata Das Gupta [ISBN No. (13): 978-81-7754-509-8; (13):149-160]
- iv. Essential Concepts in Toxicology - Compendium for Pharmacy, Medical, Forensic and Veterinary Toxicology, 2013; PharmaMed Press (India) Editor Prof. Dr. P K Gupta [ISBN No. 978-81-7800-319-1]
- v. Herbicide Toxicity on Fish: Emphasis on Glyphosate & Almix, 2013; LAP LAMBERT Academic Publishing, Author [Tarakeshwar Senapati](#), [Apurba Ratan Ghosh](#) and [Palas Samanta](#), [ISBN-10: 365946418X, ISBN-13: 978-3659464188]
- vi. Indian Wetlands: Crisis & options; 2015 – Astral International Private Limited; Editor Prof. Goutam Kumar Saha [ISBN-978-93-5124-714-2]
- vii. Environmental Impact Assessment: A Case Study on East Kolkata Wetlands. Author A. R. Ghosh, S. Mondal, and D. Kole. Wastewater Management Through Aquaculture Editor B. B. Jana, R. N. Mandal and P. Jayasankar. [ISBN 978-981-10-7247-5 ISBN 978-981-10-7248-2] <https://doi.org/10.1007/978-981-10-7248-2>. Chapter 15
- viii. Laws and Regulations of Wastes and Wastewater: Indian Perspective. Author S. K. Sadhu and A. R. Ghosh. Wastewater Management Through Aquaculture Editor B. B. Jana, R. N. Mandal and P. Jayasankar. [ISBN 978-981-10-7247-5 ISBN 978-981-10-7248-2] <https://doi.org/10.1007/978-981-10-7248-2>. Chapter 16.
- ix. Dominative Activity On Social Media Of India And Bangladesh During COVID-19 : Evidence Of A Scalable Accuracy – Nose Invervention. Author: Sukhendu Dey, Sandipan Pal, Md. Yeamin Hossain, Tarakeshwar Senapati, Md. MONiruzzaman, Apurba Ratan Ghosh, Palas Samanta.[ISBN 978-620-4-19150-8]

e. Books Reviewed

1. Reviewer by McGraw-Hill Education (India) Pvt. Ltd. For the book “ECOLOGY” by Prof. M.C. Dash, 2007
2. Reviewer by Tata McGraw-Hill Education (India) Pvt. Ltd. For the book “Principles of Environmental Science: Inquiry and Applications” by W.P. Cunningham & M.A. Cunningham, 2008
3. Reviewer by Sarat Impressions Pvt. Ltd. (Levant Books). For the book “Elements of Green Chemistry with Laboratory Experiments” by A.K. Das, 2014

f. Journal Paper Reviewed

1. Manuscript No.: MRN/688, *Journal of Environmental Biology*, 2011

2. Manuscript No.: MRN/389, *Journal of Environmental Biology*, 2013
3. Manuscript ID: LRE-13-049, *Lakes & Reservoirs: Research and Management*, 2013
4. Paper ID: 1660137, *Open Journal of Soil Science*, 2013
5. Manuscript No.: MRN/543, *Journal of Environmental Biology*, 2013
6. Manuscript No.: MRN/364, *Journal of Environmental Biology*, 2013
7. Environmental Vulnerability to climate change and anthropogenic impacts in dryland, (Pilot study: Middle Draa Valley, South Morocco), *Journal of Earth Science & Climatic Change*, 2014
8. Manuscript No.: PJSRE-14-005, *Peak Journal of Scientific Research and Essays*, 2014
9. Manuscript Number: JJBS 8\14, *Jordan Journal of Biological Sciences*, 2014
10. Manuscript Number: JJBS 78\14, *Jordan Journal of Biological Sciences*, 2014
11. Manuscript Number: 2014_BJAST_13034, *British Journal of Applied Science & Technology*, August, 2014
12. Manuscript Number: 17118-37697-4-RV.DOCX 2014-08-01/17118, *Indian Journal of Fisheries*, August, 2014
13. Manuscript ID: LRE-13-049, *Lakes & Reservoirs: Research and Management*, 2014
14. Manuscript Number: 43771-102968-2-RV, *Indian Journal of Fisheries*, 2014
15. Manuscript Number: 26264-57643-2-RV. *Indian Journal of Fisheries*, 2014
16. Ecotoxicology and Environmental Safety, 2016. Elsevier
17. Aquatic Toxicology, 2016. Elsevier.

13. AWARDS RECEIVED

1. Enlisted as one of the young scientists by John Willy Co. in the Field of Heavy Metal Toxicity
2. Fellow of Zoological Society of India, FZSI, since 1995
3. 'Man of the Year' 2002 by ABI Board of International Research
4. Member of the Confederation of Indian Industry (CII), since 2002
5. Honorary Fellowship: Fellow of International Society for Ecological Communications (FISEC), since 2007
6. Best presentation award from International Conference, 2011, World Lake Conference, Texas University, Texas
7. INSA Visiting Fellowship of the year 2013
8. TIFR Awarded Fellowship for the year 2013-14
9. Panel Expert in the session PE03 and Oral presentation (PE03) in IUAES Conference, 2013

10. CWSS Gold Medal Award 2019 (Best Research Contribution) by **Crop and Weed Science Society** under the umbrella of Bidhan Chandra Krishi Viswavidyalaya (BCKV)

14. RESEARCH PUBLICATIONS

Year 1989

1. Chakraborti, P. and Ghosh, A.R. 1989. Studies of Dysenzymia in the liver, pancreas, and kidney of cadmium treated fish, *Heteropneustes fossilis* (Bloch). Zool. Jb. Anat. **119** (3/4): 251-264

Year 1990

2. Chakraborti, P. and Ghosh, A.R. 1990. Fine anatomical structures of the different regions of the alimentary canal of *Heteropneustes fossilis* (Bloch) as revealed by Scanning Electron Microscopy. Z. Mikrosk. Anat. Forsch. **104** (6S): S. 955-968
3. Chakraborti, P. and Ghosh, A.R. 1990. Effects of Cadmium poisoning on mucopolysaccharides and some cellular enzymes of the alimentary canal in *Heteropneustes fossilis* (Bloch): A Histochemical study. Proc. Nat. Symp. Impacts of environment on Animals and Aquaculture. 215-222
4. Ghosh, A.R. and Chakraborti, P. 1990. Toxicity of arsenic and cadmium to a fresh-water fish, *Notopterus notopterus*. Environment and Ecology. **8** (2): 576-579

Year 1991

5. Ghosh, A.R. and Mukherjee, A., and Chakraborty, P. 1991. Topological alterations in the mucosal surface of the alimentary canal of *Heteropneustes fossilis* (Bloch) during cadmium stress: A scanning electron microscopic study. Zool. Jb. Ant. **121**: 97-107
6. Ghosh, A.R. and Chakraborti, P. 1991. Effects of cadmium poisoning on some cellular enzymes in the stomach, intestine and intestinal caeca of *Notopterus notopterus* (Pallas): A Histochemical study. Proc. Nat. Symp. Freshwat. Aqua. 176-178
7. Ghosh, A.R. and Chakraborti, P. 1991. Arsenic induced topological alterations in the mucosal surface of stomach, intestine, intestinal caeca, and rectum of *Notopterus notopterus* (Pallas) and *Heteropneustes fossilis* (Bloch). Advances in Environmental Sciences and Technology. John Willey & Sons

Year 1992

8. Ghosh, A.R. and Chakraborti, P. 1992: A scanning electron microscopic probing into the cellular injury in the alimentary canal of *Notopterus notopterus* (Pallas) after cadmium intoxication. Ecotoxicology and Environmental Safety. **23**: 147-160

Year 1993

9. Chakraborti, P., Ghosh, A.R., and Mandal, D.K. 1993. A scanning electron microscopic examination of the mucosal epithelium of the alimentary canal of *Notopterus notopterus* (Pallas). Journal of Inland Fisheries Society of India. **25 (1)**: 7-15
10. Ghosh, A.R. and Chakraborti, P. 1993. Histopathological and histochemical changes in liver, pancreas and kidney of a freshwater teleost, *Heteropneustes fossilis* (Bloch) exposed to cadmium. Environment and Ecology. **11 (1)**: 185-188

Year 2001

11. Ghosh, A.R. and Chakraborti, P. 2001. Impacts of inorganic arsenic on mucosal surface of stomach, intestine and intestinal caeca of *notopterus notopterus* (pallas). Proceedings of the International Conference on Industrial Pollution and Control Technologies (ICIPACT). 469-473

Year 2004

12. Chakraborti, P. and Ghosh A.R. 2004. Cadmium induced alterations in the testes of freshwater teleost *Mystus vittatus* (Bloch) during growth maturation and spawning phases. Environment and Ecology. **22 (4)**: 763-768
13. Nagesh, T.S., Ghosh, A.R., Abraham, T.J., and Sasmal, D. 2004. Effect of physico-chemical parameters on epibiofouling in shrimp systems of West Bengal. Environment and Ecology. **22 (3)**: 621-627
14. Nagesh, T.S., and Ghosh, A.R. 2004. Influence of Physico-chemical parameters on soft-shelling in shrimp farming systems of West Bengal. Indian Journal of Environment and Ecoplanning. **8 (2)**: 123-128

Year 2005

15. Ghosh, A.R., Pal, S., and Mukherjee, A.K. 2005. Sustainability opportunity for potential aquaculture in OCPs as a post-mining land use for rural economic development in Raniganj Coalfield Areas. P.140-155. In: D. Khare, S. K. Mishra, S. K. Tripathi, G. Chauhan and N. Sharma (Ed) Recent advances in water resources development & management. Vol. I. Allied Publishers. New Delhi, India
16. Ghosh, A.R. and Chakraborti, P. 2005. Aquatic toxicology: Biological effects of heavy metals in fish. In: Environment Science and Thought. **2**: 40-49

Year 2006

17. Datta, S.K., Ghosh, A.R., and Kundu, R. 2006. Trade off between economic and environmental management of two fish production units in the Burdwan district of West Bengal. *Environment and Ecology*. **24 (1)**: 237-241
18. Ghosh, A.R., Chakraborti, P., and Pal, S. 2006. Impact of diesel oil effluent in the mucosal surface of the alimentary canal of *Oreochromis nilotica* (Linnaeus): A scanning electron microscopic study. *Journal of Environmental Biology*. **27 (1)**: 129-134
19. Some, N. and Ghosh. A.R. 2006. Role of edaphic factors and two heavy metals (zinc and copper) in the population fluctuation of soil arthropod fauna in areas adjacent to Tamla Nullah at Durgapur Industrial Complex. *Environment and Ecology*. **24 (4)**: 758- 764

Year 2007

20. Bhattacharyya, A., Ghosh, A.R., Dutta, K.L., Datta, J.K., and Mukherjee, A. 2007. An ancillary 'Ecosystem' in Kunustoria underground mine: A glimpse. *Journal of Ecobiology*. **20 (4)**: 391-396
21. Gupta, S., Ghosh, A.R., Bandyopadhyay, S. and Chowdhury, S. 2007. Temporal change detection of the predefined forest cover of Burdwan district, West Bengal, India. *GIS Development* (online). www.gisdevelopment
22. Datta, S. K., Ghosh, A. R. and Kundu, R. 2007. Improper sewage treatment and contingent valuation for its improvement of a fishery unit in Burdwan District, West Bengal. *Environment and Ecology*. **25S (2)**: 273-276
23. Ghosh, A.R., Pal, S., and Mukherjee, A.K. 2007. Chemical pollutants and its effects on fish physiology with special reference to accumulation, absorption and excretion. *Journal of Environment and Sociobiology*. **4 (1)**: 55-62

Year 2008

24. Sen, U. K. and Ghosh, A. R. 2008. Histological and ultramicroscopical alterations in the regions of gastrointestinal tract (GIT) of *Anabas testudineus* (Bloch) induced by cadmium chloride. *Pollution Research*. **27 (4)**: 699-703
25. Goswami, S., Dasgupta, M. and Ghosh. A.R. 2008. Fecundity of *Nandus nandus* (Hamilton) from the new alluvial zone of West Bengal. *Journal of Interacademia*. **12** : 8-18

26. Goswami, S., Dasgupta, M. and Ghosh. A.R. 2008. Length-weight relationship and condition factor of *Nandus nandus* (Hamilton) from the new Alluvial Zone of West Bengal. *Journal of Interacademia*. **12**: 24-35
27. Guha, R. and Ghosh, A. R. 2008. Distribution of arsenic concentrations in ground water in some villages of district Nadia, West Bengal. *Environment and Ecology*. **26 (1A)**: 407-410
28. Ghosh, A. R., Datta, K. Mukherjee, A., Pal, S. and Senapati, T. 2008. Impact of mining operation with special reference to water quality of Raniganj-Asansol Coal field areas. Accepted in the Proceedings of National Seminar, Talcher, Orissa
29. Satpati, S., Nayak, S., Ghosh, A. R. 2008. Effects of drain-off wastewater from sponge iron industry on water, sediment, aquatic macrophytes and plankton population of an opencast coal pit pond. *Indian J. of Environment and Ecoplanning*. **15 (3)**: 223-228

Year 2009

30. Nayak, S., Satpati, S., Ghosh, A. R. 2009. Impact of effluent of sponge iron industry on aquatic ecosystem with special emphasis on microanatomical alterations in gastrointestinal tract of *Channa punctatus* (Bloch). *The Bioscan*. **3 (1&2)**: 35-40
31. Senapati, T., Mukherjee, A. K., and Ghosh, A. R. 2009. Observation on the effect of glyphosate based herbicide on ultra structure (SEM) and enzymatic activity in different regions of alimentary canal and gill of *Channa punctatus* (Bloch). *Journal of Crop and weed*. **5 (1)**: 236-245

Year 2010

32. Bhowmick, A., Ghosh. A. R., Banerjee, R., Mukherjee, A.K., Pal, S., and Senapati, T. 2010. Remediation of cadmium toxicity caused by EDTA and *Eichhornia crassipes* in the different regions of the alimentary canal of *Anabas testudineus* (Bloch): A scanning electron microscopic study. *Asian Journal of Microbiology, Biotechnology and Environmental Sciences*. **12 (4)**: 835-843
33. Banerjee, R. and Ghosh, A. R. 2010. Occurrence of ground water arsenic contamination in rural areas of district Nadia, West Bengal. *Ecology, Environment and Conservation*. **16 (2)**: 221-227

34. Mukhopadhyay, S., Pal, S., Mukherjee, A.K., and Ghosh, A.R. 2010. Ambient air quality in open cast coal mining areas of Bankola area (Under Eastern Coal Field Ltd.) of Asansol- Ranigang Regions. *The Ecoscan*. **4 (1)**: 19-24
35. Bairagya, C.N. and Ghosh, A.R. 2010. Chandra hatchery bundh-come-hatching pool: A new technology for fish spawn production. *Fishing Chimes*. **30 (6)**: 7-12
36. Sarkar, R. and Ghosh, A.R. 2010. Metanil yellow a food additive, induces the responses at cellular and sub-cellular organizations of stomach, intestine, liver, and kidney of *Heteropneustes fossilis* (Bloch). *Pollution Research*. **29 (3)**: 453-460
37. Banerjee, R. and Ghosh, A.R. 2010. Evaluation of surface water quality using factor analysis and the status of phytoplankton diversity of Barakar and Damodar Rivers, W.B., India. *Pollution Research*. **29 (4)**: 697-705
38. Samanta, P., Senapati, T., Mukherjee, A. K., Mondal, S., Haque, S., and Ghosh, A. R. 2010. Effectiveness of almix in controlling aquatic weeds and fish growth and its consequent influence on water and sediment quality of a pond. *The Bioscan*. **3**: 691-700

Year 2011

39. Sarkar, R. and Ghosh A.R. 2011. Histochemical characterization of mucin in intestine and rectum of *Heteropneustes fossilis* (Bloch) induced by Metanil Yellow. *The Ecoscan*. **4 (4)**: 297-300
40. Ghosh, A.R. 2011. Toxicology: some fundamental aspects. In 'Environmental Concerns' edited by Debabrata Das Gupta, Publ. Agrobios., Jodhpur, India, ISBN No. (10) 81-7754-428-4, pp. 155-184

Year 2012

41. Senapati, T., Mukherjee, A. K. and Ghosh, A. R. 2012. Observations on the effect of almix 20 wp herbicide on ultrastructure (SEM) in different regions of alimentary canal of *Anabas Testudineus* (Cuvier). *International Journal of food, Agriculture and Veterinary Sciences*. **2 (1)**: 32-39
42. Pal, S., Kokushi, E., Koyama, J., Uno, S. and Ghosh, A.R. 2012. Histopathological alterations in gill, liver and kidney of common carp exposed to chlorpyrifos. *Journal of Environmental Science and Health, Part B: Pesticides, Food Contaminants, and Agricultural Waste*. **47 (3)**: 180-195

