

# Report on Summer Internship 2024

## Department of Zoology (UG+PG)

In accordance with the guidelines outlined in C.C.F, 2022 issued by the UGC with reference D.O. No.1-1/2021(QIP)(CBCS) dated 31.01.2023, the curriculum for the four-year B.Sc. (Major) program mandates the completion of a Summer Internship Programme. Accordingly, the second-semester B.Sc. (Major) students of the Department of Zoology (UG+PG) at Asutosh College has participated in the Summer Internship Programme in the month of June.

Details of the reports may be found below-

### INSTITUTIONAL and MENTOR DETAILS

<b>NAME OF THE INSTITUTE</b>	<b>LOCATION</b>	<b>DURATION</b>	<b>NAME OF INTERNAL MENTORS</b>
<b>Estuarine and Coastal Studies Foundation</b>	Howrah	10-06-2024 to 27-06-2024	Dr. Tapan Kumar Roy Dr. Subhabrata Ghosh
<b>SAVE THE FROGS! - Amphibian Conservation Organization</b>	Javadpur	06-06-2024 to 25-06-2024	Dr. Deep Chandan Chakraborty
<b>E-YUVA by BIRAC at Adamas University</b>	Barasat	10-06-2024 to 24-06-2024	Dr. Satabdi Nandi Dr. A.R. Md. Mustafizur Rahaman
<b>Environmental Epigenomics Laboratory at University of Calcutta</b>	Ballygunj Circular Road	10-06-2024 to 24-06-24	Dr. Sriparna Datta Ray

## PROGRAMME DETAILS

### 1. Estuarine and Coastal Studies Foundation



## Estuarine and Coastal Studies Foundation

(Registered under Sec 8 of Companies Act, 2013)

CIN : U80100WB2021NPL248544 Darpan ID: WB/2021/0297074

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Date: 29 May 2024

To  
The Principal,  
Asutosh College,  
University of Calcutta,  
92 S.P. Mukherjee Road,  
Kolkata-700026.

Kind attention: Dr. Tapan Kumar Roy (HoD of Zoology) and Shri. Rahul Mondal (HoD of Industrial Fish and Fisheries)

Subject: Acceptance of Summer Research Intern Students of 2024 under NEP

Dear Sir,

Greetings from the Estuarine and Coastal Studies Foundation (ECSF)!

Thanks for approaching the ECSF for the Summer Research Internship of the students of your prestigious institution. The ECSF has facilities and scientists to cater various interests of the Zoology and Industrial Fish and Fisheries. I request you to go through [www.ecsfindia.org](http://www.ecsfindia.org) for details and spread among the students.

Foundation would be hosting the students and the following syllabus would be practiced in the program.

1. Hands-on instrumentations (2 Days)
2. Environment characterisation (soil, water and air) local field. (1 Day)
3. Microscope and image analysis (1 Day)
4. Spectrophotometer analysis (2 Day)
5. Gel-Electrophoresis (2 Day)
6. Introduction to GIS and study area map preparation (2 Day)
7. Biostatistics introduction to CRAN R and univariate (2 Day)
8. PPT, CV and professional email preparations. (1 Day)
9. Doubt clearing and report preparation (1 Day)
10. Feedback and certification for the internship (1 day)

We would welcome the students at the Foundation (Address: 111 + 112 Deshpran Sasmal Road Howrah-711101). Contact time is 10 AM to 5 PM between 10 June 2024 to 27 June 2024.

Bench fees = Rs. 2000 per student.

NOC: All students willing to join the internship need to produce the NOC from during joining. For any inquiry further please contact the foundation.

Thanks

Mr. Sinchan Chatterjee

## 2. SAVE THE FROGS! - Amphibian Conservation Organization



### Hands-on training for basic Herpetofaunal survey and community outreach programs to create volunteers in the field of herpetology

SAVE THE FROGS! India, a registered trust and sister concern of the American NGO SAVE THE FROGS!, is dedicated to the conservation of amphibian species across India. It aims to train students for future research by providing them with essential skills in basic survey methodology and community outreach. Through comprehensive hands-on training programs, students gain practical experience that prepares them for advanced studies and professional work in herpetological conservation. SAVE THE FROGS! India creates a robust network and raises mass awareness through various initiatives, including field visits, internship programs, and other educational activities. These efforts not only equip students with the necessary tools to conduct effective research but also empower them to engage local communities in conservation efforts, fostering a collaborative approach to saving amphibian populations across the country.

