


### Scientist Profile

Name	Rajesh M.	
Designation	Scientist (SS)	
Qualification	Ph.D. (Fish Physiology and Biochemistry)	
Email Address	<a href="mailto:Rajesh.M@icar.gov.in">Rajesh.M@icar.gov.in</a> ; <a href="mailto:rajeshm610@gmail.com">rajeshm610@gmail.com</a>	
Professional experience (Years)	8.5 years	
Area of Research Expertise	Sustainable aquaculture technology, Recirculating Aquaculture System, Fish Nutrition and Feeds, Myogenesis in Fish and Stress Physiology	
Google scholar link	<a href="https://scholar.google.co.in/citations?user=z-vAu0kAAAAJ&amp;hl=en">https://scholar.google.co.in/citations?user=z-vAu0kAAAAJ&amp;hl=en</a>	
ORCID ID	Rajesh Manchi (0000-0003-2404-1344) - ORCID	
Awards/ Recognitions	<ol style="list-style-type: none"><li>1. <b>Prof. H.P.C. Shetty gold medal</b> for the ‘<b>Best Fisheries Graduate of India 2010</b>’ in the all-India level competitive tests conducted by Professional Fisheries Graduate Forum, Mumbai (2012).</li><li>2. Indian Council of Agricultural Research (ICAR) funded ‘<b>CIFE Institutional Fellowship</b>’ for pursuing post-graduation in ICAR-CIFE, Mumbai (2010-2012).</li><li>3. Indian Council of Agricultural Research (ICAR) funded ‘<b>CIFE Institutional Fellowship</b>’ for pursuing Ph.D. in ICAR-CIFE, Mumbai (2012-2018).</li><li>4. Received <b>Asian Fisheries Science- Kanazawa Research and Travel Grant Award</b> of USD 5000 and USD 1000 respectively, from Asian Fisheries Society, Malaysia for pursuing the Ph.D. research and to attend 11<sup>th</sup> Asian Fisheries and Aquaculture Forum at Bangkok, Thailand during 3- 7 August, 2016.</li><li>5. Awarded <b>best young scientist</b> for the oral presentation on ‘A simple and low-cost methodology for rapid amplification of cDNA ends (RACE)’ by Zoological Society of India at the National seminar on</li></ol>	

Strategies, Innovations and Sustainable Management  
for Enhancing Coldwater Fisheries and Aquaculture,  
22-24 September, Bhimtal, India.

6. ‘COVID-19 warrior’ appreciation for contribution in  
nCoV-19 diagnosis, by Virus Research and  
Diagnostics Lab, Government Medical College,  
Haldwani (2020).

**Publication (no.)**

- **Research papers: 16**
- **Reviews: 01**
- **Books: 0**
- **Book Chapters: 03**
- **Popular articles: 06**
- **Training Manual: 01**
- **Patents :01**

**Projects (Institutional/  
External)**

- Recirculating aquaculture system for brood stock and  
production of rainbow trout.  
Co- Investigator  
April 2022 – March 2023
- National Innovations on Climate Resilient  
Agriculture: Development of climate resilient rainbow  
trout and trout farming strategies to mitigate climatic  
stressors.  
Co- Investigator  
April 2022 – March 2023
- Engineering and validation of an affordable mini-RAS  
for small scale fish production.  
Principal Investigator  
June 2020 - March 2023
- Development of nutrient sensitive and effective  
package of feeds and feeding strategies for  
augmenting rainbow trout production.  
Co- Investigator  
April 2021 – March 2024
- Nutritional intervention for improving reproductive  
competence and larval quality traits of golden  
mahseer, *Tor putitora* in captivity.  
Co-Investigator  
June 2020 - March 2023

- Development and validation of efficient broodstock feed for rainbow trout.  
Co-Investigator  
June 2020 - March 2023
- Development and validation of novel feed formulations for rainbow trout (*Oncorhynchus mykiss*) based on commercial-scale industrial by-products.  
Co-Investigator  
April 2018 - March 2021
- Optimizing reproductive and spawning performance of golden mahseer (*Tor putitora*) for upscaling its seed production in captivity.  
Co-Investigator  
April 2018 - March 2021
- Immunomodulation in golden mahseer (*Tor putitora*) broodstock under captive conditions.  
Co-Investigator  
2018 – 2021
- Central and peripheral regulation of feed ingestion and nutrient uptake in snow trout, *Schizothorax richardsonii*.  
Co-Investigator  
April 2015 - March 2019
- Myogenic regulation and protein turnover of muscle growth in snow trout, *Schizothorax richardsonii*  
Principal investigator.  
April 2015 - March 2019
- Endocrine aspects of growth and maturity in snow trout, *Schizothorax richardsonii*.  
Co-Investigator  
April 2015 - March 2019
- National Mission for Sustaining the Himalayan Ecosystems: Sustainable development of fisheries in cold desert regions of India.  
Co-Investigator

June 2015 - May 2019

- Fish feed outreach: ICAR network project of Fisheries Division.

