CURRICULUM VITAE

Dr. Jeena K., PhD, ARS (Fish Health)
Senior Scientist,
Aquatic Environment and Health Management Division
ICAR-Central Institute of Fisheries Education
Mumbai, India 400061

Email: jeena@cife.edu.in and jeenakezhedath@gmail.com
Tel: +91 9702927298/ +91 9082357719
Google scholar link: https://scholar.google.com/citations?user=GOuMkdoAAAAJ&hl=en

AREA OF RESEARCH

- Mechanisms of innate immune memory in fish
- Understanding fish macrophages and their role in defense
- Development of diagnostics for emerging diseases in aquaculture

ACADEMIC RECORDS/EDUCATION

Sl. No.	Educational Qualification	Stream/Area of specialization	Year of qualification	Percentage of Marks	Name of Institution/Board/ University
1.	Doctor of Philosophy (Ph. D)	Aquatic Animal Health Management	2019	88%	ICAR-Central Institute of Fisheries Education (CIFE), India
2.	Master of Fisheries Science (M.F.Sc.)	Aquatic Animal Health Management	2011	88.3%	ICAR-Central Institute of Fisheries Education (CIFE), Mumbai, India
3.	Bachelor of Fisheries Science (B.F.Sc.)	Fisheries Science	2009	85.4%	Kerala University of Fisheries and Ocean Studies (KUFOS), Kochi, India

Ph. D. THESIS AND M.F.Sc. (PG) DISSERTATION

Sl.No.	**Degree**	**DISSERTATION/THESIS**
1.	Ph.D. (Aquatic Animal Health Management) 2019	**Title:** Development of Bio-barcode based Diagnostics for Detection of WSSV **University:** ICAR-Central Institute of Fisheries Education, Mumbai, Maharashtra, India **Supervisor:** Dr. K. Pani Prasad, Principal Scientist, Aquatic Environment and Health Management Division, ICAR-Central Institute of Fisheries Education, Mumbai, India
2.	M.F.Sc. (PG) (Fish Pathology and Microbiology) 2011	**Title:** Expression profiling of WSSV ORF249 and shrimp ubiquitin conjugating enzyme in WSSV infected *Penaeus monodon* **University:** ICAR-Central Institute of Fisheries Education, Mumbai, Maharashtra, India **Supervisor:** Dr. K. Pani Prasad, Principal Scientist, Aquatic Environment and Health Management Division, ICAR-Central Institute of Fisheries Education, Mumbai, India

EMPLOYMENT DETAILS /POSITIONS

Sl. No.	**Designation**	**Pay Scale**	**Institution**	**Period**
1.	Senior Scientist	Level 12 (7^{th} CPC); RGP 8000	ICAR-Central Institute of Fisheries Education, Mumbai, Maharashtra, India	January 2024 to till date
2.	Scientist (Senior scale)	RGP 7000 (6^{th} CPC)	ICAR-Central Institute of Fisheries Education, Mumbai, Maharashtra, India	January 2020 to December 2023
3.	Scientist	RGP 6000 (6^{th} CPC)	ICAR-Central Instituteof Fisheries Education, Mumbai, Maharashtra, India	April 2014 to Dec 2019
4.	Scientist (Trainee)	RGP 6000 (6^{th} CPC)	ICAR-National Academy of Agricultural Research Management, Hyderabad, India	January 2014 to March 2014

