

Activity Report (2020-2023) Under DBT STAR COLLEGE Strengthening Scheme



Department of Zoology
Mugberia Gangadhar Mahavidyalaya

Bhupatinagar, Purba Medinipur
West Bengal, 721425

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New practical initiated as prescribed but not be conducted earlier

- 1. Determination of BOD**
- 2. Preparation of genomic DNA from E. Coli and different animals including human being**
- 3. Microtomy for tissue preparation.**
- 4. Micronuclei study from urine sample and buccal sample.**
- 5. Alveolar macrophage study from sputum sample**
- 6. Single nucleotide polymorphism study from particular gene**
- 7. DNA ,RNA isolation from blood and tissue.**
- 8. Measuring air capacity in lungs of human**
- 9. Indoor air pollution measurement**
- 10. Obesity measurement**

Equipment procured for the proposed new practical

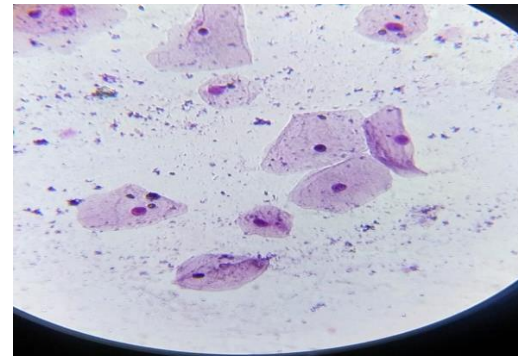
Experiments	Procured Equipment
Determination of BOD	BOD Incubator
Genomic DNA isolation	Cold centrifuge, micro pipette
Tissue section for histology	Microtomy
Micronuclei study	Centrifuge, Binocular Microscope
Single nucleotide polymorphism study	Cold centrifuge, micro pipette, gel apparatus,
Measuring air capacity in lungs of human	Spirometer
Indoor air pollution measurement	PM2.5 & PM10 air quality monitoring machine
Alveolar macrophage	Binocular microscope with light, camera, high resolution (phase contrast).
DNA, RNA isolation	Minicentrifuge with multirotar
Obesity screening	Digital body fat composing monitor

Supporting equipments for the new practical

INSTRUMENTS	PURPOSE
Weighing Balance	For measurement of chemicals
-20 refrigerator	To store certain chemicals, DNA,RNA
Cell frost refrigerator	To store chemicals, sample
Autoclave	To kill harmful agent
water bath	to incubate samples at a constant temperature
Bacteriological incubator	to endow a controlled, contaminant-free environment for safe and reliable work with cell and tissue.
Test tube rotator	mixing, diffusing and separating a variety of containers that hold samples
Rocking platform	staining and de-staining gels after electrophoresis, hybridization, washing, blotting, Cell culture and gentle mixing.

Interdisciplinary/Departmental projects executed by the students

1. Study of eurothelial micronuclei among the students to assess DNA damage
2. Study of BOD analysis of domestic pond for eutropication study
3. Preparing the organic compost from waste of college canteen and hostel for waste management.
4. Estimation of nitrogen, phosphorous and potassium (NPK) in the fertilizer free soil

