Dr. Dibyendu Kamilya

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Education:

2006	Ph. D., Fish Immunology, IIT Kharagpur, West Bengal, India
2002	M. F. Sc. Fishery Pathology and Microbiology, West Bengal University of Animal and Fishery Sciences, West Bengal, India
1999	B. F. Sc., Fisheries Science, West Bengal University of Animal and Fishery Sciences, Kolkata, West Bengal, India

Professional Experience:

2022-Present	Associate Professor	IIT Kharagpur, West Bengal, India
2008-2022	Assistant Professor	College of Fisheries, CAU (I), Lembucherra, Tripura
2007-2008	Scientist (Food Microbiology)	WBUAFS, Kolkata, West Bengal, India
2006-2007	Lecturer	OIST, Vidyasagar University, West Bengal, India
2002-2005	Senior Research Fellow	IIT Kharagpur, West Bengal, India

Awards and Honors:

2022	Visiting Scholar, AIT Bangkok, Thailand
2021	Editorial Board member, Indian Journal of Animal Health
2017	Dr. M. S. Swaminathan award for 'Best Indian Fisheries Scientist'
2013	Awarded with a project under the Fast Track Young Scientist scheme, SERB, DST, Govt. of India
1998	Certificate of merit for securing high position (rank-92) in the list of meritorious candidates qualifying for awards in the higher secondary examination from West Bengal
1997	Certificate of merit for securing high position (rank-84) in the list of meritorious candidates qualifying for awards in the secondary examination from West Bengal

Sponsored Projects:

1. 2009-10 (as PI): Immuno-hematological characteristics of EUS affected fish in Tripura – sponsored by CAU, Imphal; project value - 0.84 lakhs
2. 2011-15 (as Co-PI): Molecular characterization of type-1 interferon in Indian major carps and its application as an adjuvant for fish vaccination – sponsored by DBT, Govt. of India; project value – 60.49 lakhs
3. 2013-16 (as PI): Development of a biofloc-probiotic integrated system for aquaculture bio-remediation and fish health management – sponsored by SERB, DST, Govt. of India; project value – 15.7 lakhs
4. 2014-17 (as PI): Molecular characterization of leptin in Indian major carps – sponsored by DBT, Govt. of India; project value – 53.55 lakhs
5. 2018-21 (as Co-PI): Biocontrol of Aeromonas hydrophila and Flavobacterium columnare infection in Labeo rohita through phage therapy and paraprobiotics – sponsored by DBT, Govt. of India; project value – 55.55 lakhs
6. 2018-21 (as Co-PI): National Surveillance Programme for Aquatic Animal Diseases (Sub Project No. 22) – sponsored by NFDB, Govt. of India; project value – 75.93 lakhs
7. 2019-22 (as PI): Setting up of Aquatic Animal Health (AAH) Laboratory (Disease Diagnostic Services and Screening of Products for Specific Pathogens) – sponsored by NFDB, Govt. of India; project value – 116.72 lakhs
8. 2019-22 (as Co-PI): Mobile based agro-advisory system in Mizoram and Tripura – sponsored by DIC, Govt. of India; project value – 176.86 lakhs
9. 2021-22 (as Co-PI): Livelihood security and entrepreneurship development through on-farm mass cultivation and utilization of Wolffia globose for fish feeding and characterization of bioactive compounds for functional product development – sponsored by DBT, Govt. of India; project value – 164.53 lakhs

Publications:

1. Monsang, S.J., Acharaya, A., Choudhury, T.G., **Kamilya, D*.** 2022. Dietary *Asparagus racemosus* ethanolic root extract modulates immune-biochemical response, immune gene expression, and provides protection against Aeromonas hydrophila in *Labeo rohita* fingerlings. *Aquaculture Research* (Accepted).

