

CURRICULUM VITAE

Sabyasachi Pattanayak

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Google Scholar URL: https://scholar.google.com/citations?user=VewS2_kAAAAJ&hl=en

Researchgate URL; https://www.researchgate.net/profile/Sabyasachi_Pattanayak2

CAREER OBJECTIVE:-

A research scholar with good career record and has sound knowledge in the field of biochemistry, molecular biology and immunology. Looking for a challenging research career, which demands the best of my professional abilities; technical and analytical skills with an organization where I can upgrade my current expertise and knowledge, improve my research skills and utilize my learning in the best interest of the organization.

ACADEMIC PROFILE:

Degree	Subject	Board/University	Division/Class
10 th	Social sciences, English, Mathematics, Science & Hindi	BSE, Odisha	First
12 th	English, Physics, Chemistry, Mathematics & Biology	CHSE, Odisha	Second
B.Sc.	Biotechnology (Hons.)	Utkal University, Bhubaneswar	First-class with distinction
M.Sc	Biotechnology	Sambalpur University, Burla.	First
Pre-PhD course work	Biotechnology	Ravenshaw University, Cuttack	Completed

❖ Qualified National Eligibility Test (NET), conducted by Indian Council of Agricultural Research (ICAR), Ministry of Agriculture and Farmers Welfare, Government of India.

❖ Qualified Biotech Consortium India Limited (BCIL), conducted by Department of Biotechnology (DBT), Ministry of Science and Technology, Government of India.

WORK EXPERIENCE:-**1. Total years of experience- 7.6 years**

Sl No.	Duration	Designation	Place of Work	Project Title/ Work Programme
1	October 2019-continuing	Senior Research Fellow (SRF)	Institute of Life Sciences, Bhubaneswar, India.	Identification of major genetic and epigenetic components in the otosclerosis
2	September 2014–September 2019 (5 Year 20 days)	Senior Research Fellow (SRF)	ICAR- <i>Central Institute of Freshwater Aquaculture</i> , Bhubaneswar, India.	National referral laboratory for aquatic animal diseases (for molecular screening of fish viral diseases in India).
3	July 2013–August 2014 (1 Year 1 Month)	Junior Research Fellow (JRF)	Regional Plant Resource Center, Bhubaneswar, India.	1Gene cloning and functional validation of salt tolerance gene from mangroves species of Odisha. 2. Genetic fidelity testing for tissue culture raised banana by using PCR based molecular tools.

4	March 2013– May 2013 (3 Months)	DBT-BCIL Researcher	Imgenex India Bhubaneswar, India.	Detection of the common Indian b- Thalassemia mutations in beta- thalassemia by reverse dot blot hybridization (RDB).
5	December 2012- February 2013 (3 Months)	DBT-BCIL Researcher	Bharat Biotech International Ltd Hyderabad, India.	Correlation of Rabies virus titre between FAT and real time PCR.
6	January 2012- June 2012 (6 Months)	MSc. (Dissertation)	ICMR- Regional Medical Research Center, Bhubaneswar, India.	Comparison of drug resistance among normal El Tor and El Tor variant of Vibrio cholera isolated from different parts of Odisha.

2. Research experience:

2.1. Human Medical Genetics laboratory:

I am working on identification of major genetic and epigenetic components in the otosclerosis.

I am investigating the essential transcription factor, those regulates osteoblast differentiation by targeting different pathways. My work focuses on isolation of DNA, RNA and proteins from stapes bone, identification of the genes by PCR, expression analysis by real time PCR and validation of the protein expression by western blotting and IHC.

2.2. National referral laboratory for aquatic animal diseases:

I was working on molecular screening of fish viral, bacterial and parasite diseases in India. Experienced in Isolation, purification, quality checking and quantification of DNA, RNA and cDNA of fish tissues; Molecular screening by PCR and Q PCR of fish viral diseases in India; PCR purification, Gel purification, cloning, transformation, screening bacterial colonies using X-gal, IPTG, Growth of bacterial culture, microbiological techniques (Plasmid Isolation, Biochemical characterisation, Integron PCR assay, antibiogram, adhesive characteristics and heavy metal tolerance).

