

BIODATA



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Designation	:	Director
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Qualification	:	Ph.D.
Field of Specialization	:	Aquatic Animal Health Management
Major		Aquaculture
Specializing field		Aquatic animal health, development of diagnosis, Best management practices in aquaculture.
Experience (in years)		21 years

Dr. A. Uma is a renowned academician and a seasoned professional in the field of aquaculture and aquatic animal health management. She currently holds the prestigious position of **Director**, Directorate of Incubation and Vocational Training in Aquaculture (DIVA) at the **Tamil Nadu Dr. J. Jayalalithaa Fisheries University (TNJFU)**. Alongside this administrative role, she also serves as the **Professor and Head**, Department of Aquatic Animal Health at **Dr. M.G.R. Fisheries College and Research Institute**, Ponneri, one of the constituent colleges under TNJFU. Her multifaceted responsibilities span academic leadership, institutional development, student mentorship, and industry collaboration, making her a key contributor to the university's growth and innovation in the aquaculture sector.

Dr. Uma pursued her higher education in aquaculture at the **Fisheries College and Research Institute, Thoothukudi**, where she earned both her **Master's** and **Doctoral degrees**. Her academic journey is marked by a deep and sustained focus on aquatic health, disease diagnostics, and sustainable aquaculture practices. With a rich professional experience of over **25 years**, Dr. Uma has played a transformative role in fisheries education, research, and extension. Her career began in the private sector as a **Research and Development**

Officer at **CP Aquaculture India Pvt. Ltd.**, during which she received **overseas training in PCR-based disease diagnostics**, laying a strong foundation for her future contributions to aquatic animal health research.

Following her tenure in the industry, she transitioned to academia by joining the **Tamil Nadu Veterinary and Animal Sciences University (TANUVAS)** as an **Assistant Professor**. During her service at TANUVAS, she was instrumental in establishing a **State-level Referral Laboratory for Aquatic Animal Health**, which is equipped with **state-of-the-art diagnostic facilities**. This facility continues to provide essential services such as **disease diagnosis**, **water quality analysis**, and **training programs** for aquafarmers across the state, thereby bridging the gap between research and field-level implementation.

Dr. Uma's research expertise encompasses **fish health management**, with a specialized focus on the **development of molecular and rapid diagnostic tools** for diseases of economic significance in aquaculture. She has developed **six innovative technologies**, including **PCR diagnostic kits for shrimp diseases**, two of which have been **granted patents**. Her scientific contributions are extensive, with over **80 research papers** published in reputed **national and international journals**, and she has also **authored three academic books** that serve as valuable resources in the domain of aquaculture and fish pathology.

As a committed research mentor, Dr. Uma has guided approximately **50 postgraduate students**, nurturing the next generation of fisheries scientists. She has successfully led and implemented around **15 externally funded research projects**, with funding from prominent organizations such as the **Tamil Nadu Innovation Initiative (TANII)**, **Department of Biotechnology (DBT)**, **Department of Science and Technology (DST)**, **Indian Council of Agricultural Research (ICAR)**, and the **National Fisheries Development Board (NFDB)**. Her projects have focused on enhancing aquatic health management strategies, improving diagnostic capabilities, and supporting sustainable aquaculture development.

In recognition of her outstanding contributions to science and research, Dr. Uma has been honored with several prestigious awards, including the **Tamil Nadu Young Woman Scientist Award** conferred by the **Tamil Nadu State Council for Science and Technology (TNSCST)**, the **Young Scientist Fellowship Award**, and the **K. Chidambaram Memorial Annual Award**. These accolades reflect her commitment to excellence, innovation, and service in the field of aquaculture.

Dr. A. Uma continues to be a driving force in advancing aquatic animal health research and vocational training in aquaculture, through her visionary leadership at DIVA and her academic contributions at TNJFU. Her work exemplifies the integration of research, education, and community outreach, with a profound impact on the aquaculture industry and the livelihoods it supports.

