

SEMINARS & TRAINING PROGRAMS ORGANIZED UNDER THE DBT-BUILDER PROGRAM 2023-24

1. DBT-BUILDER Sponsored Interdepartmental Workshop

Topic: The Natural Science of Computational Biology from organisms to precision medicine

Organizer: PG Department of Botany, Lady Brabourne College

Resource Person: Dr. Sayak Ganguli, Assistant Professor, Department of Biotechnology, St. Xavier's College, Kolkata

Date: 30.03.2023

Beneficiaries: 12 students of PG Semester II of Physics Department, 13 students of PG Semester IV of Chemistry Department



Dr. Sayak Ganguli conducting the interdepartmental workshop on computational biology.

2. DBT-BUILDER Sponsored Hands-on Workshop

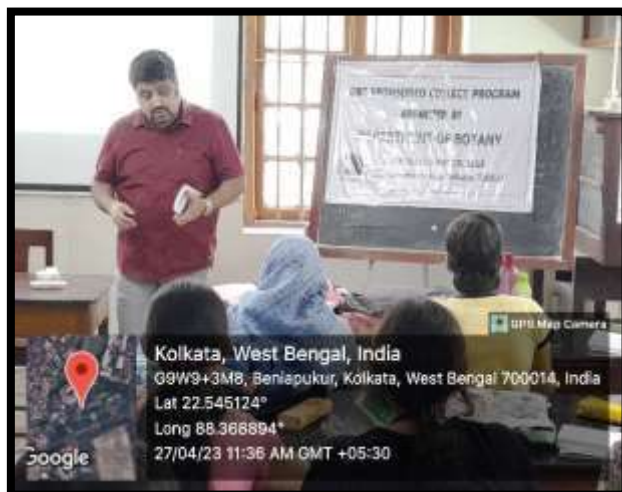
Topic: Restriction Digestion of DNA

Organizer: PG Department of Botany, Lady Brabourne College

Resource Person: Dr. Sayak Ganguli, Assistant Professor, Department of Biotechnology, St. Xavier's College, Kolkata

Date: 27.04.2023

Beneficiaries: 14 students of PG Semester II of Botany Department



Few glimpses of the workshop

3. DBT-BUILDER Sponsored Seminar

Topic: Effects of Climatic amelioration on Biodiversity and future of the Biosphere

Organizer: PG Department of Botany, Lady Brabourne College

Resource Person: Prof. Abhaya Prasad Das, Retd. Professor, University of North Bengal

Date: 11.05.2023

Beneficiaries: 12 students of UG Semester VI, 12 students of PG Semester II, 11 students of PG Semester IV of Botany Department



Professor Abhaya Prasad Das delivering his lecture during the seminar

4. DBT-BUILDER Sponsored One Day Seminar

Topic: Opportunities and Career Prospects in Packaging

Organizer: PG Department of Microbiology

Date: 12.05.2023

Resource Person: Mr. Bidhan Das, Deputy Director and Branch Head, Indian Institute Of Packaging, Kolkata Centre, an autonomous body under Ministry of Commerce and Industry, Govt of India.

Number of beneficiaries: 11 Students of UG Semester II, 12 Students of UG Semester IV, 20 students of UG Semester VI, 22 students of PG Semester II, 5 Students PG Diploma (Food and Drug Safety), 1 JRF and 1 SRF and 5 Faculty Members of the Department of Microbiology. (GENERAL 46, OBC 11, SC 18, ST 2)



Glimpses of the lecture



Audience at the seminar

5. DBT-BUILDER Sponsored Workshop

Topic: Real-time PCR for Gene expression analysis

Organizer: PG Department of Botany, Lady Brabourne College

Resource Person: Dr. Tanmoy Halder, Research Associate, University of Calcutta

Date: 15.05.2023

Beneficiaries: 12 students of PG Semester II and 10 students of PG Semester IV of Botany Department



Few glimpses of the workshop conducted by Dr. Tanmoy Halder on RT-PCR

6. DBT-BUILDER Sponsored One Day Seminar

Topic: Retrovirus

Organizer: PG Department Of Microbiology

Date: 24.05.2023

Resource Person: Dr. Subhajit Biswas, Principal Scientist & Head, Associate Professor, Academy of Scientific and Innovative Research, Infectious Diseases & Immunology Division, IICB

Number of beneficiaries: 14 PG Sem-IV Students of Microbiology (General 9, SC 5)