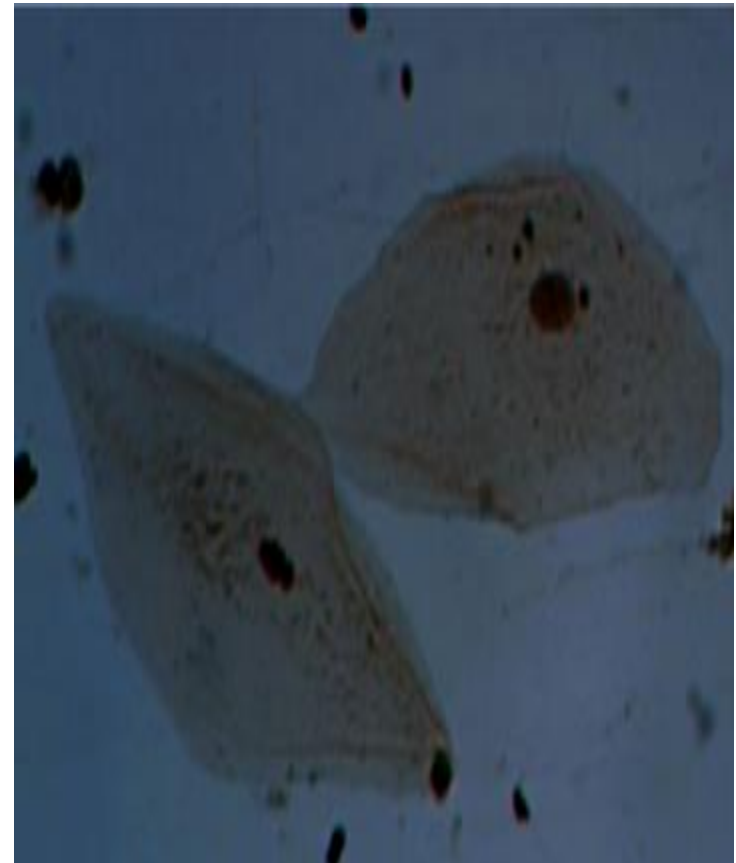


Interdisciplinary/Departmental projects executed by the students

Obesity and Women Reproductive Health



Study of alveolar macrophages (AM) and associated nuclear anomalies



Workshops and seminars organized by the Department under the DBT scheme

- 1. One Day State Level Webinar on “Public Health: Water & Sanitation” organized by Department of Zoology on 27th June, 2021.**
- 2. One day Webinar on “Understanding Evolution by Thought Experiment” organized by Department of Zoology on 5th July, 2021**
- 3. One Day Workshop on “Cancer: insight of inside of lethality” organized by Department of Zoology on 4th February, 2022**
- 4. Entrepreneurship Development in Fisheries and Aquaculture organized by Department of Zoology on 16th March, 2023**
- 5. OBSERVATION OF WORLD WILDLIFE DAY organized by Department of Zoology on 3rd March, 2023**
- 6. National Science Day Observation by means of poster Competition, Model Competition, Oral presentation organized by Department of Zoology, Chemistry & Mathematics on 28th February , 2023**

Workshops and seminars organized by the Department under the DBT scheme

- 7. National webinar on Sustainable Waste recycling towards Better Livelihood ,organized by Department of Zoology ,Mugberia Gangadhar Mahavidyalaya Collaboration with Department of Chemistry and Research Cell under DBT star college strengthening scheme, Govt. of India on 31st July,2020.**
- 8. Workshop on Entrepreneurship Development in Fisheries and Aquaculture, Organized by Department of Zoology, Mugberia Gangadhar Mahavidyalaya Collaboration with Fishery Department, Nandigram Block 1, Under DBT star college strengthening scheme, Govt. of India on 16th March, 2023.**
- 9 Awareness camp on obesity and women reproductive health, organized by Department of Zoology, Mugberia Gangadhara Mahavidyalaya, in association with Environmental Epigenomics Lab., Department of Environmental Science, University of Calcutta on 12th & 13th July, 2022 under DBT- Star College Strengthening Scheme.**
- 10. Special Lecture on Induced Breeding of fish and Brood Stock Management, on 5th November 2022**
- 11. Certificate Course on Waste Management and Sustainability Organized by Department of Zoology Mugberia Gangadhar Mahavidyalaya on 17/01/2023 under DBT- Star College Strengthening Scheme.**

Field visit

1. Lab exposure visit to Science City and Zoological survey of India, Digha, Purba Medinipur organized by department of Chemistry, Mathematics and Zoology on 11th March, 2022.
2. Industrial visit to Haldia Energy Limited
3. Field visit in coastal area in Digha and wild life study to chilapata forest and Buxa tiger reserve in Alipurduar, West Bengal

Outreach activities

1. One Day Workshop on “Conservation and Utilization of the Traditional Surface Water (Ponds/Rivers/Lakes) for Domestic Consumption” held through off-line mode on 18th January, 2022
2. Orientation programme on “Application of Organic Compost from Organic Waste towards Sustainable Organic Farming” held virtually on 6th February, 2022

Future Activities

1. Continuing the Study of occupational health and bio monitoring of the population through cytogenetic bio marker.
2. Continuing the Study of toxicology in environment through monitoring the water bodies with water parameter analysis.
3. In door air pollution measurement and lung air capacity assessment is going on.
4. Screening the body fat measurement for obesity study is going on.

Budget Expenditure

Item	Grants received from DBT during 1st and 2nd years in lakh	Expenditure incurred during 1st and 2nd years in lakh	Balance in lakh	Remark
1. Non-Recurring	10.00	10.00	0.00	Purchase of equipments
2. Recurring	6.00	6.00	0.00	Purchase of chemicals and glass apparatus
Total	16.00	16.00	0.00	

Some glimpses of our activities under DBT Scheme



One Day State Level Webinar on "Public Health : Water & Sanitation"
Organized By

Department of Zoology, Mugberia Gangadhar Mahavidyalaya
Bhupatinagar, Purba Medinipur -721425


Under DBT Star College Strengthening Scheme (Govt. Of India)

Date: 27.06.2021 Time: 3PM onwards



Invited Speaker : Prof. Arunabha Majumder, Chairman, Indian Water Works Association (IWWA) and Ex-Director-Professor & Head, Department of Sanitary Engineering, AIIB&PH, Kolkata. Professor Emeritus, Jadavpur University







One day Webinar on "The Fascinating World of Animals: An Ethological Perspective"
Organized By




