Individual Biodata



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Qualification : M.F.Sc & Ph.D.

Field of Specialization : Fish Biotechnology

Major Specializing field : Transcriptomics and Bioinformatics

Experience (in years) : 8 years

Citations	499
h-index	12
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Current projects

Sl.No.	Title of the Project	Year	PI / Co- PI of the Project	Funds (in Rs)	Funding Agency
1	"Deciphering genomic insights associated with adaptation in *Etroplus suratensis* (Pearl spot) for Climate Resilient Aquaculture"	2022-24	PI	Rs. 33.5 lakh	NICRA-CGC, ICAR
2.	Unraveling the genetic variation among the Scat (*Scatophagus argus*) populations of India through captive breeding and molecular markers"	2023-24	Co-PI	Rs. 24.23 Lakh	DBT

Research Publications :

1. **Agarwal, D**., Rakkannan, G., Kathirvelpandian, A., Eswaran, S., & Shanmugam, S. A. (2026). Deciphering transcriptomic insights into climate adaptation in *Etroplus suratensis* (pearl spot) under combined thermal-saline stress. *Aquatic toxicology*, 297, 107876. **(NAAS: 10.3)**
2. **Agarwal, D**., Shanmugam, S. A., Kathirvelpandian, A., Eswaran, S., Rather, M. A., & Rakkannan, G. (2024). Unraveling the Impact of Climate Change on Fish Physiology:

A Focus on Temperature and Salinity Dynamics. *Journal of Applied Ichthyology*, 2024(1), 5782274. **(NAAS: 7.0)**

3. **Deepak Agarwal**, Gulshan Kumar, Mohd Ashraf Rather & Ishtiyaq Ahmad. 2023. Cloning, computational analysis and expression profiling of steroid 5 alpha-reductase 1 (SRD5A1) gene during reproductive phases and ovatide stimulation in endangered catfish, *Clarias magur*. *Scientific Reports*, 13(1), 19553. **(NAAS: 10.60).**
4. **Agarwal, Deepak**, P. Gireesh-Babu, A. Pavan-Kumar, Prakash Koringa, C. G. Joshi, and Aparna Chaudhari (2020). Transcriptome analysis of Clarias magur brain and gonads suggests neuro-endocrine inhibition of milt release from captive GnRH-induced males. *Genomics*, 112(6): 4041-4052. **(NAAS: 10.31).**
5. **Deepak Agarwal**, Pathakota Gireesh-Babu, Annam Pavan-Kumar, Prakash Koringa, Chaitanya G. Joshi, Adnan Gora, Irfan Ahmad Bhat & Aparna Chaudhari (2020). Molecular characterization and expression profiling of 17-beta-hydroxysteroid dehydrogenase 2 and spermatogenesis associated protein 2 genes in endangered catfish, Clarias magur (Hamilton, 1822). *Animal biotechnology*, 31(2), 93-106. **(NAAS: 8.14).**
6. Marbade, P., Shanmugam, S. A., Suresh, E., Rathipriya, A., Rather, M. A., & **Agarwal, D**. (2023). Gene expression profiling and physiological adaptations of pearl spot (*Etroplus suratensis*) under varying salinity conditions. *International Journal of Biological Macromolecules*, 253, 127569. **(NAAS: 14.20)**
7. Banerjee, J., Kumar, G., Kumanan, K., Suresh, E., Yadav, S. K., & **Agarwal, D***. (2025). Structure-based virtual screening and in vivo validation of antiviral agents targeting WSSV thymidine kinase in *Penaeus vannamei*. *Aquaculture*, 743566.
8. Rather, M. A., **Agarwal,** D., Bhat, T. A., Khan, I. A., Zafar, I., Kumar, S., ... & Qadri, T. (2023). Bioinformatics approaches and big data analytics opportunities in improving fisheries and aquaculture. *International Journal of Biological Macromolecules*, 123549. **(NAAS: 14.03).**
9. Kumar, G., Singh, A. K., & **Agarwal, D**. (2023). Structural and functional characterization of RNA dependent RNA polymerase of Macrobrachium rosenbergii nodavirus (MnRdRp). *Journal of Biomolecular Structure and Dynamics*, 1-13. **(NAAS: 11.24).**
10. Nallaiah, H., Seerappalli Aran, S., Ayyathurai, K., **Agarwal, D**., Venkatachalam, K., & Eswaran, S. (2021). A critical review on the antimicrobial resistance, antibiotic residue and metagenomics-assisted antimicrobial resistance gene detection in freshwater aquaculture environment. Aquaculture Research. 53(2), 344-366. DOI: 10.1111/are.15601. **(NAAS: 7.75).**
11. Hemamalini, N., Shanmugam, S. A., Kathirvelpandian, A., **Deepak, A**., Kaliyamurthi, V., Suresh, E., & Ezhilmathi, S. (2022). Prevalence, Antimicrobial Susceptibility and Resistance Gene Detection in Bacteria Isolated from Goldfish and Tiger Barb from Ornamental Fish Farms of Tamil Nadu. Indian Journal of Microbiology, 1-6. https://doi.org/10.1007/s12088-022-01023-y. **(NAAS: 8.46).**
12. Hemamalini, N., Shanmugam, S. A., Kathirvelpandian, A., **Deepak, A**., Kaliyamurthi, V., Suresh, E., & Ezhilmathi, S. Prevalence, Antimicrobial Resistance and Resistance Gene Cassettes Detection in Bacterial Fish Pathogens Isolated from Freshwater Ornamental Fishes. Indian Journal of Animal Research, 1, 9. **NAAS: 6.50).**

Students guided PG and Ph.D.

S. No.	Student name and Email id	Degree	Research Title
1	Marbade Pranali Prabhakar marbadepranali@gmail.com	M.F.Sc. (Fish Biotechnology)	A study on Salinity Adaptability and its Effect on Growth through Gene Expression Profiling in Pearl Spot (*Etroplus suratensis*)
2	Jishu Banerjee jishubanerjee19@gmail.co	M.F.Sc. (Fish Biotechnology)	In Silico Screening and In vivo of Antiviral Compounds against White Spot Syndrome Virus (WSSV) in *Penaeus vannamei* (Boone, 1931)
3	G. Swaminathan sweetysurya001@gmail.com	M.F.Sc. (Fish Biotechnology)	Transcriptomic responses to thermal adaptation in pearl Spot (*Etroplus suratensis*): Insights from RNA sequencing
4	S Ruthra	M.F.Sc. (Fish Biotechnology)	Computational Identification and Validation of Novel Antiviral Compounds Targeting Thymidine Kinase of WSSV in *Penaeus vannamei*
5	B. Thiruvarul	M.F.Sc. (Fish Biotechnology)	Identification and Validation of EST-SSR Markers from the Transcriptome of *Etroplus suratensis* (Pearl spot)
5	Volga A	Ph.D. (Life Sciences)	Evaluation of Neuroprotective Potential of Novel metabolite Extracted from Seaweed Using Integrated *In Silico, In Vitro*, and *In Vivo* Approaches