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Partho Pratim Debnath

Post-Doctoral Researcher

Profile

In January 2022, I received my Ph. D. from Chulalongkorn University's Department of Veterinary Microbiology in Bangkok, Thailand. I've over 15 years of multi-sector professional experience working for and with donors and implementing organizations in Aquatic Animal Health, Fish and Shrimp Diseases Diagnosis, Fish and shrimp breeding and hatchery management, Aquaculture production and Value Chain Development, Rural livelihood and Food Safety. For about 13 years, I worked as an Aquaculture Specialist for WorldFish, a leading international fisheries research organization, where I took the lead role in developing Aquatic Animal Health for Aquaculture sector Development in Bangladesh. In addition, I have assisted in the capacity building of fish and shrimp hatcheries regarding disease detection, establishing biosecurity protocols and practices, best management practices at hatchery and farm levels, etc. In my academic, research and professional careers, I've achieved 22 scientific papers published in high-impact international journals such as Reviews in Aquaculture, Journal of Fish Diseases, and Aquaculture, among others. Currently, I'm working as a Post-Doctoral Researcher at Chulalongkorn University, Bangkok, Thailand, where I'm also involved in research on aquatic animal health.

Areas of Expertise

- ❖ Aquatic Animal Health (Shrimp, Prawn and Fish) Management
- ❖ One Health Research
- ❖ Molecular Diseases Diagnostic Platform (PCR/RT-PCR, Bacteriology, Histopathology, ISH, Cell culture)
- ❖ Shrimp, Prawn and Fish Breeding Platform
- ❖ Research design, leading and implementation
- ❖ Aquaculture Value Chain Development
- ❖ Project Management
- ❖ Survey, Research and Data Management
- ❖ HRDM and Staff Management
- ❖ Budgeting and Financial Monitoring
- ❖ Partner Engagement and Sub-grant Management
- ❖ Communication and Report Writing
- ❖ Research and Scientific Article Writing

Education

PhD.	Veterinary Microbiology	Chulalongkorn University, Bangkok, Thailand	2022
MS.	Fisheries	Khulna University, Khulna, Bangladesh	2008
BSc. (Hons.)	Fisheries	Khulna University, Khulna, Bangladesh	2005

Academic Award

100th year anniversary of Chulalongkorn University fund and the 90th anniversary of Chulalongkorn University fund (Ratchadaphisek-somphot Endowment Fund) for doctoral scholarship

Researcher ID

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WEB OF SCIENCE RESEARCHER ID	:	AHB-3128-2022

Selected Professional Experiences

Post-Doctoral Researcher, Chulalongkorn University, Thailand, January, 2022 to continue

My responsibilities include leading and conducting research on "Disease Investigation in Snakeskin Gourami in Thailand." In addition, as a co-supervisor, I am responsible for overseeing the research projects of MS and Ph.D. students and teaching them for at least two hours per week. I am responsible for designing, writing, and developing research funding proposals. In addition, I have to collaborate with national and international research organizations.

Aquatic Health Management / biosecurity Specialist, UN Food and Agriculture Organization (FAO), Italy, October, 2021 – December, 2021

My role was to assist in finalizing a review paper: Improving tilapia biosecurity through a value chain approach, assist in researching relevant scientific literature to support the preparation of technical review papers, and other aquaculture biosecurity-related documents, prepare a working document regarding fish health problems/challenges, health management and/or aquaculture biosecurity practices focusing on small-scale producers of carp farming in Bangladesh and assist in preparing relevant questionnaires for on-line surveys on aquaculture biosecurity and aquatic health management.

Consultant, University of Exeter, UK, August, 2021 – October, 2021

My role was to develop a comprehensive report on "Developing a long-term pathogen free post-larvae supply system in the Bangladesh shrimp sector" for its shrimp hatchery biosecurity

improvement project. I'd been tasked with organizing and leading important discussion sessions with Department of Fisheries (DoF) and the Shrimp Hatchery Association of Bangladesh (SHAB) in order to acquire information as well as extract essential information from two reports provided by the University team for the completion of this report.

