



Anisa Mitra (M.Phil,Ph.D.)

Assistant Professor, Department of Zoology

- Contact Information

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Education

- Ph D in 2015 from University of Calcutta
- M.Phil. in 2010 from University of Calcutta
- M. Sc. in 2008 from University of Calcutta
- B. Sc (Honours in Zoology) in 2006 from University of Calcutta

Areas of Research Interest

- Fisheries and aquaculture
- Fish nutrition, reproduction and developmental biology
- Climate change and sustainability
- Ecology and ecotoxicology

Teaching Areas

Animal Diversity, Animal Physiology and Biochemistry, Comparative Anatomy, Ecology, Genetics And Evolutionary Biology, Apiculture, Sericulture, Aquarium Fish Keeping, Applied Zoology, Fisheries Science

Publications and Paper Presentations

1. **Mitra, A.**, Abdel-Gawad, F. K., Bassem, S., Barua, P., Assisi, L., Parisi, C., ... & Guerriero, G. (2023). Climate Change and Reproductive Biocomplexity in Fishes: Innovative Management Approaches towards Sustainability of Fisheries and Aquaculture. *Water*, 15(4), 725.IF 3.8
2. **Mitra,A** and Barua P. 2023. Coping Practices of Women Fisherfolk in Responses to Climate Change at UNESCO Declared World Heritage Site of Sundarbans. In book: Ecological Footprints of Climate Change. Springer. DOI: 10.1007/978-3-031-15501-7_28
3. Barua P, **Mitra A**, Islam M,. Effect of Salinity Intrusion on Sediments in Paddy Fields and Farmers' Adaptation Initiative: A Case Study.2023. In book: Global Agricultural Production: Resilience to Climate Change. Springer.DOI: 10.1007/978-3-031-14973-3_21