CURRENT PROJECTS: Principal Investigator: Dr.A.Uma

Sl.No.	Title of the Project	Funds (in Rs)	Funding Agency	Principal Investigator	Duration
1.	Self financing scheme - Establishment of Shrimp Disease Diagnosis Laboratory	5.73 lakhs	TANUVAS	Professor and Head Dr.A.Uma Dr.D.Kaviarasu	01.09.1999 ongoing
2.	Evaluation of efficacy of krill meal to alleviate <i>Enterocytozoon hepatopenaei</i> (EHP) infection in <i>Penaeus vannamei</i>	5.777 lakhs	M/s.Aker Biomarine India Pvt.Ltd.	PI: Dr.A.Uma Co-PI: Dr.D.Kaviarasu	23.10.2024 - 22.04.2025
3.	"Efficacy of the functional feeds of M/s. Grobest feeds to mitigate <i>Enterocytozoon hepatopenaei</i> (EHP) infection in <i>Penaeus vannamei</i> "	8.16 Lakhs	Grobest Feeds Corporation India Private Limited	Dr.A.Uma Co-PI: Dr.E.Prabu	27.2.2025 To 26.6.2025

COMPLETED PROJECTS

Sl.No.	Title of the Project	Funds (in Rs)	Funding Agency	Principal Investigator	Duration
4.	Self financing scheme - Establishment of Shrimp Disease Diagnosis Laboratory	5.73 lakhs	TANUVAS	Dr.A.Uma	01.09.1999 ongoing
5.	Development of molecular and immunodiagnostic kit for <i>Hepatopancreatic parvovirus</i> in shrimp	29.57 lakhs	DBT	Dr.A.Uma	19.05.2008 - 18.05.2011
6.	Toll-Like Receptors in phylogenetically divergent fish species-their contribution in modulating the innate immunity.	90.67 lakhs	ICAR (NAIP)	Dr.A.Uma (Co- PI)	10.02.2009 - 31.03.2013
7.	Identification and assessment of the expression profiles of important Toll like receptors (TLRs) in commercially important food and ornamental fishes	18.678 lakhs	DST	Dr.A.Uma	17.08.2009 - 31.08.2012
8.	National surveillance programme for Aquatic animal diseases	80.43 lakhs	NFDB	Dr.A.Uma (Co-PI)	18.10.2013 - 31.3.2018
9.	Establishment of State level Referral Laboratory for Fish Disease Diagnosis and Aquatic Animal Health	55.115	NFDB	Dr.A.Uma	27.03.2014 - 30.06.2015

10.	Establishment of fish and shell fish health certification and disease surveillance laboratories in Tamil Nadu for enhancement of aquaculture production - Strengthening of state referral lab for screening of OIE listed diseases of aquatic animals.	242.275 lakhs	NADP	Dr.A.Uma (Co-PI)	07.06.2016 - 31.03.2018
11.	E-fish health surveillance and monitoring network to improve fisheries production in Tamil Nadu	590.40 lakhs	Tamil Nadu State Planning Commission (TANII)	Dr.A.Uma	02.03.2017 - 01.03.2020
12.	Integrated disease surveillance monitoring system and Seed quality assessment to Augment Aquaculture Production in Tamil Nadu at TNJFU-Madhavaram campus.	130.60 lakhs	NADP	Dr.A.Uma	09.12.2021 - 31.03.2024