Aquaculture Specialist- Aquatic Animal Health, WorldFish, April, 2018 – July, 2021

In this position I've to support and lead aquatic animal health part for six core and donor funded WorldFish projects. Within these projects I was assign to lead research on Tilapia, shrimp and prawn health and diseases, support implementation of biosecurity program, contribute collaborative research efforts with feeds, husbandry and genetics themes, design and implement training program on diseases monitoring and diagnosis for Department of Fisheries, Bangladesh Fisheries Research Institute, academia, private companies, hatcheries, and farmers. My portfolio includes but not limited to Annual plan and budget management, HRDM and Staff management, Partners Management, Purchase, Communication and Finance Management, Report preparation for both Donor and implementing organizations, Staff and Consultant Management. During this working period, I've successfully led and completed tilapia health epidemiology survey, TiLV-targeted surveillance activity, TiLV associated risk factors for tilapia polyculture farming and scientific research on TiLV genetic diversity, TiLV vertical transmission and TiLV detection protocol development. I've provided hands on technical training to at least 1000 different level Government and private sector staffs on shrimp, prawn and fish diseases, biosecurity practices, laboratory techniques and biological sample collection, preservation and documentation.

Lab Manager, USAID Funded Feed the Future Aquaculture Project (FTFAQ), WorldFish, January, 2012 – March, 2018

I was assigned to lead aquatic animal health part of the project and office manager for the field office in Cox's Bazar where my key activities included but not limited to partner selection (shrimp hatchery), partner management, screening and diagnosis shrimp and prawn diseases using molecular diagnostic techniques, ensure and supply pathogen free post larvae, provided training to the staffs from DoF, BFRI, Private hatcheries and laboratories on diseases diagnosis, biosecurity practices for hi health farm and hatchery managements as part of capacity development, developing biosecurity guideline, diseases card and factsheets for the farmer awareness activities and Good Aquaculture Practices (GAP). In addition, I've developed a pure algae seed center which was the first ever Pure Algae culture lab and seed center in Bangladesh and those algae seed were

produced to develop breeding capacity of economically important different marine species such as crab, seabass etc. Under this project, I've successfully coordinated Crab Breeding Program with BFRI. Moreover, I've provided support as a lead technical team member for tilapia health assessment mission particularly on TiLV investigation. I've headed the team to investigate unusual prawn larvae mortality in prawn hatchery in Bangladesh along with the international collaborating teams from CENTEX Shrimp- Thailand, FishVet Group-Thailand and CEFAS-UK. I've initiated diseases reporting systems to the competent authority as part of supporting national aquatic animal health strategy development and selected as a committee member formed by DoF for monitoring shrimp and tilapia diseases. My responsibilities also included HRDM and Staff management, Project partner management, Project field office management, purchase, finance and administrative activities, manage donor visit and report writing. Excluded this project work, I've supported as sub-theme leader for shrimp research as a member of WorldFish Bangladesh Science team; also working as a key person for CGIAR L&F CRP on Aquatic Animal Health section. Additionally, I've supported as a technical team member on behalf of WorldFish for the first successful Specific Pathogen Free (SPF) shrimp hatchery piloting, an establishment by a private company and also provided full support on pathogen detection to confirm SPF status.

Scientific Officer, USAID Funded CAARP Phase 2 and GHERS Project, WorldFish, May, 2009 – December 31, 2011

In these two projects I was assigned as office manager for WorldFish Cox's Bazar office where I've led partner management (shrimp hatcheries and disease diagnostic laboratory) to ensure pathogen free post larvae supply to the project beneficiaries' farmer. As part of my responsibilities, I've to provide technical support to shrimp hatcheries on management and production pathogen free post larvae as well as provided technical guidance to the private lab on sampling, diseases diagnosis and diseases monitoring. Besides I've organized and provided training to the hatcheries, private labs and Government organizations (DOF, BFRI) on best management practices, biosecurity practices, diseases diagnosis and PL quality assessment. Beside these, I also facilitated PCR testing post larvae business development area, promotion and business development services for the private entrepreneurs, to coordinate private partnership (PCR Laboratory and Hatcheries) program for developing and expanding virus screening facility which can supply healthy post larvae to the shrimp farmers. As an office head, I've to perform HRDM and staff management, communication, purchase and financial management as well as report writing. Besides my regular work, I was also assigned to lead monitoring the research on growth performance of research ponds

stocked with different carp species with relatively larger size fingerlings. In addition, I've provided guidance and training to the carp and shrimp farmers on better management practices and diseases preventive measures.