The flyer features a background image of a building. At the top, a blue banner reads "DBT Builder Sponsored One-Day Seminar". Below this, on the left, is a portrait of Dr. Subhajit Biswas. To his right, text states "Organized by Advanced Research Centre Department of Microbiology Lady Brabourne College" next to the IICB logo. A green box on the right contains the topic "RETROVIRUS", the date "24th May, 2023", time "3:00 pm", and venue "Department of Microbiology, Lady Brabourne College". At the bottom left, a green box lists the speaker: "Our Esteemed Speaker: Dr. Subhajit Biswas, Principal Scientist & Head, Associate Professor, Academy of Scientific and Innovative Research, Infectious Diseases & Immunology Division, IICB". The bottom center lists the organizing committee: "Organizing Committee: Convenor: Dr. Mahuya Mukhopadhyay; Members: Dr. Madhulika Gupta, Dr. Sudipta Paul Bhattacharya, Dr. Soma Pal Saha, Dr. Soumi Guha Polley, Dr. Piya Ghosh, Dr. Somtirtha Kool Banerjee, Ms. Soumi Biswas, Ms. Ishani Chatterjee". The bottom right lists the chief patron: "Chief Patron: Prof. Siuli Sarkar, Principal, Lady Brabourne College".

Flyer for the Seminar



Dr. Subhajit Biswas delivering his lecture

7. DBT-BUILDER Sponsored Workshop

Topic: Hands-on training on techniques and methods of Palaeobotany and Palynology

Organizer: PG Department of Botany, Lady Brabourne College

Resource Person: Dr. Sandip More, Assistant Professor, Department of Botany, Krishnanath College and Dr. Mahasin Ali Khan, Assistant Professor, Department of Botany, Sidho-Kanho Birsha University

Date: 06.06.2023- 09.06.2023

Beneficiaries: 14 students of PG Semester II of Botany Department



Few glimpses of the Hands-on training

8. DBT-BUILDER Sponsored Online Seminar

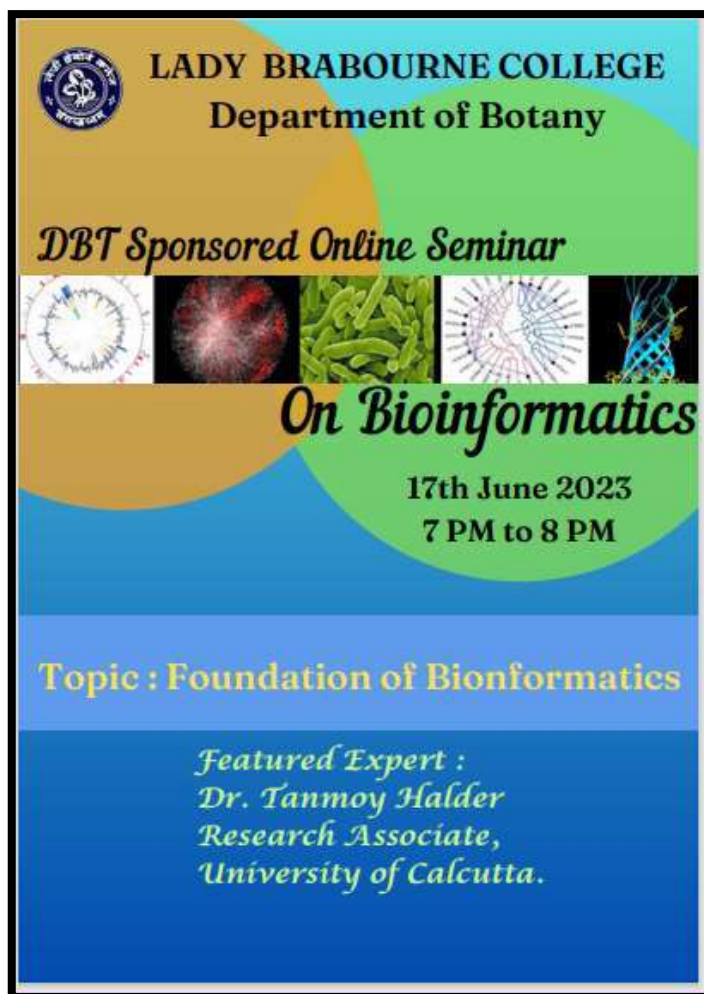
Topic: Foundation of Bioinformatics

Organizer: PG Department of Botany, Lady Brabourne College

Resource Person: Dr. Tanmoy Halder, Research Associate, University of Calcutta

Date: 17.06.2023

Beneficiaries: 14 PG Semester II students of Botany Department



Flyer of the online seminar

9. DBT-BUILDER Sponsored One Day Seminar

Topic: Human Micro biome and It's Effect

Organizer: PG Department of Microbiology

Date: 22.09.2023

Resource Person: Prof. Sanjay Ghosh, Professor of Department of Biochemistry, University of Calcutta.

