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**About me:****Academic Qualifications**

Ph.D: Indian Institute of Technology, Guwahati, 2013.  
M.Sc: MBBT, Tezpur Central University, 2000  
B.Sc : Hons in Zoology, Gauhati University, 1998

**Career Progression**

2014 – Technical Officer/Gr-I in the Centre for Environment, IITG  
2013 – PhD (Environment), IITG  
2005 – Scientific Officer/G-II in the Centre for Environment, IITG  
2003 – Technical Assistant in Department of BSBE, IITG

**Research Interests**

- Bioremediation of environmental pollutants
- Industrial microbial enzymes
- Biomass conversion to bioethanol and other value-added products
- Biobased polymer production and applications
- Resource recovery, wastewater treatment
- Biopolymer based hydrogel
- Bioadsorption for removal of environmental pollutants
- Soil nutrient quality
- Removal of micropollutants using nanomaterials
- Water quality (BOD, COD, TDS, Conductivity, DO, oxoanions, heavy and trace metals)
- and wastewater treatment technologies

**Notable Activities carried out:**

- Convener, National conference on challenges in environmental research, June 4-6, 2015
- Convener, Recent advancements in environmental research, June 4-6, 2016,
- Convener, Recent advancements in environmental research, June 4-6, 2017
- Convener, Advances in environment protection and sustainability, June 2, 2018
- Convener, Issues and Challenges in water treatment and allied research for sustainable development (WATER 2020), Jan 23-25, 2020
- Coordinator, CPCB sponsored workshop on Polluted river stretches-preparation of action plan (for NE states),
- PhD supervised: 04 (01 completed and 03 ongoing)
- Summer interns (undergraduate, postgraduates) supervised: around 11
- Consultancy projects: 05

- Training/workshops organized: CPCB training (03), one as course coordinator
- Editor, Book on Sustainable environment, Proceedings of NERC 2022, ISBN:978-981-19-8463-1
- Journal Publications: 21
- Book: 01
- Book Chapter: 01
- International Conferences: more than 20
- Selected as a Jury member in judges panel by CBSE, New Delhi for Regional Science Exhibition 2022-23, NE Chapter held on 19-20 Dec, 2022 in Miles Bronson Residential School, Ghy.
- Google Scholar:<https://scholar.google.co.in/citations?user=VWIZV54AAAAJ&hl=en>

#### **Overall contributions for institute development:**

- Deemed PIO for Centre for the environment to reply against RTI queries
- Member of GMIS committee 2022-23 and 2023-24
- Member for promotion of gender equity and sensitization in IIT Guwahati (CPGES)
- Member of Internal complaints committee for a period of 3 years w.e.f 26.12.2019
- Treasurer of IITG Officers forum (2012-2018)
- Centre Coordinator of Research and industrial Conclave 2022, 2023
- Committee member for institute tender; housekeeping items of guest house, 2019
- Committee member for institute tender; Annual Rate contract for supply of stationery items (2023)
- Committee member for institute tender; Annual Rate contract for supply of HP cartridges (2022)
- Committee member for Annual Rate contract for supply of UPS and transformers
- Sub-editor of Technical committee of “Sustainable environment” in North East Research Conclave (NERC 2022)

#### **Duties Assigned:**

- All report writing, presentation preparation, RTI related information on behalf of the centre for the environment
- Compilation & preparation of annual report/ newsletter of the Centre in the capacity of coordinator.
- Compiling technical specifications, market survey of proposed equipment’s finally processing for purchase process of major equipments of the centre.
- Overall in-charge and annual maintenance of analytical lab equipment’s by repair, purchase of cylinders, regulators, bulbs, columns and keeping in perfect working condition.
- Compilation and tabulation of documents to screen best thesis award from Centre.
- Preparation of budget estimate of the centre in the start of the financial year
- Physical verification record and inventory update of lab equipment’s, *Secretary centre’s physical verification committee*
- Constant support to the PhD students like guidance in the operation of lab equipment’s, issue of consumables and spares for operation.
- Attending to requests coming from Govt. agencies/ institutes/academic institutions and IITG authority for sample analysis.
- Plan, layout drawing of laboratory furniture, electrical & civil work of the laboratory: as per current need
- Preparing list of items annually for disposal. Member disposal committee of the centre
- PhD admission: Assisting CPPC Secretary and help in the screening of applications.
- Formulation of project proposal for submission to different funding agencies