Achievements:-

Virology:

- Standardized the molecular diagnostics for important freshwater fish trans-boundary viral pathogens and screened a total of 4528 individual fish samples by PCR- RT PCR and Q PCR. I have identified two crucial viral pathogens first time in India i.e., Infectious Spleen and Kidney Necrosis Virus (*Pattanayak et al., 2020*) and goldfish haematopoietic necrosis herpes virus (*Sahoo, Swaminathan, Abraham, Kumar & Pattanayak et al., 2016*).

- Isolated and reported Carp edema virus for the first time from eastern India and experimentally confirmed that the co-cultured food carp varieties were not susceptible to this infection (*Sahoo & Pattanayak et al., 2020a*).
- Studied the persistence and diversity of Red-spotted grouper nervous necrosis virus in wild, healthy seabass seeds around east and west coasts of India from three major landing sites by nested PCR using RNA2 coat protein gene-specific primers (*Banu & Pattanayak et al., 2019*).

Bacteriology:

- Identified and reported a zoonotic pathogen *Proteus mirabilis* causing large scale mortality in fish for the first time in India. Identification was based on phenotypical, biochemical characters and 16s rDNA PCR followed by virulence/species-specific gene PCRs targeting urease, metalloprotease and haemolysin genes (*Pattanayak et al., 2018*).
- Studied diversity of virulence-associated genes in pathogenic *Aeromonas hydrophila* isolates and their in vivo modulation at varied water temperatures (*Pattanayak et al., 2020*).
- Studied the expression of antibacterial and antioxidant defence genes in fish, in response to *Aeromonas hydrophila* infection (*Sharma, Paul, Parida & Pattanayak et al., 2018*).
- Studied pathogenic status, antibiogram, adhesive characteristics, heavy metal tolerance and incidence of integrons of infected fish-isolated *aeromonas sp.* This investigation represents baseline information on the prevalence of potential pathogenic *Aeromonas* in aquaculture systems that could pose a serious risk if they were passed to animals and humans through close contact (*Sahoo, Rath, Kumar & Pattanayak et al., 2019*).

Parasitology:

- ❖ Investigated and documented the first record of *Metanophrys sinensis* (Protozoa: Ciliophora: Scuticociliatida) from India, causing large scale mortality in a new host *Macrobrachium rosenbergii* larvae (*Sahoo & Pattanayak et al., 2018*).
- ❖ Identified infectious leech *Glossiphonia complanata* in freshwater pearl mussel *Lamellidens marginalis* for the first time in India (*Paul & Pattanayak et al., 2018*).
- ❖ Identified *Zschokkella auratis* causing large scale mortality in farmed striped murrel (*Channa striata*) for the first time in India (*Paul & Pattanayak et al., 2019* communicated).

Surveillance based study:

- ✚ A total of 219 cases of fish mortality were being investigated under a passive surveillance programme, and this study generated a comprehensive disease incidence scenario in freshwater aquaculture in eastern India (*Sahoo, Paul, Sahoo & Pattanayak et al., 2020b*).

Fish tumour study:

- ✚ I was involved in a case study of dermal fibroma in olive barb *Systomus sarana* obtained from a carp polyculture pond. Investigation revealed the presence of a solid nodular tumorous mass on the right dorsolateral side of the body further surgical excision and histopathological examination of the focal non-invasive mass exposed that the tumour is a fibroma covered by thick stratified squamous epithelium (*Sahoo, Kumar & Pattanayak et al., 2017*).