Total Experience: 11 Years 6 months

LIST OF PROJECTS IMPLEMENTED /BEING IMPLEMENTED

Sl. No.	Title of project	Funding agency	From	To	Budget lakhs	Role	Status
1.	Application of heterologous prime and boost strategies for immunoprophylaxis in Tilapia, *Oreochromis niloticus*	ICAR-CIFE	2022 -	2025	38.0	PI	Completed
2.	Referral Laboratory under the National Surveillance Programme for Aquatic Animal Diseases	PMMSY -Dept. of Fisheries GoI	2022	2026	29.10	CoPI	Ongoing
3.	Development of CRISPR based diagnostic test for detection of fish and shellfish viruses	ICAR-CRP on Vaccines & Diagnostics	2022	2025	173.05	Co-PI	Ongoing
4.	Characterization and utilization of sulfated polysaccharides extracted from red seaweed, *Gracilaria spp*. co-cultured with *Penaeus vannamei*	CSIR-INSPIRE	2024	2027	28.0	Co-PI	Ongoing
5.	National Surveillance Programme for Aquatic Animal Diseases (NSPAAD)Phase 2	PMMSY -Dept. of Fisheries GoI	2022	2025	53.72	Co-PI	Completed
6.	Establishment of a Bio-resource Facility of Zebrafish (*Danio rerio*): A National Genetic Repository for Wild Type and Inbred Zebrafish- Phase I	PMMSY -NFDB GoI	2023	2025	70.0	Co-PI	Ongoing
7.	All India Network Project on Assessment of AMR in Fisheries and Livestock	ICAR Network Project	2018	2025	40.0	Co-PI	Ongoing
8.	Characterization of Mucosal Immunoglobulins in Tilapia and Development of ELISA for Diagnosis of Tilapia Lake Virus (TiLV) Infection	DBT, Govt. of India	2019	2022	35.09360	Co-PI	Completed
9.	Development of monoclonal antibody against *Flavobacterium columnare* & its use in Rapid Disease Diagnosis	ICAR-CIFE	2019	2021	28.0	Co-PI	Completed
10.	Propagation and Utilization of Red Seaweed, Gracilaria Spp. for Sustainable Shrimp Aquaculture	ICAR-CIFE	2023	2025	25.0	Co-PI	Completed
11.	Valorization of Fruit and Vegetable	ICAR-	2022	2025	25.0	Co-PI	Completed

	Waste for Aquafeed	CIFE					
12.	Enhancing the Utilisation of Non-food Fish and Seaweed through Technology Refinement and Upscaling	ICAR-CIFE	2018	2020	10.0	Co-PI	Completed
13.	Studies on Host Pathogen Interactions and Development of Nano-based Diagnostics for Betanodavirus Infection in Lates calcarifer	ICAR-CIFE	2015	2018	35.0	Co-PI	Completed

PEER-REVIEWED RESEARCH AND REVIEW ARTICLES

- Jiji, A., Sanil, N.K., Poojary, N., **Kezhedath, J.,** Krishnan, S., Bedekar, M.K. and Rajendran, K.V., 2025. First Report of Dual Infection of Hepatopancreatic Parvovirus and Enterocytozoon hepatopenaei in Wild and Farmed Macrobrachium rosenbergii. Journal of Fish Diseases, p.e14165.

- Rajeshwar, B.N., Kumar, T.S., Jithendran, K.P., Bedekar, M.K., Kumar, H.S., **Jeena, K.,** Pathan, M.A. and Rajendran, K.V., 2025. Experimental infection study reveals differential susceptibilities of Penaeus monodon and Penaeus vannamei to Enterocytozoon hepatopenaei. Journal of Invertebrate Pathology, 211, p.108331.

- Harini, G., Pathak, M.S., Munilkumar, S., Sukhdhane, K.S., Chanu, T.I., Balange, A.K. and **Jeena, K.,** 2025. Unlocking synergies: Enhancing bioremediation, growth, and physiological responses of Penaeus vannamei co-cultured with seaweed. Algal Research, 85, p.103816.

- Waikhom, D., **Kezhedath, J***., Suresh, S.N., Bedekar, M.K., Varghese, T., Kurcheti, P.P. and Valappil, R.K., 2024. Induction of trained immunity using β-glucan and its protective responses in Nile tilapia, Oreochromis niloticus. Developmental & Comparative Immunology, 157, p.105188.

- Dinakaran, C., Prasad, K.P., Bedekar, M.K., **Jeena, K.,** Acharya, A. and Poojary, N., 2024. In vitro analysis of the expression of inflammasome, antiviral, and immune genes in an Oreochromis niloticus liver cell line following stimulation with bacterial ligands and infection with tilapia lake virus. Archives of Virology, 169(7), p.148.

- Mushtaq, Z., Kurcheti, P.P., **Jeena, K.** and Gireesh-Babu, P., 2024. Short peptidoglycan recognition protein 5 modulates immune response to bacteria in Indian major carp, Cirrhinus mrigala. Developmental & Comparative Immunology, 152, p.105104.