43. Ghosh, A.R. 2012: Coal mining and climate change: An environmental vista. In G.K. Saha (ed) Climate change – Man and environment. Daya Publishing House, New Delhi, India. pp. 56–64
44. Sarkar, R. and Ghosh, A.R. 2012. Metanil yellow - an azo dye induced histopathological and ultrastructural changes in albino rat (*Rattus norvegicus*). The Bioscan. **7 (1)**: 427-432
45. Sarkar, R. and Ghosh, A. R. 2012. Toxicological effect of Metanil Yellow on the testis of albino rat. International Journal of Basic and Applied of Medical Sciences. **2 (2)**: 40-42
46. Dutta, K. and Ghosh, A.R. 2012. Comparative study of physicochemical parameters and heavy metals of some groundwater sources from Sukinda valley region in Odisha. The Ecoscan. **1**: 155-160
47. Ghosh, A.R. and Banerjee, R. 2012. Qualitative evaluation of the Damodar river water flowing over the coal mines and industrial area. International Journal of Scientific and Research Publications. **2 (10)**: 1-6
48. Banerjee, R. and Ghosh, A.R. 2012. Industrial effluents and their impact on water quality of receiving river: a study on the Damodar river system in West Bengal. International Journal of Engineering & Science Research. **2 (7)**: 669-676
49. Banerjee, R. and Ghosh, A.R. 2012. Assessment of physicochemical attributes of river Damodar from Barakar its upstream zone to Burdwan the downstream zone. International Journal of Current Research. **4 (05)**: 026-031
50. Banerjee, R. and Ghosh, A.R. 2012. Evaluation of ecological characteristics of river Damodar adjacent to Asansol industrial complex, West Bengal. International Journal of Environmental Sciences. **2 (3)**: 1521-1530
51. Haque, S., Pal, S., Mukherjee, A.K. and Ghosh, A.R. 2012. Histopathological and ultramicroscopic changes induced by fluoride in soft tissue organs of the air-breathing teleost, *Channa punctatus* (Bloch). Fluoride. **43 (3 Pt 2)**: 263-273
52. Haque, S., Mondal, S. and Ghosh, A.R. 2012. Isolation and identification of diesel degrading microorganism from Barddhaman Loco Shed Pond, Burdwan, West Bengal, India. The Bioscan. **7 (4)**: 719-722

Year 2013

53. Dutta, K. and Ghosh, A.R. 2013. Limnological status and bioconcentration of some heavy metals in Damsal Nala of Sukinda Valley region in Odisha and consequent

- histopathological lesions observed in liver and kidney of air-breathing fish *Channa* sp. The Ecoscan. **3**: 191-197
54. Chatterjee, S., Chhatri, M., Mukherjee, A. K., Senapati, T. and Ghosh, A. R. 2013. Study of physicochemical conditions of discarded diesel contaminated Locoshed pond near Burdwan locomotives of Burdwan, West Bengal. International Journal of Environmental Sciences. **3** (5): 1446-1456
55. Samanta, P., Mukherjee, A. K., Pal, S., Senapati, T., Mondal, S. and Ghosh, A. R. 2013. Major ion chemistry and water quality assessment of waterbodies at Golapbag area under Barddhaman Municipality of Burdwan District, West Bengal, India. International Journal of Environmental Sciences. **3** (6): 1954-1972
56. Dutta, K. And Ghosh, A. R. 2013. Comparative Study on Limnological Parameters and Bioconcentrations of Heavy Metals in an Air-breathing Carnivorous Teleostean Fish, *Gaducia* sp. Of the Upstream and Downstream Regions of Damsal Nala in Sukinda Valley Region, Odisha. International Journal of Environmental Sciences. **3** (6): 1831-1840
57. Dutta, K. And Ghosh, A. R. 2013. Analysis of Physico-chemical Characteristics and Metals in Water Sources of Chromite Mining in Sukinda Valley, Odisha, India. Journal of Environmental Biology. **34** (4): 783-788
58. Mukherjee, A. K., Pal, S., Senapati, T. and Ghosh, A. R. 2013. Ecofriendly Technology for Pisciculture in Abandoned OCP – Lakes at RCF Areas, West Bengal, India. Agrobios (India): 149-160
59. Senapati, T., Samanta, P., Mondal, S. And Ghosh, A. R. 2013. Study on Histopathological, Histochemical and Enzymological Alterations in Stomach and Intestine of *Anabas Testudineus* (Cuvier) Exposed to Almix 20 WP Herbicide. International Journal of food, Agriculture and Veterinary Sciences. **3** (2): 100-111
60. Samanta, P., Pal, S., Mukherjee, A. K., Senapati, T. and Ghosh, A. R. 2013. Evaluation of Enzymatic Activities in Liver of Three Teleostean Fishes Exposed to Commercial Herbicide, Almix 20 WP. Proceedings of Zoological Society. DOI 10.1007/s12595-013-0086-z

61. Pal, S., Mukherjee, A. K., Senapati, T., Samanta, P., Mondal, S. and Ghosh, A. R. 2013. Surface Water Quality Assessment of Abandoned Opencast Coal Pit-Lakes in Raniganj Coalfields Area, India. *The Ecoscan. Special Issue Vol. IV*: 175-188

Year 2014

62. Pal, S., Mukherjee, A. K., Senapati, T., Samanta, P., Mondal, S. and Ghosh, A. R. 2014. Study on Littoral Zone Sediment Quality and Aquatic Macrophyte Diversity of Opencast Coal Pit-Lakes in Raniganj Coal Field, West Bengal, India. *International Journal of Environmental Sciences*. **4 (4)**: 575-588
63. Samanta, P., Pal, S., Mukherjee, A. K., Senapati, T. and Ghosh, A. R. 2014. Effects of Almix Herbicide on Metabolic Enzymes in Different Tissues of Three Teleostean Fishes *Anabas testudineus*, *Heteropneustes fossilis* and *Oreochromis niloticus*. *International Journal of Scientific Research in Environmental Sciences*. **2 (5)**: 156-163. <http://dx.doi.org/10.12983/ijres-2014-p0156-0163>
64. Samanta, P., Pal, S., Mukherjee, A. K. and Ghosh, A. R. 2014. Biochemical Effects of Glyphosate Based Herbicide, Excel Mera 71 on Enzyme Activities of Acetylcholinesterase (AChE), Lipid Peroxidation (LPO), Catalase (CAT), Glutathione-S-transferase (GST) and Protein Content on Teleostean Fishes. *Ecotoxicology and Environmental Safety*. **107**: 120–125
65. Samanta, P., Pal, S., Mukherjee, A. K. and Ghosh, A. R. 2014. Evaluation of Metabolic Enzymes in Response to Excel Mera 71, a Glyphosate-Based Herbicide, and Recovery Pattern in Freshwater Teleostean Fishes. *BioMed Research Interanational*. Volume 2014, Article ID 425159. <http://dx.doi.org/10.1155/2014/425159>
66. Samanta, P., Pal, S., Mukherjee, A. K., Senapati, T., Kole, D. and Ghosh, A. R. 2014. Effects of Almix Herbicide on Profile of Digestive Enzymes of Three Freshwater Teleostean Fishes in Rice Field Condition. *Toxicology Reports*. **1**: 379–384
67. Samanta, P., Pal, S., Mukherjee, A. K., Senapati, T., Kole, D. and Ghosh, A. R. 2014. Effects of Almix Herbicide on Alanine Aminotransferase (ALT), Aspartate Aminotransferase (AST) and Alkaline Phosphatase (ALP) of Three Teleostean Fishes in Rice Field Condition. *The Global Journal of Environmental Science & Research*. **1 (1)**: 1–9

68. Sarkar, R. and Ghosh, A. R. 2014. Scanning Electron Microscopic Study on the Changes in Tongue Papillae of Albino Rat (*Rattus norvegicus*) Induced by Metanil Yellow. *International Journal of food, Agriculture and Veterinary Sciences*. **4 (2)**: 35–42
69. Samanta, P., Pal, S., Mukherjee, A. K., Senapati, T. and Ghosh, A. R. 2014. Alterations in Digestive Enzymes of Three Freshwater Teleostean Fishes by Almix Herbicide: A Comparative Study. *Proceedings of Zoological Society*. DOI: 10.1007/s12595-014-0122-7
70. Mondal S., Mukherjee A.K., Senapati T., Haque S. and Ghosh A.R. 2014. Interrelationship between TOC, IC, TC and DO, BOD, COD of Water in Regard to Stratification of an Abandoned OCP at Raniganj Coal Field Area, Burdwan, West Bengal. *HydroMedit Conference Proceeding*. Volos, Greece, November 13-15, **25-29**
71. Samanta, P., Pal, S., Mukherjee, A. K., Senapati, T. and Ghosh, A. R. 2014. Biochemical Effects of Almix Herbicide in three Freshwater Teleostean Fishes. *HydroMedit Conference Proceeding*. Volos, Greece, November 13-15, **162-167**
72. Kole, D., Pal, S. Mukherjee, A. K., Samanta, P. and Ghosh, A. R., 2014. Effects of Chromium on Tissue-Specific Biochemical Parameters in Freshwater Catfish, *Anabas testudineus* (Bloch). *HydroMedit Conference Proceeding*. Volos, Greece, November 13-15, **168-174**
73. Kole, D., Samanta, P., Ghosh, A. R., Pal, S. and Mukherjee, A. K. 2014. Limnobiological Status of Hospital Waste-Fed Pond within the Burdwan Medical College and Hospital Premises at Burdwan Town, WB. *The Ecoscan*. **8 (1 & 2)**: 11–16
74. Shit, A. and Ghosh, A. R. 2014. Study on Length-Weight Relationship and Condition Factor of Four Species of Indian Major Carps from Ramsagar Town, Ramsagar, Bankura, West Bengal. *Environica*. **1**: 202–207

Year: 2015

75. Shit, A. and Ghosh, A. R. 2015. Influence of hardness and alkalinity on breeding Potentiality of indian major carps. *The Ecoscan*. **9(1&2)**: 43-47
76. Mondal, S., Mukherjee, A. K., Senapati, T., Pal, S., Haque, S. and Ghosh, A.R. 2015. Stratification and water quality of an abandoned opencast coal pit lake at Raniganj Coalfield Area, West Bengal, India. *Lakes and Reservoirs: Research and Management*. **20**: 1–16

77. Mondal, S., Kundu D., Haque, S., Senapati, T. and Ghosh, A.R. 2015. Seasonal Variation of Zooplankton Distribution In Sewage-Fed East Kolkata Wetland, West Bengal, India, Pollution Research. **34(2): 477-487.**

78. Samanta, P., Bandyopadhyay, N., Pal, S., Mukherjee, A.K and Ghosh, A.R. 2015. Histopathological and ultramicroscopical changes in gill, liver and kidney of *Anabas testudineus*(Bloch) after chronic intoxication of almix (metsulfuron methyl 10.1% pchlorimuron ethyl 10.1%) herbicide. Ecotoxicology and Environmental Safety. **122: 360-367.**

Year: 2016

79. Samanta, P., Mukherjee, A. K., Pal, S., Kole, D. and Ghosh, A. R. 2016. Toxic Effects of Glyphosate-Based herbicide, Excel Mera 71 on Gill, Liver and Kidney of *Heteropneustes fossilis* under Laboratory and Field Conditions. Journal of Microscopy and Ultrastructure. **4:147-155**

80. Sarkar R. and Ghosh A.R. 2016. Biochemical studies on the toxics of Metanil Yellow on Teleostean catfish *Heteropneustes fossilis* (Bloch). International Journal of Sciences and Applied Research **3(5):70-78**

81. Samanta, S., Pal S., Mukherjee, A.K., Senapati, T and Ghosh A.R. Effects of Almix Herbicide on histopathological and ultrastructural alterations in freshwater fish, *Heteropneustes fossilis*: A Comparative Study. Annals of Biological Research. **7 (2):24-32**

82. Samanta, P., Pal, S., Mukherjee, A. K., Senapati, T., Kole, D. and Ghosh, A. R. 2016. Effects of Almix ® Herbicide on Oxidative Stress Parameters in Three Freshwater Teleostean Fishes in Natural Condition. Biochemistry & Pharmacology: Open Access **5(3): 1-6.**

83. Samanta, S., Pal S., Mukherjee, A.K., Senapati, T and Ghosh A.R. 2016. Histopathological and Ultrastructural Alterations in *Anabas testudineus* Exposed to Glyphosate-Based Herbicide, Excel Mera 71 under Field and Laboratory Conditions. Journal of Aquaculture Research & Development. **7(7): 1-6**

84. Kole D., Mondal N.S. and Ghosh A.R. 2016. Comparative Assay of Different Doses of Arsenic Trioxide (As_2O_3) on *Channa punctatus* (Bloch) through Light and Scanning Electron Microscopic Observations. *Journal of Basic and Applied Engineering Research*. **3(10): 927-934**
85. Samanta, P., Pal, S., Mukherjee, A. K., Senapati, T., Kole, D. and Ghosh, A. R. 2016. Gastrointestinal Pathology in Freshwater Fish, *Oreochromis niloticus* (Linnaeus) under Almix Exposure. *Journal of Environmental and Analytical Toxicology*. **6(5): 1-6**
86. Khatun A., Pal S., Mukherjee A.K., Samanta P., Mondal S., Kole D, Chandra P and Ghosh A.R. 2016. Evaluation of metal contamination and phytoremediation potential of aquatic macrophytes of East Kolkata Wetlands, India. *Environmental Health and Toxicology*. **31:1-7**
86. Samanta, P., Pal, S., Mukherjee, A. K., and Ghosh, A. R. 2016. Pathological (Histological and Ultrastructural) Study in Stomach and Intestine of *Heteropneustes fossilis* (Bloch) to Excel Mera 71, a Glyphosate-Based Herbicide. *Journal of Gastrointestinal and Digestive System*. **6(6):1-6**.
87. Dey S., Samanta, P., Pal, S., Mukherjee, A. K., Kole, D. and Ghosh, A. R. 2016. Integrative assessment of biomarker responses in teleostean fishes exposed to glyphosate-based herbicide (Excel Mera 71). *Emerging Contaminants*. **Vol. 2, Issue 4, pp 191-203**
88. Banerjee R. and Ghosh A. R. 2016. Identification and Quantification of Aquatic Macrophytes with Ecological Indices in the Damodar River. *International Journal of Scientific Research in Science, Engineering and Technology*. **6(2): 275-281**
89. Banerjee R. and Ghosh A. R. 2016. Spatio-Temporal Analysis of Water Quality Trends in the Middle Stretch of the River Damodar. *International Journal of Scientific Research in Science and Technology*. **6(2): 191-198**.
90. Biswas, S. and Ghosh, A. R. 2016. Lead induced histological alteration in ovarian tissue of freshwater teleost *Mastacembelus pancalus* (Hamilton); *International Journal of Advances in Scientific Research*. **2(1):045-051**

Year: 2017

91. Samanta, P., Kumari, P., Pal, S., Mukherjee, A. K., and Ghosh, A. R. 2017. Histopathological and ultrastructural alterations in some organs of *Oreochromis niloticus* exposed to glyphosate-based herbicide, Excel Mera 71. In press.
92. Samanta, P., Pal, S., Mukherjee, A. K., Senapati, T., Jung, J., Ghosh, A. G. 2017. Multi-level Integrative Biomarker Responses in Freshwater Teleostean Fishes Exposed to Almix Herbicide. *International Journal of Environmental Research*. **11(4):475-487**
93. Kole D., Mondal S. and Ghosh A.R. 2017. Effects of Arsenic (III) and Chromium (VI) Toxicity on Digestive Enzymes' Activities of *Anabas testudineus* (Bloch). *Proceedings of the zoological society*. DOI 10.1007/s12595-017-0215-1.
94. Sarkar R., Ghosh A.R. 2017. Histopathological lesions in spleen of Metanil Yellow fed albino Rat (*Rattus norvegicus*). *International Journal of Scientific Research*, 6 (5); DOI 10.15373/22778179.
95. Biswas, S. and Ghosh, A. R. 2017. Zinc chloride ($ZnCl_2$) toxicity of Growth and Enzymatic activity in liver of freshwater teleost *Mastacembelus pancalus* (Hamilton). *Journal of Environmental Bio-Science*; **31(2):287-294**
96. Mukhopadhyay, S and Ghosh, A. R. 2017. Effects of Industrial air Pollution in some Biochemical Parameters of selected plants growing in Asanaol Sub-Divition, Paschim Bardhaman District, West Bengal, India. *Journal of Environmental Bio-Science*; **31(2):423-429**
97. Mukhopadhyay, S and Ghosh, A. R. 2017. Seasonal variations of ambient air quality parameters of some selected sites of Asansol subdivision under Asansol Durgapur Development Authority (ADDA), West Bengal, India. *Pollution Research*; **36(4):937-942**

Year: 2018

98. Pal, S., Samanta, P., Kole, D., Mukherjee, A.K., Ghosh, A. R. 2018. Acute Toxicity and Oxidative Stress Responses in Tadpole of Skittering Frog, *Euphlyctis cyanophlyctis* (Schneider, 1799) to Sodium Fluoride Exposure; *Bulletin of environmental contamination and toxicology*; **1-6**

99. Ghosh, A. R., Mondal, S. K., D. 2018. Environmental Impact Assessment: A Case Study on East Kolkata Wetlands; *Wastewater Management Through Aquaculture*, pp.285-303
100. Sadhu, S. K., and Ghosh, A. R. 2018. Law And Regulation of Wastes and Wastewater: Indian Perspective; *Wastewater Management Through Aquaculture*, pp.306--322
101. Dutta, K. and Ghosh, A. R. 2018. Contamination and Bioaccumulation of Heavy Metals in Water, Bottom Sediment and Two Teleostean Fish Species of Sukinda Valley, Odisha, India; *Environica, 3rd International Conference on Mother Earth: Environmental Crisis & Sustainable Strategies*, ISBN: 978-93-84106-97-3, 268-286
102. Mondal, S., Haque, S., Kundu, D., Dutta, D and Ghosh, A.R. 2018. Isolation and identification of phosphate-solubilizing microorganisms and distribution of orthophosphate in different seasons from sewage-fed East Kolkata Wetland. *Lakes and Reservoirs: Research and Management*. **23**: 261-270.
103. Samanta, P., Pal, S., Senapati, T., Mukherjee, A.K., Ghosh, A.R. 2018. Assessment of adverse outcome of Excel Mera 71 in *Anabas testudineus* by histological and ultrastructural alterations. *Aquatic Toxicology*. **205**: 19–24.
104. Samanta, P., Das, R., Pal, S., Mukherjee, A.K., Senapati, T., Kole, D., Ghosh, A.R. 2018. Toxicity assessment of agrochemical Almix in *Heteropneustes fossilis* through histopathological alterations. *Interdisciplinary toxicology*. **11(2)**: 138–147.

