

Scientist Profile

Name Raja Aadil Hussain Bhat
Designation **Scientist (Senior Scale)**
Qualification PhD (Aquatic Animal Health Management)
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Raja.Aadil@icar.gov.in
Professional experience (Years) Seven years



Area of Research Expertise Host-pathogen interaction and Innate immune system
Research gate <https://www.researchgate.net/profile/Aadil-Bhat-4>
Google scholar link <https://scholar.google.com/citations?user=KIPYCiKAAAAJ&hl=en>
ORCID ID <https://orcid.org/my-orcid?orcid=0000-0003-2060-383X>
Awards/ Recognitions

- Received **prestigious Marie Sklodowska-Curie fellowship** under European commission Horizon 2020
- Received **Young Scientist Award-2022** from Asian Fisheries Society
- Received **Prof. Ravindranath Krothapalli Best Ph.D. Thesis Gold medal** from ICAR-CIFE, Mumbai for the year **2021-22**
- Awarded **Best Student of year 2014-15** by ICAR-Central Institute of Fisheries Education, Mumbai in 2015.
- Awarded **Dr Hiralal chaudhuri Gold medal** for securing the first position in M.F.Sc programme of Aquatic Animal Health Management of the academic year 2012-14.
- Awarded **Dr. D.R. Jaliha Gold medal** for Best M.F.Sc Thesis work in Fisheries and Allied sciences on “Characterization of melanoma differentiation associated gene 5 (MDA5), a retinoic acid inducible gene I (RIG-I)- like receptor of *Etroplus suratensis*.”
- Received **Institutional Fellowship** for pursuing Ph.D. in Central Institute of Fisheries Education, Mumbai.
- Awarded **Junior Research Fellowship** by ICAR to pursue Post

Graduation (2012-2014) in Aquatic Animal Health Management in Central Institute of Fisheries Education, Mumbai.

- Qualified **NET 2014(II)** in Fish Health Conducted by ASRB (ICAR), New Delhi.
- Awarded **Elphinstone fellowship** by University of Aberdeen for pursuing PhD degree in Medical Microbiology.
- Received appreciation letter from Dean Collge of Fisheries, Chattisgarh kamdhenu Vishwavidyalaya, Kawardha, Chattisgarh 491995
- Received appreciation letter from Dean College of Collge of Fisheries, Birsa Agricultural University, Kanke Ranchi- 834006.

Publication (no.)

• Research papers	45
• Reviews	4
• Books	1
• Book Chapters	35
• Popular articles	50
• Others	35

Projects (Institutional/ External)

- National surveillance programme for aquatic animal disease
- Network programme on antimicrobial resistance (AMR) in fishes under INFAAR.
- Development of Aquaphage therapy as an alternative to antibiotics for bacterial infections in Rainbow trout farms of Indian Himalayan region (IHR)
- Development of fish viral peptide based nano system for intracellular delivery of biomolecules
- Development of diagnostics and therapeutics for rainbow trout pathogens.
- Assessment of Antimicrobial potential of Novel Synthetic De-novo designed Peptides against Fish Pathogens (PhD work).
- Integration of in silico drug designing methods for development

of potential antimicrobial agents against fish pathogens

**Important 10
Publications
(recent)**

- ✓ Bhat, R.A.H., Khangembam, V.C., Thakuria, D., Pant, V., Tandel, R.S., Tripathi, G. and Sarma, D., 2022. Antimicrobial activity of an artificially designed peptide against fish pathogens. *Microbiological Research*, 260, p.127039.
- ✓ Bhat, R.A.H., Thakuria, D., Tandel, R.S., Khangembam, V.C., Dash, P., Tripathi, G. and Sarma, D., 2022. Tools and techniques for rational designing of antimicrobial peptides for aquaculture. *Fish & Shellfish Immunology*
- ✓ Bhat, R.A.H., Rehman, S., Tandel, R.S., Dash, P., Bhandari, A., Ganie, P.A., Shah, T.K., Pant, K., Yousuf, D.J., Bhat, I.A. and Chandra, S., 2021. Immunomodulatory and Antimicrobial potential of ethanolic extract of Himalayan *Myrica esculanta* in *Oncorhynchus mykiss*: Molecular modelling with *Aeromonas hydrophila* functional proteins. *Aquaculture*, 533, p.736213.
- ✓ Chaturvedi, P., Bhat, R.A.H. and Pande, A., 2020. Antimicrobial peptides of fish: Innocuous alternatives to antibiotics. *Reviews in Aquaculture*, 12(1), pp.85-106
- ✓ Bhat, R.A.H., Thakuria, D., Pant, V., Khangembam, V.C., Tandel, R.S., Shahi, N., Sarma, D., Tripathi, G., Krishnani, K.K. and Krishna, G., 2020. Antibacterial and antioomycete activities of a novel designed RY12WY peptide against fish pathogens. *Microbial Pathogenesis*, 149, p.104591.
- ✓ Bhat, R.A.H., Thakuria, D., Dubey, M.K., Tandel, R.S., Sharma, P., Khangembam, V.C., Dash, P., Tripathi, G. and Sarma, D., 2021. Lethal dose and histopathological alterations induced by *Aeromonas salmonicida* in experimentally challenged common carp, *Cyprinus carpio*. *Microbial Pathogenesis*, 158, p.105110.
- ✓ Bhat, I.A., Ahmad, I., Mir, I.N., Bhat, R.A.H., Gireesh-Babu,