2.3. *Functional genomics and proteomics:*

I was working simultaneously in two projects 1. Gene cloning and functional validation of salt tolerance gene from mangroves species of Odisha. 2. Genetic fidelity testing for tissue culture raised banana by using PCR based molecular tools. Worked on Isolation of plant DNA and RNA; Molecular marker based PCR analysis like ISSR, RAPD of DNA samples, for genetic fidelity testing of tissue culture raised Banana; Isolated salt tolerance gene for crop improvement through transgenic approach; Preparation of cDNA, Cloning and Transformation, Analysis of recombinant clone by restriction-digestion; finding unknown genes by selective subtractive hybridization Kit. Investigated and published the genetic identity and fidelity of banana through ISSR fingerprinting (Surabhi & Pattanayak 2015).

2.4. *Industrial Experience:*

- ✚ Imgenex India: I was working on detection of the common Indian β -Thalassemia mutations in beta-thalassemia by reverse dot blot hybridization (RDB). Works were based on PCR, hybridization, reverse dot blot, ELISA, SDS-PAGE, Western blot, Immunohistochemistry, plasmid isolation.
- ✚ Bharat Biotech International: I was working on a correlation of Rabies virus titre between FAT and real time PCR.

2.5. *MSc Thesis (Dissertation)/ Human Medical Microbiology:*

- ✚ My thesis work based molecular microbiology. I was working on comparison of drug resistance among normal El Tor and El Tor variant of *Vibrio cholera* isolated from different parts of Odisha.

BIOINFORMATICS AND STATISTICAL KNOWLEDGE:-

- Bioinformatics- Basic bioinformatics tools for nucleic acid sequence analysis, protein analysis, structure prediction, MEGA 6, Bio edit, miRNA org, cirBase etc.
- Statistical Knowledge- Research data analysis using a statistical package like SPSS to determine ANOVA, non-parametric tests, t-test, etc.

EQUIPMENTS HANDLED:-

Elisa reader and Washer, Thermo cycler (Applied Biosystem, Ependroff, MJ research), Real Time PCR (Roche, Aplied Biosystem), Microscope(Nikon,Phase contrast-2), Autoclave, Laminar Air Flow, PCR(BIO-RAD), Gel Documentation System (BIO-RAD),CheniDoc MP imaging system (BIO-RAD), Gel Electrophoresis (GeNei) ,Trans-illuminator, UV-Vis. Spectrophotometer, Digital pH meter, Cooling Centrifuge(Sigma), Shaker Incubator

PUBLICATION:

Research article :-

1. **Pattanayak, S.,** Paul. A., Sahoo. P.K. (2020). Detection and genetic analysis of infectious spleen and kidney necrosis virus (ISKNV) in ornamental fish from non-clinical cases: First report from India. Preprint, BioRxiv, <https://doi.org/10.1101/2020.08.12.247650>
2. **Pattanayak, S.,** Priyadarsni, S., Kumar, P.R., Paul. A., Sahoo. P.K. (2020). Diversity of virulence-associated genes in pathogenic *Aeromonas hydrophila* isolates and their in vivo modulation at varied water temperatures. *Microbial Pathogenesis* [Elsevier](IF: 2.914). [10.1016/j.micpath.2020.104424](https://doi.org/10.1016/j.micpath.2020.104424)
3. **Pattanayak, S.,** Kumar, P.R., Sahoo, M.K., Paul. A., Sahoo. P.K. (2018). First field-based evidence of association of *Proteus mirabilis* causing large scale mortality in Indian major carp farming. *Aquaculture*, 495: 435-442.[Elsevier] (IF: 3.224) <https://doi.org/10.1016/j.aquaculture.2018.06.006>
4. Sahoo, P.K., **Pattanayak, S.,** Paul, A., Sahoo, M.K., Rajesh, K.P., Panda, D., Pillai, B.R., (2018) First record of *Metanophrys sinensis* (Protozoa:Ciliophora: Scuticociliatida) from India causing large scale mortality in a new host *Macrobrachium rosenbergii* larvae. *Journal of Fish Disease*, 41:1303–1307. [John Wiley & Sons](IF: 2.318). <https://doi.org/10.1111/jfd.12809>
5. Sahoo, P.K., **Pattanayak, S.,** Paul, A., Sahoo, M.K., Rajesh Kumar, P. (2020). Carp edema virus in ornamental fish farming in India: A potential threat to koi carps but not to co-cultured Indian major carp or goldfish. *Indian Journal of experimental biology*. 58, 254-262. [NISCAIR](IF: 0.783). <http://nopr.niscair.res.in/handle/123456789/54260>
6. Sharma, A., Paul, A., Parida, S., **Pattanayak, S.,** Mohapatra, A., Kumar, P.R., Sahoo, M.K., Sundaray, J.K. and Sahoo, P.K. (2018). Dynamics of expression of antibacterial and antioxidant defence genes in Indian major carp, *Labeo rohita* in response to *Aeromonas hydrophila* infection. *Microbial Pathogenesis*; 125: 108-115. [Elsevier](IF: 2.914). <https://doi.org/10.1016/j.micpath.2018.09.007>
7. Sahoo, P.K., Swaminathan, T.R., Abraham, T.J., Kumar, R., **Pattanayak, S.,** Mohapatra, A., Rath, S.S., Patra, A., Adikesavalu, H., Sood, N., Pradhan, P.K. (2016). Detection of goldfish