Department of Zoology, Mugberia Gangadhar Mahavidyalaya
Bhupatinagar, Purba Medinipur -721425

Under DBT Star College Strengthening Scheme (Govt. Of India)

Date: 05.07.2021 Time: 11 AM onwards



Invited Speaker : Dr. Sandip Pal
Assistant Professor, Department of Zoology
Barrackpore Rastraguru Surendranath College


One Day Workshop on "Insight on the Lethality of Cancer"
Date : 4th February, 2022, 11am

Organized by
Department of Zoology
In collaboration with
Department of Chemistry and Research cell
MUGBERIA GANGADHAR MAHAVIDYALAYA

Under DBT star college strengthening Scheme (Govt. Of India)



Chair Person
Dr. Sandip Pal, Head, Dept. of Zoology, Mugberia Gangadhar Mahavidyalaya

Eminent Speaker



Jt. Convener
Dr. Sandip Kumar Mondal
Head, Dept. of Zoology, Mugberia Gangadhar Mahavidyalaya



Jt. Convener
Dr. Bibhas Ch. Samanta
Coordinator, Research Cell
Associate Professor & Head, Dept. of Chemistry, Mugberia Gangadhar Mahavidyalaya

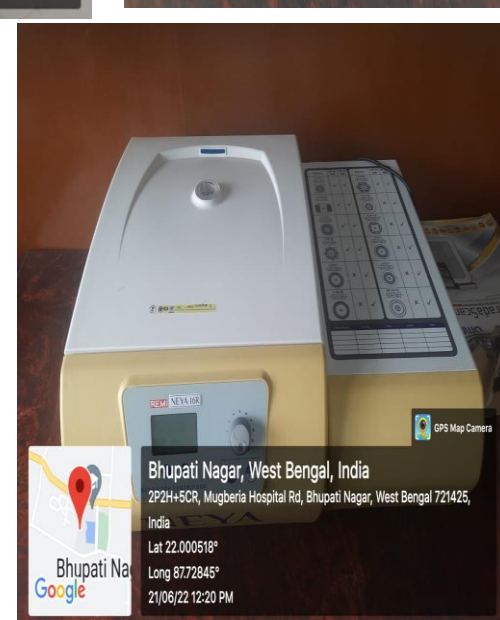
Dr. Krishnendu Ghosh
Visiting faculty Ramkrishna Mission vidyamanidir,Balur Math, Research investigator, Department of Astrobiology,SPACEINDIA

YouTube link:
<https://youtu.be/yfVWLIgv0nQ>

Platform: Zoom app/ Streaming on YouTube/ Face book:
<https://us02web.zoom.us/j/88218146344?pwd=ZC81ZFVhbnk0a2hGRG03V2ZmZkdz09>



Glimpses of research lab and instruments



Impact of the Star College Scheme

Sl No.	Indicator	Pre-support	During/After support		Remarks
			2020-21	2021-22	
1	No. of applications for admission	55	70	90	Increasing
2	Pass percentage	100	100	100	100
3	Dropout Rates	12%	10%	9%	Decreasing
4	No. of students opting for M. Sc.	NA	NA	11	Increasing
5	Awareness of DBT JRF exam	Not aware	Aware but not applied		

Instruments procured from DBT grant

S. No	Name of Equipment	Item wise Cost (In Rs.)	Date of purchase of equipments
1	Compound Microscope 8 Nos	93456/-	26.02.21
2	Microtome Medimiss	42480/-	26.02.21
3	BOD incubators with shaker 2 Nos	91332/-	22.03.21
4	Digital Balance (MAB 220) 2 Nos	71107/-	22.03.21
5	Indoor pollution measuring instrument (PM 10 & PM 2.5)	22302/-	26.02.21
6	Southern Blot Apparatus 1 No	21830/-	31.03.21
7	Spin win Micro centrifuge 1 No	9611/-	31.03.21
8	Autoclave 1 No	54870/-	31.03.21
9	Media Filtration unit 1 No	19116/-	31.03.21
10	Rocking platform RP 291	11564/-	31.03.21
11	Test tube rotator (Vortex) 1 No	13629/-	31.03.21
12	Single channel adjustable Micro pipette 2 Nos	32710/-	31.03.21
13	Refrigator centrifuge	194700/-	09.09.2021
14	Refrigator centrifuge rotor with soft ware		
15	Contec spirometer	75992/-	10.12.2021
16	WaterBath	6348.73/-	03.09.2021
17	Nikon Aculon A21112*50	11348.27	03.09.2021
18	Trinocular microscope with digital CAM 5MP	69526/-	15.09.2021
19	Digital Bacteriological incubator	18443/-	12.08 2021
20	Omoran HBF 375	11906.20/-	26.8.2021
21	Cellfrost Chiller	49560/-	26.08.2021
22	Cellfrost -20°C refrigerator	25689/-	26.08.2021