Year: 2019

105. Samanta, P., Pal, S., Mukherjee, A.K., Senapati, T., Ghosh, A.R. 2019. Effects of glyphosate-based herbicide (excel mera 71) on digestive enzymes and recovery pattern in teleostean fish. *Proceedings of the zoological society*. **72(1)**:54–60. <https://doi.org/10.1007/s12595-017-0255-6>
106. Dey, S., Samanta, P., Mondal, N.S., Kole, D., Mandal, A., Patra, A., Ghosh A. R. 2019. Dose specific responses of *Anabas testudineus* (Bloch) to anthracene (PAH): Haematological and biochemical manifestation. *Emerging Contaminants*. **5 (2019)**: 232-239. <https://doi.org/10.1016/j.emcon.2019.07.001>.
107. Dey, S, and Ghosh A. R. 2019. Dose-Specific Biochemical and Erythrocytic Alterations

of Anthracene Exposure on Blood of *Anabas Testudineus* (Bloch). *Environmental Toxicology and Pharmacology* 72(July):103247. <https://doi.org/10.1016/j.etap.2019.103247>.

108. Dutta. G, Gupta. S, Ghosh. A.R and Mukherjee. P. 2019. Impact of Land-Use/ Land-Cover Changes and Hydro-Meteorological Phenomenon on Lake Biodiversity:A Case Study on Saheb Bandh Lake, India. *Res. J. Chem. Environ.* 23 (10): 36-45
109. Mandal. A. K and Ghosh, A. R. 2019. Dose- Response Analysis of Ferterra 0.4% GR On *Heteropneusttes Fossilis* (Bloch) Through Histopathological Manifestations: A Comparative Analysis. *Poll Res.* 38: 72-79
110. Samanta, P., Pal, S., Mukherjee, A. K., Senapati, T., & Ghosh, A. R. (2019, March). Effects of Glyphosate-Based Herbicide (Excel Mera 71) on Digestive Enzymes and Recovery Pattern in Teleostean Fishes. In *Proceedings of the Zoological Society* (Vol. 72, No. 1, pp. 54-60). Springer India.
111. Mondal, A. K., Goswami, K., Ghosh, S., Pal, S., Mukherjee, A. K., Samanta, P., Ghosh, A. R. (2019, July). Toxicity Analysis of Ferterra (Chlorantraniliprole 0.4% GR) on Tilapia (*Oreochromis niloticus* (Linn.): Histological and Ultrastructural Observations. In *Proceedings of the Zoological Society* (pp. 1-13). Springer India.
112. Samanta, P., Pal, S., Mukherjee, A. K., Senapati, T., Jung, J., & Ghosh, A. R. (2019). Assessment of adverse impacts of glyphosate-based herbicide, Excel Mera 71 by integrating multi-level biomarker responses in fishes. *International Journal of Environmental Science and Technology*, 16(10), 6291-6300.
113. Dey, S., & Ghosh, A. R. (2019). Dose-specific biochemical and erythrocytic alterations of anthracene exposure on blood of *Anabas testudineus* (Bloch). *Environmental toxicology and pharmacology*, 72, 103247.

Year- 2020

114. Sarkar, R., Ghosh, A. R., & Mondal, N. K. (2020). Comparative study on physicochemical status and diversity of macrophytes and zooplanktons of two urban ponds of Chandannagar, WB, India. *Applied Water Science*, 10(2). doi:10.1007/s13201-020-1146-y
115. Samanta, P., Pal, S., Mukherjee, A. K., & Ghosh, A. R. (2020). Acute toxicity assessment of arsenic, chromium and almix 20WP in *Euphyctis cyanophlyctis* tadpoles. *Ecotoxicology and Environmental Safety*, 191, 110209. doi:10.1016/j.ecoenv.2020.110209
116. Mandal, A., Mondal, N. S., Patra, A., Das, S., Dey, S., Mondal, A. K., & Ghosh, A. R. (2020). Time dependent ultrastructural alterations on the skin, eye, barbel and fins of the spawn of *Clarias batrachus* (Linn. 1758) exposed to UV-B radiation. *Ecotoxicology and Environmental Safety*, 192, 110268. doi:10.1016/j.ecoenv.2020.110268
117. Gautam, A., Ray, A., Manna, S., Sarkar, M. P., Ghosh, A. R., Ray, M., & Ray, S. (2020). Shift in phagocytosis, lysosomal stability, lysozyme activity, apoptosis and cell cycle profile in the coelomocytes of earthworm of polluted soil near a tannery field of India. *Ecotoxicology and Environmental Safety*, 200, 110713. doi:10.1016/j.ecoenv.2020.110713
118. Dey, S., Ballav, P., Samanta, P., Mandal, A., Patra, A., Das, S., Ghosh, A. R. (2020). Time-Dependent Naphthalene Toxicity in *Anabas testudineus* (Bloch): A Multiple Endpoint Biomarker Approach. *ACS Omega*. doi:10.1021/acsomega.0c04603
119. Dey, S., Ballav, P., Mandal, A., Samanta, P., Patra, A., Das, S., Ghosh, A. R. (2020). Blood Biochemical and Erythrocytic Morpho-pathological Consequences of Naphthalene Intoxication in Indian Teleost, *Anabas testudineus* (Bloch). *Environmental Toxicology and Pharmacology*, 80, 103490. doi:10.1016/j.etap.2020.103490
120. Das, S., Patra, A., Mandal, A., Mondal, N. S., Ghosh, A. R. (2020). Supplementation of

choline chloride directly in the pond water induced enhanced growth performance in Indian major carps and air-breathing fishes. *International Journal of Fisheries and Aquatic Research*, 5 (4), 34-41

121. Das, S., Patra, A., Mandal, A., Mondal, N. S., Ghosh, A. R. (2020) Alterations in biochemical parameters of fish species under choline administration directly into the pond water in a semi-intensive fish farming system: A comparative study. *International Journal of Fisheries and Aquatic Studies*, 8 (6), 08-15

Year- 2021

122. Senapati, T., Samanta, P., Roy, R., Sasmal, T., & Ghosh, A. R. (2021). Artificial neural network: An alternative approach for assessment of biochemical oxygen demand of the Damodar River, West Bengal, India. *Intelligent Environmental Data Monitoring for Pollution Management*, 231-240. doi:10.1016/b978-0-12-819671-7.00010-5

123. Das, S., Patra, A., Mandal, A., Mondal, N. S., Dey, S., Kole, D., Ghosh, A. R. (2021). Study on impacts of direct supplementation of choline into semi-intensive fish culture system based on haematopoietic alterations. *Environmental and Sustainability Indicators*, 9, 100089. doi:10.1016/j.indic.2020.100089

124. Das, S., Dey, S., Patra, A., Mandal, A., Mondal, N. S., Chowdhury, D., Ghosh, A. R. (2021). Direct choline administration in semi-intensive pisciculture system: A positive contaminant. *Emerging Contaminants*, 7, 22-34. doi:10.1016/j.emcon.2020.12.002

125. Mandal, A., Biswas, T., Mondal, N. S., Patra, A., Das, S., Dey, S., Mondal, A. K., Dey, A.K.& Ghosh, A. R. (2020) Assessment of the nutritional quality of fish cultured in Samdih, an open cast coalpit at the Raniganj Coal Field areas, West Bengal, India. *Lakes & Reservoirs*, 2021 (00),01-10. DOI: 10.1111/lre.12351

126. Mandal, A., Das, S., Patra, A., Mondal, N.S., and Ghosh A. R. (2021) Evaluation of Oxidative Stress Enzymes of Spawn and Fry of *Clarias batrachus* (Linn. 1758) Exposed to Artificial UV-B Radiation: A Biomarker Analysis. *International Journal of Zoological*

Investigation Vol. 7, No. 2, 308-323 (2021)

127. Samanta, P. and Ghosh A. R. (2021). Environmental perspectives of COVID-19 outbreaks: A review. World Journal of Gastroenterology. (In proof)

128. Mondal Niladri Sekhar, Mandal Arghya, Kole Debraj, Patra Atanu, Das Subhas, Ghosh Apurba Ratan.(2021) Human Health Risk Assessment And Histopathological Alterations In Puntius Saphore Of Damsal Nala, Sukinda Chromite Valley, Odisha, India. International Journal of Zoological Investigation Vol. 7, No. 2, 394-404 (2021)

1.15. PROJECT/ RESEARCH SCHEME HANDLED

Title of the Project/ Scheme	Name of the Funding Agency	Minor/Major Project	Date of initiation and duration
1) Heavy metal toxicity affecting sexual maturity and reproduction of two indian freshwater teleosts, <i>A. testudineus</i> and <i>L. bata</i> (Bloch) and effect of antidotes on these parameters	The University of Burdwan	Minor	2001
2) Seasonal changes in the activity of Pituitary and its interaction with gonadal function in brackish water teleost, <i>Etroplus suratensis</i> (Bloch)	The University of Burdwan	Minor	2002
3) Environmental and social impact analysis on sustainable aquaculture of opencast coal pits (OCPs) in Asansol-Raniganj Belt, West Bengal	University Grants Commission	Major (Rs. 6,06,600/-) F.30 - 103/2004 (SR) Date – 19.11.2004	2005 - 2008
4) Sustainable aquaculture in opencast coal pits in Asansol-Raniganj Belt, Burdwan, West Bengal	Indian Council of Agricultural Research	Major (Rs. 6,41,040/-) F.No. 4 (68)/2004-ASR-I Date – 31.08.2005	2006 - 2008
5) Ecomonitoring and management of river Damador from its upstream zone of Barakar up to Burdwan, the downstream zone	WB State Pollution Control Board	Major (Rs. 9,24,800/-) Memo No. 37/2K - 2/2008 Date – 02.04.2008	2008 - 2011
6) Air-breathing fish culture in opencast coal pits at Raniganj coal field areas	Govt. of Fisheries, WB	Minor (Rs. 10,000/-) Date – 18.05.2008	2008 - 2009
7) Impact of diesel oil pollution on freshwater aquaculture and its possible bioremediation by microorganism	MoEF	Major (Rs. 18,00,000/-) F.No. 19-69/2007/RE Date – 10.11.2008	2009 - 2012
8) Environmental quality assessment of sewage water and fish health and captive breeding of endanger species in sewage fed East Kolkata Wetland (EKWL)	UGC	Major (Rs. 9,58,509/-) F.No. 37-386/2009 (SR) Date – 11.01.2010	2010 - 2013

9) Hands - on - training on histotechnology and enzymological techniques for clinical analytical laboratory	DST, GoWB	Training Scheme & Workshop	2010
10) INSPIRE INTERNSHIP Program Summer Camp	DST, GoI	Training Scheme (Rs 7,00,000.00) SR/INSPIRE/2010 Date - 19.05.2011	2011
11) Hands - on - training on quality standardization in air and water including detection of radioactivity in aquatic medium and plant body	DST, GoWB	Training Scheme & Workshop	2012
12) INSPIRE INTERNSHIP Program Summer Camp	DST, GoI	Training Scheme (Rs 9,00,000.00) INSPIRE INTERNSHIP/2012 Sl.no. 1036 Date - 05-06.06.12	2012
13) Environmental monitoring of sewage water and captive fish breeding of endanger species in East Kolkata Wetland (EKWL)	Wetland Committee. GoWB	Major Project	Submitted
14) INSPIRE INTERNSHIP Program Summer Camp	DST, GoI	Training Scheme (Rs 9,75,000.00) INSPIRE INTERNSHIP/2012 Date - 03.04.2013	2013
15) INSPIRE INTERNSHIP Program Summer Camp	DST, GoI	Training Scheme (Rs 13,00,000.00) DST/INSPIRE 01/2014/000810 Date - 18.06.2014	2014
16) Workshop for Academic Administrators	NAAC, GoI	Workshop (Rs 2,00,000.00) Do. No. F. 24-4/Nqri/DS/2014/10873 Date – 18.09.20114	2014
17) INSPIRE INTERNSHIP Program Summer Camp	DST, GoI	Training Scheme & Workshop (Rs 13,00,000.00) DST/INSPIRE INTERNSHIP/2015 Date – 01.09.2015	2015
18) Hands - on - training on	DST, GoWB	Training Scheme &	2016

Quality Standardization In Air & Water Including Detection Of Histo- technological Parameters		Workshop (Rs 75,000/-) (vide Memo No. 1085(Sanc.)/ST/P/S & T/5G-2/2016 dt. 25/02/2016, Demand No. 48, Financial Year 2015 – '16)	
19) Bioremediation of polycyclic aromatic hydrocarbons (PAHs)-contamination at Digha Coastal Water (West Bengal)	GoWB DST & Biotechnology	Memo No. 172 (Sanc.)/ST/P/S&T/5G-18/2018 dt 13.02.2019 for 3 yr Rs 9,16,300/-	2018-19
20) Evaluation of available trace elements and methane emission from OCP at Raniganj Asansol Coal field areas, Paschim Bardhaman	UGC-DAE, Kolkata Centre	UGC-DAE-CSR-KC/CRS/19/TE05/1071/1087 3 yr Rs 10,80,800/-	2018-19
21) Improvement of small indigenous fish stock: Its nutritive value & biodiversity conservation in West Bengal	GoWB, Fisheries Department	3 yr Under process Rs 19,28,000/-	2018-19

16. M. PHIL GUIDE

Sl No.	Name of the Students	Title of the Work	Supervisor (Single/Joint)	Year
1	Uttam K Sen	Cadmium induced effects on alimentary canal of one indian air-breathing teleosts, <i>Anabas testudineus</i> (Bloch)	Single	2000
2	Mithu Choudhuri	Cadmium induced histopathological alterations in the testes and ovaries on one Indian air-breathing teleost, <i>Anabas testudineus</i> (Bloch)	Single	2002
3	Baishali Sarkar	Histological and histochemical studies on the Stomach and liver of <i>Anabas testudineus</i> (Bloch), <i>Oreochromis nilotica</i> (Linnaeus), <i>Rastrelliger kanagurta</i> (Cuvier) and <i>Pampus argenteus</i> (Euphrasen): A comparative study	Single	2001
4	Gargi Mitra	Arsenic induced toxicity in the alimentary canal of freshwater siluriod fish, <i>Mystus vittatus</i> (Bloch)	Single	2002
5	Swapna Ghosh	Ultrastructural modifications in the alimentary canals of <i>Oreochromis nilotica</i> (Linnaeus), <i>Macrognathus aculeatus</i> (Pallas) and <i>Mystus vittatus</i> (Bloch)	Single	2002
6	Sandipan Pal	Impact of diesel pollution on aquaculture practices in Barddhaman Loco Tank with special emphasis on histopathological (ultrastructural) effect in gill and alimentary canal of <i>Oreochromis nilotica</i> (Linnaeus)	Single	2004
7	Tarakeshwar Senapati	Influence of glyphosate in histological, histochemical and enzymological changes in gill and different regions of alimentary canal of <i>Channa punctatus</i> (Bloch)	Single	2008
8	Rituparna Sarkar	Metanil yellow toxicity induces histopathological, histochemical and biochemical changes in different organ systems of <i>Heteropneustes fossilis</i> (Bloch)	Single	2008
9	Lahari Sarkar	Histopathological and ultrastructural changes in the digestive system of <i>Oreochromis nilotica</i> (Linn) in diesel-fed pond, Barddhaman Locotank	Single	2010

10	Koushik Dutta	Chromite mining: A threat to the aquatic environment of Sukinda Valley Region in Orissa	Single	2010
11	Subhamita Chatterjee	Study on comparative toxicosis of chromium at different exposure periods on <i>Anabas testudinius</i> (Bloch)	Single	2011
12	Dipanjana Deb	Study on histobiochemical alterations in different fish tissues due to acute toxicity by arsenic trioxide on <i>Channa punctatus</i> (Bloch)	Single	2011
13	Niladri Sekhar Mondal	Comparative Assessment of effects of chromite mining drainage in the upstream and downstream zone of Damsal Nala in Sukinda Valley region, Odisha	Single	2017
14	Sheweta Ghosh Moulick	Interaction and efficacy of Nanomaterials in removing metal toxicity from fish.	Single	2019 ..contd.

