



Goa University

Microbiology Discipline, School of Biological Sciences and Biotechnology

REPORT ON WATER AND SEDIMENT SAMPLE COLLECTION AT HALDIA PORT, KOLKATA FOR MICROPLASTIC ANALYSIS AND ISOLATION OF ASSOCIATED BACTERIA

**COLLABORATIVE WORK BY GOA UNIVERSITY AND BOSE
INSTITUTE KOLKATA**

5 – 9th March 2026.

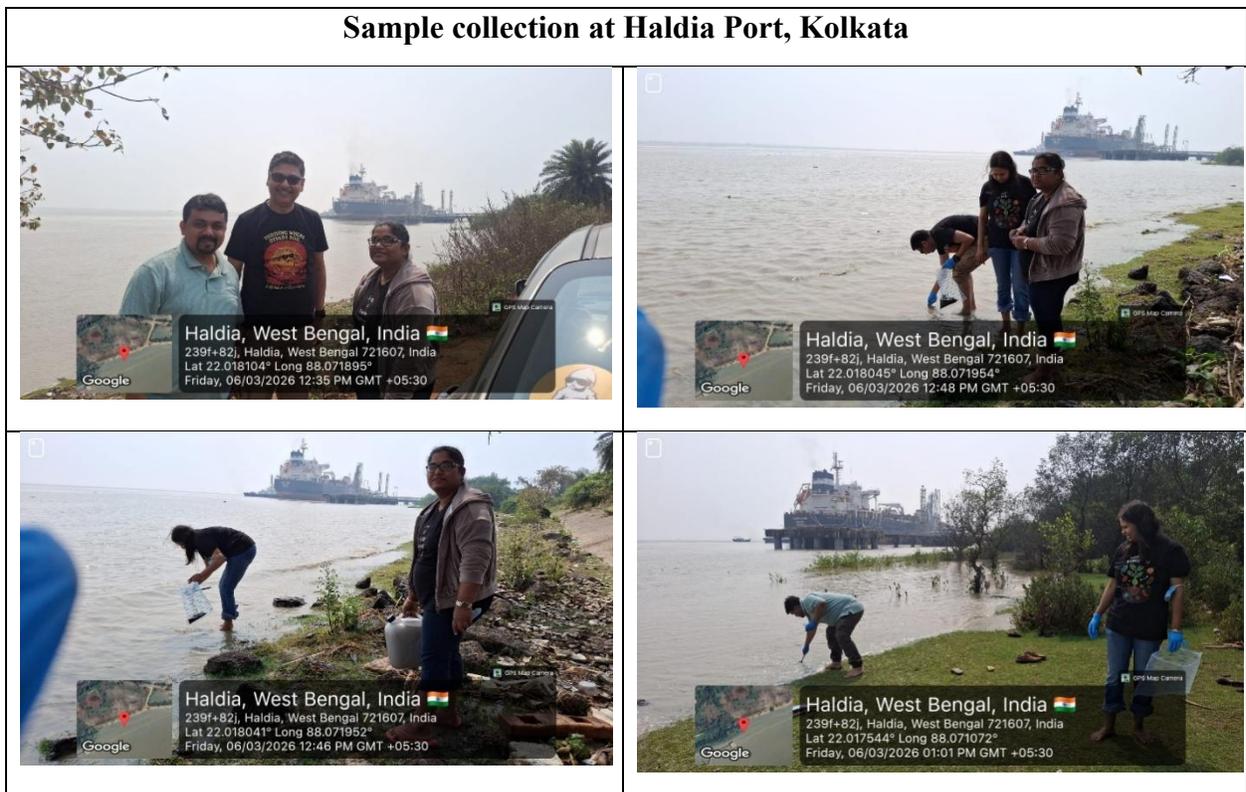
**PARTICIPANTS: Dr. Milind Mohan Naik and Dr. Lakshangy Suresh Charya, Assistant
Professors, SBSB, Goa University**

**Dr. Abhrajyothi Ghosh, Associate Professor, Bose Institute and PhD students (Ms.
Sriparna Mondal and Ms. Sangita Mondal)**

