



SUNANDAN NAHA

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 Bally, District- Howrah, West Bengal, India

Birth Date

13th August, 1991

Nationality

Indian

Languages

English



Hindi



Bengali



Profile

Analytical and detail-orientated Environmental Researcher with around 2.5 years of experience and five publications so far. Designing and implementing possible objective based solutions of various environment related problems. Skilled in aquaculture and marine research including extensive fieldwork, biological wastewater treatment and bioremediation through bioelectrochemical system, fate of pollutants in natural environmental systems, nutrient resource recovery from wastewater, practical implementation of the concept "From Waste to Wealth".

Communication skills :-

Good communication skills gained through my various work experiences and working on different research matters

Organizational skills:-

1. I was the General Secretary of Eco club and Cultural club of my school which helps me to develop my organizational skill from childhood 2. I was the group leader at my college team of National Service Scheme which helps me to work in a organized way at a large scale and even in unfavorable conditions

Job-related skills:-

1. Expert in designing of Microbial Fuel Cell for bioenergy production of various types like by using biomass or by using waste products 2. Efficient planner for sustainable green energy generation system along with treatment of wastewater and anthropogenic excreta 3. Expert in analysis of Physical, Chemical and Biological parameters of water and soil 4. Carry out all the biochemical analysis at the lab 5. Well trained in Microbiological techniques 6. Enthusiastic about writing of scientific articles and reports all the time during my research 7. Can figure out the work plan and solution of problem in a very fast way 8. Can plan for a project in terms of structured formation of project proposal along with report preparation and cost estimation

Education

M.Tech. in Biotechnology, Indian Institute of Technology Guwahati

Guwahati, State- Assam, India | 2018 July - 2020 September

- **M.Tech.** degree with **First Class Distinction** (84.9 %) or CGPA 8.49/10.00 or GPA 4.00/4.00 (Converted on www.wes.org)

- Coursework in Biotechniques, Advanced Genetic Engineering, Microbial Biotechnology, Tissue Engineering and Stem Cells, Analytical Biotechnology Lab, Quantitative Biology, Biomolecular and Cellular Process Engineering, Plant Molecular Farming, Genome Editing and Engineering, Applied Biology and Bioengineering Lab, M.Tech Seminar, M. Tech Project
- Dissertation in "Studies on Wastewater Sludges and Biomaterial Coatings for Anodic Biofilm Formation and its Application for Power Generation in Microbial Fuel Cell,"

M.Sc. in Marine Science, University of Calcutta

Calcutta, State- West Bengal, India | 2013 August - 2015 July

- **M.Sc.** degree with **First Class** (61.1%) or GPA 3.00/4.00 (Converted on www.wes.org)
- Coursework in Physical Oceanography, Chemical Oceanography, Biological Oceanography, Geological Oceanography
- Dissertation in "Effect of Physicochemical Characters on Abundance of Coliform Bacteria Present in the Lower Stretch of Hooghly Estuary"

B.Sc. in Microbiology, Ramakrishna Mission Vidyamandira under University of Calcutta

Belur, State-West Bengal, India | 2010 September - 2013 June

- **B.Sc.** degree with **First Class** (63.88%) or GPA 3.00/4.00 (Converted on www.wes.org)
- Coursework in General Microbiology, Microbiological Methods, Biophysics, Stereochemistry Biomolecules, Biometry, Cell Biology, Molecular Biology, Biochemistry, Microbial Ecology, Metabolism & Bioenergetics, Food Microbiology, Soil Microbiology, Immunology, Genetics , Genomics & Bioinformatics, Industrial Microbiology, Virology, Medical Microbiology, Recombinant DNA Technology

Employment History

Junior Research Fellow, Indian Institute of Science Education and Research Kolkata

Mohanpur, District- Nadia, West Bengal, India | 2015 June - 2015 October

Project Title:- "Monitoring Harmful Algal Bloom (HAB) along the coast of West Bengal"

Activities:-

- Collection of marine water samples from coastal area of Bay of Bengal, India

- Algal taxonomy study of marine water samples
- Analysis of physical, chemical and biological parameters of water sample
- Molecular analytical techniques of algal sample purified from marine water
- Created presentations, posters, leaflets and promotions to help researchers present findings and raise awareness to peoples.
- Logged researched data on system, ready for presentation to the lab meeting, conferences and symposiums.
- Prepared graphs, spreadsheets and infographics to share information and findings from research assignments.
- Kept researched data safely stored on the lab computer.

Senior Research Fellow, Central Institute of Brackishwater Aquaculture

Kakdwip, District- South 24 Pgs., West Bengal, India | 2016 February - 2017 June

Project Title:- " Stock characterization, captive breeding, seed production and culture of hilsa (*Tenualosa ilisha*)"

Activities:-

- Analysis of physical, chemical and biological parameters of water
- Regular monitoring of zooplankton and phytoplankton status of water
- Maintaining of selected zooplankton and phytoplankton culture as pure culture and mass culture
- Assessment of feed trial by different dietary supplements in fish feed
- Larval enzyme profile analysis
- Fish gut microbial community analysis 6. Created presentations, posters, leaflets and promotions to help researchers present findings and raise awareness to peoples.
- Logged researched data on system, ready for presentation to the lab meeting, conferences and symposiums.
- Prepared graphs, spreadsheets and infographics to share information and findings from research assignments.
- Kept researched data safely stored on the lab computer.