COMPLETED INSTITUTE -INDUSTRY PROJECT

Sl.No.	Title of the Project	Funds (in Rs)	Funding Agency	Principal Investagator	Duration
1	A lab scale pilot study to evaluate the suitability of green nanoparticles of M/s Dhanvantri Nano Ayushadi Pvt. Ltd to reduce the ammonia and vibrio loads in shrimp culture.	1.05 lakhs	M/s Dhanvantri Nano Ayushadi Pvt. Ltd	Dr.A.Uma	06.02.2019 - 31.07.2019
2	Evaluating the efficacy of the prototypes of M/s Kemin Aquascience against <i>Enterocytozoon hepatopenaei</i> (EHP) infection in white leg shrimp <i>Litopenaeus vannamei</i>	4.795 lakhs	M/s Kemin AquaScience Pvt. Ltd	Dr.A.Uma	23.11.2019 - 31.08.2020
3	Evaluation of Prototypes of M/s Kemin for their activity against infection caused by <i>Enterocytozoon hepatopenaei</i> (EHP) and <i>Vibrio</i> sp. In white leg shrimp <i>Penaeus vannamei</i>	11.316 lakhs	M/s Kemin AquaScience Pvt. Ltd	Dr.A.Uma	17.02.2021 - 31.12.2021
4	Evaluation of the Efficacy of Prototypes of M/s Kemin on the Survival and Immunological response in White leg shrimp <i>Penaeus vannamei</i> Experimentally Infected with White spot syndrome virus (WSSV)	8.924 lakhs	M/s Kemin AquaScience Pvt. Ltd	Dr.A.Uma	17.02.2021 - 31.12.2021
5	Evaluating the effect of dietary supplementation of prototype of M/s Kemin Against <i>Enterocytozoon hepatopenaei</i> (EHP) by cohabitation challenge in <i>Penaeus vannamei</i>	2.0125 lakhs	M/s Kemin AquaScience Pvt. Ltd	Dr.A.Uma	16.05.2022 - 15.09.2022
6	Evaluation of efficacy of prototypes of M/s Kemin AquaScience against <i>Enterocytozoon hepatopenaei</i> (EHP) infection in <i>Penaeus vannamei</i>	3.2775 lakhs	M/s Kemin AquaScience Pvt. Ltd	Dr.A.Uma	05.03.2024 - 4.07.2024

Publications: Research articles

Growth and Immune studies / Gene Expression

1. Philominal Pathinathan, **Uma A**, Felix Nathan, Ahilan Baboon (2024). Levamisole Enhances Growth, Haemato-biochemical Indicators, Resistance to *Aeromonas Veronii* and Expression of Immune Genes in Asian Seabass, *Lates calcarifer*. Indian Journal of Animal Research Page No 1-9. (NAAS Rating 6.40)
2. M. Joshna , B. Ahilan, Cheryl Antony, K. Ravaneswaran, P. Chidambaram, **A. Uma**, P.Ruby, 2024. Study on Biofloc Characteristics Digestive Enzyme Activity and Physiological Responses in Polyculture Model *Penaeus vannamei* and GIF Tilapia (*Oreochromis niloticus*) Culture System-BFT Aquaculture System. Indian Journal of Animal Research 10.18805/IJAR.B-5378
3. P. Philominal, **A. Uma**, B. Ahilan, N. Jayakumar (2024). Hematobiochemical changes, Imuunological response and immune Gene Expression in Nile Tilapia (*Oreochromis niloticus*) Eperimentally infected with *Shewanella putrefaciens*. Indian Journal of Animal Research B-5337 Page No. 1-7. (NAAS Rating 6.40)
4. Jackqulinwino, A., Ahilan, B., Chidambaram, P., **Uma, A.**, Antony, C. and Ruby, P., 2024. Effect of jaggery based biofloc meal supplementation on growth, digestive enzymes and disease resistance in *Penaeus vannamei* in recirculatory aquaculture system. *Animal Nutrition and Feed Technology*, 24(1), pp.105-119.
5. Jackqulinwino, A., Ahilan, B., Antony, C., Chidambaram, P., **Uma, A.** and Ruby, P., 2024. Influence of in situ biofloc production on bio growth performance, physiological immune response, digestive enzyme activity, nutrient composition and disease resistance of *Eetroplus suratensis*. *Indian Journal of Animal Research*, 58(10), pp.1810-1816.
6. Felix, N., Manikandan, K., **Uma, A.** and Kaushik, S.J., 2023. Evaluation of single cell protein on the growth performance, digestibility and immune gene expression of Pacific white shrimp, *Penaeus vannamei*. *Animal Feed Science and Technology*, 296, p.115549.
7. Joshna, M., Ahilan, B., **Uma, A.**, Chidambaram, P., Prabu, E. and Ruby, P., 2023. Effect of selenium nanoparticles fortified diet on the growth performance, hematological responses, wholebody composition, intestinal microflora and histological alterations of GIFT. *Animal Nutrition and Feed Technology*, 23(3), pp.455-468.
8. Prabu, E., Felix, N., **Uma, A.**, Ahilan, B. and Antony, C., (2020). Metabolic responses of juvenile GIFT strain of Nile tilapia (*Oreochromis niloticus*) to dietary L-tryptophan supplementation. *Aquaculture Nutrition*, 26(5), Page No.1-11
9. Sudha, C., Ahilan, B., Felix, N., **Uma, A.**, Chidambaram, P. and Prabu, E., 2022. Replacement of fish oil with black soldier fly larvae oil and vegetable oils: Effects of growth, whole- body fatty acid profile, digestive enzyme activity, haemato- biochemical responses and muscle growth-related gene expression of juvenile striped catfish, *Pangasianodon hypophthalmus*. *Aquaculture Research*, 53(8), pp.3097-3111.
10. Ezhilmathi, S., Ahilan, B., **Uma, A.**, Felix, N., Cheryl, A. and Somu Sunder Lingam, R., 2022. Effect of stocking density on growth performance, digestive enzyme activity, body composition and gene expression of Asian seabass reared in recirculating aquaculture system. *Aquaculture Research*, 53(5), pp.1963-1972.

