



Dr. Prem Kumar Meher

Principal Scientist

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Date of Birth	16 th November 1968
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Educational Qualifications

1	PhD in Life Science (2007). Utkal University , Bhubaneswar, Odisha, India
2	M.V.Sc in Animal genetics and Breeding 2004, Indian veterinary Institute, (UP.), India.
3	Bachelor in Veterinary Science & Animal Husbandry (1992) from Orissa university of Agricultural Technology, Bhubaneswar, Odisha, India

Academic awards	<ul style="list-style-type: none"> • The ICAR Award for Team Research for the Biennium 2001-2002 presented to Dr. P. K. Meher, for outstanding research contribution in the field of Disease management in Fisheries on 19th October, 2004 By Shri. Sharad Pawar, Union Minister for Agriculture. • Fishery technocrat Forum, Chennai, Team award for improved rohu (Jayanti), 2000. • Received IVRI junior research fellowship for two years (1992-94) during M.V.Sc. degree in Indian Veterinary Research Institute, Bareilly (U.P.) • National Level Silver prize for Horse riding (show jumping event) at REPUBLIC DAY NCC COMPETITION (1991), New Delhi.
Professional Experience and Training	<ul style="list-style-type: none"> • Quantitative Genetics and SAS software Jan. 1999 to June 1999 Institute of Aquaculture research (AKVAFORSK), Norway • Working experience on Molecular Biology, Quantitative and Statistical Genetics • Genome analysis using molecular markers in farm animals 27, Dec.2002 to 16th, Jan, 2003. • Centre for advanced studies in animal genetics and breeding, Division of dairy cattle breeding, NDRI, Karnal, Haryana • Refresher course on Quantitative Genetics and its application to Aquaculture' 1-21st September, 1998 INGA/ICLARM /Institute of Aquaculture research (AKVAFORSK)/CIFA (ICAR)
Research Experiences	<ul style="list-style-type: none"> • Population and Quantitative Genetics • Molecular Genetics • Chromatin Organization: Epigenetic regulations
Current Research Interests	<ul style="list-style-type: none"> • Molecular and Population Genetics • Development of DNA Markers Technology • Permaculture and sustainable livelihood improvement
Current Research Projects	<ol style="list-style-type: none"> 1. Improvement of culture conditions, characterization and elucidating underlining Oct4 mediated networking pathways for spermatogonial stem cells of <i>Labeo rohita</i>. 2. Bioprospecting of genes for anoxia tolerance in <i>Channa striatus</i> and salinity tolerance in <i>M. rosenbergii</i>.

<p>Completed Projects</p>	<ol style="list-style-type: none"> 1. Genetic improvement of rohu for growth through selective breeding. (Indo-Norwegian collaborative project) 2. Age effect of parents on growth performance of offspring 3. Rate of inbreeding in different carp hatcheries of Orissa 4. Population genetic studies of <i>Macrobrachium gangeticum</i>. 5. Molecular characterization of backcross population of <i>Catla catla</i> and <i>Labeo rohita</i>. 6. Achieving greater food security through dissemination of improves carp strain. (World Fish Centre and ICAR project). 7. Development of base population using genetic and biotechnological tools.
<p>On going Projects</p>	<ol style="list-style-type: none"> 1. Development of selection index for growth and FCR of Jayanti rohu. 2. Development of Parentage analysis system and genomics resource in rohu and <i>M. rosenbergii</i>. 3. Sustainable livelihood improvement through integrated freshwater aquaculture, horticulture and livestock development in Mayurbhanj, Keonjhar and Sambalpur. 4. First Generation Linkage Map in <i>Labeo rohita</i> (rohu): A Potential Genomic Resource for identification of trait associated genes. 5. Transcriptomic profiling during transition from post spawning regression to initiation of gonad activity in rohu (<i>Labeo rohita</i> Ham).