Title of the Event	Water and Sediment Sample collection along Haldia Port Trust, Haldia, Kolkata.
Project Title and Funding agency	Project Title: Microplastics in Ballast water as an emerging vector for bacterial pathogens and harmful algal blooms species: a potential risk to the marine environment and human health. Funding Agency: DBT GOVERNMENT OF INDIA Project Sanction No: BT/PR45855/BCE/8/1697/2022
Date and Time	5 – 9 th March 2026,
Mode of conduct	Offline
School/ Directorate/ Section	Microbiology Discipline, SBSB, Goa University in collaboration with Bose Institute, Kolkata
Details of the Participants	Goa University: Dr. Milind Naik & Dr. Lakshangy Charya Bose Institute: Dr. Abhrajyothi Ghosh,

<p>The objective</p>	<p>The main objective of the field visit was to collect water and sediment samples from the Hooghly Estuary (Ganges River) at Haldia Port for the analysis of microplastics and microplastic-associated bacterial communities.</p>
<p>Description of the activity</p>	<p>Field Sampling and Laboratory Processing</p> <p>1) Travel and Accommodation On 5 March 2026, the research team travelled from Goa to Kolkata, arriving at approximately 4:00 PM. During the visit, accommodation was arranged at the Bhagirathi Guest House of the S. N. Bose Institute of Basic Sciences, Kolkata.</p> <p>2) Study Area Field sampling was conducted at Haldia Port, located along the Hooghly Estuary of the Ganges River in West Bengal, India. The site is an important estuarine and port region influenced by industrial and shipping activities, making it a relevant location for studying microplastic contamination and associated microbial communities.</p> <p>3) Field Sampling On 6 March 2026, the team departed for Haldia Port at 8:30 AM and reached the sampling site at approximately 11:30 AM. At the study site, water and sediment samples were collected from multiple locations along the Haldia Port region. A total of 4 sediment samples and 4 water samples were collected for further laboratory analysis. After completing the sampling activities, the team returned to the S. N. Bose Institute of Basic Sciences at approximately 7:30 PM.</p> <p>4) Laboratory Processing for Microplastic Separation Laboratory processing of the collected samples began on 7 March 2026. Both water and sediment samples were processed for the separation of microplastic particles. The separation process involved the use of sieves with multiple mesh sizes to fractionate particles of different size ranges. The mesh sizes used were 0.1 mm, 0.2 mm, 0.35 mm, 1 mm, 2 mm, 4 mm and 5 mm. This step allowed the isolation of microplastic particles across a wide range of size fractions.</p> <p>5) Filtration of Water Samples Water samples were further subjected to membrane filtration using 0.2 µm nitrocellulose filter papers. This procedure was carried out to enable the detection and analysis of microplastics smaller than 50 µm.</p> <p>6) Isolation of Microplastic-Associated Bacteria In addition to microplastic separation, water and sediment samples were processed for the isolation of bacteria associated with microplastic particles. The samples were inoculated on Nutrient media. These procedures were carried out on 7 and 8 March 2026.</p> <p>7) Return Travel On 9 March 2026, the team departed from Kolkata to Goa and arrived in Goa at approximately 12:30 PM, marking the completion of the field visit and initial laboratory processing phase. We have brought we samples (water and sediments) that will be processed at Goa University.</p>

<p>Benefit/Key outcome of the event</p>	<ol style="list-style-type: none"> 1) A significant portion of the objectives of the DBT project has been successfully completed. 2) Following the collection of water and sediment samples from Haldia Port, it is now possible to conduct a comparative analysis of microplastic pollution between Mormugao Port Trust (MPT), Goa, and Haldia Port, West Bengal. 3) The collected samples will also enable a comparative study of microplastic-associated bacterial communities between MPT, Goa, and Haldia, West Bengal. 4) Metagenomic analysis of water and sediment samples are in process to study community structure and MDR bacterial pathogens. 5) Discussions were also held regarding potential future research collaborations.
<p>Enclosure</p>	<p>Geotagged Photos of Sample collection (water and sediment samples) at Haldia Port and Sample Processing at Bose Institute, Kolkata.</p>

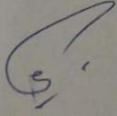


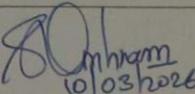


Sample processing at Bose Institute, Kolkata





Signature: 
 Faculty participant: Dr. Milind Naik
 Designation: Assistant Professor


 Signature
 Date: 10/03/2026
 Dean, SBSB

Faculty participant: Dr. Lakshmy Charya
 Designation: Assistant Professor
 Date: 10/03/2026

Seal of the School
 Dean of School of Biological Sciences
 & Biotechnology
 Goa University, Goa - 403206

Microbiology Programme
 School of Biological Sciences & Biotechnology
 Goa University, Science Block E,
 Taleigao Plateau, Goa - 403206