Field Coordinator, USAID funded and WorldFish Leded CAARP Project (Phase 1), Jhalakati Development Society (JDS), April, 2008 – April, 2009

This was a special project after the devastating cyclone "Sidr" to rehabilitate cyclone affected fish farmer and JDS was the implementing partner for WorldFish. In this project I was the team leader on behalf of JDS to implement this project. My key responsibilities in this project were to play lead role to collaborate with donor, coordinate and execute the project work as directed by donor, coordinate cyclone affected farmer selection, purchase and distribution of aquaculture inputs among the selected farmer, provide technical support and training to the project field staffs for their skill development. Besides I've to monitor and coordinate field officers in implementing project for the SIDR affected village people, to coordinate beneficiaries with the benefactor demands, to assist field data input and analysis, to assist in planning for the smooth running of the project, to prepare monthly, quarterly and final report, to prepare financial report and field visit.

Project Manager, Action Aid Bangladesh funded Adaptation of Soil-less Agriculture in Waterlogged Area in South-East Region of Bangladesh Project, Wetland Resource Development Society, October, 2007 – March, 2008

As a project manager, I led implementation of the proposed activities of the project such as provide technical guidance to the farmer on developing soilless bed for plantation, monitor the project activities, training arrangement; union-based meeting arrangement, District meeting arrangement, field data collection through field organizer and report writing. My portfolio also included HRDM and staff management, communication, monitoring and financial management.

Publications (Peer-Reviewed Journals)

- ❖ Hooper, C., Debnath, P. P., Stentiford, G. D., Bateman, K. S., Salin, K. R., & Bass, D. (2022). Diseases of the giant river prawn *Macrobrachium rosenbergii*: A review for a growing industry. *Reviews in Aquaculture*. <https://doi.org/10.1111/raq.12754>
- ❖ Hamilton, M. G., Yeasin, M., Chadag, V. M., Delamare-Deboutteville, J., Debnath, P. P., & Benzie, J. A. H. (2022). Genetic correlations between harvest weight and secondary traits in a silver carp (*Hypophthalmichthys molitrix*) genetic improvement program. *Aquaculture International*. <https://doi.org/10.1007/s10499-022-00977-6>
- ❖ Debnath, P. P., Jansen, M. D., Delamare-Deboutteville, J., Mohan, C. V., Dong, H. T., & Rodkhum, C. (2022). Is tilapia mortality a latent concern for the aquaculture sector of