Number of beneficiaries: 24 Students of UG Semester I, 16 Students of UG Semester V, 7 students of PG Semester III, 4 students of UG Semester III, 9 Faculty Members of Department of Microbiology. (General 40, SC 14, ST 3, OBC 5)



Prof. Ghosh delivering his lecture



Audience at the seminar



Dr. Soumi Guha Polley delivering the vote of thanks

10. DBT-BUILDER sponsored 3 day training program for M.Sc. & B.Sc. Zoology students and Teachers

Date:	31.10.2023, 1.11.2023 and 7.11.2023
Organizer:	Department of Zoology, Lady Brabourne College
Topic:	Sampling Tools and Techniques of Terrestrial Habitat
Resource Persons:	1. Dr. Chaiti Banerjee, Assistant Mistress in Life Sciences, Bidhannagar Govt. High School, Salt Lake, Kolkata 2. Dr. Rudra Das, Assistant Professor, Department of Zoology, Kishore Bharati Bhagini Nivedita College, Behala, Kolkata 3. Dr. Arunava Mukherjee, Assistant Professor, Department of Zoology, Ramakrishna Mission Vivekananda Centenary College, Rahara

Number of Beneficiaries: 15 PG Semester III & UG Semester V Students and 5 teachers of the Department of Zoology

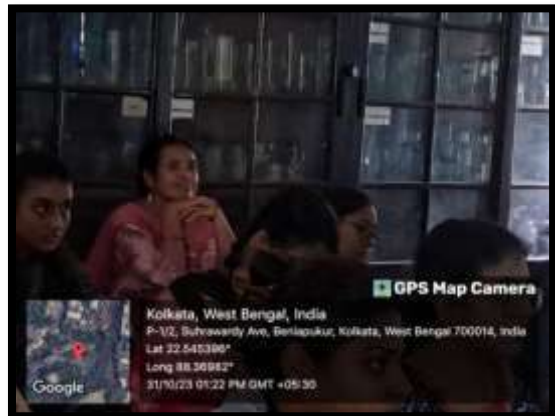
The primary **objective** of this program was to provide students with a comprehensive understanding of various sampling techniques which are used to understand the forest's flora and fauna.

The training program was structured to cover the following key topics:

- Concept of abundance, relative abundance, frequency, relative frequency, index of species evenness and dominance.
- Concept of diversity indices: Simpson's Diversity Index, Shannon – Weiner diversity index
- Rank abundance curve formation from the data obtained.
- Taxonomy of butterfly and their habitat, behavior and climate
- Life cycle of butterfly and differentiation between butterfly and moth
- Census method: line transect / belt transect (for butterfly)
- Bird watching : different types of birds found in India
- Census method: line transect method and point count method (for birds)



Session with Dr. Chaiti Banerjee



Teachers and Students attending the session

1.11.2023



Head of the Department introducing Dr. Rudra Prasad Das to the students



Session with Dr. Rudra Prasad Das



On field training of students by Dr. Rudra Das

7.11.2023



At the training session with Dr. Arunava Mukherjee

11. DBT-BUILDER sponsored 1 day training program for M.Sc. & B.Sc. Zoology students

Date: 8.11.2023
Organizer: Department of Zoology, Lady Brabourne College
Topic: Study and identification of parasites in Vertebrates (Poultry Bird)
Resource Persons: Dr. Minakshi Mazumdar, SACT, Department of Zoology, Vidyasagar College, Kolkata
Number of Beneficiaries: 15 PG Sem III & UG Sem V Students and 5 teachers of the Department of Zoology





