

Goa University

Discipline of Marine Microbiology, School of Earth, Ocean and Atmospheric Sciences

Report on field trips and industrial visits for Marine Microbiology students

1. Title of the Event/Activity/program	Field trips and industrial visits for Marine Microbiology students
2. Date and Time	Day1: 15/02/2023, 9 am to 6 pm Day 2: 17/03/2023, 9 am to 6 pm Day 3: 18/03/2023, 1 pm to 5 pm
3. Mode of conduct (Physical/Online)	Physical
4. School/ Directorate/ Section	School of Earth, Ocean and Atmospheric Sciences
5. Collaborating Agency/School/Directorate	NA
6. Detail of the Resource Person (Judges)	NA
7. Number of Faculty attended/participated	3
8. Number of Student attended / participated	Day 1: 17 Day 2: 32 Day 3: 33
9. No. of external students/faculty/other participants	Nil
10. The objectives of the Program/activity/event	To provide hands-on experience in the collection of water and sediment samples from the marine environment. To provide knowledge about the ongoing research in national research institutes, and the functioning of microbiology-related industries and industrial processes.
11. Description of the Program/activity/event	A field trip was conducted on three discrete days for 35 students of M.Sc. Marine Microbiology (Part I & II) on

	<p>the 15th of February, 17th and 18th of March 2023 respectively.</p> <p>Day 1 (15th Feb 2023)</p> <p>A field trip was arranged for students of MSc Marine Microbiology Part 1 as it is required to complete a Master's degree in Marine Microbiology. On 15 February 2023, Dr Chanda Berde and Dr. Diviya Vaigankar along with non-teaching staff Ms. Vaishali Merchant accompanied 17 students on the trawler trip from Malim jetty. A day in advance of the field trip, proper planning and preparation of media, glassware, reagents, etc. for the sampling and experiments to be carried out was done. Students boarded the trawler at 10.00 am. The first sampling was done a few meters away from the Malim jetty where surface and near-bottom water samples were collected to carry out various analysis. Then the next 3 stations were covered and samples collected in similar way. The four stations being Malim jetty, offshore Miramar, Ribandar, and Old Goa. Upon reaching each stations, latitude and longitude, the temperature of the water and sediment, and turbidity were noted. After finishing the sampling at the four stations all the students returned to the laboratory and carried out the analysis of the samples collected under the guidance of the teachers. All the experiments were performed and obtained results were recorded.</p> <p>On day 2 (17/03/ 2023) the students were first taken to ICAR-CCRI, Old Goa. Students were acquainted with important research activities undertaken at ICAR-CCRI in the field of agriculture, poultry farming and aquaculture. This was followed by a visit to the Goa dairy industry, where students witnessed different processes including major microbiological techniques involved in the processing of milk and milk products from procurement to distribution. The field trip on Day 1 ended with a final visit to Goan Bounty – a frozen fish processing factory. The various procedures involved in the processing of frozen fish and the microbiological tests conducted were revealed to students. The accompanying teachers were Dr. Chanda Berde and Dr. Diviya Vaigankar.</p> <p>Day 3 visit on 18th March 2023 was to the coastal intertidal region (Anjuna, Goa). Students learned about the biodiversity found in the intertidal pool regions of Anjuna Beach. The accompanying teachers were Dr. Varada Damare and Dr. Diviya Vaigankar.</p>
<p>12. Benefit/Key outcomes of the Program/activity/event</p>	<ol style="list-style-type: none"> 1. Students learned surface water, deep seawater, and sediment sampling techniques as well as physico-chemical and microbial analyses of the samples which are the basic techniques in marine microbiology. 2. Students got acquainted with the ongoing research in the national research institute of ICAR-CCRI, Old Goa. 3. They also learned the functioning of the microbiology-related industry -Goa Dairy involved in processing milk

	and milk products. 4. Gained knowledge of biodiversity found in the intertidal pool region of Anjuna Beach.
13. Enclosures with report	Geo-tag photos, Attendance, report are attached.