2. Devi, A.A., Khan, M.I.R., Choudhury, T.G., **Kamilya, D***. 2022. *In vitro* assessment of probiotic potential of an autochthonous bacterial isolate, *Pseudomonas mosselii* COFCAU_PMP5. *Microbiology* 91 (2), 207–214.
3. Khan, M.I.R., **Kamilya, D***., Choudhury, T.G., Rathore, G. 2022. Dietary administration of a host-gut derived probiotic *Bacillus amyloliquefaciens* COFCAU_P1 modulates immune-biochemical response, immune-related gene expression, and resistance of *Labeo rohita* to *Aeromonas hydrophila* infection. *Aquaculture* 546, 737390.
4. Khan, M.I.R., Choudhury, T.G., **Kamilya, D**., Choudhury, T.G., Tripathy, P.S., Rathore, G. 2021. Deciphering the probiotic potential of *Bacillus amyloliquefaciens* COFCAU_P1 isolated from the intestine of *Labeo rohita* through *in vitro* and genetic assessment. *Probiotics and Antimicrobial Proteins* 13, 1572 – 1584.
5. Monsang, S.J., Acharaya, A., Khan, M.I.R., **Kamilya, D***. 2021. *In vitro* effects of *Asparagus racemosus* ethanolic root extract on cellular immune response and immune-related gene expression of *Labeo rohita* (Hamilton, 1822) leucocytes and anti-*Aeromonas hydrophila* activity. *Aquaculture Research* 52 (10), 4724 – 4734.
6. Nath, K., Munilkumar, S., Patel, A.B., **Kamilya, D**., Pandey, P.K., Sawant, P.B. 2021. *Lamellidens* and *Wolffia* canopy improves growth, feed utilization and welfare of *Labeo rohita* (Hamilton,1822) in integrated multi-trophic freshwater aquaculture system. *Aquaculture* 534, 736207.
7. Irungbam, S., Devi, W.M., Monsang, S.J., Kamilya, D. 2021.Effect of feed deprivation on immune-haematological responses and resistance of *Labeo rohita* (Hamilton, 1822) to *Aeromonas hydrophila* infection. *Indian Journal of Animal Health* 60 (2-Spl), 193-200.
8. Khan, M.I.R., Choudhury, T.G., **Kamilya, D***., Monsang, S.J., Parhi, J. 2020. Characterization of *Bacillus* spp. isolated from intestine of *Labeo rohita* – towards identifying novel probiotics for aquaculture. *Aquaculture Research* 52 (2), 822 – 830.
9. Khan, M.I.R., Choudhury, T.G., **Kamilya, D***. 2020. Probiotics in finfish aquaculture: an Indian perspective. *Indian Journal of Animal Health* 59, 13 – 26.
10. Choudhury, T.G., **Kamilya, D***. 2019. Paraprobiotics: an aquaculture perspective. *Reviews in Aquaculture* 11, 1258 – 1270.

11. Hoque, F., Abraham, T.J., Nagesh, T.S., **Kamilya, D**. 2019. *Pseudomonas aeruginosa* FARP 72 offers protection against *Aeromonas hydrophila* infection in *Labeo rohita*. *Probiotics and Antimicrobial Proteins* 11, 973 – 980.
12. Devi, A.A., **Kamilya, D***. 2019. Efficacy and effects of clove oil and MS-222 on the immune-biochemical responses of juvenile rohu *Labeo rohita*. *Aquaculture Research* 50, 957 – 963.
13. Kumar, R., Kaur, N., **Kamilya, D***. 2019. Chitin modulates immunity and resistance of *Labeo rohita* (Hamilton, 1822) against gill monogeneans. *Aquaculture* 498, 522–527.
14. Kaur, N., Kumar, R., **Kamilya, D***. 2018. Modulation of systemic and mucosal immune responses of *Catla catla* (Hamilton, 1822) experimentally challenged with gill monogeneans *Fish and Shellfish Immunology* 74, 567 – 572.
15. **Kamilya, D***., Debbarma, M., Pal, P., Kheti, B., Sarkar, S., Singh, S.T. 2017. Biofloc technology application in indoor culture of *Labeo rohita* (Hamilton, 1822) fingerlings: The effects on inorganic nitrogen control, growth and immunity *Chemosphere* 182, 8 – 14.
16. Singh, S.T, **Kamilya, D***., Kheti, B., Bordoloi, B., Parhi, J. 2017. Paraprobiotic preparation from *Bacillus amyloliquefaciens* FPTB16 modulates immune response and immune relevant gene expression in *Catla catla* (Hamilton, 1822) *Fish and Shellfish Immunology* 66, 35 – 42.
17. Kheti, B., **Kamilya, D***., Choudhury, J., Parhi, J., Debbarma, M., Singh, S.T. 2017. Dietary microbial floc potentiates immune response, immune relevant gene expression and disease resistance in rohu, *Labeo rohita* (Hamilton, 1822) fingerlings. *Aquaculture* 468, 501–507.
18. Devi, T.B., Abraham, T. J., **Kamilya, D***. 2016. Susceptibility and pathological consequences of catla, *Catla catla* (Hamilton) experimentally infected with *Edwardsiella tarda*. *Archieves of Polish Fisheries* 24, 209-217.
19. Sangma, T., **Kamilya, D***. 2015. *Dietary Bacillus subtilis* FPTB13 and chitin, single or combined, modulate systemic and cutaneous mucosal immunity and resistance of catla, *Catla catla* (Hamilton) against edwardsiellosis. *Comparative immunology, microbiology and infectious diseases* 43, 8-15.
20. Sangma, T., **Kamilya, D***. 2015. In Vitro and Dietary Effects of Chitin on Cellular and Humoral Immune Parameters of Catla, *Catla catla* (Hamilton). *Journal of the World Aquaculture Society* 46 (6), 617- 623.