Dr. Minakshi Mazumdar at the training session



Students in the laboratory during the training session

12. DBT-BUILDER Sponsored Seminar

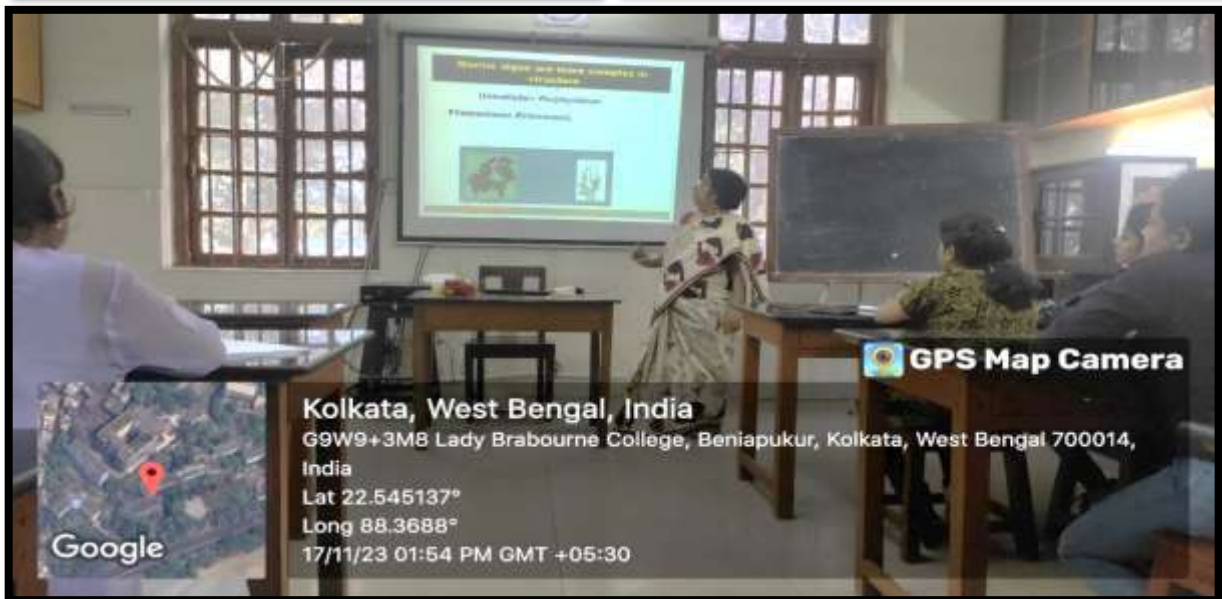
Topic: Cyanobacteria and Algae: Origin, Phylogeny and Diversity

Organizer: PG Department of Botany, Lady Brabourne College

Resource Person: Retd. Prof. Ruma Pal, Department of Botany, University of Calcutta

Date: 17.11.2023

Beneficiaries: 15 PG Semester I students of Botany Department



Professor Ruma Pal delivering her lecture during the seminar

13. National Workshop on “R Programming for Marine & Fishery Data Management”

Jhinook Mitra (Junior Research Fellow, Department of Zoology) attended the workshop for training on sampling of Zooplankton and Data Management at Department of Marine Biology, Microbiology & Biochemistry, School of Marine Sciences, Cochin University of Science and Technology from 13-17 November, 2023.



14. DBT-BUILDER Sponsored Workshop

Topic: Western Blot

Organizer: PG Department of Botany, Lady Brabourne College

Resource Person: Dr. Tanmoy Halder, Research Associate, University of Calcutta

Date: 22.11.2023 & 23.11.2023

Beneficiaries: 14 students of PG Semester II of Botany Department



Glimpses of the Workshop

15. DBT-BUILDER Sponsored Outreach Program

Topic: Plant Tissue Culture

Organizer: PG Department of Botany, Lady Brabourne College

Resource Person: Dr. Debleena Roy, Assistant Professor, PG Department of Botany, Lady Brabourne College