17. PH.D GUIDE

Sl No.	Name of the Students	Title of the Work	Supervisor (Single/Joint)	Year
1	T. S. Nagesh	Studies on non-infectious diseases of cultured shrimps in West Bengal	Single	Awarded 2006
2	S. Goswami	Biology and ecology of <i>Nandus nandus</i> (<i>Ham</i>) from the new alluvial zone of West Bengal with special reference to ex-situ conservation	Joint	Awarded 2008
3	Nandini Some	Distribution and density of soil arthropod in the sampling sites adjacent to Tamla Nullah in Durgapur Industrial Complex	Single	Awarded 2010
4	Sandipan Pal	Studies on ecological restoration and environmental impact analysis of some abandoned opencast coal pits of Raniganj Coal Field	Single	Awarded 2012
5	Aloke K. Mukherjee	Study on feasibility of fish culture in opencast coal pits in Asansol-Raniganj Coal Belt, West Bengal, India	Single	Awarded 2013
6	Ruma Banerjee	Hydrobiological status, thematic zonations and ecomonitoring of the river Damodar from Barakar to Burdwan, West Bengal, India	Single	Awarded 2013
7	Tarakeshwar Senapati	Effect of two herbicides glyphosate and almix on different organs of <i>Channa punctatus</i> (Bloch), <i>Anabas testudeneus</i> (Cuiver)	Single	Awarded 2013
8	Rituparna Sarkar	Study on chronic toxicity of metanil yellow both teleostean cat fish <i>Heteropneustes fossilis</i> (Bloch) and albino rat (<i>Rattus norvegicus</i>)	Single	Awarded 2013
9	Koushik Dutta	Impact of chromite contamination in the ground water, surface water, and bottom sediment of Damsal Nala of Sukinda Valley Region in Orissa	Single	Awarded 2014
10	Smaranya Haque	Effect of diesel oil pollution on freshwater aquaculture and its possible bioremediation by microorganisms	Single	Awarded 2014

11	Subinoy Mondal	Environmental quality assessment of sewage-water and fish health and captive breeding of endangered fish species in sewage-feed East Kolkata Wetland (EKWL)	Single	Awarded 2015
12	Palas Samanta	Evaluation of Pathological Biomarkers and Genotoxicity in Different Fish Species like <i>Anabas testudineus</i> (Bloch), <i>Heteropneustes fossilis</i> (Bloch), and <i>Oreochromis niloticus</i> (Lin.) under the Long-term Exposure of Two Herbicides, Almix and Glyphosate	Single	Awarded, 2015
13	Amarnath Shit	Influence of Limnological Parameters with Special Reference to Hardness and Alkalinity on Fish Breeding	Single	Awarded 2015
14	Debraj Kole	Comparative Toxicity of Arsenic (As) and Chromium (Cr) on <i>Channa punctatus</i> (Bloch) and <i>Anabas testudineus</i> (Bloch): Histopatho-logical and Biochemical Approaches	Single	Awarded 2018
15	Sabyasachi Mukhopadhyay	Ambient air quality monitoring and its impact on vegetation under the areas of asansol-durgapur development authority (ADDA)	Single	Awarded 2018
16	Lahari Sarkar	Study on Diesel Oil Pollution in Fresh Water Ecosystem at Bardhaman Locotank, Burdwan, W.B.	Single	Registered
17	Sudipta Biswas	Chronic Toxicity of Heavy Metals Zinc and Lead on Endocrine Glands in Teleostean Fishes	Single	Awarded 2019
18	Santu Ghosh	Study of Toxicological Dynamics of Cadmium and Lead in Freshwater Mussel (<i>Lamellidens sp.</i>) Through Simulation Modelling.	Joint	Awarded 2019
19	Arnab Mandal	Study of Ferterra (Insecticides) and Subsequent Recovery by Choline on Teleostean Fish.	Single	Awarded 2020
20	Sukhendu Dey	Evaluation of Chronic Toxicity through Bioaccumulation Kinetics and Bioconcentration Factor of Naphthalene and Anthracene (PAHs) in an Air-breathing Fish Species	Single	Awarded 2020
21	Subhas Das	Competitive Efficacy of Choline Chloride as Growth Promoter in Indian Major Carps and Air-breathing Teleosts	Single	Awarded 2021
22	Niladri Sekhar Mondal	Impacts of Chromium from Damsal Nala Carrying Drainage of Sukinda Chromite Mining on Fish And Metallodynamics on	Single	Registered 2017

		One Major Crop, Paddy		
23	Arghya Mondal	Dose-Response and Time-Dependent Study of Ultraviolet Radiation (UVR) on Different Developmental Stages of Indian Major Carps (IMC) and Catfish	Single	Registered 2018
24	Atanu Patra	A Study on Some Polycyclic Aromatic Hydrocarbons (PAHs)-Contamination in Selected Sites of Fishing Harbour Zones at Digha Coastal Belt	Single	Registered 2018
25	Amit K De	(proposed)	Single	Working under UGC DAE Project
26	Tulika Saha	(proposed)	Joint	Working as NET Fellow

18. SCIENTIFIC & POPULAR ARTICLES

1. Ghosh, A.R. (1989): *Prasanga*: Camera and Photography, 1989
2. Ghosh, A.R. (1990): Cadmium O Paribesh. *Jhan-O-Bijnan*. Bangiya Bijnan Parisad. 43(2): 66-68. February, 1990
3. Ghosh, A.R. (1990): Fisheries Research and Extension Service, 1990
4. Ghosh, A.R. (2001a): Waste and Environment. *Pursuit A Technical Magazine* of UIT, BU, 32-35, 2001
5. Ghosh, A.R. (2001b): Environment and Social Consciousness, *Bharat Vidya*, (1): 138-141, 2001
6. Ghosh, A.R. (2001): Baribesh O Paribesh Bhavna. *Dharabahik*, 2001
7. Ghosh, A.R. (2002): Paribesh O Manushya Srishth Bajya Padhartha. *Sasthya O Manush*, 2002
8. Ghosh, A.R. (2003): E-Waste. *ENVIRONICA*, 2003
9. Ghosh, A.R. (2003): Industrial Growth and Environmental Degradation. *ENVIRONICA*, 2003
10. Ghosh, A.R. (2005): Diesel toxicity. *ENVIRONICA*, 2005
11. Ghosh, A.R. (2006): *Tsumani* what and why. *Yogsutra*, 2006
12. Ghosh, A.R. (2006): Aquatic Toxicology in Eyes of Fish. *ENVIRONICA*, 2006

13. Ghosh, A.R. (2008): Global Warming: *Ekti Samiksha* [Global Warming: An Analysis]. *Anubhuti*, 2008
14. Ghosh, A.R. (2008): *Paribesher Vivartan O Ruprekha, Sashtya O Manus*, 2008
15. Ghosh, A.R. (2008): “CO₂ Kick the Habit! Towards Low Carbon Economy”. *Natun Chitti*, 2008
- 16.

19. WORKSHOP ATTENDED FOR ADVANCED TRAINING

1. Sixth Orientation Programme, 04.03.1992 to 31.03.1992, at ASC BU
2. Second RC in Zoology, 25.10.1991 to 14.11.1991, ASC BU
3. UGC Computer Training Programme, 12.05.1997 to 24.05.1997 at Physics Department
4. Training on Computer Science & Its Application. 02.05.1992 to 22.05.1992 at ASC BU
5. Attended all India Directors’ Conferences at New Delhi (1994); Vishakapattanam (1996); Pondicherry (1998); NIEPA (1999); Jabalpur (2001); Mysore (2003); New Delhi, CEC (2005) & Hyderabad (2006); University of Kerala (2009)
6. Attended Pilot Refresher Course in IT at ASC Jadavpur University from 8th September to 27th September, 2003
7. Attended 55th BRNS-IANCAS National Workshop on Radiochemistry and Applications of Radioisotopes held on and from October 29 to November 06, 2004
8. Attended one-day CII-RFI – TERI Regional Workshop on “Developing CDM Projects in India” held in Taj Bengal, Kolkata on May 05, 2004
9. Participated in the workshop entitled on “Quantitative Techniques for Research Workers” organized by Dept. of Statistics, The University of Burdwan & Indian Association for Productivity Quality & Reliability from 24th - 26th August, 2006
10. Participated in the two day UGC-sponsored National Seminar organized by Centre for Interdisciplinary Studies (CIS) on Social Exclusion and Empowerment: A Multidisciplinary approach on 28 and 29th May, 2007, held at Science Centre, Auditorium, Golapbag, BU
11. Participated in the Two-day Workshop on “Learning Objects: Design, Development & Dissemination” organized by Directorate of Distance Education, The University of

Burdwan in Collaboration with Distance Education Council, New Delhi on 24 – 25 June, 2008

12. Participated in the Two-day “National Workshop on Role of Academic Staff Colleges in Improving Quality of Teachers in Higher Education” March 16 – 17, 2010 organised by the Department of Higher and Professional Education NUEPA, New Delhi
13. Participated in the training workshop on Air Quality Monitoring organized by Ministry of Environment and Forest in collaboration with EU-India Action Plan Support Facility Environment-Technical Assistance at Fortune Loudon Kolkata, Kolkata on 3rd and 4th February, 2011
14. Participated in the Workshop organized by the NAAC at Bangalore during 8-9 September, 2011
15. Participated in the 2nd Workshop for the organizers of DST-INSPIRE Science camp organized by Department of Science and Technology, GoI at YASHADA, Pune on 13th and 14th April, 2012
16. Participated in the 1st Workshop on E-Content (Environmental Science) organized by University of Delhi (South Campus) on 10th November, 2012
17. Participated in the 3rd Workshop for the organizers of DST-INSPIRE Science camp organized by Pondichery University, Brookashabad Campas and Department of Science and Technology, GoI at Port Blair, A & N Islands on 11th and 12th April, 2013
18. Participated in the Workshop on “Establishing Teaching Learning Centres in Higher Education” organized by National University of Educational Planning and Administration, New Delhi during 26th - 29th November, 2013
19. Participated in the National Meet for organizers Of INSPIRE Internship Camps – 2014 under the INSPIRE Internship Component of INSPIRE program organized by KIIT University, Bhubaneswar and supported by Department of Science and Technology, GoI at KIIT University on 29th and 30th May, 2014
20. Participated in the Workshop on “Mother Earth: Save It to Achieve a Sustainable Future foe All” organized by Dept. of Environmental Science, The University of Burdwan, Burdwan during 10th - 12th December, 2014
21. Participated as a Resource Person in the Workshop on “Quality in Higher Education: The role of Accrediation” organized by Burdwan Raj College on 6th September 2016.

22. Participated as a Resource Person in the Workshop on "Challenges of Higher Education in Contemporary India: Role of NAAC/IQAC in Quality Assurance" organized by Internal Quality Assurance Cell (IQAC), Sailajananda Falguni Smriti Mahavidyalaya, Khayrasole, Birbhum, during 7th December, 2016.

20. SEMINAR AND SYMPOSIUM ATTENDED

1. Attended and presented paper in the "National Symposium on Environmental impacts on animals and aquaculture" held at Kalyani (May 14-16, 1988) – "Effects of cadmium poisoning on mucopolysaccharides and some cellular enzymes of the Alimentary canal in *Heteropneustes fossilis* (Bloch): A histochemical study"
2. Attended and presented paper in the National symposium on modern trends in Environmental Biology and seminar on environment and animal life held at Ramakrishna Mission Vivekananda Centenary College (February 6-8, 1989) "Histopathological and histochemical sequels of cadmium intoxication in liver, pancreas, and kidney of a freshwater Teleost, *Heteropneustes fossilis* (Bloch)"
3. Attended and presented paper in the National Seminar on Role of young scientists in National development held at Modinagar (September 14-18, 1989) – "Topological alterations in the mucosal surface of the alimentary canal of *Heteropneustes fossilis* (Bloch) during cadmium stress: A Scanning Electron Microscopic Study"
4. Attended and presented paper in the National Seminar on Recent Advance in Zoological Researches for Human Welfare (Sponsored by University of Burdwan, C.S.I.R.) held at Zoology Department, University of Burdwan (September 20-22, 1990) – "A scanning electron microscopic probing into the cellular injury in the alimentary canal of *Notopterus notopterus* (Pallas) after cadmium intoxication"
5. Paper presented in the National Symposium on "New Horizons in freshwater Aquaculture" at Kausalyaganga, Bhubenaswer "Effects of cadmium poisoning on some cellular enzymes in the stomach, intestine and intestinal caeca of *Notopterus notopterus* (Pallas): A histochemical study"
6. Invited for Paper presenting in the International Conference on Industrial Pollution and Control Technologies on 7th, 8th, and 10th December, 2001 at Hyderabad. Paper published on "Impacts of inorganic arsenic on mucosal surface of stomach, intestine and intestinal caeca on *Notopterus notopterus* (Pallas)"

7. Invited as Special Guest in Two-day Seminar on Intellectual Property Rights at GC College, Silchar, Assam. The Paper entitled “Economic impact of environmental measures and sustainable industrialization on 28 & 29 October, 2002 was presented on 28th October, 2002
8. Invited for presenting paper in the International Conference on Environment and Development, Science City, Kolkata. The paper entitled “Histopathological changes in Liver, pancreas and ultrastructural alterations in gill of *Oreochromis nilotica* (Linnaeus) exposed to diesel oil as an effluent” on February 04 to 08, 2004 organised by Institute of Social Studies, Kolkata in collaboration with Govt. of West Bengal and Govt. of India
9. Abstract of paper accepted in the International conference on Environment and Development, Science City, Kolkata. The paper entitled “Effects of diesel oil pollution in alimentary canal of *Oreochromis nilotica* (Linnaeus) with special reference to topological alterations” on February 04 to 08, 2004 organised by Institute of Social Studies, Kolkata in collaboration with Govt. of West Bengal and Govt. of India
10. Abstract of paper accepted in the International conference on Environment and Development, Science City, Kolkata. The paper entitled “Cadmium toxicity induce ultrastructural alterations in the alimentary canal of Indian air-breathing teleost, *Anabas testudineus* (Bloch)” on February 04 to 08, 2004 organised by Institute of Social Studies, Kolkata in collaboration with Govt. of West Bengal and Govt. of India
11. Abstract of paper accepted in the International conference on Environment congress. The paper entitled “Lead intoxication induce alterations in the mucosal epithelium of alimentary canal of *Oreochromis nilotica* (Linnaeus): A scanning electron microscopic study” on December 16 to 18, 2004 coordinated by Centre for Environment and Development, sponsored by Kerala State Council for Science, Technology and Environment and Tokyo engineering Consultants Co. Ltd., Tokyo, Japan
12. Abstract of paper accepted in the International conference on ‘Molecules to Man’. The paper entitled “Ultramicroscopic alterations on the alimentary canal of *Channa marulius* (Hamilton) due to effects of effluents generated by sponge iron industry” on February 24 to 26, 2006, organised by Department of Zoology, The University of Burdwan in collaboration with the Zoological Association of Burdwan