- haematopoietic necrosis herpes virus (Cyprinid herpesvirus-2) with multi-drug resistant *Aeromonas hydrophila* infection in goldfish: First evidence of any viral disease outbreak in ornamental freshwater aquaculture farms in India. *Acta Tropica*, 161: 8-17. [Elsevier](IF: 2.555). <https://doi.org/10.1016/j.actatropica.2016.05.004>
8. Banu, H., **Pattanayak, S.**, Sundaray, J.K., and Sahoo, P.K. (2019). Genetic diversity and latency status of betanodavirus in wild seeds of Asian seabass *Lates calcarifer* (Bloch) sampled along Indian coasts. *Indian Journal of Geo Marine Sciences*; 48 (03):288-293. [NISCAIR](IF: 0.328). <http://nopr.niscair.res.in/handle/123456789/47050>
 9. Paul, A., **Pattanayak, S.**, Pradhan, S., Saurabh, S., and Sahoo, P.K. (2018). First record of the leech, *Glossiphonia complanata* (Linnaeus, 1758) infection in freshwater pearl mussel *Lamellidens marginalis* (Lamarck, 1819). *Indian Journal of Fisheries*; 65(3): 126-129. [CMFRI-ICAR](IF: 0.169). [10.21077/ijf.2018.65.3.78918-18](https://doi.org/10.21077/ijf.2018.65.3.78918-18)
 10. Sahoo, M.K., Kumar, P.R., **Pattanayak, S.**, Das, P.C. and Sahoo, P.K. (2017). Dermal fibroma in olive barb *Systomus sarana* (Hamilton, 1822): a case study. *Indian Journal of Fisheries*, 64(1) : 95-97. [CMFRI-ICAR](IF: 0.169). [10.21077/ijf.2017.64.1.61340-17](https://doi.org/10.21077/ijf.2017.64.1.61340-17)
 11. Sahoo, P.K., Paul, A., Sahoo, M.K., **Pattanayak, S.**, Rajesh Kumar, P., Das, B.K. (2020b). Incidences of infectious diseases in freshwater aquaculture farms of eastern India: a passive surveillance-based study from 2014-2018. *Journal of Aquaculture Research and Development* 11, 1-5. [LONGDOM]. [doi: 10.35248/2155-9546.20.11.579](https://doi.org/10.35248/2155-9546.20.11.579)
 12. Sahoo, P.K., Rath, S.S., Rajesh Kumar, P., **Pattanayak, S.** and Das, B. K. (2019). Pathogenic status, antibiogram, adhesive characteristics, heavy metal tolerance and incidence of integrons in *Aeromonas* species isolated from infected fish. *Journal of Sustainable Science & Management*; 14 (2): 21-34. <http://jssm.umt.edu.my/wp-content/uploads/sites/51/2020/05/bab-3.14.2.pdf>
 13. Surabhi, G.K., and **Pattanayak, S.** (2015). Deciphering the genetic identity and fidelity of banana through ISSR fingerprinting. *Horticultural Biotechnology Research*, 1: 16-22. [TathQeef Scientific]. <https://updatepublishing.com/journal/index.php/hbr/article/view/2902>
 14. Paul, A., **Pattanayak, S.**, Sahoo, M.K., Kumar, P.R., Kumar, R., Sahoo, P.K. (2019). Co-infection of heterologous pathogens (bacteria and parasites) including a new brain myxosporean (*Zschokkella auratis*) causing large scale mortality in farmed striped murrel (*Channa striata* Bloch 1793). (Communicated).