- Valsalam, A., Bedekar, M.K., **Kezhedath, J**., Sood, N., Poojary, N., Namdeo, M.S., Shrivastava, N. and Rajendran, K.V., 2024. Isolation, in vitro, and in vivo pathogenicity test of Tilapia lake virus (TiLV) and development of a prognostic semi-quantitative lesion scoring system for differentiating clinical/subclinical infection in farmed tilapia (Oreochromis niloticus L.). Microbial Pathogenesis, 186, p.106475.

- Chovatia, R.M., Acharya, A., Rasal, K.D., Bedekar, M.K., **Jeena, K.,** Rathinam, R.B., Dinakaran, C. and Tripathi, G., 2024. Ontogeny and tissue specific expression profiles of recombination activating genes (RAGs) during development in Nile tilapia, Oreochromis niloticus. Gene Expression Patterns, 52, p.119358.

- Prasad, K.P., Krishnan, R., Uthaman, S.K., **Kezhedath, J.** and Kumar, P.V., 2024. Innate Antiviral Response through Mitochondrial Antiviral Signaling Protein (MAVS) in Fish-A Review. Fish Pathology, 59(2), pp.39-53.

- Rajendran, K.V., Sood, N., Rao, B.M., Valsalam, A., Bedekar, M.K., Jeena, K., Pradhan, P.K., Paria, A., Swaminathan, T.R., Verma, D.K. and Sood, N.K., 2023. Widespread occurrence of Tilapia parvovirus in farmed Nile tilapia Oreochromis niloticus from India. Journal of fish diseases.

- Valsalam, A., Rajendran, K.V., **Kezhedath, J.,** Godavarikar, A., Sood, N. and Bedekar, M.K., 2023. Development of an indirect ELISA test for the detection of Tilapia lake virus (TiLV) in fish tissue and mucus samples. Journal of Virological Methods, 315, p.114707.

- Mushtaq, Z., Prasad, K.P., **Jeena, K.,** Rajendran, K.V., Martina, P. and Babu, P.G., 2023. Class a scavenger receptor-A5 gene in Cirrhinus mrigala: Cloning, characterisation and expression patterns in response to bacterial infection. *Gene*, *848*, p.146897.

- Waikhom, D., **Kezhedath, J**[*] ., Krishnan, R., Varghese, T., Kurcheti, P.P. and Valappil, R.K., 2022. Beta-glucan stimulation induces trained immunity markers in common carp, Cyprinus carpio. *Fish & Shellfish Immunology*, *131*, pp.855-861.

- Krishnan, R., **Jeena, K**. and Kurcheti, P.P., 2021. Nervous necrosis virus induced oxidative imbalance and host associated antioxidant response in Asian seabass brain. *Aquaculture*, *531*, p.735809.

- Krishnan, R., Kurcheti, P.P., Mushtaq, Z. and **Jeena, K.,** 2019. Interferon-regulatory factors, IRF3 and IRF7 in Asian seabass, *Lates calcarifer*: Characterization, ontogeny and transcriptional modulation upon challenge with nervous necrosis virus. *Fish & shellfish immunology*, *89*,pp.468-476.

- Krishnan, R., Babu, P.G., **Jeena, K.,** Tripathi, G. and Prasad, K.P., 2018. Molecular characterization, ontogeny and expression profiling of mitochondrial antiviral signaling adapter, MAVS from Asian seabass *Lates calcarifer*, Bloch (1790). *Developmental & Comparative Immunology*, 79, pp.175-185.

- Krishnan, R., **Jeena, K.,** Mushtaq, Z., Shyam, K.U. and Kurcheti, P.P., 2018. Antiviral activity of transiently expressed mitochondrial antiviral signaling adapter, MAVS orthologue from Asian seabass. *Fish & shellfish immunology*, *76*,pp.183-186.

- Krishnan, R., **Jeena, K.** and Prasad, K.P., 2018. Preliminary investigations on the role of Drp-1 dependent mitochondrial fission in attenuating RLR downstream signaling during nervous necrosis virus infection. *Fish & shellfish immunology*, *80*,pp.618-623.