11. Nethaji, M., Ahilan, B., Kathirvelpandiyan, A., Felix, N., **Uma, A.**, Mosses, T.L.S. and Lingam, R., 2022. Biofloc meal incorporated diet improves the growth and physiological responses of *Penaeus vannamei*. *Aquaculture International*, pp.1-20.
12. **A.Uma**, Pathinathan Philominal, Elangovan Prabu, Mohamed Saiyad Musthafa. 2021.Dietary *Bougainvillea glabra* leaf meal on growth, haemato-biochemical responses and disease resistance in Nile tilapia, *Oreochromis niloticus* against *Enterococcus faecalis*. doi.org/10.1016/j.aquaculture. 737806.
13. Prabu, E., Felix, N. and **Uma, A.**, 2021. Optimizing amino acid balance in fish meal-free diets for GIFT strain of Nile tilapia (*Oreochromis niloticus*) by deletion method. *Aquaculture Nutrition*.
14. Prabu, E., Felix, N., **Uma, A.** and Praveenraj, J.,2020. Effects of dietary L-lysine supplementation on growth, body composition and muscle-growth-related gene expression with an estimation of lysine requirement of GIFT tilapia. *Aquaculture Nutrition*. 26: 568– 578.
15. Prabu, E., Felix, N., **Uma, A.**, Ahilan, B. and Antony, C., 2020. Metabolic responses of juvenile GIFT strain of Nile tilapia (*Oreochromis niloticus*) to dietary L-tryptophan supplementation. *Aquaculture Nutrition*, 26(5), pp.1713-1723.
16. Suganthi, G., **Uma, A.**, Rebecca, G. and Saravanabava, K., 2012. Strain variations in monodon baculovirus (MBV) infecting *Penaeus monodon* (tiger shrimp) in India. *CIBtech Journal of Biotechnology* . 1(1) pp.41-45.
17. Raj, K.J., **Uma, A.**, Rebecca, G. and Saravanabava, K., 2013. Basal Expression of Toll-Like Receptor 18 (TLR18) mRNA in Selected Species of Food Fishes of India. *Indian Veterinary Journal*, 90:7 pp. 25-27.
18. Mahalakshmi, G., **Uma, A.**, Rebecca, G. and Saravanabava, K., 2013. Amplification of toll protein gene of *Penaeus vannamei*, a commercially important penaeid shrimp. *Indian Veterinary Journal*. 90(9) pp.15-16 .
19. **Uma, A.**, Rebecca, G. and Saravanabava, K., 2013. Differential Expression of Toll-Like Receptor21 (TLR21) in Zebra Fish *Danio Rerio* Experimentally Exposed to *Aeromonas Hydrophila*. *Indian Veterinary Journal* . 90(3) pp.64-66
20. **Uma, A.**, Rebecca, G. and Saravanabava, K., 2012. Expression of Toll-like receptor9 (TLR9) in zebra fish (*Danio rerio*) experimentally exposed to *Aeromonas hydrophila*. *International journal on pharma and biosciences*, 3, pp.520-526.
21. **Uma, A.**, Harresh, A. and Rebecca, G., Expression of toll protein gene in tissues of tiger shrimp (*Penaeus monodon*) experimentally exposed to *Vibrio harveyi* . *International Journal of Pharma and Biosciences*, 2012.3(4):316-320.
22. **Uma, A.**, Rebecca, G. and Saravanabava, K., 2012. Differential expression of Toll-like receptors (TLRs) in gold fish, *Carassius auratus* infested with fresh water lice of *Argulus* sp. *Int J Pharm Biol Sci*, 3(4), pp.652-658.
23. **Uma, A.**, Rebecca, G. and Saravanabava, K., 2012. *In vivo* effect of CPG oligodeoxynucleotides (CPG ODNs) on the expression of Toll-like receptor 9 (TLR9) in *Catla catla*. *Cibtech Journal of Biotechnology*. 1(1) pp. 28-32.
24. Jawahar, R.K., **Uma, A.** and Rebecca, G., 2012. Differential expression of toll-like receptor18 (TLR18) mRNA in *Pangasius pangasius* induced with *Edwardsiella tarda*. *International Journal of Pharma and Bio Sciences*, 3, pp.1016-1021.