Abstracts:-

1. **Pattanayak, S.**, Paul A., Sahoo P.K. (2020). Detection of infectious spleen and kidney necrosis virus (ISKNV) in ornamental fish from non-clinical cases: First report from India. 3rd International Symposium on Genomics in Aquaculture, Bhubaneswar 21st -23rd January 2020, GFHRN-P25. p.132.
2. **Pattanayak, S.**, Priyadarsini S., Paul A., Kumar, P.R., Sahoo P.K. (2020). Diversity of virulence genes in pathogenic *Aeromonas hydrophila* isolates and their in vivo modulation at varied water temperatures. 3rd International Symposium on Genomics in Aquaculture, Bhubaneswar 21st -23rd January 2020, GIIPR-P28. p.156.
3. Bajpai, V., **Pattanayak, S.**, Pragyani, D., Suman, K., Paul, A., Mohanty, J., Sahoo, P.K., (2019). Development of molecular diagnostics for few freshwater viral pathogens and their practical applications. XIV Agricultural Science Congress at New Delhi during 21-23 February 2019. p. 814.

4. Kumar, P.R., Paul, A., **Pattanayak, S.**, Sahoo, M.K., Sahoo, P.K. (2018). Disease surveillance in freshwater aquaculture system of eastern India revealed association of MDR bacterial pathogens of zoonotic importance causing mortality in fish. National workshop on Antimicrobial Resistance, 12-13 March, 2018, 65-66.
5. Sahoo, M.K., **Pattanayak, S.**, Paul, A., Kumar, P.R, Kumar, R., Sahoo, P.K. (2017) Association of multiple bacteria and parasitic infections causing mortality in adult *Channa striata*, 11th IFAF, CIFT Kochi , India; November 21-24, 2017, AH PO-06; 311-312.
6. Sahoo, PK., Das, BK., Paul A., **Pattanayak, S.**, Sahoo, M.K. and Kumar, P. (2017) Incidences of different diseases in freshwater aquaculture systems through surveillance in two important aquaculture states of India (Andhra Pradesh and Odisha), 'International symposium on Aquatic Animal Health and Epidemiology for Sustainable Asian Aquaculture' National Bureau of Fish Genetic Resources, Lucknow, India; April 20-21, 2017; 27 (Adjudged First place in the poster presentation)
7. **Pattanayak S.**, Kumar P.R., Sahoo M.K., Paul A., Rath S.S., Sreenivasulu G, Das B.K., Sahoo P.K. (2016). Incidences of exotic or new pathogens in freshwater aquaculture systems in four states of India: a passive surveillance-based study. Aquaculture Diversification: the Way Forward for Blue Revolution., Technical session IV: Health Management (FHM). 92.
8. Pati, S., Panda, S.K., **Pattanayak, S.**, Sahoo, P.K. (2017). Diagnosis and prevalence of *Theileria annulata* in anaemic cattle of Odisha, India. National Seminar on Opportunities and Challenges of Translational Research in the Frontier Areas of Animal Biotechnology and V Annual Convention of SVSBT, OUAT Bhubaneswar; September 22-23, 2017, pp.76.
9. Pati, S., Panda, S.K., **Pattanayak, S.**, Sahoo, P.K. (2017). Studies on diagnosis and prevalence of *Theileria annulata* in anaemic cattle of Odisha, India. Asian Veterinary Pathology Congress-2017, Emerging Horizons in Diagnosis of Animal and Poultry Diseases Towards Sustainable Production in Asian Countries. Veterinary College, Hebbal, Bangaluru, India; November 9-11, 2017, pp. 420-421.
10. Sahoo, P.K., **Pattanayak, S.**, Paul, A. (2016). Status of viral diseases in freshwater aquaculture system in India. Veterinary pathology congress. IAVP and department of veterinary pathology, VPC-2016/lead paper/1//2016