4. Barua P, Islam M, **Mitra A**. Socio-economic condition of the indigenous fishermen in and around an artificial lake of Bangladesh. *MOJ Eco Environ Sci*. 2022;7(5):162- 169. DOI: 10.15406/mojes.2022.07.00262
5. P Barua, S. H. Rahman, S. Eslamian [...], **A Mitra**. Sustainable Management Solution for the Water Crisis in Coastal Bangladesh. In: *Water Scarcity: Global Perspective, Issues and Challenges* (pp.67-105). NOVA Science Publisher, USA.2022
6. P Barua, M Islam, **A Mitra**. 2022. Developing a Sustainable Coastal Aquaculture Value Chain for the Rural Communities of Bangladesh.. *IUP Journal of Supply Chain Management* 19 (1), 7-44
7. A Mitra and P Barua. 2022. Water crisis and aquaculture sustainability: Present status and future perspectives. In: *Water scarcity:Global perspectives,issues and challenges*.Nova publishers.USA
8. R S.H.[.....] , **A Mitra**. 2022. Sustainable management solution for the water crisis in Bangladesh. In: *Water scarcity:Global perspectives,issues and challenges*.Nova publishers.USA
9. P Barua, S Elsamian, **A Mitra**. Sustainable management for conservation of urban aquatic forms in Bangladesh.2022. In book: *Handbook of Uncertainty in Eurasian Forecasting*.Springer.
10. Barua,P.,Eslamian S.,**Mitra, A.**,Islam,Ratna,F.M.2022. Freshwater scarcity scenario in a coastal area of Bangladesh. In: *Water scarcity:Global perspectives,issues and challenges*.Nova publishers.USA
11. Barua,P. and **Mitra, A**. 2022. Indigenous knowledge as adaptation strategies of farmers in response to climate change in Northwest Bangladesh. *IUP Journal of Knowledge Management* . Jul2022, Vol. 20 Issue 3, p44-77. 34p.
12. Roy, D; **Mitra, A**; Homechaudhuri; S. Differential Expression of Genes Responsible for Reproduction of Male and Female Danio rerio Following Interaction Between Estrogen Receptor and Cadmium.Proceedings of Zoological Society. 74, 456–465
13. **Mitra, A.**, Roy,D and Homechaudhuri S.(2021). Effect of N ethyl-N-nitrosourea (ENU) toxicity on early development of Asian catfish *Clarias batrachus* (Linnaeus, 1758). *International Journal of fisheries and aquatic studies*. 9(6): 200- 204. NAAS Rating: 3.99
14. Roy,D., **Mitra, A**. and Homechaudhuri S.(2021). Differential Expression of Genes Responsible for Reproduction of Male and Female Danio rerio Following Interaction Between Estrogen Receptor and Cadmium. *Proceedings of the Zoological Society* DOI: 10.1007/s12595-021-00395-1.IF 0.71
15. **Mitra, A**. Thought of Alternate Aquafeed: Conundrum in Aquaculture Sustainability?. *Proc Zool Soc* 74, 1–18 (2021). <https://doi.org/10.1007/s12595-020-00352-4>.IF 0.71
16. **Mitra, A.**, Roy, D and Homechaudhuri S.(2020). Evaluating the haematological and biochemical changes following acute toxicity of cadmium in air-breathing perch *Anabas testudineus* (Bloch,1792) *Journal of Fisheries and life sciences* 5(2):45-52
17. Roy,D., **Mitra, A.**, Biswas,M., Chakraborty,S., Pal,S. and Homechaudhuri S.(2019). Earlyontogeny of the Asian catfish Magur, *Clarias batrachus* (Linnaeus, 1758) *International Journal of Fisheries and Aquatic Studies*.7(1) 287-292. Online ISSN: 2347-5129. Print ISSN: 2394-0506. NAAS Rating: 3.99
18. **Mitra A.**, Mukhopadhyay P.K. and Homechaudhuri S. (2018). An Overview of Biology And Culture Potentials of Humped Featherback *Chitala chitala* (Hamilton, 1822) – A NewCandidate for Aquaculture Diversification. *Reviews in fisheries science and aquaculture*.26(3):371-380. Print ISSN: 2330-8249 Online ISSN: 2330-8257. Impact factor 10.5
19. Roy, S., Kumar, V., **Mitra, A.**, Manna, R.K. and Homechaudhuri, S. (2018) Amylase and protease activity in shrimps and prawn of Sundarbans, West Bengal, India. *Indian Journalof Geo-Marine Sciences* 47(01):53-59. ISSN, 0379-5136.Impact factor 0.289.
20. **Mitra A.**, Mukhopadhyay P.K. and Homechaudhuri S. (2017). A probiotic experiment with *Bacillus licheniformis fb11* to evaluate the digestive efficiency and growth performance in *Chitala chitala* (Osteoglossiformes; Notopteridae). *Proceedings of Zoological Society* doi.org/10.1007/s12595-017-0227-x. ISSN: 0373-5893 (Print) 0974-6919 (Online)
21. **Mitra A.**, Mukhopadhyay P.K. and Homechaudhuri S. (2017). Profile and partial characterization of digestive enzymes Featherback *Chitala chitala* (Osteoglossiformes: Notopteridae) during early development. *Proceedings of Zoological Society* 70(2)141-149. ISSN: 0373-5893 (Print) 0974-6919 (Online)
22. Kalueff,A.V. Echevarria,D.J.^{2,5},Homechaudhuri,S.⁶,Stewart,A.M.^{2,3},Collier,A.D.^{2,5},Kaluyeva,A.A.³,Li,S.¹,Liu,Y.¹,Chen,P.¹,Wang,J.¹,Yang,L.¹,**Mitra,A.**⁶,Pal,S.⁶,Chaudhuri,A.⁶,Roy,A.⁶,Biswas,M.⁶,Roy,D.⁶,Podder,A.⁶,Poudel,M.K.^{2,3},Katara,D.P.⁷,Mani,R.J.⁷,Kyzar,E.J.^{2,8},Gaikwad,S.⁹,Nguyen,M.^{2,3},Song,C.^{1,9}.(2016).Zebrafish neurobehavioral phenomics for aquatic neuropharmacology and toxicology research. *Aquatic Toxicology*. 170:297-309 ISSN: 0166-445X Impact factor-3.5

23. **Mitra A.**, Mukhopadhyay P.K. and Homechaudhuri S. (2014). Allometric growth pattern during early developmental stages of Featherback, *Chitala chitala* (Hamilton 1822) (Osteoglossiformes: Notopteridae). *Asian Fisheries Science* 27:260-273. ISSN 01166514. NAAS 4.55
24. **Mitra A.**, Mukhopadhyay P.K. and Homechaudhuri S. (2014). Understanding probiotic potentials of *Bacillus* bacterial population isolated from *Chitala chitala* (Osteoglossiformes; notopteridae) by comparing the enzyme activity in vitro. *International Journal of Pure and Applied Zoology* 2 (2): 120-127. Electronic ISSN: 2320-9585, Print ISSN: 2320-9577
25. **Mitra A.**, Mukhopadhyay P.K. and Homechaudhuri S. (2015). Histomorphological study of gut developmental pattern in the early life history stages of featherback, *Chitala chitala* (Hamilton). *Archives of Polish Fisheries* 23:25-35. SNIP-0.82. Online ISSN: 2083-6139
26. **Mitra A.** and Homechaudhuri S. (2013). Trophic Niche and Nutritional Profile of two Mudskippers *Periophthalmus novemradiatus* and *Boleophthalmus boddarti* in their Native Estuarine Habitat. *Science and Culture* 79 (5–6):248-251. ISSN0036-8156

Book:

1. Biology and culture potential of *Chitala chitala*. **Mitra A.**, Mukhopadhyay P.K. and Homechaudhuri S. (2018). Astral international publication. Delhi, India xiii+89. **ISBN:** 9789386071897

Magazine:

1. Mitra, A.(2016) Chital mach:kichu gyatobyoy bisoy. *Matsya sambad* 1(3)34-37.

2. **Mitra A.** and Mukhopadhyay P.K. (2012). *Chitala chitala* an ideal species for aquaculture diversification. *Agrovet Buzz* 5(3):63-67.