25. Revathy, S., Durga, M., **Uma, A.**, Meena, S. and Saravanabava, K., 2011. Expression of Sox4-A Stem Cell Marker in Embryonic Developmental Stages of Angel Fish (*Pterophyllum scalare*).
26. **Uma, A.**, Rebecca, G., Meena, S. and Saravanabava, K., 2010. Expression of Toll-like receptor 21 (TLR21) in koi carp (*Cyprinus carpio*) infested with anchor worm, *Lernaea* sp. *Journal of Veterinary Parasitology*, 24(2), pp.137-139.
27. **Uma, A.**, Gomathy, A., Meena, S., Saravanabava, K. and Manohar, B.M., 2010. Expression of Oct4 gene in various embryonic developmental stages of gold fish. *Indian Veterinary Journal*, 87(3), pp.220-221.

Diagnostics

1. Ramachandran, S., Thiyagarajan, S., Raj, G.D. and **Uma, A.**, 2017. Non-invasive in vivo imaging of fluorescence-labeled bacterial distributions in aquatic species. *International Journal of Veterinary Science and Medicine*, 5(2), pp.187-195.
2. **Uma, A.**, Srimathy, M. and Saravanabava, K., 2012. Development of a Polymerase Chain Reaction (PCR) Assay to Detect Monodon Baculovirus (MBV) Infecting Shrimp. *Indian Veterinary Journal*, 89(1), p.11.
3. **Uma, A.**, Gayathri, A., Rebecca, G. and Saravanabava, K., 2012. Development of a Polymerase Chain reaction (PCR) assay to detect Whitespot syndrome virus (WSSV) infecting shrimp. *Indian Veterinary Journal*. 89 (6)pp. 21-23.
4. **Uma, A.**, Meena, S. and Saravanabava, K. 2012. Development of a Polymerase Chain reaction (PCR) assay to detect Hepatopancreatic parvo virus (HPV) infecting shrimp. *Indian Veterinary Journal*. 89 (12) pp. 28-30.
5. **Uma, A.**, Sudhakar, M.M., Meena, S., Saravanabava, K. and Muralimanohar, B., 2009. Detection of Salmonella from fish by Polymerase Chain Reaction. *Indian Veterinary Journal*, 86(11), pp.1185-1186.
6. **Uma, A.**, Meena, S., Saravanabava K. and B.MuraliManohar., 2009. Identification of bacterial pathogens infecting *Penaeus monodon* tiger shrimp by 16S rDNA amplification and sequencing. *Tamil Nadu Journal of Veterinary and Animal Sciences*, 4(5): 188-192.
7. **Uma, A.**, Chandran, N.D.J. and Koteeswaran, A., 2007. Studies on the prevalence of Monodon baculovirus (MBV) in shrimp seeds produced from the commercial hatcheries of Tamilnadu. *Tamilnadu Journal of Veterinary and Animal Sciences*. 2(6) pp. 224-228
8. **Uma, A.**, Reddy, Y.K., Meena, S., Saravanabava, K. and Muralimanohar, B., 2007. Application of 16S rDNA amplification and sequencing for detection of fish and shrimp bacterial pathogens. *Indian Journal of Comparative Microbiology, Immunology and Infectious Diseases*, 28(1and2), pp.7-9.
9. **Uma, A.**, Parthiban, M., Manoharan, S., Aruni A, W., Chandran N, D.J. and Koteeswaran, A., 2005. Slot blot hybridization for detection of white spot syndrome virus in penaeid shrimp. *Asian journal of microbiology biotechnology and environmental sciences*, 7(2), p.249.
10. **Uma, A.**, Parthiban, M., Chandran, N.D.J., Thiyagarajan, B., Arasi, P.K. and Koteeswaran, A., 2005. Usefulness of nested polymerase chain reaction in detection of monodon baculovirus in shrimp seeds. *Indian Journal of Animal Research*, 39(2), pp.111-114.