Book/ Manual chapters :-

1. **Pattanayak, S.**, Paul, A., Kumar, P.R., Sahoo, M.K., Sahoo, P.K. (2017) PCR based molecular diagnostic techniques for bacterial fish pathogens. Hands on training on diagnosis of freshwater fish pathogens for disease surveillance; 17-21 January, 2017; ICAR-CIFA Training Manual No. 45 (47-55).
2. **Pattanayak S.**, Paul A, Kumar PR, Sahoo MK, Mohapatra A, Parida S, Sahoo P.K. (2017) PCR based diagnosis for fish viruses. Hands on training on diagnosis of freshwater fish pathogens for disease surveillance; 17-21 January, 2017; ICAR-CIFA Training Manual No. 45 (56-60).
3. Sahoo, P.K., Paul, A., **Pattanayak, S.**, Sahoo, M.K. (2017) Necropsy technique and collection, preservation, and processing of infective material for fish diagnosis. Hands on training on diagnosis of freshwater fish pathogens for disease surveillance; 17-21 January, 2017; ICAR-CIFA Training Manual No. 45 (28-34).
4. Kumar, P.R., Paul, A., **Pattanayak, S.**, Sahoo, M.K., Sahoo P.K. (2017) Biochemical characterization of bacterial fish pathogen. Hands on training on diagnosis of freshwater fish

pathogens for disease surveillance; 17-21 January, 2017; ICAR-CIFA Training Manual No. 45 (35-46).

5. Mohapatra. A, Paul A, **Pattanayak S.**, Sahoo P.K. (2017) Real-time PCR in Disease Dignosis. Hands on training on diagnosis of freshwater fish pathogens for disease surveillance; 17-21 January, 2017; ICAR-CIFA Training Manual No. 45 (61-62).
6. **Pattanayak S.**, Mohapatra A, Parida S, Sahoo P.K. (2016). PCR-based diagnosis for fish viruses. Training programme on Hands-on-training in fish and shellfish health management, held at CIFA, Bhubaneswar during 5-9th September 2016, manual no. 36, pp. 51-54.
7. **Pattanayak S.**, Mohapatra A, Parida S, Sahoo P.K. (2016). PCR-based diagnosis for fish viruses. Training Manual; Hands-on-training on Molecular Techniques in fish disease diagnosis. Held at CIFA, Bhubaneswar during 22-27 June, 2015, pp. 23-27.
8. **Pattanayak S.**, Mohapatra A, Kar B, Sahoo P.K. (2015). PCR/RT-PCR for diagnosis of fish viruses. PCR based diagnostics for fish diseases manual, Held at CIFA, Bhubaneswar during 10-17 January, 2015, pp. 29-36
9. Sahoo P.K., Das B.K., Rath S.S., Sreenivasulu G., Sahoo M.K., Priyadarshini N. and **Pattanayak. S** (2015), collection, preservation and dispatch of freshwater fish/prawn samples for disease diagnosis: NSPAAD, NFDB.

SEMINAR/SYMPOSIA ATTENDED:

