

## Faculty Detail format

1.	Name:	Dr. Sushil Kumar Garnayak
2.	Designation:	Assistant Professor and Head
3.	Qualification:	M. Sc (Zoology), Ph. D. (Life Science)
4.	Contact No.	+91 9438572530
5.	Email Id.	skgarnayak@gmail.com
6.	Area of Research	Molecular Biology, Immunology, Proteomics and Fish Biology,
7.	Teaching Domain	Cell and Molecular Biology, Biochemistry, Immunology, Taxonomy, Environmental Science
8.	Publications	<p><b><u>RESEARCH PAPERS</u></b></p> <p>Mohanty J., Sahoo P. K., Pillai B. R., Mohanty S., <b>Garnayak S. K.</b>, Kumar S. (2015) Purification and characterization of <math>\beta</math>-glucan binding protein from the haemolymph of prawn, <i>Macrobrachium rosenbergii</i>. <i>Aquaculture research</i>. <b>46</b>: 95-104.</p> <p>Patra G., Mohanty J., <b>Garnayak S. K.</b>, Sahoo P. K. and Pillai Bindu R. (2015) Genetic variations among families of selectively bred <i>Macrobrachium rosenbergii</i> (De man) by RAPD-PCR analysis. <i>Journal of Aquaculture</i>. <b>23</b>: 17-35.</p> <p>Das A., Sahoo P. K., Mohanty J., <b>Garnayak S. K.</b> (2014) Purification and molecular characterization of IgM in olive barb, <i>Puntius sarana</i>. <i>Journal of Immunoassay and Immunochemistry</i>. <b>35</b>:1–19.</p> <p>Swain T., Mohanty J., Sahu A. K., Sahoo P. K. and <b>Garnayak S. K.</b>, (2014). Comparative analysis of immunoglobulin molecules from catfish, <i>Clarias batrachus</i>, <i>Clarias gariepinus</i> and <i>C. batrachus</i> ♀ × <i>C. gariepinus</i> ♂ hybrid. <i>Indian Journal of Fisheries</i>, <b>61</b> (3): 88-92.</p> <p><b>Garnayak S. K.</b>, Mohanty J., Rao T. V., Sahu S. K. and Sahoo P. K. (2013) Vitellogenin in Asian catfish, <i>Clarias batrachus</i>: Purification, partial characterization and quantification during the reproductive cycle by ELISA. <i>Aquaculture</i>. <b>392-395</b>: 148-155.</p>

- Sahoo P. K., Mohanty J., **Garnayak S. K.**, Kar Banya, Mohanty B. R., Jena, J. K. and Prasanth Hema (2013). Genetic diversity and species identification of *Argulus* parasites collected from major aquaculture regions of India using RAPD-PCR. *Aquaculture research*. **44**: 220-230.
- Rauta P. R., Mohanty J., **Garnayak S. K.** and Sahoo P. K. (2013) Characterization of serum immunoglobulin in *Channa striata* (Bloch) and kinetics of its response to *Aeromonas hydrophila* antigen. *J Immununoassay and Immunochemistry*. **34**:283–293.
- Jena B., Mohanty J., Das R. C., **Garnayak S. K.** and Nandi S. (2013). Induction, purification and partial characterization of vitellogenin in an Indian major carp *Catla catla* (Ham). *Aquaculture Research*. **44**: 1901-1911.
- Sahoo P. K., Mohanty J., **Garnayak S. K.**, Mohanty B. R., Kar Banya, Prasanth Hema and Jena, J. K. (2013). Estimation of loss due to argulosis in carp culture ponds in India. *Indian Journal of Fisheries*, **60** (2): 99-102.
- Mohanty G., Mohanty J., **Garnayak S. K.**, Rath S. K. and Dutta S. K. (2013). Use of comet assay in the study of DNA break in blood and gill cells of rohu (*Labeo rohita*) after exposure to furadon, a carbamide pesticide. *Research Journal of Biotechnology*. **8** (2): 83-89.
- Sahoo P. K., Mohanty J., Prasanth Hema, Kar Banya, Mohanty B. R., **Garnayak S. K.** and Jena J. K. (2013). Egg laying strategies and effect of temperature on egg development of *Argulus siamensis*. *J. Parasitic Diseases*. 37(2): 158-162
- Hemaprasanth K. P., Banya Kar, **Garnayak S. K.**, Mohanty J., Jena J. K. and Sahoo P. K. (2012). Efficacy of two avermectins, doramectin and ivermectin against *Argulus siamensis* infestation in Indian major carp, *Labeo rohita*. *Veterinary Parasitology*. **190**: 297-304.
- Sahoo P. K., Hema Prasanth, Banya Kar, **Garnayak S. K.** and Mohanty J. (2012). Mixed infection of *Argulus siamensis* and *Argulus japonicus* in carps: Loss estimation and comparative invasive pattern study. *Crustaceana*. **85** (12-13): 1449-1462.
- Saurabh S, Mohanty J, **Garnayak S. K.** and Sahoo P. K. (2012). Identification of immunodominant polypeptides of the freshwater fish lice *Argulus siamensis* (Wilson)- preliminary findings. *Indian Journal of Fisheries*, **59**: 103-106.
- Garnayak S. K.**, Mohanty J., Rao T. V., Sahu S. K. and Sahoo P. K. (2011) Immunochemical detection of a vitellogenin-derived yolk protein in eggs and larvae of Asian catfish, *Clarias*