Signature:

Names of coordinator:

Dr. Chanda Berde

*Chanda
25/4/23*

Dr. Diviya Vaigankar

*Diviyankar
25/4/23*

Designation: Assistant Professor

Signature

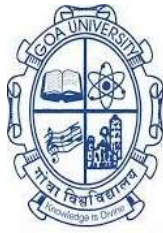
*C. U. Rivonker
25/4/23*

Dean, SEOAS

Seal of the School

Dr. C. U. Rivonker
Senior Professor and Dean,
School of Earth, Ocean
& Atmospheric Sciences,
Goa University,
Goa - 403 206.

Date:



Goa University

Discipline of Marine Microbiology, School of Earth, Ocean and Atmospheric Sciences

Report on field trips and industrial visits for Marine Microbiology students

Marine Microbiology program of SEOAS, conducted field trips and industrial visits for M.Sc. students on three discrete days. First trip was conducted on 15th of February, where 17 student of M.Sc. Part I participated; second trip was an industrial cum research institute visit on 17th March 2023 where 32 students of Part I and II participated while the third visit was to an intertidal zone, on the 18th of March 2023 where 33 students participated. The objectives of the visits were to provide hands-on experience in the collection of water and sediment samples from the marine environment and its analysis; to provide knowledge about the ongoing research in national research institutes, and the functioning of microbiology-related industries and industrial processes.

On 15 February 2023, Dr Chanda Berde and Dr. Diviya Vaigankar along with non-teaching staff Ms. Vaishali Merchant accompanied 17 students on the trawler trip from Malim jetty. A day in advance of the field trip, proper planning and preparation of media, glassware, reagents, etc. for the sampling and experiments to be carried out was done. Students boarded the trawler at 10.00 am. The first sampling was done a few meters away from the Malim jetty where surface and near-bottom water samples were collected to carry out various analysis. Then the next 3 stations were covered and samples collected in similar way. The four stations being Malim jetty, offshore Miramar, Ribandar, and Old Goa. Upon reaching each stations, latitude and longitude, the temperature of the water and sediment, and turbidity were noted. After finishing the sampling at the four stations all the students returned to the laboratory and carried out the analysis of the samples collected under the guidance of the teachers. All the experiments were performed and obtained results were recorded.

On day 2 (17/03/ 2023) the students were first taken to ICAR-CCRI, Old Goa. Students were acquainted with important research activities undertaken at ICAR-CCRI in the field of agriculture, poultry farming and aquaculture. This was followed by a visit to the Goa dairy industry, where students witnessed different processes including major microbiological techniques involved in the processing of milk and milk products from procurement to distribution. The field trip on Day 2 ended with a final visit to Goan Bounty – a frozen fish processing factory. The various procedures involved in the processing of frozen fish and the microbiological tests conducted were revealed to students. The accompanying teachers were Dr. Chanda Berde and Dr. Diviya Vaigankar.

Day 3 visit on 18th March 2023 was to the coastal intertidal region (Anjuna, Goa). Students learned about the biodiversity found in the intertidal pool regions of Anjuna Beach. The accompanying teachers were Dr. Varada Damare and Dr. Diviya Vaigankar.

Students learned surface water, deep seawater, and sediment sampling techniques as well as

physico-chemical and microbial analyses of the samples which are the basic techniques in marine microbiology. Students got acquainted with the ongoing research in the national research institute of ICAR-CCRI, Old Goa. They also learned the functioning of the microbiology-related industry - Goa Dairy involved in processing milk and milk products. Gained knowledge of biodiversity found in the intertidal pool region of Anjuna Beach.

Signature:

Names of coordinator:

Dr. Chanda Berde *Chanda*
25/4/23

Dr. Diviya Vaigankar *Diviyavankar*
25/4/23

Designation: Assistant Professor

Signature

Dean, SEOAS

Seal of the School

Date:

C. U. Rivonker
25.4.2023

Dr. C. U. Rivonker
Senior Professor and Dean,
School of Earth, Ocean
& Atmospheric Sciences,
Goa University,
Goa - 403 206.