21. **Kamilya, D***., Baruah, A., Sangma, T., Chowdhury, S., Pal, P. 2015. Inactivated probiotic bacteria stimulate cellular immune responses of catla, *Catla catla* (Hamilton) in vitro. *Probiotics and Antimicrobial Proteins* 7 (2), 101 – 106.
22. Debnath, M., Saha, R.K., Kamilya, D., Saha, H. 2015. Effects of waterborne iron on fry of *Catla catla* (Ham.), *Labeo rohita* (Ham.) and *Cirrhinus mrigala* (Ham.). *Indian Journal of Animal Research* 49 (2), 210 – 217.
23. Nakhro, K., Das, A., **Kamilya, D*.** 2014. Effect of *Edwardsiella tarda* immunization on systemic immune response, mucosal immune response and protection in catla (*Catla catla*). *Veterinary Research Communications* 38, 115 – 122.
24. **Kamilya, D*,** Baruah, A. 2014. Epizootic ulcerative syndrome (EUS) in fish: history and current status of understanding. *Reviews in Fish Biology and Fisheries* 24, 369 – 380.
25. Baruah, A., **Kamilya, D***., Saha, R.K. 2014. Epizootic ulcerative syndrome (EUS) in bata, Labeo bata (Hamilton) from Tripura, India. *Indian Journal of Fisheries* 61 (4), 141 – 144.
26. Das, A., Nakhro, K., Chowdhury, S., **Kamilya, D*.** 2013. Effects of potential probiotic *Bacillus amyloliquifaciens* FPTB16 on systemic and cutaneous mucosal immune responses and disease resistance of catla (*Catla catla*). *Fish and Shellfish Immunology* 35, 1547 – 1553.
27. Nakhro, K., Devi, T.B., **Kamilya, D*.** 2013. In vitro immunopathogenesis of *Edwardsiella tarda* in catla *Catla catla* (Hamilton). *Fish and Shellfish Immunology* 35, 175 – 179.
28. Baruah, A., **Kamilya, D***., Saha, R.K. 2013. Immunological, hematological and biochemical responses of bata Labeo bata (*Labeo bata*), naturally and experimentally infected with *Aphanomyces invadans*. *Journal of Immunology and Immunopathology* 15, 181– 186.
29. Saha, H., Saha, R.K., **Kamilya, D**., Kumar, P. 2013. Low pH, dissolved oxygen and high temperature induce *Thelohanellus rohita* (myxozoan) infestation in tropical fish, *Labeo rohita* (Hamilton). *Journal of Parasitic Diseases* 37 (2), 264 – 270.
30. Devi, T.B., **Kamilya, D*.,** Abraham, T. J. 2012. Dynamic changes in immune-effector activities of Indian major carp, catla (*Catla catla*) infected with *Edwardsiella tarda*. *Aquaculture* 366-367, 62 – 66.
31. Saikia, D., **Kamilya, D*.** 2012. Immune responses and protection in catla (*Catla catla*) vaccinated against epizootic ulcerative syndrome. *Fish and Shellfish Immunology* 32, 353 – 359.

