

BRIEF CV OF DR SUSHIL KUMAR GARNAYAK

Present Position held: Assistant professor and Head

PG Department of Zoology

Govt. College Koraput

PROFESSIONAL QUALIFICATION

2003: M. Sc. Zoology from Utkal University, Vani Vihar, Bhubaneswar, Odisha, India

2006 – 2011: Ph. D. in Life Science, at Central Institute of Freshwater Aquaculture, Kausalyaganga, Bhubaneswar under Sambalpur University, Odisha, India.

2013: Lectureship NET in Life Science (Rank 51/1051) conducted jointly by CSIR- UGC.

2014: Lectureship NET in Life Science (Rank 33/1047) conducted jointly by CSIR-UGC.

AWARDS

- ❖ **Best Research Group Award 2012**, for the project “**Argulosis: A comprehensive study**”, at Central Institute of Freshwater Aquaculture (CIFA), Kausalyaganga, Bhubaneswar, India, on 1st April 2013.
- ❖ **Young Scientist Award 2011**, Asian Fisheries Society, Indian Branch for the paper entitled “**Characterization of 17-β Estradiol induced vitellogenin gene and protein in Asian catfish, *Clarias batrachus*.**” during the 9th Indian Fisheries Forum, Chennai, India, 19-23 December 2011.
- ❖ **Best Research Scholar Award 2009**, at Central Institute of Freshwater Aquaculture (CIFA), Kausalyaganga, Bhubaneswar, India, on 1st April 2010.

RESEARCH EXPERIENCE

	Institution	Position	From (Date)	To (Date)
1.	Central Institute of Freshwater Aquaculture (CIFA), Bhubaneswar, India	Research Associate	07.07.2010	31.03.2012
2.	CIFA, Bhubaneswar, India	Senior Research Fellow	06.02.2008	06.07.2010
3.	CIFA, Bhubaneswar, India	Senior Research Fellow	04.11.2004	03.02.2008

TEACHING EXPERIENCE

	Institution	Position	From (Date)	To (Date)
1.	Govt. College Koraput	Assistant professor	15.01.2018	Continuing
2.	Hindol College, Khajuriakata	Lecturer	27.12.2016	13.01.2018
3.	Govt. College Koraput	Lecturer	12.06.2014	27.12.2016
4.	Regional Institute of Education, Bhubaneswar	Assistant Professor	17.07. 2013	31.03. 2014
5.	Regional Institute of Education, Bhubaneswar	Assistant Professor	31.07.2012	30.04. 2013

RESEARCH PUBLICATIONS

Research papers

International	11
National	06

Research abstracts

International	08
National	07

Nucleotides submitted to GenBank (NCBI) - 04

National and International Workshops and Conferences attended - 15

RESEARCH PUBLICATIONS

RESEARCH PAPERS

- Mohanty J., Sahoo P. K., Pillai B. R., Mohanty S., **Garnayak S. K.**, Kumar S. (2015) Purification and characterization of β -glucan binding protein from the haemolymph of prawn, *Macrobrachium rosenbergii*. *Aquaculture research*. **46**: 95-104.
- Patra G., Mohanty J., **Garnayak S. K.**, Sahoo P. K. and Pillai Bindu R. (2015) Genetic variations among families of selectively bred *Macrobrachium rosenbergii* (De man) by RAPD-PCR analysis. *Journal of Aquaculture*. **23**: 17-35.
- Das A., Sahoo P. K., Mohanty J., **Garnayak S. K.** (2014) Purification and molecular characterization of IgM in olive barb, *Puntius sarana*. *Journal of Immunoassay and Immunochemistry*. **35**:1–19.
- Swain T., Mohanty J., Sahu A. K., Sahoo P. K. and **Garnayak S. K.**, (2014). Comparative analysis of immunoglobulin molecules from catfish, *Clarias batrachus*, *Clarias gariepinus* and *C. batrachus* ♀ × *C. gariepinus* ♂ hybrid. *Indian Journal of Fisheries*, **61 (3)**: 88-92.
- Garnayak S. K.**, Mohanty J., Rao T. V., Sahu S. K. and Sahoo P. K. (2013) Vitellogenin in Asian catfish, *Clarias batrachus*: Purification, partial characterization and quantification during the reproductive cycle by ELISA. *Aquaculture*. **392-395**: 148-155.
- 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 Immunoassay 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 batrachus*. *Journal of Aquaculture*. **19**: 25-33.
- 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.
- 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.
- 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.