Date: 20.12.23

Beneficiaries: 9 PG students of City College



Outreach program conducted by Dr. Debleena Roy

16. DBT-BUILDER Sponsored Workshop

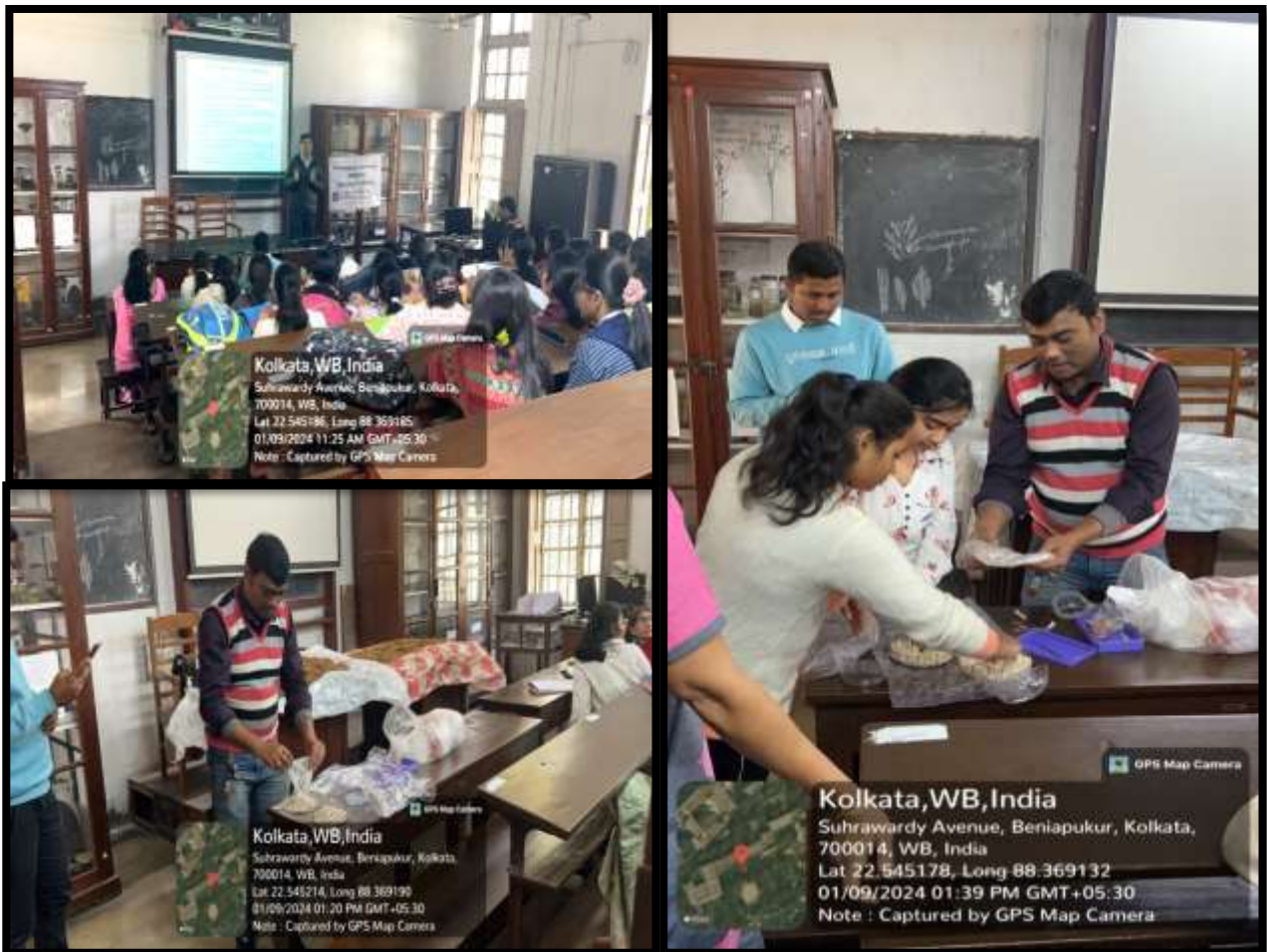
Topic: Mushroom Cultivation

Organizer: PG Department of Botany, Lady Brabourne College

Resource Person: Dr. Nilanjan Chakraborty, Assistant Professor, Department of Botany, Scottish Church College and Mr. Anujit Das, Entrepreneur

Date: 09.01.2024

Beneficiaries: 32 UG & PG students of Department of Botany



Glimpses of the workshop

17. DBT-BUILDER Sponsored Workshop

Topic: Urea induced protein denaturation studies by Spectrofluorimeter

Organizer: Department of Microbiology

Date: 17.01.2024

Resource Person: Dr. Soumi Guha Polley, Assistant Professor, Department of Microbiology, Lady Brabourne College

