ICAR- DIRECTORATE OF COLDWATER FISHERIES RESEARCH
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Scientist Profile

Name	Dr. Md. Shahbaz Akhtar	
Designation	Senior Scientist, ARS	
Qualification	MFSc, PhD	
Email Address	md.akhtar@icar.gov.in mdshahbazakhtar@gmail.com	
Professional experience (Years)	12 years	
Area of Research Expertise	Fish reproductive physiology, Eco-physiology, Broodstock nutrition, climate change, Stress mitigation in fish, and Immunomodulation.	
Google scholar link	https://scholar.google.co.in/citations?user=xxuN1UYAAAAJ&hl=en https://www.researchgate.net/profile/M_S_Akhtar2	
ORCID ID	https://orcid.org/0000-0003-3233-530X	
Awards/ Recognitions	1. Awarded Fellow of Zoological Society of India ((Registration Act 21, 1860; Regd. No. 302/2002-2003) in recognition of outstanding research contribution in the field of fish and fisheries in 2017. 2. Conferred with "Dr. M. S. Swaminathan Award for the Best Indian Fisheries Scientist for the year 2013" by the professional Fisheries Graduate Forum (PFGF), Mumbai in November, 2014. 3. Received 'Award of Professional Competency and Academic Excellence' from ICAR-Central Institute of Fisheries Education, Mumbai in 2009. 4. Received 'Hiralal Chaudhary Gold Medal' for securing 1st position in M.F.Sc degree from ICAR-Central Institute of Fisheries Education, Mumbai in 2008. 5. Received Sir Dorabji TATA Endowment Award for overall topper in MFSc courses in the university (ICAR-CIFE) in 2008. 6. Awarded 'KC Naik Gold Medal' for securing First Rank in the selection of "Best Fisheries Graduate of India 2006" by Professional Fisheries Graduate Forum (PFGF), Mumbai. 7. Secured First Rank in All India Competitive	

	Examination for Admissions to Post Graduate Programmes, 2006 conducted by Indian council of Agricultural Research (ICAR), Ministry of Agriculture, and Govt. of India. 8. Received Certificate of Appreciation from Vice-Chancellor, Kerala Agricultural University for securing the First Rank in All India Competitive Examination for Admissions to Post Graduate Programmes, 2006 conducted by Indian council of Agricultural Research. 9. Awarded with Junior Research Fellowship by ICAR to pursue MFSc (2006-2008) in ICAR-Central Institute of Fisheries Education, Mumbai.
Publication (no.)	Research papers 80 Review papers 04 Books 03 (Authored-2, Edited-1) Book chapters 16 Scientific popular articles 15 Others: *Technical bulletins and leaflets* 14 *NCBI Genbank submissions* 49 *Patent (filed)* 01 *Technology developed* 01 *Technology commercialized* 01

Projects (Institutional/ External)

S. N.	Project title	Status	Duration	Funding agency
1.	Unravelling thermal and size dependent fertility traits of male golden mahseer brooders in captive conditions (AQ18-SP10)	PI	2022-2025	Institutional project
2.	Optimization of reproductive and spawning performance for up-scaling seed production of golden mahseer in captivity (Project code-AQ16d)	PI	2018-19 to 2021-22	Institutional project
3.	Nutritional intervention for improving reproductive competence and larval quality traits of golden mahseer, *Tor putitora* in captivity (AQ21b)	Co-PI	2019-20 to 2022-23	Institutional project
4.	Photo-thermal manipulations for gonadal development of golden mahseer in captivity (Project code AQ16a)	PI	2014-15 to 2017-18	Institutional project
5.	Immunomodulation in golden mahseer (*Tor putitora*) broodstock in captive conditions (BT/PR26920/AAQ/3/884/2017)	PI	Sept, 2018 to Sept, 2021	DBT funded project
6.	Nutrient mediated metabolic regulation of growth and wellbeing in snow trout, *Schizothorax richardsonii* (AQ17b)	PI	04/01/2015 to 03/31/2019	Institutional project
7.	Endocrine aspects of growth and maturity in snow trout, *Schizothorax richardsonii* (AQ17d)	Co-PI	04/01/2015 to 03/31/2019	Institutional project
8.	Evaluation of seed rearing techniques of common carp and golden mahseer for stock enhancement in semi-temperate Himalayan lakes using floating cages (AQ10)	PI	2011-2015	Institutional project
9.	Nutrient profiling and evaluation of fish as a dietary component (Outreach activity-3 for 12th plan)	Co-PI	04/01/2010 to 03/31/2018	ICAR outreach #3
10.	Outreach activity - Fish feeds	Co-PI	2010-11 to 2012-17	ICAR outreach #1
11.	Development of climate resilient rainbow trout and	Co-PI	08/01/2017	ICAR-