- P., Goswami, M., Sundaray, J.K. and Sharma, R., 2018. Chitosan-eurycomanonenano formulation acts on steroidogenesis pathway genes to increase the reproduction rate in fish. The Journal of steroid biochemistry and molecular biology
- ✓ Bhat, A., Paria, A., Deepika, A., Sreedharan, K., Makesh, M., Bedekar, M.K., Purushothaman, C.S. and Rajendran, K.V., 2015. Molecular cloning, characterisation and expression analysis of melanoma differentiation associated gene 5 (MDA5) of green chromide, *Etroplus suratensis*. Gene, 557(2), pp.172-181.
- ✓ Pandey, V., Bhat, R.A.H., Chandra, S., Tandel, R.S., Dubey, M.K., Sharma, P., Gehlot, B., Dash, P. and Joshi, R., 2021. Clinical signs, lethal dose and histopathological lesions in grass carp, *Ctenopharyngodon idella* experimentally infected with *Edwardsiella tarda*. Microbial Pathogenesis, 161, p.105292
- ✓ Miljanović, A., Bhat, R.A.H., Tandel, R.S., Pavić, D., Grbin, D., Dent, M., Marijanović, Z., Jerković, I., Pedisić, S., Maguire, I. and Bielen, A., 2022. Bioactive compounds in fluid propolis preparations inhibit different life stages of pathogenic oomycetes *Aphanomyces astaci* and *Saprolegnia parasitica*. Aquaculture, 552, p.737982.
- ✓ Tandel, R.S., Dash, P., Bhat, R.A.H., Sharma, P., Kalingapuram, K., Dubey, M. and Sarma, D., 2021. Morphological and molecular characterization of *Saprolegnia* spp. from Himalayan snow trout, *Schizothorax richardsonii*: A case study report. Aquaculture, 531, p.735824.

**Training
programmes
conducted**

- Coordinated the training programme on “Fish diseases and their management” during 30th October to 1st November, 2018 at SKUAST-J.

- Coordinated one day mass awareness cum training programme on “Fish Health Management” for the fish farmers at Joginder Nager, Himachal Pradesh on 19th Sep, 2018 under the National Surveillance programme for Aquatic Animal Diseases (NASPAAD)
- Coordinated the training of trainers (ToT) programme for Fisheries officials of Uttarakhand, Jammu and Kashmir and Himachal Pradesh from 6th to 10th Aug., 2018 on Prevention and control of important Coldwater fish Diseases at ICAR-DCFR, Bhimtal
- Organized the Kisanmela for 200 fish farmers of Uttarakhand on 24th feb., 2018.
- Committee member for smooth conduct of National seminar on Strategies, innovations and sustainable management for enhancing Coldwater fisheries and aquaculture held at ICAR-DCFR, Bhimtal on 22-24 September, 2017.
- Training Co-coordinator in the NFDB sponsored training programme on “Health Management in cold water fishes” for the 100 fish farmers of the Uttarakhand at ICAR-DCFR, Bhimtal on 2nd July, 2016.
- One day awareness cum training programme for 100 fish farmers of Uttarakhand was conducted on 29th July, 2017.
- Awareness programme on best health management practices was conducted for 25 fish farmers was conducted on 20th August 2017.
- Delivered a lecture to the farmers in training programme under blue revolution scheme organized by Dept. Of Fisheries, Uttarakhand at KVK Lohaghat on 22 March, 2017.
- Attended the launching programme of project, Climate Smart

actions and strategies in North Western Himalayan region for sustainable livelihoods of Agriculture dependent hill communities -A project by BAIF-AFB- NABARD in Uttarakhand, on 16th Nov, 2016 at Champawat and delivered a talk On “Prevalence and Remedies for major Coldwater fish diseases in hill aquaculture systems”.

- Coordinated the training programme for Farmers of District Tawang, Arunachal Pradesh on 14th October, 2017 and delivered a lecture on Health management in Trout and carp farms.
- Adopted one village “Banlekh, Champawat” under “MeraGaon... Mera Gaurav" (My Village... My Pride) for the year 2017-2018.

**Other
information's**

Trainings attended

- Participated in centre of advanced faculty training (CAFT) in Fisheries Science on advances in Nano-biotechnological tools in fisheries from 04th to 13th December, 2017 at ICAR-CIFE, Mumbai.
- Participated in centre of advanced faculty training (CAFT) in Fisheries Science on Development and characterisation of fish Cell lines for Biotechnological purpose from 1st to 10th Feb., 2018 at ICAR-CIFE, Mumbai

**Nucleotide
sequences
submitted to
NCBI**

- Melanoma Differentiation Associated Gene 5 (MDA5), mitochondrial antiviral signaling protein and beta actin of *Etroplus suratensis*.
- 150 Bacterial isolates from the Rainbow trout farms of Uttarakhand with accession numbers MG098987 to MG099000.
- Submitted 50 Fungal sequences to NCBI

**Professional
Memberships**

- Life member of Coldwater Fisheries Society of India
- Life member of National Academy of Agricultural Sciences, India
- Life member of Agricultural Research Service Scientists Forum