Paper presented:

1. Delivered online lecture on “Future Brief: sustainable aquaculture with new candidate species *Chitala chitala*” as Guest speaker at the Department of Biology, Federico II University, Naples (Italy) for master’s students and Board members of the International Master School in Marine Biology and Aquaculture, curriculum: Aquaculture.
2. Delivered an enlightening talk in the Online Orientation Course organised by the Department of Zoology in “Basic Ecology and Parasitology” for B.Sc. Zoology Honours and General Students of Bangabasi Morning College on 18th August, 2020
3. Presented paper entitled sustainable aquafeed the conundrum in modern aquaculture in e consus international e conference on revisiting strategies for sustainable development organized by IQAC, BB college, Asansol on 13th -14th June 2020.
4. Presented paper on THE GREENING OF AQUACULTURE: A STEP TOWARDS SUSTAINABLE COASTAL in Virtcon 2020 organized by Bhairab Ganguly College and Dumdum Motijheel college on 6th and 7th July 2020.
5. Presented paper in national seminar on advancement of biology in the 21st Century on 28th -29th February 2020
6. Presented paper entitled comparing dietary niche between two species of gobiidae in their native estuarine habitat of sundarban in the International seminar on Sundarbans:science to society organized by Sundarban Hazi Desarat college in collaboration with Sundarban Anilkrishna Mahavidyalaya on 26th January 2020.
7. Presented poster in international conference INTZOOCON 2018 organised by Department of Zoology University of Calcutta. (Hundred year celebration).1.2.2018-3.2.2018.
8. Presented paper in Prof. Hiralal Chaudhuri Commemorative Conference. Organised by Zoological Society of Kolkata and department of zoology University of Calcutta.

Seminars/Webinars:

- Participated in two days international conference on Sundarbans past,present and future possibilities on 4th and 5th January 2020
- Participated in one day seminar on excellence in biological research in India 2019 on 21st November 2019 organized by The Zoological Society Kolkata
- Participated in Living on the Edge with COVID-19”, organized by IQAC, Triveni Devi Bhalotia College, Raniganj, West Bengal, India on 4th June, 2020
- “Promotion of College Teachers/Librarians under Career Advancement Scheme (CAS)” organised by IQAC, Alipurduar College on 8th August, 2020 as per registration Ref. No. APDC/IQAC/2020/063.
- “Revised NAAC Accreditation Process” organised by Internal Quality Assurance Cell, Bamanpukur Humayun Kabir Mahavidyalaya, in association with National Assessment and Accreditation Council, Bengaluru on 17th August, 2020 from 11:00 AM to 1 PM

- Two days International Webinar ‘Aquatic Ecosystem: Prospect and future challenges’ organized by Marine Ecology Laboratory, Presidency University in association with Aquaphile on 18-19 July, 2020
- International webinar on climate change, biodiversity and conservation in northern west Bengal organized by IQAC Birsa Munda College, Darjeeling 27th August 2021
- One Day Webinar on “Changing Times and New Classrooms” held on August 09, 2020, Time: 3PM - 7:30PM organized by West Bengal College and University Professor Association.

- Participated in the National Webinar on 30th April 2021 on Impact of NEP 2020 on quality parameters in institutions of Higher Education organized by IQAC of Maniben Nanavati Women's College with NAAC
- participated in the one day State Level Webinar entitled POST PANDEMIC TEACHING-LEARNING METHOD: A PARADIGM SHIFT Held on 15th June 2020, Organized by IQAC, Bhairab Ganguly College in collaboration with IQAC, Sree Chaitanya College, Habra
- Participated in the webinar The emergence of RNA world on 10th August 2020 organized by Bhairab Ganguly College
- Two day National Level Webinar on Recent Strategies and Prospects of Aquaculture Organized by Department of Zoology in collaboration with Internal Quality Assurance Cell (IQAC), Vidyasagar College, Kolkata on 10th & 11th July, 2021
- participated in the International Webinar on "Small Scale Fisheries in Inland Open Waters: Status and Opportunities" organized by ICAR-CIFRI in collaboration with IFSI & PFGF during 9th and 10th September 2020
- Participated in National Webinar on Freshwater Fish Diversity in India organized by ZSI on 13th August 2020
- Participated in the one day National Webinar on Traditional blended online: a paradigm shift in teaching-learning in higher education on 1st August 2020 by IQAC of Dhruba Chand Halder College
- Participated in state level webinar on promotional scheme of college teachers organized by Panihati mahavidyala on 9th august 2020
- Participated in the National Webinar on 17th July, 2021 on “Conservation Breeding of Rare and Endangered Animals” organized by Seth Anandram Jaipuria College Department of Zoology with IQAC in collaboration with Padmaja Naidu Himalayan Zoological Park, Darjeeling and Alipore Zoological Garden, Alipore
- Participated in national webinar on COVID 19 Testing and modelling perspective on 5th July 2020 organized by Surendranath college