- **Jeena, K**., Krishnan, R., Shyam, K.U., Babu, P.G., Lakra, W.S., Purushothaman, C.S. and Prasad, K.P., 2018. Dynamics of Infection in Selected Tissues of White Spot SyndromeVirus-Infected Litopenaeus vannamei. *Int. J. Curr. Microbiol. App. Sci*, *7*(6),pp.3003-3008.

- Kokkattunivarthil, S., Krishnan, R., **Kezhedath, J***. and Prasad, K.P., 2018. New set of PCR primers for SYBR green-based qPCR detection of IMNV in India. *Aquaculture*, *495*, pp.726-730.

- Kurcheti Pani Prasad., K. U. Shyam, Husne Banu, **K. Jeena,** Rahul Krishnan (2017). Infectious myonecrosis virus (IMNV)-An alarming viral pathogen to penaeid shrimps. *Aquaculture* 477:99-105.

- K. U. Shyam**, K. Jeena,** Pani Prasad K*, Rathore G., and Tripathi G. (2017). Surveillance status for infectious myonecrosis virus in Indian shrimp aquaculture. *Indian J. Fish.*, 64(2): 69- 75.

- Dhanapal, S., Rajukumar, K., **Kezhedath, J**., Semmannan, K., Kumar, M., Shrivastava, D., Bano, F.H., Kulkarni, D. and Singh, V.P., 2017. Pulmonary Alveolar Macrophages Reveal Higher Basal Cytokine mRNA Expression than Peripheral Blood Leucocytes in Healthy Piglets. *Journal of Animal Research*, *7*(4),pp.629-634.

- Jayaramu, P.K., Tripathi, G., Kumar, A.P., **Keezhedath, J.,** Pathan, M.K. and Kurcheti, P.P., 2017. Studies on expression pattern of toll-like receptor 5 (TLR5) in *Edwardsiella tarda* infected *Pangasianodon hypophthalmus*. *Fish & shellfish immunology*, *63*, pp.68- 73.

- Arun Sudhagar, S., Prasad, K.P., Makesh, M., RathiBhuvaneswari, G. and **Jeena, K**., 2015. Characterization and production of polyclonal antisera against pangasius *(Pangasianodon hypophthalmus*) serum immunoglobulin IgM derived from DEAE cellulose based ion exchange chromatography. *Aquaculture Research*, *46*(6), pp.1417- 1425.

- Pathan, M., Gireesh-Babu, P., Pavan-Kumar, A**., Jeena, K.,** Sharma, R., Makesh, M., Prasad, K.P. and Krishna, G., 2013. In vivo therapeutic efficacy of recombinant *Penaeus monodon* antiviral protein (rPmAV) administered in three different forms to WSSV infected *Penaeus monodon*. *Aquaculture*, *376*,pp.64-67.

- **Keezhedath, J**., Kurcheti, P.P., Pathan, M.K., Babu, G.P., Tripathi, G., Sudhagar, A.and Rao, S.P., 2013. Expression profile of *Penaeus monodon* ubiquitin conjugating enzyme (PmUbc) at protein level in white spot syndrome virus challenged shrimp. *Indian Journal of Virology*, *24*(1),pp. 48-53.
- **Jeena, K.,** Prasad, K.P., Pathan, M.K. and Babu, P.G., 2012. Expression profiling of WSSV ORF 199 and shrimp ubiquitin conjugating enzyme in WSSV Infected *Penaeus monodon*. *Asian-Australasian journal of animal sciences*, *25*(8), p.1184.

Book Chapter

- Kumar, S.H., Stephen, J., **Jeena, K.,** Lekshmi, M., Sreedharan, K. and Valappil, R.K., 2023. Shrimp Health and Microbiome. In *Microbiome of Finfish and Shellfish* (pp. 181-201). Singapore: Springer Nature Singapore**.**