11. **Uma, A.**, Prabhakar, T.G., Koteeswaran, A. and Ravikumar, G., 2002. Establishment of primary cell culture from hepatopancreas of *Penaeus monodon* for the study of white spot syndrome virus (WSSV). *Asian Fisheries Science*, 15(4), pp.365-370.
12. A. Rathipriya, T. Anand, **A. Uma** and K. Karal Marx 2019. Prevalence of Diseases caused by White Spot Virus and *Enterocytozoon Hepatopenaei* in *Penaeus vannamei* Shrimp Farms in Nagapattinam District, Tamil Nadu, India. *Int.J.Curr.Microbiol.App.Sci*(2019) 8(6): 2616-262

Challenge studies

1. **A Uma**, A H M Harresh, G Rebecca and J Praveenraj. 2020. Multiple drug resistant *Enterococcus* spp. causes disease and mortality in Zebra fish (*Danio rerio*). Indian Journal of Animal Sciences 90 (1): 116–119,
2. Santhoshkumar, S., Sivakumar, S., Vimal, S., Abdul Majeed, S., Taju, G., Haribabu, P., **Uma, A.** and Sahul Hameed, A.S., 2017. Biochemical changes and tissue distribution of *Enterocytozoon hepatopenaei* (EHP) in naturally and experimentally EHP-infected whiteleg shrimp, *Litopenaeus vannamei* (Boone, 1931), in India. *Journal of fish diseases*, 40(4), pp.529-539.
3. Thiripurasundari, M., Sathya, K., **Uma, A.**, Srinivasan, M.R. and Rajasekar, P., 2014. A comparative study on the toxicity of ivermectin in Zebra Fish and Catla Fish Models. *Indo American Journal of Pharmaceutical Research*, 4(9)pp.3685 – 3688.
4. Sathya, K., Thiripurasundari, M., **Uma, A.**, Srinivasan, M.R. and Rajasekar, P., 2014. The Toxic effect of cypermethrin on zebra fish embryo- an alternative model for assessing the embryo toxicity of environment chemicals. *Indo American Journal of Pharmaceutical Research*. 4(04): 2316

Probiotics

1. **Uma, A.**, Abraham, T.J. and Sundararaj, V., 1999. Effect of a probiotic bacterium, *Lactobacillus plantarum* on disease resistance of *Penaeus indicus* larvae. *Indian J. Fish*, 46(4), pp.367-373.
2. **Uma, A.**, Abraham, T.J., Jeyaseelan, M.J.P. and Sundararaj, V., 1999. Effect of probiotic feed supplement on performance and disease resistance of Indian white shrimp *Penaeus indicus* H. Milne Edwards. *Journal of Aquaculture in the Tropics*. 14(2):159- 164
3. Abraham, T.J., Shanmugam, S.A., Uma, A., Palaniappan, R. and Dhevendaran, K., 2001. Biocontrol of shrimp bacterial pathogens using penaeid larva associated bacterium, *Alteromonas* sp. *Journal of Aquaculture in the Tropics*, 16(1), pp.11-22.