SEOAS, Goa University

Attendance record of M.Sc. (Part I and II) Marine Microbiology students for trawler field trip to Mandovi estuary.

Sr. No.	Roll no.	Name of student	Class	15/02/2023
1	/22PO390001	Akhila Pednekar	M.Sc. I	<i>[Signature]</i>
2	/22PO390002	Anisha Gaunekar		<i>[Signature]</i>
3	/22PO390003	Anushka Naik		<i>[Signature]</i>
4	/22PO390004	Gayatri Kerkar		<i>[Signature]</i>
5	22PO390005	Harish Singha		<i>[Signature]</i>
6	22PO390006	Omkar Kamble		<i>[Signature]</i>
7	/22PO390007	Minal Bhomkar		<i>[Signature]</i>
8	/22PO390008	Nandita Naik		<i>[Signature]</i>
9	22PO390009	Premjit Gaunkar		<i>[Signature]</i>
10	/22PO390010	Prerana Mulgaonkar		<i>[Signature]</i>
11	/22PO390011	Sakshi Govekar		<i>[Signature]</i>
12	/22PO390012	Sanisha Saturkar		<i>[Signature]</i>
13	/22PO390013	Sejal Fadte		<i>[Signature]</i>
14	/22PO390014	Shaina Rebello		<i>[Signature]</i>
15	/22PO390015	Sidhaee Gawande		<i>[Signature]</i>
16	/22PO390016	Vaishali Parab vaishnavi		<i>[Signature]</i>
17	21PO39002	Aniket Singh	M.Sc. II	<i>[Signature]</i>

Faculty:

Dr. Chanda Berde

[Signature]

Dr. Divya Vaigankar

[Signature]



[Signature]

Dean 2-5-2023

SEOAS

SEOAS, Goa University

Attendance record of M.Sc. (Part I) Marine Microbiology students for Vagator beach and Industrial visit in Goa.

Sr. No.	Roll no.	Name of student	Class	17/03/2023	18/03/2023
1	/22PO390001	Akhila Pednekar	M.Sc. I	<i>P</i>	<i>P</i>
2	/22PO390002	Anisha Gaunekar		<i>Aunekar</i>	<i>Aunekar</i>
3	/22PO390003	Anushka Naik		<i>Anushka</i>	<i>Anushka</i>
4	/22PO390004	Gayatri Kerker		<i>Kerker</i>	<i>Kerker</i>
5	22PO390005	Harish Singha		<i>Harish</i>	<i>Harish</i>
6	22PO390006	Omkar Kamble		<i>O</i>	<i>O</i>
7	/22PO390007	Minal Bhomkar		<i>Bhomkar</i>	<i>Bhomkar</i>
8	/22PO390008	Nandita Naik		<i>Naik</i>	<i>Naik</i>
9	22PO390009	Premjit Gaunkar		<i>Gaunkar</i>	<i>Gaunkar</i>
10	/22PO390010	Prerana Mulgaonkar		<i>Mulgaonkar</i>	<i>Mulgaonkar</i>
11	/22PO390011	Sakshi Govekar		<i>Govekar</i>	<i>Govekar</i>
12	/22PO390012	Sanisha Satarkar		<i>Satarkar</i>	<i>Satarkar</i>
13	/22PO390013	Sejal Fadte		<i>Fadte</i>	<i>Fadte</i>
14	/22PO390014	Shaina Rebello		<i>Rebello</i>	<i>Rebello</i>
15	/22PO390015	Sidhaee Gawande		<i>Gawande</i>	<i>Gawande</i>
16	/22PO390016	Vaishali Parab <i>vaishali</i>		<i>Parab</i>	<i>Parab</i>

Faculty:

Dr. Chanda Berde *Chanda*

Dr. Divya Vaigankar *Divya Vaigankar*



Chanda
Dean
25/3/23
SEOAS



Aquaculture pond at ICAR-CCRI, Old Goa



Goa Dairy, Ponda



Sampling at rocky shore of Anjuna beach



On board the trawler



Sampling during trawler trip from Old Goa to Offshore Miramar