**Timing:** Monsoon (June onwards)

**Essential Qualification:** Pursuing BSc. / MSc. Degree in Zoology, Environmental Sciences and related disciplines (Maximum capacity 15)

**Skills and Equipments:**

#### A. For Field Visit

1. 1 GPS device for the participating team
2. Head torch for each participant
3. 1 Torch for each participant
4. Note book
5. Sound / Call recorder/ phone
6. Rain Gears for sudden shower
7. Track pant (Thick cloth)
8. Shoes
9. Basic first-aid kit for team

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Indian Coordinator, Director  
Email: [Sarbani@savethefrogs.com](mailto:Sarbani@savethefrogs.com)  
Website: <https://savethefrogs.com/india/>



### B. For Outreach Programs

1. Basic skills in computer
2. Basic skill in communication

### C. Program details:

1. Duration: 15 Days
2. Certificate: Certificate will be provided to each of the participants on completion of the proposed activities and submitting a final report.
3. Field Visit: 3 days
4. Time: 5:00 – 7:30 PM
5. Locations: Bortir Bill (Barasat), Panchasayar (Near Garia), Andul (Howrah)
6. Proposed activities during field visit:
  - a. The above-mentioned locations will be visited in the evening.
  - b. Time constrained Visual Encounter Survey will be followed to document the herpetofauna.
  - c. Any frog sound will be recorded.
  - d. Species will be photographed.
  - e. Basic species measurement techniques will be explained.
  - f. Students are barred from handling any amphibian or reptilian species.
  - g. GPS Locations of the site which will later be used to prepare a basic map.
7. Community Outreach Programs:
  - a. Handout preparation: Participants will prepare handouts both in vernacular and in English for the school awareness programs. The material should have basic information about Indian herpetofauna, interesting facts and threats.
  - b. School Programs: Participants will visit two schools and will conduct two awareness programs for the students.
  - c. Online Essay competition: Participants have to come up with a topic for online essay competition for college students. They will use the social media platforms and others for reaching out to different colleges. They will prepare a flyer and a form for the cause.

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#### D. Event day wise

- Day 1: Ice breaking session with initial grooming for the field of herpetology (venue - Asutosh College)
- Day 2: Field visit in the afternoon to experience hands on idea on the Frog habitat, threats they are facing, basic gears and skills to study herpetofauna.
- Day 3 & 4: Report preparation for site A.
- Day 5: Field visit to site A (afternoon)
- Day 6, 7: Report preparation for site B.
- Day 8: Field visit (site C) (afternoon)
- Day 9, 10: Report preparation for site C.
- Day 11: 1<sup>st</sup> School visit (venue 1) for community outreach & awareness among the school children. Distribution of handouts.
- Day 12: 2<sup>nd</sup> School visit (venue 2) outreach and awareness.
- Day 13: Social media penetration and footprint survey. Essay writing on saving strategies of Frog that can be undertaken by urban society.
- Day 14: Submission of field reports (for 3 sites), hand out for awareness program, report on school visit (2 schools), Essay on the cause, Miscellaneous.
- Day 15: Validictory session, experience sharing

(No visit or contact program on Saturdays and Sundays)

#### E. Mandatory:

1. Report submission in time
2. SAVE THE FROGS! India logo on handouts and flyers
3. Tagging SAVE THE FROGS! India on social platforms
4. No absence

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### 3. E-YUVA by BIRAC at Adamas University



#### Short Term Skill Development Program (Internship) on Bio-Innovation & Entrepreneurship (with exposure to advanced laboratories)

(Proposed)

<b>Level</b>	:	UG
<b>Category</b>	:	Basic
<b>Eligibility</b>	:	Any branch of Biological Sciences
<b>Duration</b>	:	2 Weeks (10-12 days)
<b>Time/ day</b>	:	4-6 h approx.
<b>Mode</b>	:	Physical/ Hybrid
<b>Participant No</b>	:	15-20
<b>Certification</b>	:	Yes (Upon prescribed attendance & assessment)

**Short Term Skill Development Program (Internship) on  
Bio-Innovation & Entrepreneurship  
(with exposure to advanced bio-laboratories)**