			innovative trout farming strategies to mitigate climatic stressors		to 03/31/2025		NICRA
		12.	Devising a feeding based on return of appetite in golden mahseer (*Tor putitora*) larvae/juvenile (AQ16e)	Co-PI	2017-18 to 2019-20		Institutional project
		13.	Performance of chocolate mahseer (*N. hexagonolepis*) in fresh water aquaculture system in Kumaon Himalaya (AQ-3)	Co-PI	2011 to 2015		Institutional project

Ten important recent publications

1. **Akhtar, M. S.,** Tripathi, P. H., and Ciji A. 2022. Light spectra influence the reproductive performance and expression of immune and anti-oxidative defense genes in endangered golden mahseer (*Tor putitora*) female brooders. *Aquaculture,* 547: 737355. https://doi.org/10.1016/j.aquaculture.2021.737355 (IF: 5.135)

2. **Akhtar, M. S.** Ciji, A. Tripathi, P. H. and Sharma, P. 2021. Dietary β-glucan influences the expression of testicular aquaporins, antioxidative defence genes and sperm quality traits in endangered golden mahseer, *Tor putitora* (Hamilton, 1822). *International Journal of Biological Macromolecules.* 193(Pt B):1286-1293. https://doi.org/10.1016/j.ijbiomac.2021.10.177 (IF: 8.025)

3. **Akhtar, M. S.,** Tripathi, P. H., Rajesh, M., Pandey, A., Kamalam, B. S and Ciji A. 2021. Molecular characterization of non-specific immune genes of endangered golden mahseer (*Tor putitora*) and their expression during embryonic and larval development. *Fish and Shellfish Immunology*, 118:119-146. https://doi.org/10.1016/j.fsi.2021.07.016. (IF:4.622)

4. **Akhtar, M. S.,** Tripathi, P. H., Pandey, A. and Ciji A. 2021. Transgenerational effects of β-glucan on thermal tolerance, growth performance, and immune gene expression of endangered cyprinid *Tor putitora* progeny. *Journal of Thermal Biology*, 102, 103120. https://doi.org/10.1016/j.jtherbio.2021.103120 (IF: 3.189)

5. **Akhtar, M. S.,** Tripathi, P. H., Pandey, A. and Ciji A. 2021. β-glucan modulates non-specific immune gene expression, thermal tolerance and elicits disease resistance in endangered *Tor putitora* fry challenged with *Aeromonas salmonicida. Fish and Shellfish Immunology*, 119: 154-162. https://doi.org/10.1016/j.fsi.2021.09.038 (IF:4.622)

6. **Akhtar M.S.,** Manchi R., Kamalam B.S., Ciji. A. 2020. Effect of photoperiod and temperature on indicators of immunity and wellbeing of endangered golden mahseer (*Tor putitora*) broodstock. *Journal of Thermal Biology,*. 93: 102694. https://doi.org/10.1016/j.jtherbio.2020.102694 (IF: 3.189)

7. **Akhtar, M. S.** and Ciji, A. 2021. Pyridoxine and its biological functions in fish: Current knowledge and perspectives in aquaculture. *Reviews in Fisheries Science and Aquaculture*, 29(2):260-278.

	https://doi.org/10.1080/23308249.2020.1813081(IF: 10.405) 8. Ciji, A. and *__Akhtar, M. S.__ 2021. Stress management in aquaculture: a review of dietary interventions. *Reviews in Aquaculture*, 13(4):2190-2247. https://doi.org/10.1111/raq.12565. (IF: 10.618) 9. __Akhtar, M.S.,__ Rajesh, M., Ciji, A., Sharma, P., Kamalam, B.S., Patiyal, R.S., Singh, A.K., Sarma, D., 2018. Photo-thermal manipulations induce captive maturation and spawning in endangered golden mahseer (*Tor putitora*): A silver-lining in the strangled conservation efforts of decades. *Aquaculture* 497, 336–347. https://doi.org/10.1016/j.aquaculture.2018.08.003 (IF: 5.135) 10. Ciji, A. and ***Akhtar, M. S.** 2020. Nitrite implications and its management in aquaculture: a review. *Reviews in Aquaculture*, 12(2):878-908. https://doi.org/10.1111/raq.12354 (IF: 10.618)
Other informations	As on August 2022: **Total citations:** 2170 **h-index:** 25 **i10 index:** 41