		<p><i>batrachus</i>. <i>Journal of Aquaculture</i>. <b>19</b>: 25-33.</p> <p>Mohanty G., Mohanty J., <b>Garnayak S. K.</b> and Dutta S. K. (2009). PCR based detection of furadan genotoxicity effects in rohu (<i>Labeo rohita</i>) fingerlings. <i>Veterinary Research Communications</i> <b>33</b>: 771-780.</p> <p>Behera S. K., Mohanty J., Swain T. and <b>Garnayak S. K.</b> (2009). Isolation and characterization of serum immunoglobulins from Kalbasu (<i>Labeo calbasu</i>) (Hamilton, 1822) <i>Asian Fisheries Science</i> <b>22</b>: 481-489.</p> <p>Mohanty G., Mohanty J., <b>Garnayak S. K.</b> and Dutta S. K. (2009). PCR based detection of phorate genotoxicity effects in rohu (<i>Labeo rohita</i>) fingerlings. <i>Research Journal of Biotechnology</i>. <b>4</b>: 23-30.</p> <p><b><u>Articles in training and workshop manuals</u></b></p> <p>Mohanty J. and <b>Garnayak S. K.</b> (2008) Immunoglobulins in Teleosts. In Winter School on <i>Recent advances in Fish and Shellfish Immunology and its Applications</i>, 21 Oct–10 Nov 2008, 15-19.</p> <p>Mohanty J. and <b>Garnayak S. K.</b> (2008) Monoclonal Antibodies and their Applications in Fish Immunology. In Winter School on <i>Recent advances in Fish and Shellfish Immunology and its Applications</i>, 21 Oct – 10 Nov, 2008, 20-23.</p> <p><b><u>Nucleotides submitted to GenBank (NCBI)</u></b></p> <p><b>Garnayak S. K.,</b> Mohanty J., Rao T. V., Sahu S. K., Sahoo P. K. and Mohanty B. R. (2009) <i>Clarius batrachus</i> vitellogenin mRNA, partial cds, isolate 1. Accession No. <u>GQ385191</u>.</p> <p><b>Garnayak S. K.,</b> Mohanty J., Rao T. V., Sahu S. K., Sahoo P. K. and Mohanty B. R. (2009) <i>Clarius batrachus</i> vitellogenin mRNA, partial cds, isolate 2. Accession No. <u>GQ385192</u>.</p> <p>Sahoo P. K., Mohanty J., <b>Garnayak S. K.,</b> Kar B. and Mohanty B. R. (2011) A novel <i>Argulus siamensis</i> species-specific DNA sequence. Accession No. <u>JF795591</u>.</p> <p>Sahoo P. K., Mohanty J., <b>Garnayak S. K.,</b> Kar B., Mohanty B. R. and Prasanth Hema. (2011) A novel <i>Argulus japonicus</i> species-specific DNA sequence. Accession No. <u>JF795592</u>.</p>
9.	Workshops and	<p>1. Participated in the seminar on “<i>Biodiversity and Conservation Initiatives in Koraput Region, Odisha</i>”, organised by School of Biodiversity and conservation of Natural resources, Central University of Odisha, Koraput in collaboration with Foundation</p>