- Participated in Two days International webinar on biodiversity and sustainable development in human welfare organized by IQAAC Bijoy Krishna Girls' College on 29th 30th 2020
- Participated in the international seminar titled "spectrum of advanced biological sciences, organised by iqac and department of microbiology on 27th september, 2020
- Participated in the online training programme on "Futuristic Approach towards Construction of Sustainable Structures- Focusing on the Sundarbans" on 16 Jul 2021 organized by National Institute of Disaster Management, Ministry of Home Affairs, Govt. of India in collaboration with Dhruba Chand Haldar College
- Organized one day international webinar on contemporary issues in biological sciences in collaboration with IQAC Sundarban Hazi Desarat College on 27th September 2020
- Participated in International Webinar on COVID 19: Emerging Challenges and Capacity Building 26th and 27th June, 2020 Organized by I.Q.A.C., Bangabasi Morning College
- participated in the International Webinar entitled "COVID-19: Through the Eyes of Young Researchers" on July 3rd & 4th, 2020 organized by Surendranath College
- Scientific seminar – "Excellence in Biological Research in India". Organised by The Zoological Society, Kolkata. 21.11.2019.
- M.M. Chakravarty and H.K. Mookerjee memorial lecture.2018. Organised by The Zoological Society, Kolkata. 16.2.2018.
- Participated in M.M. Chakravarty and D.N. Ganguly memorial lecture.2017. Organised by The Zoological Society, Kolkata. 8.2.2017.

Workshop attended

- One day training programme on Mushroom cultivation, modern horticulture and vermicomposting organized by Sundarban Research Society, an organization under Sundarban Hazi Desarat College on 17th march 2022.
- One week STTP on statistical Analysis in SPSS software (online mode) workshop from 1st June to 6th June 2020 organized by REST Society for research International, Tamilnadu, India

- Science leadership workshop organized by central university of Punjab, Bhatinda from 22nd June to 28th June 2020.
- Participated in 5-day international online workshop on “Emotional Management” on and from 31st March to 4th April 2020 organized by Indian Institute of mother and child welfare from 31st March to 4th April 2020
- Participated in the national workshop on reimagining the teaching methods in the time of Corona pandemic and post pandemic from 16th May to 18th May 2020
- Seminar attended on B.C.S. Practical workshop on flow cytometry organised by university of Calcutta and cytometry solutions pvt. Ltd. 18.3.2018.

Faculty induction programme /Faculty development programme

- Participated in the Faculty Induction programme organized by Jawaharlal Nehru Institute of Technology, Hyderabad from 10.2.2021 to 19.3.2021 and obtained A+ grade.
- Faculty development Programme organized by Ramanujam College from 20th July to 26th July 2020.
- Faculty Development Programme from 2020-09-03 to 2020-09-17 on LaTeX organized by Sidho Kanho Birsha University with course material provided by Spoken Tutorial Project, IIT Bombay
- completed one week Faculty Development Program on "ADVANCED PEDAGOGICAL TECHNIQUES" from October 29 - November 05, 2020 and obtained a grade A organized by TLC Ramanujan College

Research Projects Undertaken in Last 5 Years

NA

Awards and Recognitions

- Research work won National level young scientist award (2017) for poster presentation in Neoclassical approaches in Zoological sciences, Organised by Zoological Society of Kolkata and department of zoology University of Madras.

- National level Young scientist award (2016) for poster presentation in Prof. Hiralal Chaudhuri Commemorative Conference. Organised by Zoological Society of Kolkata and department of zoology University of Calcutta.
- Awardee of D.N. Ganguly award (The Zoological Society, Kolkata), 2007.
- Achieved the Merit Certificate for National Scholarship Scheme, 2003 for H.S. examination, West Bengal.
- Life Member of the Zoological society of India, Kolkata
- Life Member of Aquatic Biodiversity Conservation Society, NBFGR, India
- Assistant Editor of The Proceedings of Zoological Society, Kolkata
- Teacher member for laboratory notebook preparation for B.Sc. Zoology General curriculum
- Reviewer of internal and national scientific journals