GenBank Submissions

- GenBank: PQ539342.1Infectious spleen and kidney necrosis virus isolate CIFE-ISKNV-KA-2024 major capsid protein gene, partial cds
- GenBank: PQ450176.1 Tilapia parvovirus isolate TiPV-MH-R non-structural protein 1 (NS1) gene,partial cds
- GenBank: PQ450175.1 Tilapia parvovirus isolate TiPV-MH-L non-structural protein 1 (NS1) gene, partial cds
- GenBank: **OP251142.1** *Cirrhinus mrigala* scavenger receptor A5 (SCARA5) mRNA, complete cds, 1215bp.
- GenBank:. **OP037804.1** Tilapia lake virus isolate IND-MH-2022 segment 10 hypothetical protein gene, partial cds, 242 bp.
- GenBank:.. **OP391513.1** Tilapia lake virus isolate IND-MH-2022 hypothetical protein gene, partial cds, 249 bp.
- GenBank:. **KT271758.1** *Pangasianodon hypophthalmus* TLR5 (TLR5) mRNA, partial cds, 799 bp.
- GenBank:..**KY502198.1** *Lates calcarifer* mitochondrial antiviral signaling protein (MAVS) mRNA, complete cds, nuclear gene for mitochondrial products, 3160bp.
- GenBank:..**JN106388.1** *Pangasianodon hypophthalmus* immunoglobulin mu heavy chain variable region mRNA, partial cds, 248 bp.

Training manuals Edited and Compiled

- **Jeena K**., Kundan Kumar and Megha K. Bedekar. 2025. Lecture Compendium on Current Approaches and New Strategies in Aquatic Animal Disease Diagnostics and Vaccination. CAFT Training manual. Central Institute of Fisheries Education. Pp 180.

- **Jeena K.,** Kundan Kumar and Megha K. Bedekar. 2025. Practical Manual on Current Approaches and New Strategies in Aquatic Animal Disease Diagnostics and Vaccination. CAFT Training manual. Central Institute of Fisheries Education. 168Pp.

- Megha K. Bedekar, Swadesh Prakash, Arun Sharma, Saurav Kumar and **Jeena K.** 2024. Fish Health Management, 78Pp.

- Arun Sharma, Saloni Shivam, **Jeena K**, Megha K. Bedekar, Pradeep Kumar Singh and S. Munil Kumar. 2025. Fish Diseases and its Management, 44Pp.

- Arun Sharma, Saloni Shivam, **Jeena K,** Megha K. Bedekar, Pradeep Kumar Singh and S. Munil Kumar. 2025. Matchhli Ke Rog Evam Unka Prabhandhan, 33Pp.

- **Jeena K.,** Dipalee Thombre and Megha K. Bedekar. 2024. Standard Operating Procedures for Pathogen Testing under NABL Scope. 102 Pp.

- **Jeena K.,** Dipalee Thombre and Megha K. Bedekar. 2024. Standard Operating Procedures for Laboratory Equipment. 60 Pp.

- K. Pani Prasad, **Jeena K** (2022). Antimicrobial Resistance (AMR) and Alternatives to AMR with Special Reference to Fisheries and Aquaculture. CAFT Training manual. Central Institute of Fisheries Education. pp184.

- K. Pani Prasad, Saurav Kumar, **Jeena K**. 2020. Training manual on Immunological and Molecular Diagnostics for Rapid Disease Diagnosis. 249Pp.

- K.V. Rajendran, Megha Kadam Bedekar, Kundan Kumar, **Jeena, K.,** Nalini Poojary. 2019. Training manual on Development and Application of Vaccines for Fish Aquaculture. 283Pp.

- K. Pani Prasad, Kundan Kumar and **Jeena K**. 2019. Manual for Short course on One Health with Special reference to Fisheries and Aquaculture.117Pp.

- Megha Kadam Bedekar, **Jeena K** and Nalini Poojary. 2015. Training Manual for Skill Development Programme on' Techniques in Aquatic Animal Health'. 38Pp.

- Megha Kadam Bedekar, **Jeena K** and Husne Banu, 2017. Manual for Short term training programme on PCR based Disease Diagnosis. 73Pp.