RESEARCH ABSTRACTS

International

- Garnayak S. K.**, Mohanty J., Rao T. V., Sahu S. K., Sahoo P. K. and Mohanty G. (2013). Kinetics of vitellogenin expression in estradiol-induced Asian catfish, *Clarias batrachus*” In: Proc. International Symposium on Genomics in Aquaculture, CIFA, Bhubaneswar, India, 22-23 January, 2013, pp 168.
- Sahoo P. K., Mohanty J., **Garnayak S. K.**, Mohanty B. R., Kar Banya, Prasanth Hema and Jena J. K. (2011). Estimation of loss due to argulosis in carp culture ponds in India. In: *8th symposium on diseases in Asian aquaculture*, Mangalore, India, 21 – 25 November 2011, pp 181.
- Sahoo P. K., Prasanth Hema, Mohanty J., Jena J. K., Kar Banya, **Garnayak S. K.**, and Mohanty B. R., (2011). Susceptibility studies of carps to fish ectoparasite, *Argulus siamensis*. In: *8th symposium on diseases in Asian aquaculture*, Mangalore, India, 21 – 25 November 2011, pp 185.
- Garnayak S. K.**, Sahoo P. K., Mohanty J., Kar Banya, Mohanty B. R., Prasanth Hema and Jena, J. K. (2011). Genetic diversity of freshwater fish parasite, *Argulus* sp. in India by RAPD analysis. In: *Asian pacific aquaculture and Giant prawn*, 17 – 20 January 2011, pp 168.
- Rauta P. R., **Garnayak S. K.**, Mohanty J. and Sahoo P. K. (2011). Purification, partial characterization and quantification of serum immunoglobulin in *Channa striatus* (Bloch). In: *Asian pacific aquaculture and Giant prawn*, 17 – 20 January 2011, pp 455.
- Jena B., Mohanty J., Das R. C., **Garnayak S. K.**, Nandi S. (2007). Purification and partial characterization of vitellogenin from hormone (E2) induced *Catla catla* (HAM). In: *Sixth congress of the Asia and Oceania Society for Comparative Endocrinology (AOSCE)*, University of North Bengal, Siliguri, West Bengal, India, 10-14 Dec 2007.

Behera S. K., Mohanty J., Swain T. and **Garnayak S. K. (2007)**. Isolation and characterization of serum immunoglobulins from Kalbasu (*Labeo calbasu*). In: *The Eighth Asian Fisheries Forum*, Asian Fisheries Society, Kochi, India, 20-23 Nov 2007.

Mohanty J., Sahoo P. K., Pillai B. R., Mohanty S., **Garnayak S. K.**, Kumar S. (2007). Purification and characterization of β -glucan binding protein from the haemolymph of prawn, *Macrobrachium rosenbergii*. In: *The Eighth Asian Fisheries Forum*, Asian Fisheries Society, Kochi, India, 20-23 Nov 2007.

National

Mohanty J., **Garnayak S. K.**, Jena B., Sahoo D. R., Sahoo P. K. and Nandi S. (2014) Development of a sandwich ELISA for quantification of vitellogenin in serum of indian major carp, *Catla catla* (Ham.) In: *10th Indian Fisheries and Aquaculture Forum*, Inland Fisheries Society of India, Lucknow, India, 12 – 15 Noveember 2014, pp 157.

Garnayak S. K., Mohanty J., Rao T. V., Sahu S. K. and Sahoo P. K. (2012). Development of immunological tests for detection and quantification of vitellogenin in Asian catfish, *Clarias batrachus*. In: *Proc. 99th Indian Science Congress, part II*, KIIT, Bhubaneswar, India, 3-7 January, 2012, pp 139-140.

Swain T., Mohanty J., Sahu A. K., Sahoo P. K. and **Garnayak S. K.**, (2011). Comparative analysis of immunoglobulin molecules from catfish, *Clarias batrachus*, *Clarias gariepinus* and *C. batrachus* ♀ × *C. gariepinus* ♂ hybrid. In: *9th Indian Fisheries Forum*, Inland Fisheries Society of India, Chennai, India, 19 – 23 December 2011, pp 189.