1. Participated in 3rd International Symposium on Genomics in Aquaculture, Presented poster in that conference. ICAR-Central Institute of Freshwater Aquaculture, Bhubaneswar, 21st -23rd January 2020.
2. Participated in International Symposium on Aquatic Animal Health and Epidemiology for Sustainable Asian Aquaculture (ISAAHE), April 20-21, 2017, ICAR-NBFGR Lucknow.
3. Attended in International Conference on “2017 NextGen Genomics, Biology, Bionfermetics and Technologies (NGBT) conference, 2nd - 4th October 2017, Bhubaneswar, Odisha, India.
4. Participated and presented at ICAR-CIFA Bhubaneswar of National Seminar on ‘Aquaculture Diversification: the Way Forward for Blue Revolution’ (NaSAD-2016); 03 December 2016 (Presented oral talk)
5. Attended 2nd International Symposium on Genomics in Aquaculture (ISGA-II) during 28-30 January 2016, organized at ICAR-Central Institute of Freshwater Aquaculture, Bhubaneswar.
6. Participated 10th Indian Fisheries and Aquaculture Forum (10IFAF), with the theme 'Towards Responsible Aquaculture and Sustainable Fisheries' hosted by the National Bureau of Fish Genetic Resources at Lucknow held during 12-15 November 2014.
7. Attended and presented a poster at the 39th Annual Conference of Orissa Botanical Society. 22nd - 23rd February 2015, at RPRC Bhubaneswar. (Presented poster)
8. Attended International conference on Emerging trends in Biological sciences held at KIIT University on 24th-25th 2008.

TRAINING PARTICIPATION

1. Completed 10 days Hands on Training program on “PCR based diagnostics for fish diseases”9-17th February 2015, NSPAAD, NFDB, ICAR, CIFA.
2. Completed 7 days national level model training course on preventives health management in freshwater aquaculture, 3-10th September 2014, FHMD, CIFA, ICAR.

3. Participated Awareness workshop on NGS and other innovative technologies jointly organized by Genotype technology, Bangalore and CIFA. 26-27 August 2016 at ICAR –CIFA, Bhubaneswar.
4. Participated in a workshop on Bioinformatics tools for fish genomics. Jointly organized by Indian Agricultural Statistical Institute and CIFA. 21st-22nd April 2015 at ICAR-CIFA Bhubaneswar.
5. Participated winter nature camp-2012 held from 15-17th January 2012 at Bhitarkanika National park, by Regional Museum of Natural History, MoEF govt of India.
6. Participated in one-month training program at RMRC, Bhubaneswar being conducted from 01 June to 30 June 2009.
7. Participated in the workshop entitled as PCR techniques and RAPD analysis held in 2008 by BCIL, Biotechnotrick Laboratories.

NUCLEOTIDE SEQUENCE SUBMISSIONS TO NCBI

1. Sahoo, P.K., **Pattanayak, S.** and Paul, A. (2019). Infectious spleen and kidney necrosis virus partial MCP gene MM-CIFA. Accession no. # MN518863
2. Rajesh Kumar, P., **Pattanayak, S.**, Sahoo, M.K., Paul, A. and Sahoo, P.K. (2019). *Aeromonas schubertii* ; 16s rDNA partial sequence. Accession no. # MN517848.
3. Paul, A., **Pattanayak, S.**, Naik, Naveen Rayudu, R.S., Baral, B., Parida Samikshya and Sahoo, P.K. (2019). *Vibrio vulnificus* ; NRLFFD234 16s rDNA partial seq. Accession no. # MN515436.
4. Kumar, Anand., **Pattanayak, S.**, Paul, A. and Sahoo, P.K. (2019). *Stenotrophomonas maltophilia*; NRLFFD179 16s rDNA partial seq. Accession no. # MN515423.
5. Paul, A., **Pattanayak, S.** and Sahoo, P.K. (2019). *Staphylococcus epidermidis*; NRLFFD301 16s rDNA partial seq. Accession no. # MN515417.
6. **Pattanayak, S.**, Baral, B., Paul, A. and Sahoo, P.K. (2019). *Staphylococcus aureus*; NRLFFD288 16s rDNA partial seq. Accession no. # MN515405.
7. **Pattanayak, S.**, Paul, A. and Sahoo, P.K. (2019). *Serratia marcescens*; NRLFFD286 16s rDNA partial seq. Accession no. # MN515397.
8. **Pattanayak, S.**, Paul, A. and Sahoo, P.K. (2019). *Morganella morganii*; NRLFFD293 16s rDNA partial seq. Accession no. # MN515398.
9. Sahoo, M.K., **Pattanayak, S.**, Paul, A. and Sahoo, P.K. (2019). *Enterococcus gallinarum*; NRLFFD227 16s rDNA partial seq. Accession no. # MN515395.
10. Parida Samikshya, **Pattanayak, S.**, Paul, A. and Sahoo, P.K. (2019). *Enterobacter cloacae*; NRLFFD267 16s rDNA partial seq. Accession no. # MN515385.
11. Rayudu, R.S., Parida Samikshya, **Pattanayak, S.**, Paul, A. and Sahoo, P.K. (2019). *Edwardsiella tarda* ; strain NRLFFD308 partial 16s rDNA seq. Accession no. # MN515384.
12. Sahoo, P.K., Paul, A., **Pattanayak, S.**, Bajpai, V. and Pragyan, D. (2018). Megalocytivirus MCP gene, partial sequence. GenBank Accession # MG748837.
13. **Pattanayak, S.**, Kumar, P.R., Sahoo, M.K., Paul, A. and Sahoo, P.K. (2017). *Proteus mirabilis* metalloprotease ZapA gene, partial sequence. Accession No. # MG748837
14. **Pattanayak, S.**, Sahoo, M.K., Rajesh Kumar, P., Paul, A. and Sahoo, P.K. (2017). Carp edema virus, Choudwar, Odisha, India isolate 4a protein gene, partial C.D.s Accession # MF326541
15. **Pattanayak, S.**, Paul, A., Saurabh, S., Pradhan, S. and Sahoo, P.K. (2017). *Glossiphonia complanata* 28s ribosomal RNA, partial sequence. Accession # MF32654