Teaching

M.F. Sc Courses

S. No.	Name of the courses	Credit hours (Theory+ Practical)
1.	Fish and Shellfish Virology (AAH 502)	(2+1)
2.	Fish and Shellfish Immunology (AAH 506)	(2+1)
3.	Disease Diagnostic Techniques (AAH 511)	(2+1)
4.	Epidemiology and Disease Surveillance (AAH 509)	(1+1)
5.	Good Laboratory Practices (GLT)	(2+1)

Ph. D Courses

S. No.	Name of the course	Credit hours (Theory+ Practical)
1.	Molecular Virology of Finfish & Shellfish (AAH 602)	(2+1)
2.	Immunology and Vaccination of Fish (AAH 605)	(2+1)

STUDENT RESEARCH *(As Major Guide)*

S. No.	Year	Title of dissertation
M.F.Sc student research topics		
1.	2018-19	Studies on Trained Immunity in Common Carp, *Cyprinus Carpio*
2.	2018-19 (External student of MSc Biotechnology)	Targeted surveillance of common pathogens and health monitoring of Zebrafish, *Danio rerio*
3.	2022-23 (External student of MSc Biotechnology)	Study on isolation, identification and characterization of *Escherichia coli* and *Staphylococcus sp*. from ornamentally reared tilapia
4.	2019-20	Study on the Effect of Short Chain Fatty Acid in Shaping Gut Immunity of Zebrafish, *Danio rerio*

5.	2020-21	Screening of Integrons in Selected Gram Negative Bacteria Isolated from Shrimp Farms
6.	2021-22	Screening of *Escherichia coli* isolates for MDR and molecular characterization of integron-associated resistance
7.	2022-23	Evaluation of the efficacy of a chitin derivative(s) as training ligand(s) for induction of innate immune memory in Nile Tilapia, *Oreochromis niloticus* (Linnaeus, 1758)
8.	2023-24	Screening of emerging viral pathogen(s) infecting freshwater ornamental Cyprinids in India
9.	2023-24	Establishment of an *in vitro* model for the evaluation of trained immunity
10.	2024-25	Studies on plasticity and functional polarization in macrophages of Tilapia
Ph. D student research topic		
1.	2021-24	Studies on Induction and Regulation of Innate Immune Memory in Tilapia, *Oreochromis niloticus*
2.	2022-25 (Ongoing)	A study on trained immunity employing prime and boost strategy for developing immunoprophylaxis in Nile tilapia, *Oreochromis niloticus*
3.	2024-27 (Ongoing)	Investigation of Transgenerational Innate Immune Memory and its Effects on Disease Susceptibility in GIFT
4.	2014-27 (Ongoing)	Immune responses and protective efficacy of immune priming in Pacific white Shrimp, *Penaeus vannamei*

STUDENT RESEARCH *(As Advisory Committee Member)*

S. No.	Year	Title of dissertation
M.F.Sc		
1.	2015-16	Expression studies on Toll-like receptor 5 in *Pangasianodon hypophthalmus* exposed to *Edwardsiella tarda*
2.	2016-17	Evaluation of immunostimulatory action of PLGA nanoparticle encapsulated *Edwardsiella tarda* antigen in *Pangasianodon hypophthalmus*

3.	2017-18	Molecular cloning and characterization of mitochondrial antiviral signaling protein (MAVS) from betanodavirus infected *Lates calcarifer* (Bloch 1790)
4.	2017-18	Identification and molecular characterization of antimicrobial resistance associated with gut microflora of cultured *Penaeus vannamei* (Boone, 1931)
5.	2018-19	Identification and molecular characterization of antimicrobial resistance associated with microflora of cultured fish
6.	2018-19	Development and application of quantitative real-time PCR for tilapia lake virus (TiLV)
7.	2018 (External student of MSc Biological Sciences)	Performance of fitness traits in known inbred zebrafish population and screening for abnormalities at zebrafish breeding facility
7.	2019-20	Development of recombinant protein from selected gene of tilapia lake virus
8.	2019-20	Phenotypic and molecular characterization of antimicrobial resistance in selected bacterial isolates from *Penaeus vannamei*
9.	2020-21	Study on Biosafety and pharmacokinetics of Florfenicol in Common carp, *Cyprinus carpio*
10.	2020-21	Study on tissue depletion and withdrawal period of Florfenicol in Common carp (*Cyprinus carpio*)
11.	2021-22	Evaluation of innate immunity in *Oreochromis mossambicus*
12.	2021-22	Synthesis and characterization of biogenic silver nanoparticles using papaya leaf extract and its antibacterial effect on *Edwardsiella tarda* in fish
13.	2021-22	Evaluation of dietary supplementation of paraprobiotics (*Lactobacillus rhamnosus*) on growth and immune responses in *Labeo rohita* (Ham.) against *Edwardsiella tarda*
14.	2021-22	Histology and PCR-based screening of *Macrobrachium rosenbergii* for hepatopancreas-infecting pathogens