Mohanty J. and **Garnayak S. K. (2010)**. Development of a sandwich ELISA for the quantitation of serum immunoglobulin concentration from a freshwater fish *Puntius gonionotus*. Golden jubilee celebration and national seminar on ‘Animal Resource Development and Poverty Alleviation’ held at College of Veterinary Science and Animal Husbandry, Bhubaneswar during 8-9 June 2010.

Sahoo P. K., Kar Banya, Mohanty B. R., **Garnayak S. K.**, Prasanth Hema, Mohanty J., Jena J. K. and Eknath A. E. (2010). Expression profiles of two antioxidant genes of *Labeo rohita* in response to *Argulus siamensis* infection. In: *National Symposium on “Parasite Taxonomy, Biodiversity and Fish health: Enivronmental impact”*, Department of Zoology, Andhra University, Visakhapatnam, 12-13 March 2010, pp. 47.

Garnayak S. K., Mohanty J., Rao T. V. and Sahu S. K. (2008). Purification and partial characterization of vitellogenin from Asiatic catfish, *Clarias batrachus*. In: *The 8th Indian Fisheries Forum*, Inland Fisheries Society of India, Kolkata, 22-26 Nov 2008.

Kamila S., Mohanty J., **Garnayak S. K.**, Misra G. and Kumar K. K. (2008). Purification and partial characterization of an antibacterial peptide from a mussel, *Lamellidens marginalis*. In: *The Eighth Indian Fisheries Forum*, Inland Fisheries Society of India, Kolkata, 22-26 Nov 2008.

Articles in training and workshop manuals

Mohanty J. and **Garnayak S. K. (2008)** Immunoglobulins in Teleosts. In *Winter School on Recent advances in Fish and Shellfish Immunology and its Applications*, 21 Oct–10 Nov 2008, 15-19.

Mohanty J. and **Garnayak S. K. (2008)** Monoclonal Antibodies and their Applications in Fish Immunology. In *Winter School on Recent advances in Fish and Shellfish Immunology and its Applications*, 21 Oct – 10 Nov, 2008, 20-23.

Nucleotides submitted to GenBank (NCBI)

Garnayak S. K., Mohanty J., Rao T. V., Sahu S. K., Sahoo P. K. and Mohanty B. R. (2009) *Clarius batrachus* vitellogenin mRNA, partial cds, isolate 1. Accession No. [GQ385191](#).

Garnayak S. K., Mohanty J., Rao T. V., Sahu S. K., Sahoo P. K. and Mohanty B. R. (2009) *Clarius batrachus* vitellogenin mRNA, partial cds, isolate 2. Accession No. [GQ385192](#).

Sahoo P. K., Mohanty J., **Garnayak S. K.,** Kar B. and Mohanty B. R. (2011) A novel *Argulus siamensis* species-specific DNA sequence. Accession No. [JF795591](#).

Sahoo P. K., Mohanty J., **Garnayak S. K.,** Kar B., Mohanty B. R. and Prasanth Hema. (2011) A novel *Argulus japonicus* species-specific DNA sequence. Accession No. [JF795592](#).

