



Dr. Jyotirmaya Mohanty

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Department	Fish Genetics and Biotechnology Division
Institute/ University	Central Institute of Freshwater Aquaculture (<i>Indian Council of Agricultural Research</i>)
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Date of Birth	25 th July 1963
Sex	Male

Academic qualifications

1.	Ph.D (2001) in Life Sciences from Utkal University, Bhubaneswar, Odisha, India.
2.	M.V.Sc. (1988) in Virology from Indian Veterinary Research Institute, Izatnagar, Uttar Pradesh, India.
3.	B.V.Sc.&A.H. (1986) in Veterinary Science & Animal Husbandry from College of Veterinary Science, OUAT, Bhubaneswar, Odisha, India.

Professional Awards	<ul style="list-style-type: none"> • IVRI (India) Senior Fellowship for Ph.D. degree program. • Biotechnology Overseas Associateship Award, 2007-08 of Dept. of Biotechnology, Govt. of India. • As a team member received 'ICAR Award for Outstanding Interdisciplinary Team Research in Agriculture and Allied Sciences' for the biennium 2007-2008.
Current Research Interests	<ul style="list-style-type: none"> • Cell line development • Fish immunology to parasitic infections • Application of proteomics in aquaculture research
Current Research Projects	<ol style="list-style-type: none"> 1. Development of cell lines from important cultivable freshwater species.
Completed Projects	<ol style="list-style-type: none"> 1. A comprehensive study on Argulosis: Host-parasite interaction with respect to modulation of innate and specific immune responses, and development of preventive or control measures 2. Studies on gene expression of vitellogenin in rohu (<i>Labeo rohita</i>) 3. Studies on immune responses in <i>Puntius sarana</i> 4. Stock comparison and development of base population of giant freshwater prawn, <i>Macrobrachium rosenbergii</i> 5. Photothermal manipulation on neuroendocrine regulated reproduction in carp, <i>L. rohita</i> under controlled environment 6. Development of primary cell cultures derived from freshwater carp fin, liver, kidney and prawn larvae 7. Vitellogenin and its molecular expression in <i>Catla catla</i> (Ham.) 8. Characterization of humoral and cellular defence mechanisms of freshwater prawn, <i>Macrobrachium rosenbergii</i> and their modulation to enhance disease resistance and survival at different stages of growth 9. Purification and characterization of serum immunoglobulins from catla (<i>Catla catla</i>), mrigal (<i>Cirrhinus mrigala</i>) and some medium carps 10. Investigations on genotoxic effects of various pesticides, weedicides and insecticides used in agriculture and aquaculture on Indian major carp, <i>Labeo rohita</i> 11. Studies on cryopreservation of late embryonic and early larval

	<p>stages of the giant freshwater prawn <i>Macrobrachium rosenbergii</i></p> <p>12. Captive culture of freshwater mussels</p> <p>13. Pathomorphology and immunopathological studies in important microbial diseases of fish and shellfish</p>
<p>Membership of Professional Societies</p>	<ul style="list-style-type: none"> • Life member of ‘Proteomics Society of India’ • Life member of ‘Association of Microbiologists of India’ • Life member of ‘Association of Aquaculturists’
<p>Publications</p>	<ol style="list-style-type: none"> 1. Jena B., Mohanty J., Das R. C., Garnayak S. K. and Nandi S. (2012). Induction, purification and partial characterization of vitellogenin in an Indian major carp <i>Catla catla</i> (Ham.). <i>Aquaculture Research</i> DOI:10.1111/j.1365-2109.2012.03195.x 2. Sahoo P. K., Hema P., Garnayak S. K., Kar B., Mohanty J., and Jena J. K. (2012). Mixed infection of <i>Argulus siamensis</i> and <i>Argulus japonicus</i> in carps: Loss estimation and comparative invasive pattern study. <i>Crustaceana</i> DOI:10.1163/156854012X651501 3. Hema P., Kar B., Garnayak S. K., Mohanty J., Jena J. K. and Sahoo P. K. (2012). Efficacy of two avermectins, doramectin and ivermectin against <i>Argulus siamensis</i> infestation in Indian major carp, <i>Labeo rohita</i>. <i>Veterinary Parasitology</i> DOI:10.1016/j.vetpar.2012.05.010 4. Sahoo P. K., Mohanty J., Hema P., Kar B., Mohanty B. R., Garnayak S. K., and Jena J. K. (2012). <i>Argulus siamensis</i> uses both living and non-living hard surfaces for laying of eggs: A look into biological transmission, egg laying strategies and effect of temperature on egg development. <i>Journal of Parasitic Diseases</i> DOI:10.1007/s12639-012-0148-6 5. Saurabh S., Mohanty J., Garnayak S. K. and Sahoo P. K. (2012). Identification of immunodominant polypeptides of the freshwater fish lice <i>Argulus siamensis</i> (Wilson) - preliminary findings. <i>Indian Journal of Fisheries</i>, 59, 103-106. 6. Sahoo P. K., Mohanty J., Das P. C., Mahanta K. N., Barik N. K. and Jayasankar P. (2012). CIFA: 25 years of freshwater aquaculture research. Central Institute of Freshwater Aquaculture, Kausalyaganga, Bhubaneswar 751002, India, 195pp. 7. Sahoo P. K., Mohanty J., Garnayak S. K., Mohanty B. R., Kar B., Jena J. K. and Hema P. (2011). Genetic diversity and species identification of <i>Argulus</i> parasites collected from major aquaculture