- Carrying out consultancy project on request from Govt. and private organizations.
- Organizing national conference/symposium/workshop annually
- Guidance of students from different institutes for BTP/MTP dissertation projects as supervisor
- Centre outreach activities (Coordinating visits by government officials, students from schools and colleges to the centre for laboratory exposure)
- Organizing and conducting orientation of newly joined PhD students.
- Maintenance of stock register for all purchase of equipment's and furniture
- Compilation of inputs for preparation of research accomplishments for media coverage

### **Students as Co-Guide:**

Doctor of Philosophy

Completed

1. Dr. Jayakrishnan U (156152005) Topic: Novel bioprocessing strategy for polyhydroxybutyrate production from agro-industrial effluents: A waste biorefinery approach; Co-guiding with Prof. Gopal Das

Ongoing

1. Mr. Gunanka Hazarika (206152003)
2. Ms. Debolina Ghosh (206152002)
3. Ms. Neha Gautam (216152006)

### **Summer Interns**

#### **2015 onwards**

1. Ms. Tandralee Bhuyan; Deptt of Zoology, Cotton University; Topic: Wastewater treatment using sequencing batch reactor
2. Ms. Kumudini Deka; Deptt of Bioengineering & Biotechnology, Gauhati University; Topic: Isolation, characterization of novel bacterial strains for the production of biosurfactant; Co guided with Prof. K. Pakshiranjan, BSBE
3. Ms. Udaratta Bhattacharjee, Gauhati University; Topic: Production and characterization of polyhydroxybutyrate (PHB) from *Ralstonia eutropha* using brewery wastewater as a cheap substrate; Co guided with Prof. K. Pakshiranjan, BSBE
4. Mr. Bishnu Dev Patra (2016); KIIT Bhubaneswar, Topic: Operation of Sequencing Batch Reactors and its Process Monitoring
5. Ms. Ranjita Baishya (2014); St Anthonys College, Meghalaya; Topic: Isolation of petroleum hydrocarbon-degrading bacteria from soil producing biosurfactant,
6. Ms. Bidisha Hazarika (2015), St Anthonys College, Meghalaya, Topic: Isolation of cellulose degrading microorganisms and production of cellulose enzyme from bacterial strain; co guided with Prof. Gopal Das.
7. Ms. Debolina Ghosh (2017, 2019); KIIT Bhubaneswar; Topic: Bioadsorption of Congo Red dye and Ampicillin onto Poly Vinyl Alcohol-Alginate Hydrogel Beads impregnated with Colocasia stem powder
8. Mr. Aniket Banerjee (2017, 2018); KIIT Bhubaneswar; Topic: Adsorption of Congo Red dye on Alginate beads, Hydrogel beads and Hydrogel matrix. In addition, development of a Low-cost, efficient water filter model using indigenous raw materials.

9. Mr. Partha Pratim Sarmah (2015), Gauhati University; Topic: Study of biomass abundantly available in Assam for production of biofuel; Co guided with Prof. Gopal Das
10. Mr. Hirakjyoti Mahanta (2015); Gauhati University; Topic: Characterization of biomasses widely found in Assam, India for production of biofuel; Co guided with Prof. Gopal Das
11. Ms. Biju Bharali (2015), Topic: St Anthonys College, Meghalaya, Topic: Isolation of cellulose degrading microorganisms and production of cellulose enzyme from bacterial strain.

**Research & Development (Project/Consultancy):**

1. Suitability studies of compost produce from municipal solid waste in Shillong city, Meghalaya; as Co-Pi (Prof. Gopal Das, PI)
2. Filtration efficiency of water filter candles, Hamilton Housewares pvt ltd as Co-Pi (Prof. Mihir Kumar Purkait as PI)
3. Analysis of Kulsi river water samples, East Mojo; as PI
4. Petrographic and other related studies of silt of Ranganadi reservoir, neepco , Arunachal Pradesh” as Co-PI
5. Black and grey water analysis from NE India as Co-PI