13. State Level Seminar on Organized by: Bankura Christian College, on 25-26th September 2006. Title of the paper “Influence of water and soil quality on the emergence of aquatic vegetation in the water bodies of opencast coal pits in the Raniganj Coalfield Areas”
14. International symposium on The Challenges and Strategies for the Sustainability of Safe Drinking Water, organized by Dept. of Chemistry, Gandhigram Rural Institute, India, on 25 to 27th October, 2006. Title of the paper “Study of water quality parameters and fish health as the monitoring techniques for potential beneficial end use of water of abandoned opencast coal pits in Raniganj Coalfield Areas”
15. National Seminar on Retrospective Effect on Green Revolution, organized by Shyamsundar College, Shyamsundar, Burdwan, West Bengal, India, on 28-29th November, 2006. Title of the paper “Possibility of pisciculture in the water of old opencast coal pits in Raniganj Coalfield Areas”
16. Attended State Level Seminar on “Modern trend in Ecotoxicological Research and Human Welfare” and presenting a paper on “Influence of water and soil quality on the emergence of aquatic vegetation in the waterbodies of opencast coal pits in the Raniganj Coalfield Areas”, 2006
17. Attended and abstract of paper accepted on “Histopathological and ultramicroscopical alterations induce by sodium fluoride in the different tissues of an air-breathing teleost, *Channa punctatus* (Bloch)” in the International Conference on “Ecotoxicology & Environmental Sciences”, 2007
18. Attended and paper of abstract accepted entitled on “Metanil yellow, a food additive induce the responses at cellular and sub-cellular organisations in *Heteropneustes fossilis* (Bloch)” in the international conference on Ecotoxicology & Environmental Sciences organized by Institute of Ecotoxicology and Environmental Sciences, Jadavpur University, Kolkata, 2007
19. Invited for presenting paper in the National Seminar, entitled “Resource utilization in environmental degradation: An impact study in coal mining industry” in the UGC sponsored National Seminar on Environmental Degradation and Impact assessment in mining & Industrial areas held on 25 & 26th March, 2008 at Talcher College, Talcher, Orissa
20. Abstract of paper accepted and presenting paper in the 14th World Lake conference on “Thermal stratification – an ecological tool for studying the process of ecological restoration

in abandoned opencast coalfield areas, West Bengal, India” on 31 October –November 4, 2011, held in Austin, Texas

21. Invited for presenting Lead paper in the National Seminar entitled “Ecology, Environment and Development (NASEED–2013)” on “Limnological status and bioconcentration of some heavy metals in Damsal Nala of Sukinda Valley region in Odisha and consequent histopathological lesions observed in liver and kidney of air-breathing fish *Channa* sp.” held on 25 to 27th January 2013 at Sambalpur, Orissa
22. Abstract of paper accepted and presenting paper in IUAES Conference 2013, on “Ecofriendly technology for pisciculture in abandoned OCP – lakes at RCF Areas, West Bengal, India” held during 5 – 10 August, 2013 at University of Manchester, UK
23. Abstract of paper accepted and presenting paper in 6th Annual World Congress of Enzyme and Biocatalysis (SEB-2015), on “Toxicosis of Glyphosate-based Herbicide, Excel Mera 71 on Biochemical Enzymes and Histological Structure in Freshwater Teleostean Fishes and Subsequent Recovery Response under Liv. 52” held during 25-28 April, 2015 at Nanjing, China.
24. Abstract of paper accepted and presenting paper in “ARC Conference 2018: Resilience and New Leadership in the WORLD” held during 27-28 November, 2018 at Seoul, Korea University, Korea.

21. INVITED LECTURES / POPULAR SCIENTIFIC TALK

a. Name of Academic Staff College/ RCC where delivered Lecture(s) as a Resource person:

1. Delivered lectures in 48th & 49th Orientation Programme at Calcutta University, Academic Staff College on September, 2001
2. Delivered lectures in 1st, 2nd, 3rd RC in Environmental Science at ASC-BU
3. Delivered lectures in 37th & 38th OPs at ASC-BU
4. Delivered lectures in 4th, 7th RC in Environmental Science at ASC-BU
5. Delivered lectures in 11th, 12th, 13th RC in Environmental Science at ASC-BU
6. Delivered lecture in 14th RC in Zoology at ASC-BU
7. Delivered lecture in 1st RC in Life Science at ASC-BU
8. Delivered lecture in 2nd RC in Biochemical Science at ASC-BU
9. Delivered lecture in 5th RC in Environmental Studies at ASC-BU

10. Delivered lectures in 67th OP organized by UGC-Academic Staff College, Gorakhpur University on 20th and 21st November, 2006
11. Delivered lecture in RC on “Environmental Issues and Its Modulation” held at Kalyani University, organized jointly by Departments of Chemistry, Zoology, Botany and Environmental Science from January 2 to 22, 2007
12. Delivered lecture in RC on Environmental Studies conducted by UGC-Academic Staff College, Sambalpur University during January 23 to February 12, 2008; delivered on 24 & 25th January 2008
13. Delivered lectures in First RC in Environmental Studies conducted by UGC-Academic Staff College, DU Gorakhpur University during December 31 to January 20, 2010; delivered on 1 & 2nd January 2010
14. Delivered lectures in OP - 92 & RC - 187 on Environmental Education conducted by Smt C R Gardi UGC-Academic Staff College, Saurashtra University, Rajkot during March 7 to April 04, 11 and March 3 to 23, 2011 respectively delivered on 7 & 8th March 2011
15. Delivered lecture in RC in Life Sciences conducted by Dept. of Physiology, University of Calcutta, on 12th December 2011
16. Delivered lectures in the UGC Sponsored Orientation Programmes (17th & 18th) organized by UGC-ASC, NEHU on 5-7 March, 2012
17. Delivered lectures in the UGC Sponsored RC in Life Science organized by UGC-ASC, NBU on 29 the Sept., 2012
18. Delivered lectures in the HRDC-UGC Sponsored RC in Environmental Science organized by HRDC-UGC, NEHU on Oct, 2015
19. Delivered lecture in three days training programme on “Scientific Pisciculture in Ponds” at DVC, KTPS Koderma at DVC on 28th to 30th November 2016.
20. Delivered lectures in Department of Chemistry third semester student related to minor elective subject, Vivekananda Mahavidyalaya, Burdwan on 13 December 2016.
21. Delivered lecture in the Technical Seminar on “Disease in Carps: Treatment and Prevention” organized by Animalia Bioinformatic, Rajnagar, Purba Midnapur on January 02, 2017

b. Name of the inviting Institution/ University where delivered Lecture(s) in the Seminar/ Symposium/ Workshop:

1. Delivered a special lecture as a resource person in the UGC Sponsored State Level Seminar held on 24 & 25th September, 2004 organized by Rabindra Mahavidyalaya as “Waste Product and Its Management” on 25th September, 2004
2. Acted as judge in the National Children’s Science Congress on 21st November, 2004
3. Invited to deliver lecture in the International Conference held on Dhaka, Bangladesh on 17 to 19th December, 2004
4. Invited to deliver lecture in UGC Sponsored Workshop organized by ABN Seal College, Cochbehar on 16th November, 2005
5. Delivered an invited lecture on “Our Earth is Beautiful and Bountiful” on ‘National Earth Day’ at Biddarathi Bhavan Girls’ High School, on 22nd April, 2006
6. Invited to deliver lecture in the seminar on “Effects of Heavy Metals on Fish Physiology” organized by Bankura Christian College, Bankura on 25th September, 2006
7. Delivered special lecture on “Environment for all” organized by National Council of Science Museums, Govt. of India, in “Environmental Campaign Programme 2006-07 held on 2 & 4th December, 2006
8. Invited to act as the President in Environment Campaign Programme at Science Centre, Ramna Maidan, Burdwan on 4th December, 2006
9. Delivered special lecture on “Global Warming: Role of IPCC” on “World Environment Day” organized by Paschimbanga Vigyan Manchia, Katwa Branch at Katwa, on 5th June, 2007
10. Delivered an invited lecture of ‘Fate of Nuclear Energy’ organized by District Primary School Organisation on 9th August, 2007
11. Delivered special lecture on “Global Climate Change and Its Impact” in the District Level Science Seminar organized by Science Centre on 22nd August, 2007
12. Delivered special talk in All India Doordarshan on “How to Increase Production and Weight of Fish” as expert in the Krishi Darshan of Pasar Bharati at 5.30 pm on 13th August 2007, Live Telecast in DD-7
13. Delivered special lecture on “Water Resource: Pollution, Prevention and Management” in the UGC Sponsored State Level Seminar-cum-Workshop organized by Netaji Mahavidyalaya on 21st September 2007

14. Delivered an invited lecture of “Ecology: Scientific and Philosophical Thoughts” organized by Department of Philosophy’, Sreegopal Banerjee College, on 25th September, 2007
15. Delivered special lecture on “Importance of Protection & Conservation of Wild Life” on 04/10/2007 in celebration of Wild Life Week from 4-11 October, 2007
16. Delivered a lecture on “*Paribseh and Health*” in the Inaugural function of the National Seminar at Katwa College, Katwa, Burdwan, 2007-2008
17. Delivered an invited lecture in the national seminar on “Biodiversity Conservation” sponsored by National Environmental Awareness Campaign Programme, in collaboration with Ministry of Environment and Forests held at Sreegopal Banerjee College on 17th January, 2008
18. Invited to attend the programme of release of 6th State of India’s Environment Report on Mining and Its Impact on People and Environment on 18th January, 2008. Report published by Hon’ble Governor of WB, Sri Gopal Krishna Gandhi
19. Delivered the special lecture on “Use of Resource and its Impact on Environment” at Sambalpur University, Orissa on 24th & 25th January, 2008
20. Invited in the Counselling Programme conducted by Directorate of Open & Distance Learning, University of Kalyani, Kalyani, Nadia, W.B. on 03rd February, 2008
21. Delivered the special lectures on “Biodiversity” in the Environmental Campaign Programme 2007-08 organized by District Science Centre on 5 & 6th February, 2008
22. Invited to preside over the Valedictory function in the Environmental Campaign Programme 2007 – 08 of Science Centre, Ramna Maidan, Burdwan, on 6th February 2008
23. Invited as a Resource person and delivered a talk on “Resource Utilization vs Environmental Degradation: An Impact Assessment for Open Cast Coal Mines” on 25th March 2008
24. Invited as resource person in the one week workshop on “Environmental Management, Testing and Monitoring” enter networking programme of TEQJP, GoI during April on 07/10/2008; entitled “Ecotoxicology & Bioassay Methods of Industrial Toxicology” delivered on 10th April, 2008
25. Invited for delivering lecture in the theme of World Environment Day 2008 “CO₂ Kick the Habit!” organized by Chandannagar Paribesh Unnayan Samity, Chandannagar, W.B. on 5th June 2008

26. Invited as resource person and delivered lectures at University Science Instrumentation Centre, The University of Burdwan, on 18th September, 2008
27. Invited as a speaker and delivered lecture on “Education & Environmental Science” at Chandernagore College on 27th September, 2008
28. Invited as resource person and delivered lectures in the Two-week MHRD/AICTE Sponsored Winter School on ”Waste Management, Effluent Treatment and Recycling” during January 19 – 31, 2009 at Department of Chemistry, NIT Durgapur
29. Invited as resource person and delivered lectures in the World Forestry Day organized by Science Centre, Ramna Maidan, Burdwan on 21st March, 2009
30. Invited as a Resource person in the Course on Scanning Electron Microscope: Medical Applications for the PG students of the Burdwan Medical College on Sept. 9, 2009 organised by USIC, The University of Burdwan
31. Invited as resource person and delivered lectures in the Two-week NAAC Sponsored Seminar at Shyamsundar College on ”Sustainable Best Practices in Educational Institutions doe Wuality Assurance” during September 11 & 12, 2009
32. Invited as Chief Speaker and delivered lectures on “Global Climatic Change in the Present Context” organized by Bejoy Narayan Mahavidyalaya, Itachuna, Hooghly on 26th March, 2010
33. Invited to deliver lecture in World Earth Day Celebration Programme at Science Centre, Ramna Maidan, Burdwan on 22nd April, 2010
34. Invited in the One-day Seminar on “Global Warming” as speaker and delivered lectures on “Kick the Carbon Habit” organized by MUC Women’s College on 24th September, 2010
35. Invited as guest lecturer in Intensive Aqua-culture Training Programme under NFDB and delivered lecture on Cat Fish Culture with Special Reference to Pangas, Indigenous Magur etc. organized by Government of West Bengal on 12th January, 2011
36. Invited as resource person and delivered lecture on “Energy and Environment – Present Scenario: From Primary to University Level” in the DST, GoWB Sponsored one day seminar on “Energy and Environment – Present Scenario” organized by Sadhanpur Vivekananda High School (H.S.) on 19th February, 2011

37. Invited to deliver lecture in the International Symposium on “System Intensification Towards Food & Environmental Security” organized by Crop and Weed Science Society, BCKV, Mohanpur, W.B. in collaboration with NABARD, Kolkata during February 24-27, 2011
38. Invited as resource person and delivered lecture in the UGC Sponsored National Level Symposium on “Pollution: Disbalancing Global Environment – Threats & Prevention” at Bolpur College, Bolpur on 5-6 March, 2011
39. Invited as Speaker and delivered lecture in the UGC Sponsored National Seminar on “Water Pollution & Its Recent Challenges” at Dept. of Chemistry, SKM University, Dumka on April 29 - 30, 2011
40. Invited as Speaker and delivered lecture in the 33rd Indian Geography Congress sponsored by National Association of Geographers, India (NAGI) organized by Dept. of Geography, the University of Burdwan, at Dept. of Geography on November 11 -13, 2011
41. Delivered special lectures at Dept. of E.N.V.S., Chandernagar College on 15th September, 2011
42. Invited as resource person and delivered lecture on “Career & Counselling Cell” at Sailajananda Falguni Smriti Mahavidyalaya, Khayrasole, Birbhum 7th December, 2011
43. Delivered special lecture on “Blue Carbon: Remedy for Black Carbon” in the UGC Sponsored Two-day National Level Seminar on “Environmental Pollution and Its Impact on Human Health” organized by RRR Mahavidyalaya on 22nd December, 2011
44. Delivered Valedictory Address in the UGC Sponsored Two-day State Level Workshop on Enhancement of Initiative for Competence Building organized by Asansol Girls’ College, Asansol on 23rd December, 2011
45. Invited as resource person and delivered lectures in the Seminar conducted by NSS Special Camping Programme of AKPC Mahavidyalaya from 17 to 23rd January 2012
46. Invited as resource person and delivered lectures in the UGC Sponsored National Seminar on “Conservation of Blue Carbon Sink: An Approach towards Safe Environment” at Netaji Mahavidyalaya, Arambag on 11-12 April, 2012
47. Invited as INSPIRE Internship Camp Organizers and delivered lecture on “INSPIRE Internship July, 2011 held in the University of Burdwan, Burdwan during July 11-15, 2011” in the 2nd Workshop for the organizers of DST-INSPIRE Science camp organized by

Department of Science and Technology, GoI at YASHADA, Pune on 13th and 14th April, 2012

48. Invited as INSPIRE Internship Camp Organizers and delivered lecture on “INSPIRE Internship July, 2012 held in the University of Burdwan, Burdwan during July 6-10, 2012” in the 3rd Workshop for the organizers of DST-INSPIRE Science camp organized by Pondichery University, Brookashabad Campas and Department of Science and Technology, GoI at Port Blair, A & N Islands on 11th and 12th April, 2013
49. Invited as resource person and delivered lectures in the UGC Sponsored National Level Seminar on “Global Warming and Its Social & Economic Effect” at Tarakeshwar Degree College, Tarakeshwar, Hooghly on 2nd December, 2013
50. Invited as INSPIRE Mentor and delivered lectures in the DST, GoI Sponsored INSPIRE Internship Program 2013 on “Carbon Sink vs Climate Change” at National Institute of Technology Karnataka, Surathkal, Mangalore – 575025 on 18th December, 2013
51. Invited as INSPIRE Mentor and delivered lectures in the DST, GoI Sponsored INSPIRE Internship Program 2014 (Winter) on “Carbon dioxide: Addiction vs. Climate change” at Integrated Science Education and Research Centre, Visva-Bharati, Santiniketan – 731235 on 15th January, 2014
52. Invited as INSPIRE Mentor and delivered lectures in the DST, GoI Sponsored INSPIRE Internship Program 2014 (Winter) on “Carbon dioxide: Addiction vs. Climate change” at Integrated Science Education and Research Centre, Visva-Bharati, Santiniketan – 731235 on 12th September, 2014
53. Invited as resource person and delivered lectures in the UGC Sponsored National Level Seminar on “Management of Reservoir Fisheries” at DVC, Panchet Dam on 5th December, 2014
54. Invited as resource person and delivered lectures in the Government of Bihar and Jharkhand on “Management of Reservoir Fisheries” at DVC, Panchet Dam on July, 2015
55. Invited for delivering lecture in the celebration of World Environmenta Day on 5th June 2015 at Chandannagore Municipal Corporation