Co-Investigator

April 2014 - March 2018

- Photo-thermal manipulation for gonadal maturity of golden mahseer in captivity.

Co-Investigator

April 2014 - March 2018

### Important 10 Publications (recent)

- Tripathi, P.H., Pandey, A., Ciji, A., Pande, V., Rajesh, M., Kamalam, B.S. and Akhtar, M.S., 2022. Molecular characterization of four innate immune genes in *Tor putitora* and their comparative transcriptional abundance during wild-and captive-bred ontogenetic developmental stages. *Fish and Shellfish Immunology Reports*, 3, p.100058.
- Ciji, A., Akhtar, M.S., Dubey, M.K., Pandey, A., Tripathi, P.H., Kamalam, B.S., Rajesh, M. and Sharma, P., 2022. Comparative assessment of egg and larval quality traits of progeny from wild-collected and captive-matured brooders of endangered golden mahseer, *Tor putitora*: A prelude to quality broodstock development and seed production. *Aquaculture*, 552, p.737949.
- Rajesh, M., Kamalam, B.S., Sharma, P., Verma, V.C., Pandey, A., Dubey, M.K., Ciji, A., Akhtar, M.S., Pandey, N., Sarma, D. and Kaushik, S.J., 2022. Evaluation of a novel methanotroph bacteria meal grown on natural gas as fish meal substitute in rainbow trout, *Oncorhynchus mykiss*. *Aquaculture Research*, 53(6), pp.2159-2174.
- Akhtar MS, Tripathi PH, Rajesh M, Pandey A, Kamalam BS 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 & Shellfish Immunology*. <https://doi.org/10.1016/j.fsi.2021.07.016>.

- Chandhini S, Trumboo B, Jose S, Tincy V, Rajesh M & Rejish KV (2021). Insulin-like growth factor signalling and its significance as a biomarker in fish and shellfish research. *Fish Physiology and Biochemistry*. 47(4):1011-1031.
- Ciji A, Akhtar MS, Tripathi, PH, Rajesh M and Kamalam BS (2021). Dietary soy lecithin augments anti-oxidative defense and thermal tolerance but fails to modulate non-specific immune genes in endangered golden mahseer (*Tor putitora*) fry. *Fish & Shellfish Immunology* 109, 34-40.
- Akhtar MS, Rajesh M, Kamalam BS and 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.
- Ciji A, Sharma P, Rajesh M, Kamalam BS, Sharma A, Dash P and Akhtar MS. (2020). Intra-annual changes in reproductive indices of male and female Himalayan snow trout, *Schizothorax richardsonii* (Gray, 1832). *Aquaculture Research*, DOI: 10.1111/are.14875.
- Patiyal, RS, Mir MI, Pandey N, Rajesh M, D Sarma and S Chandra (2020). Study on embryonic and larval developmental stages of Sucker head Garra gotyla (Gray 1830; Teleostei; Cyprinidae). *Zygote* 28 (5), 349-359.
- Kamalam BS, Mahija J, Baral P, Pandey A, Akhtar MS, Ciji A and Rajesh M (2019). Temperature and oxygen related ecophysiological traits of snow trout (*Schizothorax richardsonii*) are sensitive to seasonal changes in a Himalayan stream environment. *Journal of Thermal Biology*, 83, 22-29.
- Rajesh M, Kamalam BS, Ciji A, Akhtar MS, Pandey N, Gupta S, Sarma D, Sahu NP and Singh AK (2019). Molecular characterisation and transcriptional regulation of muscle growth regulatory factors myogenin and myogenic factor 6 in the Trans-Himalayan cyprinid fish *Schizothorax richardsonii*. *Comp. Biochem. Physiol. Part A Mol. Integr. Physiol.*,

231, 188-200.

- Akhtar MS, Rajesh M, Ciji A, Sharma P, Kamalam BS, Patiyal RS, Singh AK and 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.
- Kamalam BS, Patiyal RS, Rajesh M, Mir JI and Singh AK (2017). Prolonged transport of rainbow trout fingerlings in plastic bags: Optimization of hauling conditions based on survival and water chemistry. *Aquaculture* 480, 103-107.
- Akhtar MS, Ciji A, Sarma D, Rajesh M, Kamalam BS, Sharma P and Singh AK (2017). Reproductive dysfunction in females of endangered golden mahseer (*Tor putitora*) in captivity. *Animal Reproduction Science* 182, 95-103.

**Other information's**