16. **Pattanayak, S.**, Kumar, P.R., Sahoo, M.K., Paul, A. and Sahoo, P.K. (2017). *Proteus mirabilis* haemolysin HpmA gene, partial sequence. Accession No. # MF975537
17. **Pattanayak, S.**, Kumar, P.R., Sahoo, M.K., Paul, A. and Sahoo, P.K. (2017). *Proteus mirabilis* urease UreC gene partial C.D.s. Accession No. # MF975538
18. Banu H., **Pattanayak, S.** and Sahoo, P.K. (2017). RNA2 coat protein gene of betanoda virus, partial C.D.s, BNVB. Accession No. # MG575046
19. Banu H., **Pattanayak, S.** and Sahoo, P.K. (2017). RNA2 coat protein gene of betanoda virus, partial C.D.s, BNVMGWB. Accession No. # MG575047
20. Banu H., **Pattanayak, S.** and Sahoo, P.K. (2017). RNA2 coat protein gene of betanoda virus, partial C.D.s, BNVARMH. Accession No. # MG575048
21. Paul,A., **Pattanayak,S.**, Sahoo,M.K., Kumar,P.R., and Sahoo,P.K. (2017) *Zschokkella auratis* MF978273
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AWARDS RECEIVED / ANY ACHIEVEMENT

1. Achieved Annual award at ICAR- CIFA in 2019 for **Best research scholar category 2018.**

2. Received **Dr T Ramaprabhu Memorial award** in **2019** with a cash prize for Best research for the year 2018.
3. Received **Dr Bikash Ranjan Mohanty Memorial** award in **2018** with a cash prize for Best research for the year 2017.
4. Awarded for **Best poster** in an International Symposium on Aquatic Animal Health and Epidemiology for Sustainable Asian Aquaculture at **2017** at National Bureau of Fish Genetic Resources, Lucknow.

Personal information:

Father's name	Mr. Sisir Pattanayak
Date of birth	8th mar 1990
Marital status	single
Nationality	Indian
Can communicate fluently in	English,hindi,oriya

DECLARATION

I do hereby declare that all the statements made herein are true to the best of my knowledge & belief. In case any of the particulars furnished by me are found to be false at any stage my candidature is liable to be summarily rejected.

Place : Bhubaneswar

Sabyasachi Pattanayak

Date :

Signature