- regions of India using RAPD-PCR. *Aquaculture Research*, DOI:10.1111/j.1365-2109.2011.03025.x.
8. Mohanty G., **Mohanty J.**, Nayak A. K., Mohanty S. and Dutta S. K. (2011). Application of comet assay in the study of DNA damage and recovery in rohu (*Labeo rohita*) fingerlings after an exposure to phorate, an organophosphate pesticide. *Ecotoxicology* 20, 283-292.
 9. Mohanty G., **Mohanty J.**, Jena S. D. and Dutta S. K. (2011). Genotoxicity Testing in Pesticide Safety Evaluation. In. Pesticides in the Modern World / Book 5 (ISBN 978-953-307-457-3) Ed. Stoytcheva M., InTech - Open Access Publisher, Croatia, pp. 403-426.
 10. Saurabh S., Sahoo P. K., Mohanty B. R., **Mohanty J.**, Jena J. K., Mukherjee S. C. and Sarangi N. (2010). Modulation of the innate immune response of rohu (*Labeo rohita*) during experimental *Argulus siamensis* (Wilson) infection. *Aquaculture research* 41, e326-e335.
 11. Sarkar S. K., Saha A., Dasgupta S., Nandi S., Verma D. K., Routray P., Devaraj C., **Mohanty J.**, Sarangi N., Eknath A. E. and Ayyappan S. (2010). Photothermal manipulation of reproduction in Indian major carp: a step forward for off-season breeding and seed production. *Current Science* 99, 960-964.
 12. Kumar V., Pillai B. R., Sahoo P. K., **Mohanty J.** and Mohanty S. (2009). Effect of dietary astaxanthin on growth and immune response of giant freshwater prawn *Macrobrachium rosenbergii* (De Man). *Asian Fisheries Science* 22, 61-69.
 13. Behera S. K., **Mohanty J.**, Swain T. and Garnayak S. K. (2009). Isolation and characterization of serum immunoglobulins from kalbasu (*Labeo calbasu*) (Hamilton, 1822). *Asian Fisheries Science* 22, 481-489.
 14. Mohanty G., **Mohanty J.**, Garnayak S. K. and Dutta S. K. (2009). PCR based detection of furadan genotoxicity effects in rohu (*Labeo rohita*) fingerlings. *Veterinary Research Communications* 33, 771-780.
 15. Mohanty G., **Mohanty J.**, Garnayak S. K. and Dutta S. K. (2009). PCR based detection of phorate genotoxicity effects in rohu (*Labeo rohita*) fingerlings. *Research Journal of Biotechnology* 4, 23-30.