22. INVOLVEMENT/ PARTICIPATION IN EXTENSION WORK, FIELD ACTIVITIES, SOCIAL SERVICE, INSTITUTIONAL/ CORPORATE LIFE, ADMINISTRATIVE ACTIVITIES

a) Administrative activities

1. Attended All India UGC Academic Staff College Directors' Meet – Organised by University Grants Commission at New Delhi 1994
2. Attended All India UGC Academic Staff College Directors' Meet – Organised by University Grants Commission and Andhra Pradesh University, at Vishakapatnam 1996
3. Attended All India UGC Academic Staff College Directors' Meet – Organised by University Grants Commission and University of Pondicherry, at Pondicherry 1998
4. Attended All India UGC Academic Staff College Directors' Meet – Organised by University Grants Commission and NIEPA, at New Delhi 1999
5. Attended All India UGC Academic Staff College Directors' Meet – Organised by University Grants Commission and Jabalpur University, 2001
6. Attended All India UGC Academic Staff College Directors' Meet – Organised by University Grants Commission and University of Mysore held on June 2 to 3, 2003
7. Attended All India UGC Academic Staff College Directors' Meet – Organised by University Grants Commission and Consortium for Educational Communication, held on August 22 & 23, 2005
8. Attended All India UGC Academic Staff College Directors' Meet – Organised by University Grants Commission and University of Hyderabad held on December 21 to 22, 2006
9. Attended All India UGC Academic Staff College Directors' Meet – Organised by University Grants Commission and University of Kerala held on February 20 to 21, 2009
10. Attended All India UGC Academic Staff College Directors' Meet – Organized by NIEPA held on February 20 to 21, 2009
11. Attended one-day Seminar Lecture Series on “Basic & Applied Microbiology” organized by Department of Microbiology, the University of Burdwan on 14th May 2010
12. Attended All India UGC Academic Staff College Directors' Meet – Organized by University Grants Commission and University of Pondicherry held on April 28 – 29, 2011

23. AWARDS AND RECOGNITIONS

1. UGC Observership for NET Examination
2. Expert Member of the 7th RLST
3. Expert Member for the selection Committee at Universities: Vidyasagar University, Sambalpur University
4. Reviewer of Tata McGraw-Hill Education (India) Pvt. Ltd
5. Observer in the West Bengal Joint Entrance Examination
6. UGC Observership for SLET Examination
7. INSA Visiting Fellowship 2013-14
8. Chairman-cum-Convener in the Session PE03 in the International Conference, IUAES
9. TIFR Visiting Scientist 2014
10. Member of Expert Committee, UGC
11. Expert Member in Ecology & Environmental Science in Assam University, Silchar
12. Expert Member of Academic Audit of Aizwal University
13. Chairman-cum-Panel Expert in BITS, China
14. Expert Member of College Service Commission, WB
15. Expert Member of College Service Commission, Assam
16. Expert Member of Public Service Commission, Jharkhand
17. Expert Member of College Service Commission, NE Public Commission

24. DETAILS OF ASSIGNMENTS

1. Dy. Director, [Additional Charge] UGC Academic Staff College, Burdwan University, since 1999
2. Part time Lecturer in Department of Zoology, since 1996 up to 2004
3. Guest Lecturer in P N Music College, Burdwan, since 1999 up to 2003
4. Member Board of Studies in Vocational Subject “Industrial Fish and Fishery”
5. UGC Observership for NET Examination in June 2003 for Guahati University
6. Expert Member of the 7th RLST , 2006 of West Bengal Regional School Service Commission (Eastern Region) in 2007
7. Expert Member for the selection of Part-time Lecturer in Environmental Science in 2007 (vide letter no. IC/Misc./Expert/1296. Dt.13.09.2007)
8. Listed as reviewer of Tata McGraw-Hill Education (India) Pvt. Ltd., since 2007 (vide letter no. KD/2047/SEM/2007)

9. President, Environmental Campaign Programme for Physically, Mentally and Visually Challenged Students held at Science Centre, Burdwan on 6th February, 2008
10. Chaired in Inaugural session and the Technical Session in the UGC Sponsored National Seminar on “Environmental Degradation and Impact Assessment in Mining & Industrial Areas” held on 25 & 26th March, 2008 at Talcher College, Talcher, Orissa
11. Observer in the West Bengal Joint Entrance Examination – 2008 at National Institute of Technology, Durgapur on 20th April, 2008
12. Invited for one of the judges in the International Museum Day by Science Centre, Ramna Maidan, Burdwan on 18th May, 2008
13. President, Environmental Campaign Programme for Physically, Mentally and Visually Challenged Students held at Science Centre, Burdwan on 7th January, 2009
14. UGC Observership for NET Examination in June 2009 for Calcutta University
15. UGC Observership for SET Examination in August 2009 for Kalyani University Zone
16. Chaired in the Laboratory Session II in the XXII National Workshop on Scanning Electron Microscopy at USIC, The University of Burdwan on 17th November, 2009.
17. Invited as a Judge Member in ‘Documentary Movie Competition’ held at Science Centre, Burdwan on 30th November, 2009
18. Invited as a Judge Member in “Essay Writing Competition” on Biodiversity held at Science Centre, Burdwan on 4th March, 2010
19. Invited as a Chief Guest on “Celebration of International Museum Day” held at Science Centre, Burdwan on 18th May, 2010
20. Chaired in the Technical Session VII in the National Seminar cum Exposition Modern Microscopes and Their Applications at USIC, The University of Burdwan (April 8-9,2010)
21. UGC Observership for NET Examination in June 2010 for Dibrugarh University
22. Expert Member for selecting Part-time Teacher in Environmental Science at Aghorekamini Prakashchandra Mahavidyalaya, Bengai, Hooghly in 2010 (vide letter no. AK/M/229/10)
23. Expert Member for selecting Part-time Teacher in Environmental Science at Khatra Ramai Pandit Mahavidyalaya, Bankura in 2010 (vide letter no. IC/Misc./Expert/350)
24. Chaired in the Technical Session in the International Symposium on “System Intensification Towards Food & Environmental Security” organized by Crop and Weed Science Society,

- BCKV, Mohanpur, W.B. in collaboration with NABARD, Kolkata during February 24-27, 2011
25. UGC Observership for SLET Examination in June 2011 at Guahati
 26. Judge Member in ‘Seminar Lecture Competition’ held at Dept. of Zoology, The University of Burdwan, Burdwan on 5th August, 2011
 27. Expert Member for appointing Guest Lecturer in Environmental Science in the Sambhu Nath College, held on 6th September, 2011
 28. Member of Evaluation Panel for Paper III (Environmental Science) at UGC, New Delhi, during 8-12 November, 2011
 29. Expert Member of the Board of Under Graduate Studies in Ecology & Environmental Science in Assam University, Silchar in February, 2012
 30. UGC Observership for NET Examination in June 2012 for Patna University
 31. Member Coordinator of NAAC Peer Team – Visited the RNB College, Maharashtra, 26-28 July, 2012
 32. Guest-in-Honour, “Career Counseling cum Interactive Program on Art & Practice” held at College of Art & Design, Burdwan University, on 27th August, 2012
 33. Judge Member in ‘Seminar Lecture Competition’ held at Dept. of Zoology, The University of Burdwan, Burdwan on 6th September, 2012
 34. Guest-in-Honour, in Silver Jubilee Celebration of Mankar College held at Mankar College, on 25th September, 2012
 35. Chaired in the Technical Session III in the UGC Sponsored National Seminar on “Conservation of Blue Carbon Sink: An Approach towards Safe Environment” at Netaji Mahavidyalaya, Arambag on 11-12 April, 2012
 36. Chaired in the Technical Session IV in the UGC Sponsored National Level Seminar entitled “Ecology, Environment and Development (NASEED–2013)” held on 25 to 27th January 2013 at Sambalpur, Orissa
 37. UGC Observership for NET Examination in June 2013 for Calcutta University
 38. Chairman-cum-Convener in the Session PE03 in the International Conference, IUAES – 2013, held during 5-10th August, 2013 at University of Manchester, UK
 39. Member Coordinator of NAAC Peer Team – Visited the Dr. Babasaheb Ambedkar College of Arts, Commerce & Science, Bramhapuri, Maharashtra 19-21 September, 2013

40. Chaired in the NAAC Sponsored Workshop entitled “*Quality Assurance Initiatives in Higher Education: Challenges, Trends and Priorities*” held on 25 to 26th September 2013 at Maharajadhiraj Uday Chand Women’s College, Burdwan
41. Chaired in the UGC Sponsored National Level Seminar on “Global Warming and Its Social & Economic Effect” at Tarakeshwar Degree College, Tarakeshwar, Hooghly on 2nd & 3rd December, 2013
42. UGC Observership for NET Examination in December 2013 for Ranchi University, Ranchi, Jharkhand
43. UGC Observership for NET Examination in June 2014 for Eastern Region, India
44. UGC Observership for NET Examination in December 2014 for Eastern Region, India
45. Guest of Honour in Seminar-cum-Workshop on “Quality Enhancement and Preparation of Self-Study Report” at Bankura Christian College, Bankura on 28th November, 2014
46. Member of Expert Committee, UGC Major Project Evaluation at University Grants Commission, New Delhi on 26 and 27th December, 2014
47. Expert Member in some National Level Examinations

25. MEMBERSHIP IN DIFFERENT INSTITUTIONS

1. Asian fisheries Society (Full)
2. Inland Fisheries Society of India
3. The Zoological Association, Burdwan
4. Association of Aquaculturists
5. Life Member, Paschimbanga Bijnan Mancha (Burdwan Zonal Committee)
6. Life Member of IIPA, New Delhi
7. Life Member, Sahid Shib Sankar Seba Samity, Burdwan.
8. Life Member of FISEC, since 2007
9. Life Member of Rotary International
10. Life Member of St. Johns Ambulance Association
11. Life member of Crop and Weed Science Society, BCKV
12. Life Member of Society of Toxicology, India
13. Member of IUAES, 2013

24. GUEST TEACHER

1. Guest teacher in the Department of Zoology, since 1994 up to 2004
2. Guest teacher in the Department of Business Administration, since 2004 up to 2006
3. Guest teacher in the Department of Fisheries at Burdwan Raj College, since 1994 up to 2002

27. KEY NOTE ADDRESS

- i) Invited as resource person and delivered **Keynote Address** in the UGC Sponsored National Level Seminar on “Global Warming and Its Social & Economic Effect” at Tarakeshwar Degree College, Tarakeshwar, Hooghly on 2nd December, 2013
- ii) Invited as resource person and delivered **Keynote Address** in the UGC Sponsored National Level Seminar on at ABN Seal College, Cochbehara, WB on 17 – 19 February, 2019

26. OTHER INTERESTS

1. Photography
2. Writing of Popular articles on Environmental Problems
3. Play Drama
4. Gardening
5. Associated with NGOs at Burdwan and working on Cleanness of Environment and Ecofriendly Project

27. ASSOCIATION WITH UGC-ASC, BU

a) Jt. Coordinators

- i) “Computer Science Application” Training Programme organized by Academic Staff College with the help of Department of Computer Science Application.

b) Jt. Coordinators in OP

- i) Twenty-eight OP, UGC-ASC
- ii) Twenty-ninth OP, UGC-ASC
- iii) Thirtieth OP, UGC-ASC
- iv) Thirty-first OP, UGC-ASC
- v) Thirty-second OP, UGC-ASC
- vi) Thirty-third OP, UGC-ASC
- vii) Thirty-fourth to 47th OP, UGC-ASC
- viii) Forty-eighth OP, 2004
- ix) Forty-ninth OP, 2004
- x) Fiftieth OP, 2004

- xi) Fifty-first OP, 2005 xii) Fifty-second OP, 2005
- xiii) Fifty-third to Fifty-eighth OPs, 2006 – 2007
- xiv) Fifty-nine to Sixty-fifth OPs, 2007 – 2008
- xv) Sixty-sixth to Sixty-ninth OPs, 2008 – 2009
- xvi) Seventy to Seventy-fourth OPs, 2009 – 2010
- xvi) Seventy-fifth to Seventy-ninth Ops, 2010 – 2011
- xvii) Eighty to Eighty-two OPs, 2011-2012

c) Coordinator in OP

- i) Eighty-third to Eighty-eighth OPs, 2012-2013

d) Jt. Coordinators in RC

- i) Fifth Refresher Course in Environmental Science
- ii) Sixth Refresher Course in Environmental Science
- iii) Eighth Refresher Course in Environmental Science
- iv) Ninth Refresher Course in Environmental Science, 2005
- v) Tenth Refresher Course in Environmental Studies, 2005
- vi) Fourteenth RC in Environmental Science, 2007 – '08
- vii) Fifteenth RC in Environmental Science, 2008 – '09
- viii) Sixteenth RC in Environmental Science, 2009 – '10
- ix) Nineteenth RC in Environmental Science, 2009 – '10
- x) Second RC Life Science
- xi) Twenty third Refresher Course in Environmental Science, 2014

28. DISSERTATION REPORT OF M. Sc.

a) Dissertation carried out of other departments of University/College

Sl No.	Name of the Student	Topic: Comprehensive area	Name of the College/University	Year
1	Smaranya Haque	Silver nano technology: a new vistas in nano world	Dept of Biotechnology, The University of Burdwan	2008
2	Tanushri Mondal	Ultrastructural and Biochemical changes of gastrointestinal tract of <i>Channa punctatus</i> (Bloch) caused due	Dept of Biotechnology, The University of	2008

		to glyphosate , a herbicides	Burdwan	
3	Manas Kumar Das	Temporal variation on geomorphological status of Hooghly river (Lower Ganges) from 1975 – 2007 – special emphasis on Diamond Harbour area	The University of Burdwan	2008
4	Ushasi De	Water resource potentiality in Barddhaman Municipal Area	The University of Burdwan	2008
5	Krishnanjaan Pakrasi	Water resource potentiality in Barddhaman Municipal Area	The University of Burdwan	2008
6	Smaranya Haque	Effect of sodium fluoride in alimentary canal of <i>Channa Punctatus</i> (Bloch)	Dept of Biotechnology, The University of Burdwan	2008
7	Madhuri Ghosh	Study on temporal variations of microorganisms I relation to limnological parameters of downstream zones of Damodar at Sadarghat	Burdwan Institute of Management and Computer Science	2009
8	Arpita Das	Limnological and microbial study of different zones of Banka River flowing through Barddhaman Municipal areas	Department of Biochemistry, Burdwan Institute of Management and Computer Science	2009
9	Hirak Jyoti De	Ethnomedicinal plants and their uses in West Bengal, India	Indira Gandhi Academy of Environmental Education Research and Ecoplanning, Jiwaji University	2011

b) Dissertation M Sc.

i) Session: 2002-2004

Sl. No.	Name of the Student	Topic	Guide
1	Aloke Kr. Mukherjee	Modification of alimentary canal of <i>Channa punctatus</i> (bloch.) in relation to food and feeding habit at hot water spring at Bakreshwar , Birbhum : A bioecological survey and ultramicroscopic and histological investigation	Dr A R Ghosh
2	Pritha Bhadra	Modification of alimentary canal of <i>Channa punctatus</i> (Bloch.) in relation to food and feeding habit at hot water spring at Bakreshwar , Birbhum : A bioecological survey and ultramicroscopic and histological investigation	Dr A R Ghosh
3	Sudipta Biswas	Study on bioecological condition and modification in alimentary canal at ultramicroscopic level in relation to food	Dr A R Ghosh

		and feeding habit of <i>Puntius sophore</i> .(Ham.) in hot spring at Bakreshwar, Birbhum	
4	Sarbani Paul	Study on bioecological condition and modification in alimentary canal at ultramicroscopic level in relation to food and feeding habit of <i>Puntius sophore</i> .(Ham.) in hot spring at Bakreshwar	Dr A R Ghosh
5	Tania Bose	Modification of alimentary canal of <i>Channa punctatus</i> (Bloch.) in relation to food and feeding habit at hot water spring at Bakreshwar , Birbhum : A bioecological survey and ultramicroscopic and histological investigation	Dr A R Ghosh

ii) Session: 2003-2005

Sl. No.	Name of the Student	Topic	Guide
6/1	Asrafi Khatun	Impact of municipal waste water in horticulture practices in Rahamatnagar , Asansol	Dr A R Ghosh
7/2	Krishnakali Datta	Water quality parameters of Raniganj Coalfield Areas : a comparative study	Dr A R Ghosh & Dr R N Saha
8/3	Partha Pratim Majhi	Biochemical effects of effluent discharged by a sponge iron industry on water body	Dr A R Ghosh
9/4	Sujan Choudhuri	Impact of municipal waste water in horticulture practices in Rahamatnagar , Asansol.	Dr A R Ghosh
10/5	Satarupa Satpati	Biochemical effects of effluent discharged from a sponge iron industry on water body	Dr A R Ghosh

iii) Session: 2004-2006

Sl. No.	Name of the Student	Topic	Guide
11/1	Rituparna Sarkar	Metanil yellow induce alterations in cellular organization of alimentary canal and kidney of indian catfish <i>Heteropneustus fossilis</i>	Dr A R Ghosh
12/2	Sampa Bag	Study of physico-chemical and biological parameters with special reference to habitat of arthropods and microbes in the slug generated by ISSCO, Burnpur	Dr A R Ghosh
13/3	Suvadeep Chakroborty	Effect of sodium fluoride on digestive system and kidney of air-breathing teleost <i>Channa punctatus</i> (Bloch)	Dr A R Ghosh
14/4	Tithi Chatterjee	Study on water quality parameters and effects of runoff with special reference to pesticides from adjacent crop field on fish health in Golapbag Trench	Dr A R Ghosh
15/5	Tarakeshwar	Study on ecological parameter with special reference to soil,	Dr A R Ghosh