- Bangladesh? An epidemiology and health economic impact study. *Aquaculture*, 560, 738607. <https://doi.org/https://doi.org/10.1016/j.aquaculture.2022.738607>
- ❖ Raharjo, H. M., Budiyansah, H., Mursalim, M. F., Chokmangmeepisarn, P., Sakulworakan, R., Madyod, S., Sewaka, M., Sonthi, M., Debnath, P. P., Elayaraja, S., Rung-ruangkijkrai, T., Dong, H. T., & Rodkhum, C. (2022). Distribution of Vibrionaceae in farmed Asian sea bass, *Lates calcarifer* in Thailand and their high prevalence of antimicrobial resistance. *Journal of Fish Diseases*, 00, 1–17. <https://doi.org/10.1111/jfd.13667>
 - ❖ Mursalim, M. F., Budiyansah, H., Raharjo, H. M., Debnath, P. P., Sakulworakan, R., Chokmangmeepisarn, P., Yindee, J., Piasomboon, P., Elayaraja, S., & Rodkhum, C. (2022). Diversity and antimicrobial susceptibility profiles of *Aeromonas* spp. isolated from diseased freshwater fishes in Thailand. *Journal of Fish Diseases*, 00, 1–15. <https://doi.org/10.1111/jfd.13650>.
 - ❖ Debnath, P. P., Dinh-Hung, N., Taengphu, S., Nguyen, V. V., Delamare-Deboutteville, J., Senapin, S., Vishnumurthy Mohan, C., Dong, H. T., & Rodkhum, C. (2021). Tilapia Lake Virus was not detected in non-tilapine species within tilapia polyculture systems of Bangladesh. *Journal of Fish Diseases*, 00, 1–11. <https://doi.org/10.1111/jfd.13537>.
 - ❖ Jerome Delamare-Deboutteville, Suwimon Taengphu, Han Ming Gan, Pattanapon Kayansamruaj, Partho Pratim Debnath, Andrew Barnes, Shaun Wilkinson, Minami Kawasaki, Chadag Vishnumurthy Mohan, Saengchan Senapin, Ha Thanh Dong (2021). Rapid genotyping of tilapia lake virus (TiLV) using Nanopore sequencing. *J Fish Dis.* 2021;00:1–12. <https://doi.org/10.1111/jfd.13467>
 - ❖ Partho Pratim Debnath, Jerome Delamare-Deboutteville, Mona Dverdal Jansen, Kornsunee Phiwsaiya, Afsana Dalia, Md. Abir Hasan, , Saengchan Senapin, Chadag Vishnumurthy Mohan, Ha Thanh Dong , Channarong Rodkhum (2020). Two-year surveillance of tilapia lake virus (TiLV) reveals its wide circulation in tilapia farms and hatcheries from multiple districts of Bangladesh. *J Fish Dis.*2020; 00:1–9. <https://doi.org/10.1111/jfd.13235>.
 - ❖ Mahmoud Mabrok, Sivaramasamy Elayaraja, Putita Chokmangmeepisarn, Wansadaj Jaroenram, Narong Arunrut, Wansika Kiatpathomchai, Partho Pratim Debnath, Jerome Delamare-Deboutteville, Chadag Vishnumurthy Mohan, Aml Fawzy, Channarong Rodkhum (2020). Rapid visualization in the specific detection of *Flavobacterium columnare*, a causative agent of freshwater columnaris using a novel recombinase polymerase amplification (RPA) combined with lateral flow dipstick (LFD) assay. *Aquaculture* 531, 30 January 2021, 735780. <https://doi.org/10.1016/j.aquaculture.2020.735780>
 - ❖ Hooper, Chantelle, Debnath, Partho P., Biswas, Sukumar, van Aerle, Ronny, Bateman, Kelly S., Basak, Siddhawartha K., Rahman, Muhammad M., Mohan, Chadag V., Rakibul Islam, H.M., Ross, Stuart, Stentiford, Grant D., Currie, David and Bass, David (2020). A novel RNA virus, *Macrobrachium rosenbergii* Golda virus (MrGV), linked to mass mortalities of the larval giant freshwater prawn in Bangladesh. *Viruses* 2020, 12(10), 1120; <https://doi.org/10.3390/v12101120>
 - ❖ Taengphu, S., Sangsuriya, P., Phiwsaiya, K., Debnath, P. P., Delamare-Deboutteville, J., Mohan, C. V., . . . Senapin, S. (2020). Genetic diversity of tilapia lake virus genome segment 1 from 2011 to 2019 and a newly validated semi-nested RT-PCR method. *Aquaculture* 526 735423 <https://doi.org/10.1016/j.aquaculture.2020.735423>