15.	2021-22	Ontogeny and tissue specific expression profiles of Recombination Activating Gene (RAG) during Development in Nile tilapia, *Oreochromis niloticus*
16	2022-23	Screening of Selected Antimicrobial Resistance (AMR) Genesfrom *Escherichia coli* and *Staphylococcus aureus* obtained from Shrimp Samples of Maharashtra region
17.	2022-23	Development of RT-RPA -CRISPR- Cas12a assay for rapid detection of Tilapia lake virus
18.	2022-23	Molecular cloning and characterization of integrin gene of mud crab, *Scylla serrata*
19.	2023-24	Screening of ISKNV (infectious spleen and kidney necrosis virus) from susceptible fish species in Maharashtra
20.	2023-24	Optimization of molecular method for screening of tilapia parvovirus (TiPV) in farmed tilapia
Ph. D		
1.	2017-20 (PhD awarded)	Molecular characterization, ontogeny and expression studies of selected innate immune relevant genes in *Cirrhinus mrigala* (Hamilton, 1822)
2.	2017-20 (PhD awarded)	Study on *in vitro* pathogenesis of Tilapia Lake Virus using fish cell lines
3.	2018-21 (Ongoing)	Characterization of biofilm forming fish bacterial pathogens and development of biogenic silver nanoparticles for its control
4.	2019-22 (Ongoing)	Surface Display Expression of *Aeromonas hydrophila* OMP in *Saccharomyces cerevisiae* and its Immune Protection in Tilapia
5.	2019-22 (PhD awarded)	Development of Immunodiagnostic assay for Tilapia lake virus (TiLV) and its validation using Reverse Transcriptase PCR
5.	2020-23 (PhD awarded)	Inflammatory responses in Tilapia, *Oreochromis niloticus* to Tilapia Lake Virus during bacterial co-infection
6.	2020-23 (PhD awarded)	*Enterocytozoon hepatopenaei* (EHP) infection in Tiger shrimp, *Penaeus monodon*: A study ongut microbiome and host response
7.	2020-23 (Ongoing)	Peptide nucleic acid based biosensor for visual detection of Tilapia lake virus

Trainings organized / co-ordinated

ICAR sponsored Trainings: Centre for Advanced Faculty Training in Fisheries Science

- CAFT on 'Current Approaches and New Strategies in Aquatic Animal Disease Diagnostics and Vaccination' during 8-28 January 2025.
- CAFT on 'Antimicrobial Resistance (AMR) and Alternatives to AMR with Special Reference to Fisheries and Aquaculture' during 9-18 November, 2022.
- CAFT on Immunological and Molecular Diagnostics for Rapid Disease Diagnosis during 7-27 February 2020.
- CAFT training on Molecular Techniques in Shrimp Health Management' during 24 February to 5 March, 2018.
- ICAR sponsored short course on 'One Health with Special reference to Fisheries and Aquaculture' during 18-27 February, 2019.
- CAFT on 'Development and Application of Vaccines for Fish Aquaculture' during 4-13 February, 2019.

Trainings for farmers /students /young professionals

- Skill development programme on 'Techniques in Aquatic Animal Health' at ICAR-Central Institute of Fisheries Education Mumbai from 7-12 September, 2015.
- Short term training programme on 'PCR based disease diagnosis' at ICAR-Central Institute of Fisheries Education Mumbai from 23- 27 October, 2017.
- Customized training on 'Techniques in Molecular biology and Recombinant DNA Technology' for PhD students of Calicut University, Kerala during 4-18 April, 2022.
- Skill Development Programme on 'PCR based disease diagnosis at ICAR-Central Institute of Fisheries Education Mumbai from 16- 21 January, 2023.
- Skill Development Programme on 'PCR based disease diagnosis' at ICAR-Central Institute of Fisheries Education Mumbai from 2-4 August 2023 sponsored by National Surveillance Programme for Aquatic Animal Diseases (NSPAAD) II Referral laboratory ICAR-CIFE, Mumbai.