Tentative Schedule (Duration: 60 h); Mode: Hybrid

Day	Date	10.00 am – 11.15 am	11.15 am – 12.30 pm	12.30 pm – 1.45 pm	1.45 pm – 2.45 pm	2.45 pm – 4.00 pm
1	10.06.24 (Mon)	Design Thinking: An Introduction	Design Thinking: A hands on experience			Innovator Talk/ Visit to E-YUVA Centre
2	11.06.24 (Tue)	Introduction to Microbiology	Microbiology Lab visit & hands on <ul style="list-style-type: none"> <li>• Know the Instruments</li> <li>• Bacterial pure culture technique.</li> </ul>			Continuation of Lab <ul style="list-style-type: none"> <li>• Staining</li> <li>• Microscopy</li> </ul>
3	12.06.24 (Wed)	Translational research: An overview	Funding Opportunities for students	Develop a product: Group Activity		Team Presentation
4	13.06.24 (Thu)	Introduction to Molecular Biology	Molecular Biology Lab and demonstration: <ul style="list-style-type: none"> <li>• DNA Isolation</li> <li>• PCR</li> </ul>			Continuation of Lab <ul style="list-style-type: none"> <li>• Agarose Gel Electrophoresis</li> <li>•</li> </ul>
5	14.06.24 (Fri)	Venture ideation	Start-up Talk	Business Model Canvas: Activity		Analysis/ Presentation
6	15.06.24 (Sat) [ONLINE]	Template for an Innovation Project Proposal writing	Activity: Design an innovation project as per the template.			Presentation/ Submission of proposal
7	18.06.24 (Tue) [ONLINE]	IPR: Basics	Hands on: Patent Search	IPR: Group Activity	LUNCH BREAK	Submission
8	19.06.24 (Wed)	Advanced Biology & Industry	Food and Dairy Microbiology Lab: <ul style="list-style-type: none"> <li>• Microbiological QC</li> </ul> Industrial biotechnology: <ul style="list-style-type: none"> <li>• Fermenter demonstration</li> </ul>			Meet Student Achievers: <ul style="list-style-type: none"> <li>• SIH winners</li> <li>• EYC fellows</li> </ul>
9	20.06.24 (Thu)	CV writing	Office & E-mail Etiquette	Career options and Opportunities		Mock Interview
10	21.06.24 (Fri)	Introduction to Cell Culture technique	Elementary Insect Farming: Method & Scope	Visit to Cell Culture Facility		Visit to Insect biology Lab
11	22.06.24 (Sat) [ONLINE]	Poster Presentation Template	Activity: Design a poster on the given theme			Presentation / submission
12	24.06.24 (Mon)	Expert lecture Session 1	Expert Lecture Session 2	Assessment		Feedback & Certificate Distribution

#### 4. Environmental Epigenomics Laboratory at University of Calcutta

### **Level-I (2 weeks program for UG Students)**

### **Basic Molecular Biology Techniques**

Date	Topics for demonstration and hands on experiments	Mode	Marks
10/06/24	Basics of Molecular Biology -Orientation [Lecture & Quiz]	Offline	10
11/06/24	PCR- Principle, Methodology & Application [Lecture & Demonstration & Quiz]	Hybrid	10
12/06/24	In silico PCR- Primer Designing [Lecture & Demonstration & Assignment]	Online	20
13/06/24	Hands on by candidate, Trouble shooting	Offline	20
14/06/24	RFLP- Principle, Methodology & Application [Lecture & Demonstration & Quiz]	Offline	10
15/06/24	In silico identification of Restriction enzymes [Assignments]	Online	20
18/06/24	Hands on by candidate, Trouble shooting	Offline	20
19/06/24	Isolation of DNA [Lecture & Demonstration & Quiz]	Hybrid	10
20/06/24	Hands on by candidate	Offline	20
21/06/24	Quantification of DNA [Demonstration & Quiz]	Hybrid	10
24/06/24	Gel Electrophoresis [Demonstration & Quiz]	Offline	10
25/06/24	Hands on by candidate	Offline	20
26/06/24	Trouble shoot, Question-Answer Session, Interaction	Hybrid	10
27/06/24	Project report preparation & Remedial sessions	Hybrid	30
28/06/24	Power point presentation, Video documentation, certificate distribution and Submission of Report	Offline	30
	<b>Total</b>		<b>250</b>

#### **Certificate of Internship:**

- **Attendance 100%**
- **Minimum qualification marks: 70%**
- **Grade -A: 80-85%, Grade-A+: 85-90%, Grade-O: Above 90%**
- **Fees – INR 1200.00**