	Senapati	aquatic vegetation, zooplankton and fish in the Golapbag Trench	
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iv) Session: 2005-2007

Sl. No.	Name of the Student	Topic	Guide
16/1	Arpita Mukherjee	Effect of arsenic in the different regions of alimentary canal of fish <i>Mastacembelus pancalus</i> (Hamilton)	Dr A R Ghosh
17/2	Amrita Bhoumick	Effect of cadmium in alimentary canal of indian freshwater fish <i>Anabus testudineus</i> (Bloch) and chelation by EDTA and <i>Eichhornia crasspies</i>	Dr A R Ghosh
18/3	Koushik Datta	Environmental status of an ideal village : a case study	Dr A R Ghosh
19/4	Lahari Sarkar	Physico-chemical analysis of water and soil in some lakes/ sayars of Bardhaman	Dr A R Ghosh
20/5	Sabyasachi Mukhopadhyay	Monitoring and air quality assessment at Bankola area, Raniganj Coal field Area , Burdwan, West Bengal	Dr A R Ghosh
21/6	Tanushree Datta	Study of sewage fed fishery in the pond of Khatpukur, Durgapur, Burdwan	Dr A R Ghosh

v) Session: 2006-2008

Sl. No.	Name of the Student	Topic	Guide
22/1	Dipanjana Deb	Study on toxicodynamics of arsenic- infested areas of Madra and Bolderdanga of Pubasthali, Burdwan District	Dr A R Ghosh
23/2	Munmun Chattri	Impact of diesel oil effluents on ecological parameters of a diesel-fed fresh water pond at Barddhaman	Dr A R Ghosh
24/3	Saila Sekhar Ghosal	Isolation of diesel oil degrading bacteria from a diesel fed pond at Barddhaman	Dr A R Ghosh
25/4	Sucheta Adhikary	Study on toxicodynamics of arsenic- infested areas of Madra and Bolderdanga of Pubasthali, Burdwan District	Dr A R Ghosh
26/5	Subhamita Chatterjee	Impact of diesel oil effluents on ecological parameters of a diesel fed fresh water pond at Barddhaman	Dr A R Ghosh
27/6	Subinoy Mondal	Study on thermal stratification of a pit pond in Raniganj coal field areas, Burdwan	Dr A R Ghosh

vi) Session: 2007-2009

Sl. No.	Name of the Student	Topic	Guide
28/1	Sk. Zeeshan Ali	Impact of effluents from textile dye industries of Maheshtala in the adjacent drain of canal water	Dr A R Ghosh
29/2	Shruti Dutta	Chromium toxicity on liver, kidney, overy, pituitary gland and adrenal gland of air breathing teleost <i>Heteropneustes</i>	Dr A R Ghosh

		<i>fossilis</i> (Bloch)	
30/3	Basishali Kahali	Quality assessment of drinking water at Durgapur Municipal area	Dr A R Ghosh
31/4	Priyanka Mandal	Rice mill: a bloom of environmental economy vis-à-vis environmentsl and human health hazards	Dr A R Ghosh
32/5	Reshmi Ghosh	Health risk assessment of rice-mill infested area, Alamgung of Burdwan	Dr A R Ghosh
33/6	Shatabdi Saha	Study on waste water from Hooghly- Bandel Municipality after effective treatment and its subsequent use in aquaculture	Dr A R Ghosh
34/7	Raja Baberjee	Quality assessment of Ganga water near Budge-budge industrial belt	Dr A R Ghosh

vii) Session: 2008-2010

Sl. No.	Name of the Student	Topic	Guide
35/1	Subhajt Bhattacharyya	Analysis of biomedical waste liquid from Arambag Subdivisional Hospital: a Case study	Dr A R Ghosh
36/2	Palas Samanta	Effectiveness of almix in aquatic weed control as well as on fish health and soil and water quality	Dr A R Ghosh
37/3	Bidisha Bera	Characterization of M.S.W from Arambagh town and its effects on adjacent ground water and river water of Dwarakeshwer	Dr A R Ghosh
38/4	Moushumi Pal	Tourist carrying capacity and environmental analysis of Ballavpur Wild life Sanctuary – its problem and future Aspect	Dr A R Ghosh
39/5	Ankita Mukherjee	Analysis of treated waste water from Durgapur Steel Plant used in irrigation via Tamla Nalla	Dr A R Ghosh

viii) Session: 2009-2011

Sl. No.	Name of the Student	Topic	Guide
40/1	Monisha Roy	Comparative study of toxicity of cadmium chloride at three exposure periods (15, 30 & 45 d) on kidney and ovary of <i>Channa punctatus</i> (BLOCH) and <i>Heteropneustes fossilis</i> (BLOCH)	Dr A R Ghosh
41/2	Sabarna Mondal	Effect of cadmium chloride during three phases (15, 30 & 45 d) of chronic exposure on gill, liver, kidney of <i>Heteropneustes fossilis</i> (Bloch)	Dr A R Ghosh
42/3	Debraj Kole	Limnobiological and soil quality assessment: a comparative study on Krishnasayar and pond inside the Burdwan Medical College and Hospital	Dr A R Ghosh

ix) Session: 2010-2012

Sl.	Name of the Student	Topic	Guide
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No.			
43/1	Namita Bandyopadhyay	Comparative study of toxicosis of almix on <i>Anabas testudineus</i> (Bloch), <i>Heteropneustes fossilis</i> (Bloch) and <i>Oreochromis niloticus</i> (Linnaeus)	Dr A R Ghosh
44/2	Sudipta Adhurjya	Chemical analysis and biological study of dietary uptake of iodine by air-breathing teleost, <i>Anabas testudineus</i> (Bloch)	Dr A R Ghosh
45/3	Nibedita Mahato	Chronic toxicity study on olfactory organs in freshwater eel, <i>Macrogathus aculeatus</i> (Bloch) by zinc chloride (ZnCl ₂)	Dr A R Ghosh
46/4	Debajyoti Kundu	Analysis of physicochemical parameters of water and soil and study on bioaccumulation of lead in aquatic organisms in East Kolkata Wetland (EKW)	Dr A R Ghosh

x) Session: 2011-2013

Sl. No.	Name of the Student	Topic	Guide
47/1	Amina Khatun	Study on Physicochemical Parameters and Bioaccumulation of Heavy Metals in East Kolkata Wetlands	Dr A R Ghosh
48/2	Arnab Mondal	Study on Physicochemical Parameters of Water of East Kolkata Wetlands	Dr A R Ghosh
49/3	Amrita Chakraborty	Histological Alteration in Tadpoles of <i>Euphlyctis Cyanophlyctis</i> Under Fluoride Toxicosis	Dr A R Ghosh
50/4	Priyanka Chandra	Study on Limnological Characteristics and Heavy Metals of East Kolkata Wetlands	Dr A R Ghosh
51/5	Rituparna Das	Ultrastructural Changes in Different Tissues of <i>Anabas Testudineus</i> (Bloch) Under Almix Toxicity: A Comparative Study	Dr A R Ghosh

xii) Session: 2012-2014

Sl. No.	Name of the Student	Topic	Guide
52/1	Antara Ghosal	Effect of Dose and Duration of Glyphosate Toxicosis on <i>Lamellidens marginalis</i> (Lamarck, 1819): A Comparative Study	Dr A R Ghosh
53/2	Niladri Sekhar Mondal	Dose Dependent Alterations in Gill and Some Tissues of Digestive System of <i>Channa punctatus</i> (Bloch) Under Arsenic Intoxication	Dr A R Ghosh
54/3	Pragya Kumari	Histopathological and Ultrastructural Alterations in Different Tissues of <i>Oreochromis niloticus</i> (Linn.) Under Glyphosate Exposure	Dr A R Ghosh

55/4	Sukhendu Dey	Bioaccumulation of Glyphosate Herbicide in Macrophytes and Fish Tissues and Subsequent Biochemical Response in Fishes	Dr A R Ghosh
56/5	Sunanda Batabyal	Nutritional Status of Some Freshwater Fishes	Dr A R Ghosh

xiii) Session:2013-2015

Sl. No.	Name of the Student	Topic	Guide
57/1	Binhuti Ranjan Panigrahy	Comparative Toxicosis of Copper and Nickel on <i>Heteropneustes fossilis</i> (Bloch)	Dr A R Ghosh
58/2	Mou Kundu	Effect of Chlorantranilrole Insecticide and Subsequent Recovery with Choline Chloride on <i>Lamellidens marginalis</i> (Lamarck): A Comparative Study	Dr A R Ghosh
59/3	Samapti Dan	Study on Ferterra Insecticide on <i>Oreochromis niloticus</i> (Linn.) and Subsequent Recovery by Choline and Homeopathy Drug	Dr A R Ghosh
60/4	Kaushik Goswami	Histopathological and Ultrastructural Alteration in Different Tissues of <i>Oreochromis niloticus</i> (Linn.) Under Chlorantraniliprole Exposure	Dr A R Ghosh

Xiv) Session:2014-2016

Sl. No.	Name of the Student	Topic	Guide
61/1	Monalisa Kundu	Characterisation of rice mill effulents and its effects on teleostean fish <i>Oreochromis niloticus</i> (L)	Dr A R Ghosh
62/2	Sumona Halder	Limnological and bacteriological assessment of different water sources at Goda, Lakurdi, Burdwan	Dr A R Ghosh
63/3	Arghya Mondal	Histological and biochemical alterations in <i>Anabas testudineus</i> (Bloch), the natural inhabitant of rice mill wastewater	Dr A R Ghosh
64/4	Atanu Patra	Histo-enzymological Changes In <i>Lamellidens Marginalis</i> Due To cadmium Intoxication Under Different Exposure	Dr A R Ghosh

xv) Session:2015-2017

Sl. No.	Name of the Student	Topic	Guide
65/1	Mousumi Kumar	Comparative responses of TiO ₂ nanoparticle on a molluscs, <i>pila globosa</i> (Swainson, 1822) and an Indian major carp, <i>cirrhinus mrigala</i> (Hamilton, 1822) based on two different exposures	Dr A R Ghosh

66/2	Rida Badiya Saba	Impact of ZnO nanoparticle and ZnCl ₂ on <i>Lamellidens marginalis</i> (Lamarck, 1819) and <i>Anabas testudineus</i> (Bloch, 1792): A comparative study	Dr A R Ghosh
67/3	Antara Chakraborty	Haematological responses of potassium dichromate (K ₂ Cr ₂ O ₇) on different exposure periods on <i>Anabas testudineus</i> (Bloch)	Dr A R Ghosh
68/4	Anamika De	Effects of Cr ⁶⁺ on air breathing teleost <i>Channa punctatus</i> (Bloch) and consequent changes in its gut microflora composition	Dr A R Ghosh and Dr Sampa Dutta

xvi) Session:2016-2018

Sl. No.	Name of the Student	Topic	Guide
69/1	Moumita Pal	Exposure-specific responses of UV-B radiation on Skin, Eye and Spleen of <i>Heteropneustes fossilis</i> (BLOCH, 1794)	Dr A R Ghosh
70/2	Souvik Singha	Exposure-specific responses of Cadmium and Selenium on <i>Heteropneustes fossilis</i> : A comparative study based on biochemical and haematological analysis	Dr A R Ghosh
71/3	Bilkis Sultana	Influence of synthetic dyes on Albino Rat and their subsequent removal by specific adsorbents from aqueous solution	Dr A R Ghosh and Dr Naba Kumar Mondal
72/4	Susmita Dutta	Health status of common people in the core zone of Shyamsundarpur colliery, Ukhra, Burdwan	Dr A R Ghosh

xvii) Session: 2017-2019

Sl. No.	Name of the Student	Topic	Guide
73/1	Puspita Ballav	Naphthalene Exposure Induces Haematological, Biochemical and Erythrocytic Alterations In <i>Anabas testudineus</i> (Bloch) under Laboratory Condition	Dr A R Ghosh
74/2	Trisha Biswas	Assessment of Opencast Coal Pits (OCPs) Water Body For Pisciculture: A Case Study on Samdi OCP, Raniganj, Paschim Bardhaman, West Bengal	Dr A R Ghosh
75/3	Meghla Mukherjee	Effects and Subsequent Recovery by Fish Diet, Choline In Cadmium Intoxification Teleostean Fish, <i>Oreochromis niloticus</i> (L.)	Dr A R Ghosh
76/4	Sk. Mirjan	Evaluation of Growth Performance of Indian Major Carps and Air Breathing Teleosts On Application of Humic Feed-O Fert	Dr A R Ghosh

xviii) Session: 2018-2020

Sl. No.	Name of the Student	Topic	Guide
77/1	Megha Santra	Dose Specific Responses of Naphthalene and	Dr A R Ghosh

		Anthracene (PAHs) and Subsequent recovery by Humic Feed-O Fart: A Blood morphological and biochemical analysis	
78/2	Priyanka Dutta	Water and Soil Quality Analysis of some Spots of Digha Coastal Belt	Dr A R Ghosh
79/3	Atanu Dan	Assessment of Water and Soil quality of Abandoned OCPs (Opencast Coal Pits) for Suitability of Pisciculture and Agriculture, at Raniganj Coalfield Area, Paschim Bardhaman, West Bengal	Dr A R Ghosh

xvii) Session: 2019-2021

Sl. No.	Name of the Student	Topic	Guide
80/1	Sugata Das	Removal of Cadmium (Cd ²⁺) from Aqueous Solution using Biochar	Dr A R Ghosh
81/2	Reshmi Nayak	Assessment of Domestic Pollution in a Typical Water body: A Case Study	Dr A R Ghosh

**ACADEMIC STAFF COLLEGE
THE UNIVERSITY OF BURDWAN
DR APURBA RATAN GHOSH**

A. Orientation Programme

Year	Name of the Courses	Duration	Mode of Functioning
1999-2000	27 th Orientation Programme	01.06.99-28.06.99	Prof. B Ghosh & Dr A R Ghosh
	28 th Orientation Programme	26.10.99-22.11.99	Dr N Prasad & Dr A R Ghosh
	29 th Orientation Programme	05.02.00-04.03.00	Sri A Banerjee & Dr A R Ghosh
2000-2001	30 th Orientation Programme	01.07.00-28.07.00	Dr B Ghosh & Dr A R Ghosh
	31 st Orientation Programme	14.10.00-10.11.00	Dr A K Dutta & Dr A R Ghosh
	32 nd Orientation Programme	14.10.00-10.11.00	Dr A K Dutta & Dr A R Ghosh
	33 rd Orientation Programme	14.03.01-10.04.01	Dr Sarit Sadhu & Dr A R Ghosh
2001-2002	34 th Orientation Programme	14.07.01-10.08.01	Dr J K Datta & Dr A R Ghosh
	35 th Orientation Programme	02.11.01-29.11.01	Dr B Ghosh & Dr A R Ghosh
	36 th Orientation Programme	02.11.01-29.11.01	Dr B Ghosh & Dr A R Ghosh