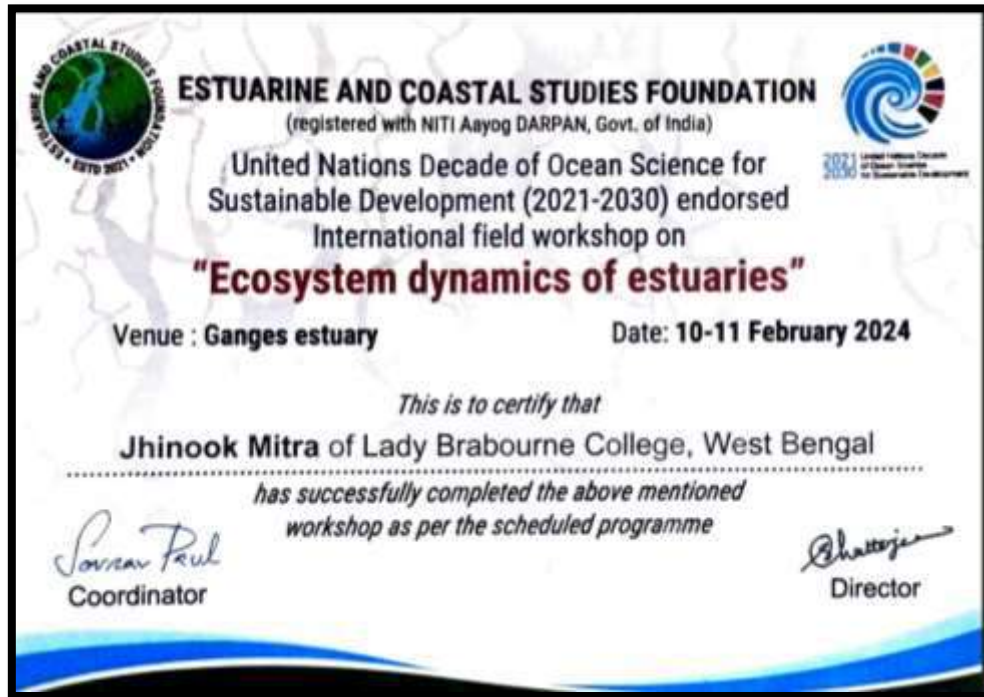
Number of beneficiaries: 19 M.Sc. Semester I Students of Microbiology Department (General 14, SC 3, OBC 2)



Students at the workshop

18. International Field Workshop

Jhinook Mitra (Junior Research Fellow, Department of Zoology) attended a workshop on Ecosystem dynamics of estuaries from 10-11 February, 2024 for training on sampling of Zooplankton organized by Estuarine and Coastal Studies Foundation



19. DBT-BUILDER Sponsored One Day Seminar

Topic: Women in Science

Organizer: PG Department of Microbiology

Date: 11.03.2024

Resource Person: Dr. Ishani Deb, Assistant Professor, Department of Biochemistry, University of Calcutta

Number of beneficiaries: 17 Students of UG Semester I, 8 Students of PG Semester IV, 12 Students of PG Semester I, 5 Faculty Members, 1 SRF and 1 JRF of Department of Microbiology. (General 31, SC 8, ST 1, OBC 4)



Dr. Deb being felicitated by Shreyasi Biswas, Senior Research Fellow

Ayisha Mahmood, PG Semester IV (2022-24) Student introducing Dr. Deb



Dr. Ishani Deb delivering her lecture

20. DBT-BUILDER Sponsored One Day Seminar

Topic: Brain Function and Addiction

Organizer: Department Of Microbiology

Date: 12.03.2024

Resource Person: Prof. Anindya Ghosh Roy, Scientist V/Additional Professor (Cells and Molecules Systems and Behavior), National Brain Research Centre

Number of beneficiaries: 10 Students of UG Semester I, 22 Students of PG Semester IV, 13 students of UG Semester VI, 12 students of PG Semester I, 6 Faculty Members, 1 SRF of Department of Microbiology (General 43, SC 15, ST 1, OBC 8)



Dr. Anindya Ghosh Roy delivering his lecture



Audience at the seminar

21. DBT-BUILDER sponsored Training Program and Project work

Organizer: PG Department of Botany

Date: April – June, 2023

Beneficiaries: 3 PG Semester IV students of Department of Botany

- (I) **Name of the student:** Udisha Datta, 2023
Name of Supervisor: Dr. Debleena Roy
Topic: *In vitro* propagation of *Mentha piperita* L. with special reference to Biochemical Analysis

- (II) **Name of the student:** Shibangi Pandey, 2023
Name of Supervisor: Dr. Debjani Chowdhury Nath
Topic: Evaluation of Genotoxic Effects of *Capsicum annuum* var. *annuum* (Dried Red Chillies) using *Allium cepa* Assay.

- (III) **Name of the student:** Anusree Bhowmick, 2023
Name of Supervisor: Dr. Suchita Sinha
Topic: Salicylic Acid induced Drought Stress Tolerance in Mung Bean
(*Vigna Radiata* L.)