32. Debnath, M., Saha, R.K., **Kamilya, D**., Saikia, D., Saha, H. 2012. Effects of water borne iron on spawn of Indian major carps *Catla catla* (Ham.), *Labeo rohita* (Ham.) and *Cirrhinus mrigala* (Ham.). *Bulletin of Environmental Contamination and Toxicology* 89, 1170 – 1174.
33. Baruah, A., Saha, R.K. and **Kamilya, D***. 2012. Inter-species transmission of epizootic ulcerative syndrome (EUS) pathogen, *Aphanomyces invadans* and associated physiological responses. *The Israeli Journal of Aquaculture – Bamidgeh* 64, 9 pages.
34. Saha, H., Saha, R.K., **Kamilya, D**., Mandal, B. 2012. Immunological responses and histopathological changes in *Labeo rohita* (Hamilton) infected with gill monogeneans. *Journal of Immunology and Immunopathology* 14 (1), 34 – 40.
35. Das, P., Joardar, S. N., Abraham, T. J., **Kamilya, D**. and Batabyal, S. 2009. Dynamic changes in immune-effector characteristics of Indian major carp, rohu (*Labeo rohita*) sensitized with *Aeromonas hydrophila. Indian Journal of Comparative Microbiology, Immunology and Infectious Diseases* 30 (1), 45 – 49.
36. **Kamilya, D**., Mal, B. C. Maiti, T. K. and Joardar, S. N. 2008. Assessment of immune responses of *Aeromonas hydrophila* challenge survived and moribund catla (*Catla catla*) following mushroom glucan and bovine lactoferrin supplemented feeding. *Indian Journal of Animal Health* 47 (1), 47 – 50.
37. **Kamilya, D**., Joardar, S. N., Mal, B. C., Maiti, T. K. 2008. Effects of a Glucan from the Edible Mushroom (*Pleurotus florida*) as an Immunostimulant in Farmed Indian Major Carp (*Catla catla*). *The Israeli Journal of Aquaculture – Bamidgeh* 60(1), 37-45.
38. **Kamilya, D**., Joardar, S. N., Mal, B. C. and Maiti, T. K. 2007. Effects of dietary bovine lactoferrin on non-specific immune response and disease resistance of Indian major carp, catla, *Catla catla* (Hamilton). *Indian Journal of Comparative Microbiology, Immunology and Infectious Diseases* 27 (1-2), 16-21.
39. Sarkar, S., **Kamilya, D**., Mal, B. C. 2007. Effect of geometric and process variables on the performance of inclined plate settlers in treating aquacultural waste. *Water Research* 41(5), 993 – 1000.
40. **Kamilya**, **D.,** Ghosh, D., Bandyopadhyay, S., Mal, B. C., Maiti, T. K. 2006. *In vitro* effects of bovine lactoferrin, mushroom glucan and *Abrus* agglutinin on Indian major carp, catla (*Catla catla*) head kidney leukocytes. *Aquaculture* 253, 130 –139.

41. **Kamilya, D**., Maiti, T. K., Joardar, S. N., Mal, B. C. 2006. Adjuvant effect of mushroom glucan and bovine lactoferrin upon *Aeromonas hydrophila* vaccination in catla, *Catla catla* (Hamilton). *Journal of Fish Diseases* 29 (6), 331 – 337.
42. **Kamilya**, **D.,** Sarkar, S., Maiti, T. K., Bandyopadhyay, S., Mal, B. C. 2006. Growth and nutrient removal rates of *Spirulina platensis* and *Nostoc muscorum* in fish culture effluent: a laboratory scale study. *Aquaculture Research* 37, 1594 – 1597.

Book chapters:

1. **Kamilya, D**. and Devi, W.M. 2022. *Bacillus* Probiotics and Bioremediation: An Aquaculture Perspective. In: Islam, M.T., Rahman, M., Pandey, P. (Eds.), Bacilli in Agrobiotechnology. Bacilli in Climate Resilient Agriculture and Bioprospecting. Springer, Cham, pp. 335–347.
2. Nath, K. and **Kamilya, D**. 2021. Biofloc technology: a novel Approach for sustainable aquaculture. In: Debnath, D. and Yengkokpam, S. (Eds.), Fisheries and Aquaculture in NE India: R & D trends and opportunities, Narendra Publishing House, Delhi, India, pp. 384–397.
3. **Kamilya, D**. and John, K.R. 2020. Epizootic Ulcerative Syndrome (*Aphanomyces invadans*). In: Woo, P.T.K., Leong, J-A. and Buchmann, K. (Eds.), Climate Change and Infectious Fish Diseases, CAB International, Oxfordshire, UK, pp. 291–302.
4. **Kamilya, D**. and Khan, M.I.R. 2020. Chitin and chitosan as promising immunostimulant for aquaculture. In: Gopi, S., Thomas, S. and Pius, A. (Eds.), Handbook of Chitin and Chitosan, Volume 3: Chitin and Chitosan based Polymer Materials for Various Applications, Elsevier, Amsterdam, Netherlands, pp. 761–771.
5. **Kamilya, D**. 2015. Soil and water quality management through biotechnological interventions. In: Saha, R. K., Kamilya, D. and Saha, H. (Eds.), Handbook on Soil and Water Quality Management Techniques in Aquaculture, College of Fisheries, Lembucherra, p. 88–90.

Research Guidance:

Guidance at Doctoral level – Completed – 03; Ongoing – 02

Guidance at Masters level - Completed – 13