Antimicrobial Resistance / Antimicrobial activity

1. **Uma, A.** and Rebecca, G. 2018. Antibiotic resistance in bacterial isolates from commercial probiotics used in aquaculture. *Int. J. Curr. Microbiol. App. Sci*, 7(1), pp.1737-1743.
2. Adikesavalu, H., Kumar, P., Abraham, T.J. and **Uma, A.**, 2015. Minimal Bactericidal Concentration of Sanitizers against *Edwardsiella tarda* Strains Isolated from African Catfish *Clarias gariepinus*. *Journal of Marine Biosciences Vol*, 1(1), pp.5-10

3. Mabel, M. M., **Uma, A.**, Rani, D. J. and Saravanabava K., 2011. Antibacterial activity of green seaweed against shrimp bacterial pathogens. *Indian Veterinary Journal*. 11:pp. 5-7.
4. **Uma, A.**, Meena, S., Saravanabava, K. and Manohar, B.M., 2010. PCR Detection And Antibiotic Sensitivity Of *Aeromonas Hydrophila* Isolates From Gold Fish. *Indian Veterinary Journal*, 87(4) pp. 332-333
5. **Uma, A.**, Jawahar, R.K., Rebecca, G. and Anand, S., 2014. Antibiotic resistance in *Aeromonas hydrophila* isolated from clinically infected catfish *Clarius* sp. *Indian veterinary Journal*, 91(05)pp. 55-58.
6. Basu, A., **Uma A.** and Rao, N., 2014. Detection of extended-spectrum β -lactamases in members of the family Enterobacteriaceae: comparison of the Combination Double Disc Test Method and the Etest ESBL. *IOSR-JDMS*, 13(2), pp.58-63.

Disease reports (Bacterial/ Fungal/Parasite diseases)

1. **Uma, A.**, Rebecca, G., Gangatharan, S., & Palanivel, N. (2024). Isolation and Identification of *Brucella Melitensis* in Diseased Nile Tilapia, *Oreochromis Niloticus* from a Commercial Fish Farm in Tamil Nadu, India. *Indian Vet. J*, 101(1), 11-14.
2. **Uma, A.**, Rebecca. G., Jayasimhan, Praveenraj., Ganesh Babu. S., & Gangatharan. S., (2024). First report of *Paracapillaria philippinensis* infection in flowerhorn cichlid in India. *Parasitology Research*, 123(3), 150.
3. J. Praveenraj, K. Saravanan, R. Srinath, **A. Uma**, R. Kiruba Sankar (2024). Molecular Characterization of lymphocystis disease virus in Indian glass fish: first report from the Andaman Islands. *Achives of Virology* (2024) 169:136 Page No 1-7.
4. Jayasimhan Praveenraj, **Uma Arumugam** and Gnanadesikan Rebecca (2024). Infection of *Achlya* ap. Associated with dermal ulceration and mortality in an endemic snakehead fish *Channa aurantimaculata*. *Indian Journal of Fisheries* 71(2), Page No: 145-149.
5. R. Srinath and **A. Uma** (2024). Prevalence of Bacterial Diseases in Ornamental Fish Rearing Units of Kolathur, TamilNadu, India. *Indian Journal of Animal Research* B-5288 Page No. 1-8.
6. Praveenraj, J., Saravanan, K., **Uma, A.**, Kiruba-Sankar, R., Ahilan, B., Gopalakannan, A. and Manikandavelu, D., 2024. First report of two bacterial diseases from the freshwater fishes of the Andaman islands, India. *Indian Journal of Animal Research*, 58(8), pp.1333-1339.
7. J. Praveen raj, **A. Uma**, K. Saravanan, B. Ahilan, A. Gopalakannan, D. Manikandavelu, R. kiruba Shankar, G. Kumar (2024). Characterization of piscinoodinium sp. Associated with epizootics and mortality in non-native and endemic freshwater fish of the Andaman Islands, India. *Disease of Aquatic organisms* Vol 160 Page No. 19-24.
8. **A. Uma**, N. Pazhanivel, G. Rebecca, S. Gangatharan and S. Ganesh babu (2024). Cutaneous Leiomyoma localiosed on the head and dorsal fin of a Gold fish, (*Carassius Auratus*). *Indian Veterinary Journal* Vol 101(9) Page No. 15-19.
9. Ponsrinivasan, A., & **Uma, A.** (2023). Unraveling the host-parasite interaction: immune response in *Oreochromis mossambicus* to *Cymothoa eremita* (Isopoda, Cymothoidae) infection. *Parasitology Research*, 122(12), 3233-3242.