16. Sahoo P. K., Das A., Mohanty S., Mohanty B. R., Pillai Bindu R. and **Mohanty J.** (2008). Dietary β -1, 3-glucan improves immunity and disease resistance of freshwater prawn *Macrobrachium rosenbergii* challenged with *Aeromonas hydrophila*. *Aquaculture Research* 39, 1574-1578.
17. **Mohanty J.** (2007). Fish antibodies. In: *Disease management in freshwater pisciculture* (Eds. B. K. Mishra, P. Swain, P. K. Sahoo, B. K. Das and N. Sarangi). Agrotech Publishing Academy, Udaipur, India. pp. 163-170.
18. Sahoo P. K., Pillai Bindu R., **Mohanty J.**, Kumari J., Mohanty S. and Mishra B. K. (2007). *In vivo* humoral and cellular reactions, and fate of injected bacteria *Aeromonas hydrophila* in freshwater prawn *Macrobrachium rosenbergii*. *Fish Shellfish Immunology* 23, 327-340.
19. Sahoo P. K., Pillai Bindu R., **Mohanty J.**, Kumari J., Mohanty S. and Mishra B. K. (2007). Differential affinity of the natural haemagglutinin of *Macrobrachium rosenbergii* towards vertebrate erythrocytes: Effect of sex, size and moult stage on haemagglutination titre. *Indian Journal of Experimental Biology* 45, 830-833.
20. **Mohanty J.** (2006). Antigens and Antibodies. In: *Fish and Shellfish Immunology: An Introduction* (Eds. P. Swain, P. K. Sahoo and S. Ayyappan). Narendra Publishing House, Delhi, India. pp. 47-70.
21. Pradhan G. C., Sahoo P. K., Kumari Jaya, Mohanty Swagatika, **Mohanty J.**, Pillai Bindu R. and Sarangi N. (2006). Levamisole influences the immune response of freshwater prawn, *Macrobrachium rosenbergii* and its resistance to nitrite stress and *Aeromonas hydrophila* infection. *Journal of Aquaculture* 14, 1-15.
22. Sahoo P.K., Pillai Bindu R., **Mohanty J.**, Kumari Jaya and Mohanty S. (2006). Effect of water temperature on immune parameters of giant freshwater prawn, *Macrobrachium rosenbergii*. *Journal of Aquaculture* 14, 77-82.
23. Sahoo S. K., Giri S. S., **Mohanty J.** and Sahu A. K. (2006). Evaluation of HCG-delivery systems and levels on spawning of Asian catfish, *Clarias batrachus* (Linn.). *Journal of Applied Aquaculture* 18, 59-70.
24. Kumar N., **Mohanty J.** and Nandi S. (2005). PCR: an indispensable tool in aquaculture research. *Fishing chimes*, 25(5), 27-30.

25. Swain T., **Mohanty J.** and Sahu A. K. (2004). One step purification and partial characterization of serum immunoglobulin from Asiatic catfish (*Clarias batrachus* L.). *Fish Shellfish Immunology* 17, 397-401.
26. Acharya S., **Mohanty J.** and Sahoo P. K. (2004). Humoral defense factors in Indian river prawn, *Macrobrachium malcolmsonii*. *Fish Shellfish Immunology* 17, 137-147.
27. Pillai Bindu R. and **Mohanty J.** (2003). Enzymatic digestion – A safe and effective technique for individual separation of *Machrobrachium rosenbergii* embryos for cryopreservation studies. *Cryobiology* 41, 1-5.
28. Pillai Bindu R., Rao K. J. and **Mohanty J.** (2001). Toxicity of selected cryoprotectants on the early larval stages of giant freshwater prawn *Machrobrachium rosenbergii* (de Man). *Asian Fisheries Science* 14, 1-6.
29. Sahoo P. K., **Mohanty J.** and Mukherjee S. C. (1999). The effect of three immunomodulators on haematological parameters and immunity level in rohu (*Labeo rohita*) fingerlings. *Journal of Aquaculture in the Tropics* 14, 127-135.
30. **Mohanty J.**, Sahoo P. K. and Mukherjee S. C. (1998). Purification of rohu serum immunoglobulins: a preliminary study. *Journal of Aquaculture* 6, 67-72.
31. Sahoo P. K., Sahu B. B., **Mohanty J.**, Murjani G. and Mukherjee S. C. (1997). Ulcer disease in catfish, *Heteropneustes fossilis*. In: Technological advancement in fisheries. Publ. No. 1 (Eds. M. S. Hameed and B. M. Kurup), School of Industrial Fisheries, Cochin University of Science and Technology (CUSAT), Cochin, pp. 147-152.
32. Venkataramanan R., Pattnaik B., **Mohanty J.**, Rai D. V. and Mukhopadhyay A. K. (1995). Rapid screening of foot and mouth disease virus antibody secreting hybridomas by immunodot. *Indian Journal of Animal Sciences* 65, 624-628.
33. **Mohanty J.**, Rai D. V., Venkataramanan R., Pattnaik B. and Mukhopadhyay A. K. (1994). Antigenic spectrum of foot and mouth disease type A vaccine virus in India. *Indian Journal of Animal Sciences* 64, 1-8.

Patents filed

1. **Mohanty J.**, Misra G., Jena J. K. and Kumar K. (2012). An artificial medium for *in vitro* culture of glochidial larvae of freshwater mussels. (Indian patent filed; Application no. 145/KOL/2012)
2. Sarkar S.K., Saha A., Dasgupta S., Nandi S., Sarangi N., Routray P., Verma D.K., **Mohanty J.**, Kruba Sankar R., Ayyappan S. (2008). A method and an apparatus for developing gonadal maturity in carp. (Indian patent filed; Application no. 1689/DEL/2008)