Trainings Attended

National

- Professional Attachment Training on Diagnostic techniques for exotic and emerging pathogens at ICAR-National Institute of High Security Animal Diseases, Bhopal from 24 May 2014 to 23 August 2014
- Foundation Course for Agricultural research Service (FOCARS) Training at ICAR-National Academy for Agricultural Research Management, Hyderabad
- CAFT in Fisheries Science on Gene Mining Approaches and In Silico Functional Analyses at ICAR-Central Institute of Fisheries Education, Mumbai during 03-23 December ,2018
- CAFT in Fisheries Science on Molecular, Nanotechnological and Immunological Diagnostics in Fisheries and Aquaculture at ICAR-Central Institute of Fisheries Education, Mumbai during 25 February- 17 March,2015
- Application of Bioinformatics in Agricultural Research and Education (Virtual) organized by NAARM ,Hyderabad during 20-24 September 2021.
- ISO/IEC 17025: 2017& Internal Auditing' at ICAR-Central Institute of Fisheries Education, Mumbai on 1-3 March, 2022.

International

- FAO Assessment Tool for Laboratories and Antimicrobial Resistance Surveillance Systems (FAO ATLASS) during 20-22 January 2025 organized by FAO at ICAR-Central Institute of Fisheries Technology, Kochi.
- One month hands-on training programme on "Fish vaccine formulation and encapsulation" at Centex Shrimp, NSTDA, Mahidol University Bangkok, Thailand from 24 September to 25 October 2023.
- TCP/IND/3803: AMU training on 'Strengthening institutional capacity in surveillance and monitoring of antimicrobial use in the animal health sector through training on use of AMU' during 25-26 April, 2022 organized by FAO at ICAR-Directorate of Poultry Research, Hyderabad.
- Terminal workshop of the TCP/RAS/3702 **"**Support Mitigation of Antimicrobial Resistance Risk Associated with Aquaculture in Asia" organized by FAORAP in collaboration with Nitte University and INFOFISH during 23-24 November 2021.
- Virtual Training Course on Surveillance and Monitoring for Antimicrobial Resistance (AMR) in Aquaculture (26-30 July, 2021) organized by FAO.
- FAO-ICAR training on WHONET software for data management of Antimicrobial Resistance (AMR) at ICAR-NBFGR-Lucknow from 17-18 August, 2018

Awards/Honours

Research Paper Awards (National and International conferences/Symposia)

- Best Research Paper (Oral Presentation) during 'International Conference on Fisheries Biotechnology' at ICAR-CIFE, Mumbai during 18-19 March 2025.
- Best Research Paper (poster) during 'International Conference on Fisheries Biotechnology' at ICAR-CIFE, Mumbai during 18-19 March 2025.
- Best Research Paper (poster) during the National Seminar on 'AMR in Indian Fisheries: Measures of Mitigation' at ICAR-CIFT, Cochin, India during 7-8 November, 2019.
- Best Research Paper (poster) during International conference on 'Responsible Aquaculture and Sustainable Fisheries Interact (RASHI-2022) at College of Fisheries, Central Agricultural University, Lembucherra, Tripura, India during 13-16 December, 2022.
- Best Research Paper (poster) in Animal Virology during 26th Annual Conference 'VIROCON-2017" organized by Nitte University Mangaluru, India during 7-9 December, 2017.

Other National Awards

- Best Division Award for Aquatic Environment and Health Management Division of the ICAR-Central Institute of Fisheries Education (ICAR-CIFE), Mumbai for the year 2024, 2021, 2017
- Dr. D.R. Jalihal Award Gold medal 2018-19 for overall Best M.F. Sc research (for student research) all India from of ICAR-Central Institute of Fisheries Education, Mumbai, India
- Awarded Overall best MFSc dissertation of ICAR-Central Institute of Fisheries Education, Mumbai, India for the year 2017-18. (Student research)

Membership in Professional Societies

• American Society of Microbiology
• Indian Network for Fisheries and Animal Antimicrobial Resistance (INFAAR)
• Indian fisheries Association (Life Member)
• Agricultural Research Service Scientists' Forum (ARSSF), New Delhi, India
• Professional Fisheries Graduates Forum (PFGF), Mumbai, India

I hereby declare that the information provided here is true to the best of my knowledge.

(Jeena K.)