Publications

<p>List of Publications</p>	<ol style="list-style-type: none"> 1. P. K. Meher, P. Das, A. Patel, L. Sahoo, J N Saha , K.D. Mohapatra and P. Jayasankar (2012). Effectiveness of ten polymorphic microsatellite markers in resolving parentage in rohu (<i>Labeo rohita</i>) Aquaculture research (Communicated) 2. Patel, A., P. Das, P. K. Meher, A. Barat and N. Sarangi. (2011). Test of Mendelian segregation and linkage relationships among 69 microsatellite loci in rohu (<i>Labeo rohita</i>). Ind. J. Anim. Sci. 81 (8): 128–32. 3. Derivation and characterization of embryonic stem-like cells of Indian major carp <i>Catla catla</i> C. Dash, P. Routray, S. Tripathy,
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- D. K. Verma, B. C. Guru, P. K. Meher[§], S. Nandi[§] and A. E. Eknath**Journal of Fish Biology* (2010) doi:10.1111/j.1095-8649.2010.02755.x,
4. Alok Patel, Paramananda Das, Ashoktaru Barat, **Prem Kumar Meher** & Pallipuram Jayasankar. Utility of cross-species amplification of 34 rohu microsatellite loci in *Labeo bata*, and their transferability in six other species of the cyprinidae family. *Aquaculture Research*, 2010, 41, 590-593
 5. P. Swain, T. Behera, D. Mohapatra, P.K. Nanda, S.K. Nayak, **P.K. Meher**, B.K. Das Derivation of rough attenuated variants from smooth virulent *Aeromonas hydrophila* and their immunogenicity in fish *Vaccine* 28 (2010) 4626–4631
 6. Development of a new set of microsatellite markers in *Labeo rohita*, and linkage analysis of 69 loci in an interspecific hybrid resource family A. Patel, S.K. Swain, P. Das, P.K. Meher, P. Jayasankar and N. Sarangi *Animal Genetics* 2009, 40: 253 - 254
 7. Isolation and characterization of microsatellite loci in giant freshwater prawn, *Macrobrachium rosenbergii* Shripathi Bhat , Alok Patel , Paramananda Das ,Prem K. Meher , Bidu R. Pillai & P. Jayasankar *Conserv Genet* 2009, Volume 10, Issue 5, pp 1473-1475
 8. Khuntia, H. K., Pal, B. B., Meher, P. K., and Chhotray G. P. Environmental *Vibrio Cholerae* O139 May Be the Progenitor of Outbreak of Cholera in Coastal Area of Orissa, Eastern India, 2000: Molecular Evidence ***American Journal of Tropical Medicine and Hygiene*** 2008; 78: 819 - 822
 9. Effect of endotoxin on the immunity of Indian major carp, *Labeo rohita*. Nayak, S.K., Swain, P., Nanda, P.K., Dash, S., Shukla, S., **Meher, P. K.** and Maiti N.K. ***Fish & Shellfish Immunology*** (2008) 24, 39
 10. Estimation of gut contents of freshwater mussels *Lamprolema marginalis* L (2007). Mandal, R.N., Kumar, K., Mohanty, U.L., and Meher, P.K. ***Aquaculture Research***, 2007, 38:1364-1369.
 11. Nandi, S., Routray, P, Gupta, S.D., Rath, S.C., Dasgupta, S., **Meher, P.K.** and Mukhopadhyay, P.K. (2007) Reproductive performance of the carp *Catla catla*, reared on a formulated diet with PUFA supplementation. ***J. Appl. Ichthyol.*** (23: 684–691).
 12. Swain, P., Dash, S., Sahoo, P. K., Routray, P., Sahoo, S. K., Gupta, S. D., Meher, P. K. & Sarangi, N. Non-specific immune parameters of brood Indian major carp *Labeo rohita* and their seasonal