<p>Conferences</p>	<p>for Ecological Security, Anand, Gujarat on 28<sup>th</sup> and 29<sup>th</sup> March, 2015.</p> <ol style="list-style-type: none"> <li>2. Deputed as Resource Person for review of material developed by resource persons in a programme on “<i>Content-cum pedagogy enrichment programme for master trainers in Biology at higher Secondary level for West Bengal,</i>” organised by Regional Institute of Education, Bhubaneswar, Odisha, 12-14 December 2015.</li> <li>3. Deputed as Resource Person for review of material developed by resource persons in a programme on “<i>Professional development of teachers at higher Secondary level for ST/SC dominated areas through e-learning resource material in Biology,</i>” organised by Regional Institute of Education, Bhubaneswar, Odisha, 01-05 November 2014.</li> <li>4. Undergone training on <b>MOLECULAR BIOLOGY TECHNIQUES</b> organised by Fish Genetics and Biotechnology division of Central Institute of Freshwater Aquaculture, Odisha during 24-30 June, 2013</li> <li>5. Presented a paper on “Kinetics of vitellogenin expression in estradiol-induced Asian catfish, <i>Clarias batrachus</i>” at <i>International Symposium on Genomics in Aquaculture</i>, CIFA, Bhubaneswar, India, 22-23 January, 2013.</li> <li>6. Participated in the one day seminar “<i>DNA sequencing, Bioinformatics tools and Microbial diagnostics</i>”, organised by Regional Plant Resource Centre (RPRC) at RPRC, Bhubaneswar, Odisha on 04 July, 2013.</li> <li>7. Participated in the “<i>1<sup>st</sup> meeting of Immunological Society-Odisha chapter</i>”, jointly organised by NISER and ILS, Bhubaneswar, Odisha on 11 August, 2012.</li> <li>8. Participated in the national conference on “<i>Aquaculture: Fish for Billion</i>” jointly organized by Association of Aquaculturists and Central Institute of freshwater Aquaculture in commemoration of Silver Jubilee Year celebrations of CIFA Bhubaneswar, Odisha, India during 16-17 March, 2012.</li> <li>9. Presented a paper on “Development of immunological tests for</li> </ol>
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		<p>detection and quantification of vitellogenin in Asian catfish, <i>Clarias batrachus</i>” at <b>99<sup>th</sup> Indian Science Congress</b>, KIIT, Bhubaneswar, India, 3-7 January, 2012.</p> <p>10. Presented a poster on “Comparative analysis of immunoglobulin molecules from catfish, <i>Clarias batrachus</i>, <i>Clarias gariepinus</i> and <i>C. batrachus</i> ♀ × <i>C. gariepinus</i> ♂ hybrid” in <b>9<sup>th</sup> Indian Fisheries Forum</b>, Inland Fisheries Society of India, Chennai, India, 19 – 23 December 2011.</p> <p>11. Presented a poster on “Estimation of loss due to argulosis in carp culture ponds in india” at <b>8<sup>th</sup> symposium on diseases in Asian aquaculture</b>, Mangalore, India, 21 – 25 November 2011.</p> <p>12. Presented a paper on “Genetic diversity of <i>Argulus</i> sp. in India by RAPD-PCR” at <b>8<sup>th</sup> Asian Pacific Aquaculture</b>, Kochi, Kerala, India, 17-20 January, 2011.</p> <p>13. Participated in the “<b>22<sup>nd</sup> National Congress of parasitology</b>”, Department of Zoology, Kalyani University, Kalyani, West Bengal, October 30 – November 01, 2010.</p> <p>14. Participated in the “<b>National Symposium on “Parasite Taxonomy, Biodiversity and Fish health: Environmental impact</b>”, Department of Zoology, Andhra University, Visakhapatnam, 12-13 March 2010.</p> <p>15. Participated in the Workshop &amp; Brainstorming session on “<b>Bioinformatics applications in fish/Shellfish genomics</b>” held at Central Institute of freshwater Aquaculture, Bhubaneswar, Odisha, India during 12-13 January, 2010.</p>
10.	Projects/ Consultancy	NA
11.	Professional Experience	Teaching Experience – 4 years Research Experience – 7 years Doctoral research experience
12.	Professional Membership	Life member – Indian Science Congress Association Life member – Aquaculturist’s Association

		Bhubaneswar
13.	Extension activity	NA