COFERENCES, WORKSHOPS, TRAINING PROGRAMMES AND SEMINARS

ATTENDED

1. Participated in the [DST-SERB Sponsored Workshop on "Basic Gene Cloning and Transgenic Techniques"](#) organized by Department of Life Science, National Institute of Technology Rourkela from 24- 25 February 2024
2. Participated in the [Department of Higher Education, Odisha sponsored Refresher Course in Zoology](#) organized by UGCHRDC, Savitribai Phule Pune University held during 9th December to 22nd December 2021 and emerged successful in Grade A+.
3. Participated in the [Department of Higher Education, Odisha sponsored Refresher Course in Zoology](#) organized by UGCHRDC, Savitribai Phule Pune University held during 9th December to 22nd December 2021 and emerged successful in Grade A+.
4. Participated in the [Orientation Course](#) organised by UGC, HRDC, Mizoram University from 28.07.2020-17.08.2020 and obtained Grade A.
5. Participated in the seminar on ["Biodiversity and Conservation Initiatives in Koraput Region, Odisha"](#), organised by School of Biodiversity and conservation of Natural resources, Central University of Odisha, Koraput in collaboration with Foundation for Ecological Security, Anand, Gujarat on 28th and 29th March, 2015.
6. Deputed as Resource Person for review of material developed by resource persons in a programme on ["Content-cum pedagogy enrichment programme for master trainers in Biology at higher Secondary level for West Bengal,"](#) organised by Regional Institute of Education, Bhubaneswar, Odisha, 12-14 December 2015.
7. Deputed as Resource Person for review of material developed by resource persons in a programme on ["Professional development of teachers at higher Secondary level for ST/SC dominated areas through e-learning resource material in Biology,"](#) organised by Regional Institute of Education, Bhubaneswar, Odisha, 01-05 November 2014.
8. Undergone training on [MOLECULAR BIOLOGY TECHNIQUES](#) organised by Fish Genetics and Biotechnology division of Central Institute of Freshwater Aquaculture, Odisha during 24-30 June, 2013
9. Presented a paper on "Kinetics of vitellogenin expression in estradiol-induced Asian catfish, *Clarias batrachus*" at [International Symposium on Genomics in Aquaculture](#), CIFA, Bhubaneswar, India, 22-23 January, 2013.
10. Participated in the one day seminar ["DNA sequencing, Bioinformatics tools and Microbial diagnostics"](#), organised by Regional Plant Resource Centre (RPRC) at RPRC, Bhubaneswar, Odisha on 04 July, 2013.

11. Participated in the “**1st meeting of Immunological Society-Odisha chapter**”, jointly organised by NISER and ILS, Bhubaneswar, Odisha on 11 August, 2012.
12. Participated in the national conference on “**Aquaculture: Fish for Billion**” 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.
13. Presented a paper on “Development of immunological tests for detection and quantification of vitellogenin in Asian catfish, *Clarias batrachus*” at **99th Indian Science Congress**, KIIT, Bhubaneswar, India, 3-7 January, 2012.
14. Presented a poster on “Comparative analysis of immunoglobulin molecules from catfish, *Clarias batrachus*, *Clarias gariepinus* and *C. batrachus* ♀ × *C. gariepinus* ♂ hybrid” in **9th Indian Fisheries Forum**, Inland Fisheries Society of India, Chennai, India, 19 – 23 December 2011.
15. Presented a poster on “Estimation of loss due to argulosis in carp culture ponds in india” at **8th symposium on diseases in Asian aquaculture**, Mangalore, India, 21 – 25 November 2011.
16. Presented a paper on “Genetic diversity of *Argulus* sp. in India by RAPD-PCR” at **8th Asian Pacific Aquaculture**, Kochi, Kerala, India, 17-20 January, 2011.
17. Participated in the “**22nd National Congress of parasitology**”, Department of Zoology, Kalyani University, Kalyani, West Bengal, October 30 – November 01, 2010.
18. Participated in the “**National Symposium on “Parasite Taxonomy, Biodiversity and Fish health: Environmental impact**”, Department of Zoology, Andhra University, Visakhapatnam, 12-13 March 2010.
19. Participated in the Workshop & Brainstorming session on “**Bioinformatics applications in fish/Shellfish genomics**” held at Central Institute of freshwater Aquaculture, Bhubaneswar, Odisha, India during 12-13 January, 2010.

REFERENCES

- | | | | |
|---|---|---|---|
| 1 | <p>Dr J. Mohanty
Principal Scientist
Central Institute of freshwater
Aquaculture (CIFA)
kausalyaganga
Bhubaneswar - 751 002, Odisha,
India
Email: mohantyj@hotmail.com</p> | 3 | <p>Dr G. B. N. Chainy
Former Professor and Head
P. G. Dept. Of Zoology
Utkal University
Bhubaneswar – 751 002, Odisha,
India
Email: chainyg@gmail.com</p> |
| 2 | <p>Dr T. V. Rao
Former Professor
School of Life Science
Sambalpur University
Jyotivihar, Burla – 768 109, Odisha,
India
Email: tvrao1951@gmail.com</p> | 4 | <p>Dr P. K. Sahoo
Principal Scientist
ICAR National Fellow
Central Institute of freshwater
Aquaculture (CIFA)
kausalyaganga
Bhubaneswar - 751 002, Odisha,
India
Email: pkasahoo1@hotmail.com</p> |

DECLARATION

I, Sushil Kumar Garnayak do hereby declare that the information furnished by me is true to the best of my knowledge and belief.

Place: Bhubaneswar
Date: 07.03.2014

(Sushil Kumar Garnayak)