- variations. 2007, *Fish & Shellfish Immunology* 22 (2007) 38-43.
13. Swain, P., Dash, S., Bal, J., Routray, P. Sahoo, P. K., Sahoo, S. K., Saurabh, S., Gupta, S.D. and Meher, P.K. Passive transfer of maternal antibodies and their existence in eggs, larvae and fry of Indian major carp, *Labeo rohita* (Ham.) *Fish & Shellfish Immunology* 20 (2006) 519-527.
 14. Kumar, N., Maiti N. K., Mohanty, S., Samanta M., Nandi S., Meher P. K. 16S rDNA PCR-restriction fragment length polymorphism analysis of *Pseudomonas* from freshwater fish culture system. *Indian Journal of Microbiology* (2006), 46: 209-216.
 15. Mishra, C. K., Das, B. K., Mukherjee, S. C. and Meher, P. K. The immunomodulatory effects of tufts on the non-specific immune system of Indian Major carp, *Labeo rohita* *Fish & Shellfish Immunology* 20 (2006) 728-738.
 16. Basanta Kumar Das, Surya Kanta Samal, Biswa Ranjan Samantaray and Prem Kumar Meher Protein fingerprinting profiles in different strains of *Aeromonas hydrophila* isolated from diseased freshwater fish *World Journal of Microbiology & Biotechnology* (2005) 21:587-591
 17. Das P., Barat A, Meher P. K., Ray P. P., Majumdar D. (2005) Isolation and characterization of polymorphic microsatellites in *Labeo rohita* and their cross-species amplification in related species. *Molecular Ecology Notes* 2005: 5(2) 231-233.
 18. Das P., Prasad, H., Meher P. K., Barat A, and Jana, R.K. (2005) Evaluation of genetic relationship among six *Labeo* species using randomly amplified polymorphic DNA (RAPD). *Aquaculture Research*, 2005, 36: 564-569.
 19. Sahoo P. K. Meher P. K., Mahapatra, K.D., Saha, J. N., Jana, R.K., and Reddy, P.V.G.K, (2004), Immune responses in different fullsib families of Indian major carp, *Labeo rohita*, exhibiting differential resistance to *Aeromonas hydrophilla* infection. *Aquaculture*, 238, 115-125.
 20. Barman H. K., Barat, A., Yadav B. M., Banerjee S., Meher P. K., Reddy P. V. G. K. and Jana, R. K (2003) Genetic variation between four species of Indian major carps as revealed by randomly amplified polymorphic DNA assay. *Aquaculture*, 217, 115-123.
 21. Swain P., Nayak, S. K., Sahu A. and Meher P. K. (2003). High antigenic cross reaction among the bacterial species responsible for diseases of cultured freshwater fishes and strategies to over come it for specific serodiagnosis. **Comparative Immunology**,

	<p>microbiology and Infectious Diseases 26: 199-211.</p> <p>22. Giri, S.S., Sahoo, S.K., Sahu, A.K. and Meher, P.K. (2003). Effect of dietary protein level on growth, survival, feed utilisation and body composition of hybrid <i>Clarias</i> catfish (<i>Clarias batrachus</i> X <i>clarias gareipinius</i>). Animal Feed Science and Technology, 104:169-178.</p> <p>23. Gjerde, B., Reddy, P.V.G.K, Mahapatra, K.D., Saha, J.N., Jana, R.K., Meher, P.K., Sahoo, M., Lenka, S., Govindassamy, P., and Rye, M. (2002). Growth and survival in two complete diallele crosses with five stocks of Rohu carp (<i>Labeo rohita</i>). Aquaculture 209(1-4), 103-115.</p> <p>24. Swain, P., Nayak, S. K., Sahu, A., Mohapatra, B. C. and Meher, P. K. (2002). Bath immunization of spawn, fry and fingerlings of Indian Major carps using a particular bacterial antigen. Fish and Shellfish Immunology, 13(2): 133-140.</p> <p>25. Sahu, B. B., Meher, P. K. Mohanty, S. Reddy, P. V. G. K. and Ayyappan, S. (2000). Evaluation of the carcass and commercial characteristics of carps. In Aquabyte, NAGA, The ICLARM quarterly, Vol-23, No.-2, April-June, 2000</p> <p>26. Sahu B. B., Meher P. K., Pani, P. K. and Ayyappan S. (1999). Growth and development characteristics of carp and their evaluation. Development Science 1(2): 1-8.</p>
<p>Book-chapters/ reviews</p>	<p>1. Reddy P.V.G.K, Gjerde B., Mahapatra, K.D., Jana R. K., Saha J. N., and Meher P.K. (1999). Selective breeding procedures for Asian carps. CIFA (ICAR), Bhubaneswar and Institute of Aquaculture research (AKVAFORSK), OS, Norway</p>

25 Years of dedicated service to the nation