10. Subash, P., **Uma, A.**, Ahilan, B., & Kannan, S. S. (2023). In vivo and in silico investigations on the efficacy of albendazole against *Enterocytozoon hepatopenaei* (EHP) infecting *Penaeus vannamei*. *Aquaculture*, 575, 739801.
11. Ponsrinivasan, A., & **Uma, A.** (2023). Hematological and Biochemical Profile of *Oreochromis mossambicus* Naturally Infected with Isopod *Cymothoa eremita*. *The Indian Veterinary Journal*, 100(11), 24-26.
12. **A. Uma**, S. Gangatharan, G. Rebecca and S. Ganesh babu (2022). Screening of *Photobacterium sp.*, A potential pathogen in the fish landed at pulicat lake, Tamil Nadu, India. *Indian Journal of Veterinary and Animal Science Research*, 51(3), Page No. 34-40 (NAAS Rating – 4.11)
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PATENTS

1. Patent No.275411- Development of PCR Primers for white spot syndrome virus (WSSV) in shrimp (Dt:02.09.2016)
2. Patent No.300445- Development of Primers for detection of Hepatopancreatic parvovirus (HPV) in shrimp by polymerase chain reaction (Dt:29.08.2018).

BOOKS PUBLISHED

1. Chemotherapy and Aquatic Therapeutics – Authors - A.Uma, A.Angela Mercy and K.Karak Marx. (ISBN: 978-93-88668-68-2)
2. Fish Disease Management – Authors - A.Gopalakannan, A.Uma and S.Felix (ISBN:978-93-5124-930-6 PB)
3. Text Book on Aquaculture - K.Karak Marx, A.Uma and M.Muthu Abhishag (ISBN:978-93-89996-79-1)

TECHNOLOGIES DEVELOPED

1. Nested PCR diagnostic kit for White spot syndrome virus (WSSV) in shrimp
2. Nested PCR diagnostic kit for Hepatopancreatic parvovirus (HPV) in shrimp

3. PCR kit for diagnosis of Monodon baculovirus (MBV) in shrimp
4. Multiplex PCR diagnostic kit for *Enterocytozoon hepatopenaei* (EHP) in shrimp
5. Multiplex Polymerase Chain Reaction (PCR) assay for simultaneous detection of White spot syndrome virus (WSSV) and *Enterocytozoon hepatopenaei* (EHP) infecting shrimp
6. Loop Mediated Isothermal Amplification (LAMP) based kit for rapid detection of Hepatopancreatic parvovirus (HPV) in shrimp
7. Lateral flow test (LFT) based kit for rapid detection of Hepatopancreatic parvovirus (HPV) in shrimp
8. Latex agglutination and Lateral flow assay kits have been developed for the viral pathogens infecting cultured shrimp
9. TNJFU E-Fish Health App (Mobile App for aquaculture farmers)
Download Link
(<https://play.google.com/store/apps/details?id=com.efish.health.tnjfufisheries>;
<https://play.google.com/store/apps/details?id=com.efishtamil.health.tnjfufisheries>)

HONOURS AND AWARDS

1. Young scientist Fellowship Award (2001-2002) of Tamil Nadu State Council for Science and Technology
2. Tamil Nadu Young Women scientist Award 2007 of Science City , Tamil Nadu
3. K.Chidambaram Memorial Annual Award 2007 of Fisheries Technocrat Forum for commendable work in Fisheries Biotechnological Research
4. TNJFU Appreciation Award-2018 for Technology development
5. Best paper award 2018 of Agricultural Scientific Tamil Society, New Delhi
6. TANUVAS certificate of Appreciation for the Patent on HPV-2020
7. TANUVAS certificate of Appreciation for the Patent on WSSV -2020
8. Best Researcher award 2020 of Tamil Nadu Dr.J Jayalalithaa Fisheries University
9. Best Scientist Award 2023 of Agricultural Scientific Tamil Society, New Delhi
10. Best paper Author Award 2023 of Agricultural Scientific Tamil Society, New Delhi