- ❖ Dong, H.T., Senapin, S., Gangnonngiw, W., Nguyen, V. V., Rodkhum, C., Debnath, P. P., . . . Mohan, C. V. (2020). Experimental infection reveals transmission of tilapia lake virus (TiLV) from tilapia broodstock to their reproductive organs and fertilized eggs. *Aquaculture* 515 <https://doi.org/10.1016/j.aquaculture.2019.734541>
- ❖ Muhammad Meezanur Rahman, Hendrik Jan Keus, Partho Debnath, M.B. Shahrer, Rayhan Hayat Sarwer, Quazi A.Z.M. Kudrat-E-Kabir, C.V. Mohan (2018). Benefits of stocking white spot syndrome virus infection free shrimp (*Penaeus monodon*) post larvae in extensive ghers of Bangladesh. *Aquaculture* 486 (2018) 210–216 <https://doi.org/10.1016/j.aquaculture.2017.12.024>
- ❖ Partho Pratim Debnath, Manjurul Karim, Hendrik Jan Keus, Chadag Vishnumurthy Mohan And Ben Belton (2016) Effects of White Spot Disease and Bio-Security on Shrimp Farming in Bangladesh. *Fish Pathology*, 51 (special-issue)
- ❖ Partho Debnath, Shamsul H. Khan, Manjurul Karim, Ben Belton, Chadag Vishnumurthy Mohan and Michael Phillips (2015). Review of the history, status and prospects of the black tiger shrimp (*Penaeus monodon*) hatchery sector in Bangladesh. *Reviews in Aquaculture* (2015) 0, 1–13.
- ❖ Debnath, P., Karim, M., Belton, B. in press. Comparative study of the reproductive performance and White Spot Syndrome Virus (WSSV) status of black tiger shrimp (*Penaeus monodon*) collected from the Bay of Bengal. *Aquaculture*
- ❖ Ehsanul Karim, Mohammad Assraful Haque and Partho Pratim Debnath (2012). Constraints & Prospects of Existing Shrimp Farming In Bangladesh. Lambert Academic Publishing.
- ❖ Partho Pratim debnath,*, Manjurul Karim, Quazi A. Z. M. Kudrat-E-Kabir (2013). Comparative Study on Growth Performance of Bagda (*P. monodon*, Fabricius, 1798) in Traditional and Semi-intensive Culture Systems. *Science and Technology*. 3(1): 1-16
- ❖ Partho Pratim Debnath, Manjurul Karim, Quazi A.Z.M. Kudrat-E-Kabir, Mohammed Ashraful Haque, Md. Shahzad Kuli Khan (2012). Production Performance of White Fish in Two Different Culture Systems in Patuakhali, Bangladesh. *Journal of Advanced Scientific Research. J Adv Sci Res*, 2012, 3(4): 55-67
- ❖ Partho Pratim Debnath, Ehsanul Karim, Mohammed Ashraful Haque, Md. Shahab Uddin, Manjurul Karim (2012). Prevalence of White Spot Syndrome Virus in Brood stock, Nauplii and Postlarvae of Tiger shrimp (*Penaeus monodon* Fabricius, 1798) in Bangladesh. *Journal of Advanced Scientific Research. J Adv Sci Res*, 2012, 3(3): 58-63
- ❖ Mahmudul Hasan, Shahajat Kuli Khan, Mohammad Assraful Haque, Ehsanul Karim and Partho Pratim Debnath (2012). Livelihood Strategies of Tiger Shrimp Post Larvae Collectors in Backkhali River Estuary, Cox's Bazar of Bangladesh. *Int. J. Sustain. Agril. Tech.* 8(9): 01-07
- ❖ M. Mostafa, P.P. Debnath, B. Biswas and M.M. Iqbal (2007). Socio-economic Status of Shrimp (*penaeus monodon*) Post-Larvae (PL) Collectors in Cox's Bazar with Emphasis on Violation of Restriction on Wild PL Collection. *South Asian Journal of Agriculture*, Volume 2, Number 1 & 2, December 2007, Agrotechnology Discipline, Khulna University, Khulna-9208, Bangladesh.

Language Proficiency

Bengali : Native

English : Business fluent

ICT and Technology Skills

- 📍 Operating System : Windows
- 📍 Word Processing : MS Word
- 📍 Spread Sheet Analysis : MS Excel
- 📍 Multimedia Presentation : MS PowerPoint
- 📍 Data analysis : SPSS
- 📍 Reference management : End Note

Referees

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