	37 th Orientation Programme	09.03.02-05.04.02	Dr A R Ghosh & Dr S K Sadhu
2002-2003	38 th Orientation Programme	02.07.02-29.07.02	Dr A R Ghosh & Dr M Chatterjee
	39 th Orientation Programme	22.10.02-18.11.02	Dr A R Ghosh & Dr M Chatterjee
	40 th Orientation Programme	22.10.02-18.11.02	Dr A R Ghosh & Dr M Chatterjee
	41 st Orientation Programme	04.01.03-31.01.03	Dr A R Ghosh & Dr M Chatterjee
2003-2004	42 nd Orientation Programme	22.07.03-18.08.03	Dr A R Ghosh & Dr M Chatterjee
	43 rd Orientation Programme	22.07.03-18.08.03	Dr A R Ghosh & Dr M Chatterjee
	44 th Orientation Programme	20.08.03-16.09.03	Dr A R Ghosh & Dr M Chatterjee
	45 th Orientation Programme	10.10.03-06.11.03	Dr A R Ghosh & Dr M Chatterjee
	46 th Orientation Programme	02.01.04-29.01.04	Dr A R Ghosh & Dr M Chatterjee
	47 th Orientation Programme	21.02.04-19.03.04	Dr A R Ghosh & Dr M Chatterjee
2004-2005	48 th Orientation Programme	14.07.04-10.08.04	Dr A R Ghosh & Dr M Chatterjee
	49 th Orientation Programme	01.09.04-28.10.04	Dr A R Ghosh & Dr M Chatterjee
	50 th Orientation Programme	09.11.04-06.12.04	Dr A R Ghosh & Dr M Chatterjee
	51 st Orientation Programme	29.01.05-25.02.05	Dr A R Ghosh & Dr M Chatterjee
	52 nd Orientation Programme	03.03.05-30.03.05	Dr A R Ghosh & r M Chatterjee
2005-2006	53 rd Orientation Programme	07.06.05-04.07.05	Dr A R Ghosh & Dr M Chatterjee
	54 th Orientation Programme	06.08.05-02.09.05	Dr A R Ghosh & Dr M Chatterjee
	55 th Orientation Programme	22.10.05-18.11.05	Dr A R Ghosh & Dr M Chatterjee
	56 th Orientation Programme	21.12.05-17.01.06	Dr A R Ghosh & Dr M Chatterjee
	57 th Orientation Programme	11.02.06-10.03.06	Dr A R Ghosh & Dr M Chatterjee
2006-2007	58 th Orientation Programme	06.06.06-03.07.06	Dr A R Ghosh & Dr M Chatterjee
	59 th Orientation Programme	19.08.06-15.09.06	Dr A R Ghosh & Dr M Chatterjee

	60 th Orientation Programme	10.10.06-06.11.06	Dr A R Ghosh & Dr M Chatterjee
	61 st Orientation Programme	26.12.06-22.01.07	Dr A R Ghosh & Dr M Chatterjee
2007-2008	62 nd Orientation Programme	19.06.07-16.07.07	Dr A R Ghosh & Dr M Chatterjee
	63 rd Orientation Programme	15.09.07-12.10.07	Dr A R Ghosh & Dr M Chatterjee
	64 th Orientation Programme	07.12.07-03.01.08	Dr A R Ghosh & Dr M Chatterjee
	65 th Orientation Programme	04.03.08-31.03.08	Dr A R Ghosh & Dr M Chatterjee
2008-2009	66 th Orientation Programme	05.09.08-01.08.08	Dr A R Ghosh & Dr M Chatterjee
	67 th Orientation Programme	06.09.08-03.10.08	Dr A R Ghosh & Dr M Chatterjee
	68 th Orientation Programme	13.12.08-09.01.09	Dr A R Ghosh & Dr M Chatterjee
	69 th Orientation Programme	03.03.09-30.03.09	Dr A R Ghosh & Dr M Chatterjee
2009 - 2010	70 th Orientation Programme	16.05.09-12.06.09	Dr A R Ghosh & Dr M Chatterjee
	71 st Orientation Programme	01.08.09-28.08.09	Dr A R Ghosh & Dr M Chatterjee
	72 nd Orientation Programme	14.10.09-10.11.09	Dr A R Ghosh & Dr M Chatterjee
	73 rd Orientation Programme	4.12.09-31.12.09	Dr A R Ghosh & Dr M Chatterjee
	74 th Orientation Programme	3.3.10-30.3.10	Dr A R Ghosh & Dr M Chatterjee
2010 - 2011	75 th Orientation Programme	8.5.10-4.6.10	Dr A R Ghosh & Dr M Chatterjee
	76 th Orientation Programme	22.7.10-18.8.10	Dr A R Ghosh & Dr M Chatterjee
	77 th Orientation Programme	27.10.10-23.11.10	Dr A R Ghosh & Dr M Chatterjee
	78 th Orientation Programme	11.1.11-7.2.11	Dr A R Ghosh & Dr M Chatterjee
	79 th Orientation Programme	4.3.11-31.3.11	Dr A R Ghosh & Dr M Chatterjee
2011-2012	80 th Orientation Programme	14.5.11-10.6.11	Dr A R Ghosh & Dr M Chatterjee
	81 st Orientation Programme	16.7.11-12.8.11	Dr A R Ghosh & Dr M Chatterjee
	82 nd Orientation Programme	3.9.11-30.9.11	Dr A R Ghosh & Dr M Chatterjee

	83rd Orientation Programme	10.1.12-6.2.12	Dr A R Ghosh
	84th Orientation Programme	18.2.12-17.3.12	Dr A R Ghosh
2012 - 2013	85 th & 86 th Orientation Programme		Dr A R Ghosh
	87 th Orientation Programme		Dr A R Ghosh
	88 th Orientation Programme		Dr A R Ghosh

B. Refresher Course

Sl. No.	Name of the Courses	Mode of Functioning
1	I RC Environmental Science	Delivered Lecture
2	II RC Environmental Science	Delivered Lecture
3	III RC Environmental Science	Delivered Lecture
4	XIV RC Zoology	Delivered Lecture & Practical Demonstration
5	IV RC Environmental Science	Delivered Lecture
6	V RC Environmental Science	Dr A R Ghosh
7	VI RC Environmental Science	Prof. J K Datta & A R Ghosh
8	VII RC Environmental Science	Delivered Lecture & Practical Demonstration
9	I RC Life Science	Delivered Lecture & Practical Demonstration
10	VIII RC Environmental Science	Prof. S K Dutta & Dr A R Ghosh
11	IX RC Environmental Science	Prof. J K Datta & Dr A R Ghosh
12	X RC Environmental Science	Prof. J K Datta & Dr A R Ghosh
13	XI RC Environmental Science	Delivered Lecture & Practical Demonstration
14	XII RC Environmental Science	Delivered Lecture & Practical Demonstration
15	XIII RC Environmental Science	Delivered Lecture & Practical Demonstration
16	II RC Life Science	Prof. A K Bhattacharyya & Dr A R Ghosh
17	XIV RC Environmental Science	Prof. Ambarish Mukherjee & Dr A R Ghosh
18	II RC Biochemical Science	Delivered Lecture & Practical Demonstration
19	XV RC Environmental Science	Prof. J K Datta & Dr A R Ghosh
20	XVI RC in Environmental Science	Prof. J K Datta & Dr A R Ghosh
21	XIX RC in Environmental Science	Prof. J K Datta & Dr A R Ghosh

C. LIST OF ACTIVITIES 2019-2020

Sl No.	Position	Name of the Event	Organised by	Date
1	Session Chair	Nat. Symposium on Waste Mangt. & Resource Circulation	Natn. Inst. Of Tech. Durgapur (NITD), Durgapur	9 – 10, Aug, 2019
2	Expert-cum-Speaker	One day workshop on Dissemination of Information Programme Topic: Global warming & Carbon Foot Print: Role IT	MBC Inst. Of Engineering & Technology, Sadhanpur, Purba Bardhaman	16.11.2019

3	Course Coordinator	UGC-HRDC RC on Natural & Man Made Disaster causes, Impact and Management	UGC-HRDC The University of Burdwan	3.12.19 to 16.12.19
4	Member Coordinator	Maharashtra Mahavidlaya, Nilanga	NAAC	11-03-2019 to 12-03-2019
5	Member Coordinator	Vivek College of Bijnor	NAAC	20-09-2019 to 21-09-2019
6	Invited Speaker	Workshop on AQAR	TDB College, Raniganj, Paschim Bardhaman	18.01.20
7	Resource Person	HE and Importance of NAAC	UGC-HRDC The University of Burdwan	01.02.20
8	Resource Person	Workshop on SSR preparation for College	UGC-HRDC The University of Burdwan	12.02.20
9	Resource Person	Special Lecture on Academic Audit	Bolpur College, Birbhum, WB	27.02.20
10	Invited Speaker	Microplastics and Environmental Threat	27 th WB State Science Congress	29.02.20
11	Inaugural Lecture	Two day Seminar on Biodiversity Conservation & Environmental Law Topic: Sixth Mass Extinction <i>vis-a-vis</i> Biodiversity	Rasbindra Bharati University	05.03.20 & 6.03.20
12	Resource Person	Lecture on Academic Audit	BB College Asansol, Paschim Bardhaman	12.03.20
13	Resource Person	Workshop on preparation of SSR for NAAC Accreditation	IC Department The University of Burdwan	17.03.20
14	Invited Speaker	MICROPLASTICS IN OUR SEAS NOW OUTNUMBERS STARS IN OUR GALAXY	Deptt. of Environmental Sc. University of Kalyani, Nadia	21.03.20
15	Member Coordinator	Smt Mahadevi Mahavidyalaya, Shikohabad, UP	NAAC	8 & 9 February, 2021
16	Member Coordinator	Govt. College Manawar Manawar, MP	NAAC	March 22 & 23, 2021

C. LIST OF ACTIVITIES 2020 – 2021

Sl No.	Position	Name of the Event	Organised by	Date
1	Coordinator	Refresher Course in Sustainability and the Future	UGC-HUMAN RESOURCE DEVELOPMENT CENTRE, The	07.01.2021 to

		of the Earth (07.01.2021 to 20.01.2021)	UNIVERSITY of Burdwan	20.01.2021
2	Resource Person	Refresher Course in Environmental Science 09.02.2021 to 22.02.2021	UGC-HUMAN RESOURCE DEVELOPMENT CENTRE, The UNIVERSITY of Burdwan	19.02.2021
3	Resource Person	Refresher Course in Natural and Biosciences 24.11.2020 to 07.12.2020.	UGC-HUMAN RESOURCE DEVELOPMENT CENTRE, The UNIVERSITY of Burdwan	27.11.20
4	Resource Person	Refresher Course in Natural and Biosciences 24.11.2020 to 07.12.2020.	UGC-HUMAN RESOURCE DEVELOPMENT CENTRE, The UNIVERSITY of Burdwan	02.12.20
5	Attended	International Webinar on Present and Future Strategies to combat emerging reemerging contagious diseases	Department of Microbiology, The University of Burdwan	16.08 to 18/08, 2020
6	Chief Speaker/Guest Speaker	Whither Humanity: Environmental Challenges, Pandemics and the search for a better tomorrow	Abhedananda Mahavidyalaya, Sainthia	05/06/21
7	Chief Speaker/Guest Speaker	One-Day State Level Webinar on Ecosystem Restoration towards Sustainable Society	ABN Seal College, Cochbehar	05/06/21
8	Guest Speaker	Speaker in the Seminar of World Environmental Day	Environmental Science Discipline Khulna University Khulna-9208, Bangladesh	05/06/21
9	Chief Speaker & Judge	Celebration of World Environment Day	Deptt. of Geography of Swami Dhananjay Das Kathiababa Mahavidyalaya, Bhara, Bankura	5 th June 2021
10	Chief Speaker/Guest Speaker	Celebrating 47th World Environment Day, 2021 One Day National Webinar on Ecosystem Restoration: Striving Towards Sustainability	Department of Geography (Day & Hindi Shift) Under the aegis of IQAC, Banwarilal Bhalotia College, Asansol, West Bengal, India	05/06/21
11	Chief Speaker/Guest Speaker	Observance of World Environment Day	Organized by J.K. College, Purulia, 2021	05/06/21 & 06/06/21
12	Chief Speaker/Guest Speaker	TWO DAYS' INTERNATIONAL WEBINAR ON SUSTAINABLE DEVELOPMENT July 29 30, 2020	Department of Geography, Kandra Radha Kanta Kundu Mahavidyalaya, Burdwan-713129, West Bengal, India	29/07 & 30/07/2020
13	Resource Person	Online Certificate Course on Environmental Impact	Organised by CERED (Centre for Environment, Research and	12/9 & 13/09/2020

		Assessment and Its Environmental Applications	Development); Friends of Environment	
14	Resource Person	Online workshop on Green Audit/Environmental Audit before the members of IQAC-NAAC Core Committee	SYAMSUNDAR COLLEGE, SHYAMSUNDAR BURDWAN – 713424, W.B	24.04.2021
15	Resource Person	National Webinar titled “Future of Higher Education in India in response to ongoing pandemic: New Demand, New responsibilities	Organized by IQAC, Syamsundar College in association with IQAC, Burdwan Raj College.	20/08/2020
16	Chief Speaker/Guest Speaker	Online Workshop on Research Patents and Development of Industry-Academia Collaboration	Organized by IQAC, USTM, Meghalaya	23/07/20
17	Chief Speaker/Guest Speaker	One day National Level e-conference on Environment in the Age of COVID 19 Chairperson	Hariharpur Friends of Environment in Collaboration with Deecan Environmental Research Organisation	9/05/2021
18	Guest Speaker	Webinar on Implementation of National Education Policy (NEP) 2020	Institute of Engineering & Management, Kolkata, Saltlake, WB	24/05/2021
19	Resource Person	Faculty Induction Programme (FIP)-01 Resource Person	UGC-HUMAN RESOURCE DEVELOPMENT CENTRE, GAUHATI UNIVERSITY: GUWAHATI – 781 014	23.09.2020
20	Resource Person	Faculty Induction Programme (FIP)-02	UGC-HUMAN RESOURCE DEVELOPMENT CENTRE, GAUHATI UNIVERSITY: GUWAHATI – 781 014	12.10.2020
21	Resource Person/Guest Speaker	in the One-day National level Webinar on “ <i>Warning to Humanity: Microorganisms and Climate Change</i> ”	Nabadwip Vidyasagar College, Nabadwip, Nadia, West Bengal.	28.07.2020
22	Chief Speaker	National Level Webinar on “ <i>Aspects of Biodiversity and Climate Change Issue in the Present Scenario</i> ”	Depts. of Zoology, Mathematics, & Environmental Studies Unit under the aegis of IQAC, Netaji Nagar Day College, Kolkata in collaboration with Hariharpur Friends of Environment Society	3/09/2020
23	Resource Person/	Webinar on ‘ <i>Future of Higher Education in India in</i>	Shyamsundar College, Shyamsundar, Purba Bardhaman	20/08/2020

	Guest Speaker	<i>response to ongoing pandemic: new demand, new responsibilities</i> ’, scheduled on		
24	Reviewer	Certificate of Excellence in Review	Asian Journal of Environment & Ecology	2020
25	Chairperson in Technical Session	10 th International Conference on Sustainable Waste Management towards Circular Economy	International Society of Waste Management, Air and Water (ISWMAW), etc.	07.12.2020
26	Resource Person/ Guest Speaker	Online Workshop-cum-Meeting with IQAC- Shyamsundar College on “Green Audit” of this college.	Shyamsundar College, Shyamsundar, Purba Bardhaman	24/04/2021
27	Guest Speaker	International Webinar on “Ecology, Restoration and Management” CELEBRATING “WORLD ENVIRONMENT DAY 2021”	Organised by International Academy of Science and Research (IASR), Kolkata; Barrackpore Rastraguru Surendranath College, Dist.- North 24 Pgs., West Bengal and Scientific and Environmental Research Institute (SERI), West Bengal.	12 to 14 June 2021
28	Guest Speaker and Judge	Celebration of WED 2021 Guest Speaker & Judge	TDB College, Raniganj	5 th June 2021

C. LIST OF ACTIVITIES 2021 – 2022

Sl No.	Position	Name of the Event	Organised by	Date
1	Invited Speaker	Research Methodology Part - I	Conservation Biology Durgapur Govt. College, Paschim Bardhaman	24.07.21
2	Special Lecture	One Day Webinar on “ENVIRONMENTAL SCIENCE: THE CAREER OPPORTUNITY”	Department of Environmental Science Sidho-Kanho-Birsha University, Purulia	August 07, 2021
3	Invited Speaker	Research Methodology Part - II	Conservation Biology Durgapur Govt. College, Paschim Bardhaman	07.08.21
4	Special Lecture	Academic Audit	Institute of Engineering & Management, Kolkata	23.08.2021
5	Key note Speaker	NAAC granted Virtual Seminar on ‘Innovative Teaching - Learning Practices Pertaining to	Internal Quality Assurance Cell (IQAC) Institute of Engineering & Management.	Sept. 1 & 2, 2021 (Scheduled)

		Sustainable Academic Growth In Higher Educational Institutes'		
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