22. DBT-BUILDER Sponsored Summer Internship

Organizer: Department of Microbiology

Period: July - September, 2023

A Summer Internship was organized by the Department of Microbiology for the Post Graduate students of Microbiology utilizing the Infrastructure established under the DBT-BUILDER Programme. Following is the list of the Projects on which the students were trained and submitted Project Reports.

Name of the PG student	Title of the Project	Name of Project Supervisor
Anushree Paul	Screening and isolation of heavy metals resistant soil bacteria from Sundarban mangrove area	Dr. Piya Ghosh
Arpita Das	Biosynthesis of silver nanoparticles using endophytic bacteria	Dr. Mahuya Mukhopadhyay
Arpita Naskar	Isolation, characterization and bioremediation against heavy metals of plant growth promoting endophytic bacteria from <i>Avicennia</i> sp. of Sundarban Biosphere Reserve (south)	Ms. Ishani Chatterjee
Ayisha Mahmood	Isolation, characterization of phosphate solubilizing bacteria and optimization of phosphatase enzyme from dssp2303	Dr. Soma Pal Saha
Barbie Chaudhury	Textile dye effluent remediation with brackish water cyanobacteria	Dr. Madhulika Gupta
Divyani Paul	Harnessing the growth promoting potential of rhizospheric bacteria from soils of Sunderban Biosphere Reserve, West Bengal	Dr. Mahuya Mukhopadhyay
Shamsia Rizvi	Endophytes isolation and plant growth promoting potential for prompting the growth of <i>Lycopersicon esculentum</i>	Ms. Ishani Chatterjee
Shreya Bhuiya	Isolation and characterization of nitrogen fixing microorganisms and production of biomass	Dr. Soma Pal Saha
Shreyasi Paul	Isolation and screening of amylase producing bacteria from Sundarban mangrove region	Dr. Soumi Guha Polley
Shruti Das	Remediation of textile dyes by brackish water cyanobacteria	Dr. Madhulika Gupta
Sima Patra	Isolation of cellulase producing bacteria from Sundarban soil	Dr. Soumi Guha Polley
Sneha Kanjilal	Isolation of protease producing bacteria from Sundarban soil	Dr. Soumi Guha Polley
Sreyasi Sinha	Isolation, screening and antimicrobial activity of antibiotic producing bacteria obtained from soil samples	Dr. Sudipta Paul Bhattacharya
Srija Chakraborty	Biodegradation of azo dyes by potent bacterial strains isolated from soil samples of Sundarbans mangrove areas	Dr. Piya Ghosh
Tamoghna Dey	Isolation and secondary screening of antimicrobial-producing microorganisms from soil samples of Sundarban	Dr. Sudipta Paul Bhattacharya
Tamosa Mondal	Isolation and characterization of plastic degrading microorganisms from mangrove soil	Ms. Soumi Biswas

23. DBT-BUILDER Sponsored Training Programme & Project Work for PG Students

Organizer: Department of Microbiology

Date: February-March, 2024 (2 months)

Beneficiaries: PG Sem IV Students

A training programme was organized for the present Post Graduate students of the Department of Microbiology who worked on the following Projects

Name of the PG Student	Title of the Project
Arpita Naskar	Isolation and characterization of plant growth promoting rhizosphere bacteria from Sundarban Biosphere Reserve (south)
Ayisha Mahmood	Isolation, characterization of phosphate solubilizing bacteria and optimization of phosphatase enzyme from dssp2303
Shamsia Rizvi	Plant growth promoting rhizobacteria isolated from Sundarban Biosphere Reserve, West Bengal, India.
Srija Chaktaborty	Screening of potent bioremedial bacterial isolates from soil of Sundarban mangrove region in post-monsoon season for a sustainable mitigation of hazardous pollutants
Sneha Roychoudhury (M.Sc. Pass Student 2021-2023)	Exploring the Plant Growth Promoting potential of Endophytic Bacteria from the Sundarban Biosphere for future Bioprospecting in high salinity land economy across various mangrove species
Sanghamitra Chatterjee M.Sc. Semester III student) (St.Xavier's College)	Plant Growth promoting potentials of isolated bacterial endophytes from <i>Avicennia</i> sp. of Sundarban Biosphere Reserve (South)



Glimpses of the Training Program

24. DBT- BUILDER sponsored training program for M.Sc. Zoology Semester 4 students

Date: January – March, 2024
Organizer: Department of Zoology, Lady Brabourne College
Resource Persons: Dr. Sanjukta Mondal (Parui), Associate Professor
Department of Zoology, Lady Brabourne College
Number of Beneficiaries: 4 PG Students of Semester IV

Model: Fish (*Mystus* sp.)