Junior Research Fellow, Central University of South Bihar

Gaya, Bihar, India | 2017 November - 2018 May

Project Title:- "Assessment for potential of Natural Gangetic Biofilters For wastewater treatment in constructed wetland"

Activities:-

- Collection of water sample from Ganga which is the largest river of India and wastewater sample from point of contact of drainage system to the river
- Analysis of physical, chemical and biological parameters of collected samples
- Culture of zooplankton which can be used as biofilters and phytoplankton to feed zooplankton
- Planning of constructed wetland to observe the effects of Gangetic biofilter for the treatment of wastewater
- Created presentations, posters, leaflets and promotions to help researchers present findings and raise awareness to peoples.
- Logged researched data on system, ready for presentation to the lab meeting, conferences and symposiums.
- Prepared graphs, spreadsheets and infographics to share information and findings from research assignments.
- Kept researched data safely stored on the lab computer.

Publications

Journal

1. **Naha, S.**, Joshi, C., Chandrashekhar, B., Sreekrishnan, T. R., Goswami, P., & Sevda, S. (2020). Bioelectrosynthesis of Organic and Inorganic Chemicals in Bioelectrochemical System. *Journal of Hazardous, Toxic, and Radioactive Waste*, 24(2), 03120001. [https://doi.org/10.1061/\(asce\)hz.2153- 5515.0000491](https://doi.org/10.1061/(asce)hz.2153- 5515.0000491)
2. Sevda, S., Garlapati, V. K., **Naha, S.**, Sharma, M., Ray, S. G., Sreekrishnan, T. R., & Goswami, P. (2020). Biosensing capabilities of bioelectrochemical systems towards sustainable water streams: Technological implications and future prospects. *Journal of Bioscience and Bioengineering*, 129(6), 647–656. <https://doi.org/10.1016/j.jbiosc.2020.01>.

Book chapter

1. De. D., **Naha, S.** (2016). Nutrition and Metabolism of Fish: Differences between Herbivorous, Carnivorous and Omnivorous fish. Asit Das, Putan Singh, V. B. Chaturvedi, Narayan Dutta and A. K. Verma (Eds.), *Recent Trends in Comparative Animal Nutrition* (pp. 104-107). Izatnagar, UP: ICAR-Indian Veterinary Research Institute, India

2. Mehendale N., Jeevan Kumar S.P., Mani N. K., Sevda S., **Naha S.**, Sharma S., Garlapati V. K. (2020). Microfluidics in lipid extraction. „ 21-34. <https://doi.org/10.1016/B978-0-12-819763-9.00002-7>
3. Garlapati V. K., **Naha S.**, Sharma S., Goswami P., Sevda S. (2020). Electro-active biofilms (EAB): Role in a Bioelectrochemical System for waste water treatment and Bioelectricity generation. . In Abdul Bakrudeen Ali Ahmed, Microbial Biofilms: Properties and Applications in the Environment, Agriculture, and Medicine (1st, pp. 207-226). USA: Taylor and Francis, CRC Press , . [ISBN : 9780367415068]

Conference Presentation (Poster)

- a) Naha, S.**, Goswami P., Sevda, S., Bioelectrochemical Systems As Potential Biosensors For Monitoring Contaminants in Wastewater. 2019, Reflux 7.0, Annual Chemical Engineering Symposium, IIT Guwahati (Sept. 27-28, 2019).
- b) Naha, S.**, Goswami P., Sevda, S., Production of nanomaterials and bioelectricity in a bioelectrochemical system by electro-active biofilm. 6th International Conference on Advanced Nanomaterial and Nanotechnology (ICANN2019), will be held at IIT Guwahati (Dec 18-21, 2019)
- c) Naha, S.**, Goswami P., Sevda, S., Bioelectrochemical Systems as Prospective Biosensors for Monitoring Contaminants in Drinking Water and Wastewater. Indo-Belgium Workshop on Upscaling and field scale application of bioelectrochemical Systems for wastewater treatment and bioenergy recovery (SPARC 2020), held at IIT Kharagpur (Feb 26-27, 2020).

Accomplishments

- a.** GATE 2017: Secured 98.7 percentile and Overall Rank 139 among 0.016 Million candidates and obtained prestigious Fellowship from Ministry of Human Resources and Development, Govt. of India.
- b.** Worked as a Reviewer of Journal of Water Process Engineering
- c.** Appreciation and invitation for reviewer position from World Journal of Applied Physics for published article
- d.** Appreciation from Web of Science Group and indexing of my article entitled "A short review on bioelectrosynthesis of organic and inorganic chemicals in bioelectrochemical system" published in ASCE-Journal of Hazardous, Toxic and Radioactive Waste in the Web of Science Core Collection.
- e.** Appreciation and invitation for paper submission from Technium Science Group.
- f. Appreciation and invitation for paper submission from Journal of Renewable and Sustainable Energy.
- g. Member of International Technical Program Committee of ICRTEG 2020 which will be held on Oct 13-16, 2021 at Ottawa, Canada

Extra-curricular Activities

(a) All India Camel Color Contest : Secured best entry at the School level **(b)** All India Mask Competition: Secured best entry at the School level **(c)** All India Commonwealth Quiz Competition: Secured second position in the College level **(d)** Training in First Aid **(e)** Social Work

Hobbies

Singing, Listening music, Reading Novels or Story Books, Travelling, Swimming, Cycling, Photography, Gardening, Exploring new cultures, Exploring different cuisines, Exploring nature

English Test

Duo-Lingo English Test

Overall score 120 in 160 point scale

References

**Prof. Pranab Goswami , Indian Institute of Technology
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