Students were trained on the following techniques to study the effect of salinity stress:

1. Paraffin block preparation, preparation of tissue sections using microtome and staining.
2. Measurement of tissue sections using Stage and Ocular Micrometer.
3. Determination of total protein concentration by Lowry's method using a spectrophotometer
4. SDS-PAGE – to study the total protein profile.
5. Determination of Molecular weight of proteins using Gel Doc.
6. Cortisol hormone assay using ELISA kit.
7. Detection of heat shock protein using ELISA kit
8. Testosterone assay using ELISA kit.
9. Estradiol assay using ELISA kit.

Some glimpses of the training program



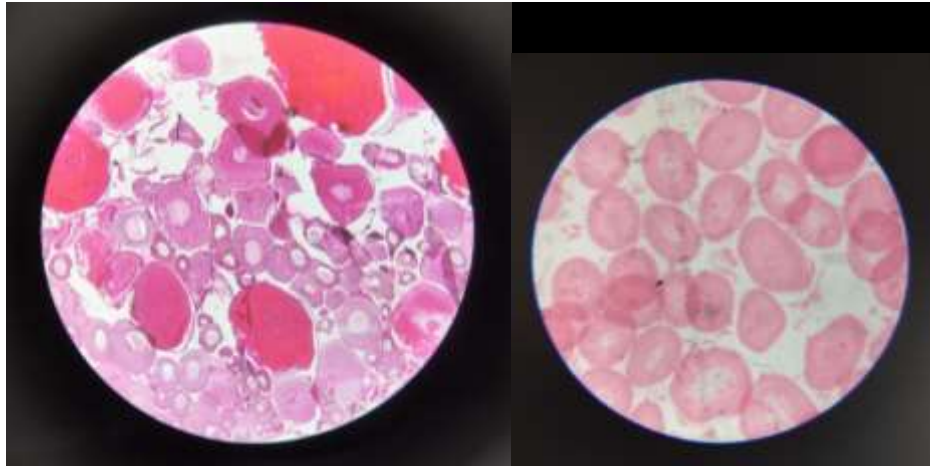
Experimental set up



Morphometric measurement, dissection and collection of tissue and blood from fish



Preparation of blocks for Microtomy & Cutting of tissue sections using a microtome



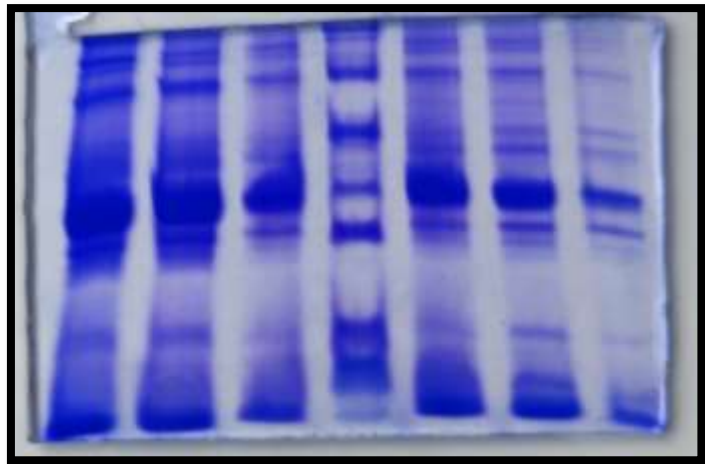
Staining of histological sections and measurements using Stage & Ocular Micrometer



Protein estimation using spectrophotometer



Performing gel electrophoresis (SDS-PAGE)



Results of gel electrophoresis (SDS-PAGE)



Students performing ELISA



ELISA Reader & the ELISA kit

DBT- BUILDER sponsored training program for M.Sc. Zoology Semester IV students

Date: January – March, 2024
Organizer: Department of Zoology, Lady Brabourne College
Resource Persons: Dr. Antara Kar & Sujata Dhar (Dutta), Assistant Professors
Department of Zoology, Lady Brabourne College
Number of Beneficiaries: 3 PG Students of Semester IV of the Department of Zoology

Model: Fish (*Anabas* sp.)

Experimental set up: A study on the effects of photoperiod alterations on gonad maturation of *Anabas testudineus*



Experimental set up





Students performing ELISA and the Testosterone ELISA Kit