

Activity Report (2020-2023)

Under DBT STAR COLLEGE Strengthening Scheme



Department of Chemistry
Mugberia Gangadhar Mahavidyalaya
Bhupatinagar, Purba Medinipur,
West Bengal, India

Table of Contents

Titles

- **New practical introduced as prescribed but not be conducted earlier**
- **Equipment procured for the proposed new practical**
- **Interdisciplinary/departmental projects executed by the students**
- **Workshops and seminars organized in topical areas for students by the dept. supported under the scheme**
- **Faculty improvement programs initiated for the faculty**
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- **Lectures Delivered by Experts/Speakers in the relevant subject area**
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Table of Contents (Continued)

Titles

- **Training of Lab Manpower**
- **Impact of the Star College Scheme**
- **Budget Expenditure**
- **Assets acquired by the department out of Govt. Grant**
- **Basic research published in reputed journals under the financial support of DBT**
- **Future Activities**

New practical introduced as prescribed but not be conducted earlier

Titles

- 1. Isoelectric pH of protein**
- 2. Determination of Critical Micelle Concentration of surfactants like SDS using tensiometer**
- 3. Qualitative and quantitative estimation of carbohydrate, protein and fat in food**
- 4. Column chromatographic separation of mixture of dyes and TLC separation of a mixture containing 2/3 amino acids**
- 5. Determination of pH of soil and estimation of potassium, calcium, magnesium**
- 6. Potentiometric titration of Mohr's salt and determination of K_{sp} for AgCl by potentiometric titration**
- 7. pH-metric titration of acid**
- 8. Determination of enthalpy of oxalic acid solution in water**
- 9. Verification of Lambert Beer's law, Dissociation constant determination of indicator, Determination of CMC of a surfactant using colorimeter**

New Hands-on experiments conducted during the support

Titles

- 1. Carbohydrate and protein estimation in jam, bread, cookies, dahi, cake, lassi etc. by spectrophotometrically**
- 2. Quantitative test for saponin content in quinoa flour**
- 3. Critical Micelle Concentration (CMC) determination of a surfactant (Sodium Dodecyl Sulphate) by using Tensiometer**
- 4. Dye degradation and catechol oxidation with Transition metal complex**
- 5. Estimation of nitrogen, phosphorous and potassium (NPK) in the fertilizer free soil**
- 6. Determination of arsenic(III) in ground water by spectrophotometric technique**
- 7. Estimation of fluoride in ground water by spectrophotometric technique**

Equipment procured for the proposed new practical

Experiments	Procured Equipment
Isoelectric pH of protein	Viscometer (Digital)
Determination of Critical Micelle Concentration (CMC) of surfactants using tensiometer	Tensiometer (Manual)
Estimation of carbohydrate, protein and fat	Sonicator
Column chromatographic separation and TLC separation	Rotavapour with Chiller, UV light with chamber
Determination of pH of soil and estimation of potassium, calcium, magnesium	Soil tensiometer, Flame photometer
Potentiometric titration	Potentiometer with required electrodes
pH-metric titration	pH meter
Determination of enthalpy of oxalic acid solution in water	Water bath with thermostat
Verification of Lambert Beer's law	Colorimeter

Interdisciplinary/departmental projects executed by the students

- 1. Estimation of nitrogen, phosphorous and potassium (NPK) in the fertilizer free soil**
- 2. DNA/protein interaction study with Schiff Base Transition metal complexes**
- 3. BSA protein estimation in an unknown solution**
- 4. Carbohydrate and protein estimation in jam, bread, cookies, dahi, cake, lassi etc by spectrophotometrically**
- 5. Quantitative test for saponin content in quinoa flour**
- 6. Critical Micelle Concentration (CMC) determination of a surfactant (Sodium Dodecyl Sulphate) by using Tensiometer**
- 7. Degradation of organic pollutant dyes under sunlight irradiation**
- 8. Synthesis of nanocrystalline compounds by hydrothermal methods and their application in catalysis & environmental remediation**
- 9. Determination of arsenic(III) in ground water by spectrophotometric technique**
- 10. Estimation of fluoride in ground water by spectrophotometric technique**

Estimation of nitrogen, phosphorous and potassium (NPK) in the fertilizer free soil



BSA protein estimation in an unknown solution



**Synthesis of
nanocrystalline
compounds by
hydrothermal
methods**



Carbohydrate and protein estimation in jam, bread, cookies, dahi, cake, lassi etc by spectrophotometrically



Workshops and seminars organized in topical areas for students by the dept. supported under the scheme

Recent Advances in Therapeutic use of Chemical compounds and Drug Delivery

A ONE DAY INTERNATIONAL WEBINAR

Celebrating 159th birthday of
Acharya Prafulla Chandra Ray

Organized by
Department of Chemistry and Research Cell
MUGBERIA GANGADHAR MAHAVIDYALAYA

Under
DBT STAR
COLLEGE
Strengthening
Scheme
(Govt of India)

**2nd Aug.
2020
6-9 PM**



Chair Person
Dr. Swapan K. Mitra
Principal,
Mugberia Gangadhar
Mahavidyalaya



Jt. Convener
Dr. Narottam Sutrathar
Assistant Professor, Dept of
Chemistry, Coordinator IIRA
Mugberia Gangadhar Mahavidyalaya



Jt. Convener
Dr. Bidhan Chandra Samanta
Associate Prof. HOD Chemistry,
Coordinator Research Cell
Mugberia Gangadhar Mahavidyalaya



Speaker
Dr. Pralay Maiti
Professor and Coordinator
School of Material Sc & Tech
IIT-BHU, Varanasi



Speaker
Dr. Dhanjain Pan, Professor
School of Medicine,
University of Maryland,
Maryland, USA



Speaker
Dr. Nabin C. Maiti
Sr. Scientist, Sub-Department
Medical Technology Saret,
Gujarat



Speaker
Dr. Samit K. Prasad, Senior
Scientist, Analytical and
Environmental Science Division,
CSMCR-ICTR, Gujarat



Speaker
Dr. Mahabendra Jais, Asst.
Professor, Dept of Neurological
Science and Biochemistry, Rush
University, Chicago, Illinois, USA

Invitation for full length Paper

Abstract submission deadline (300 words)-July 31, 2020. Full paper submission August 31st, 2020 for publication in book with ISBN No.

Send your abstract and full paper to
sutrathar.n@gmail.com/
bidhansamanta@yahoo.in

Theme of the Webinar
Natural and synthetic chemical compounds have served mankind for healing and life saving purpose since ancient times. However better understanding of human physiology, its working procedure, constituent elements of human body, its interaction with environment along with the development of technology in different field of science has triggered discovery of newer drug molecules with better healing abilities. Development of inorganic materials like polymers, nano-materials is coming up with emerging techniques of drug delivery with better results for treatment of cancer, heart blockage, cataract etc. Nanomaterials are coming up with their antibacterial, antiviral effect for fighting pandemic situations like COVID 19. Uses of newer inorganic elements are also finding their abilities towards new possibilities in therapeutic use.

Sub Theme:
Sustained drug delivery, Controlled drug delivery, Therapeutic use of Nanomaterials, Nanotechnology and drug delivery, nanomedicine, Therapeutic use of Organometallic compounds, Nanomaterials against COVID, Nanotechnology to fight cancer, Targeted drug delivery, Ocular drug delivery, Transdermal drug etc.

Registration is free, for registration click on the link <http://forms.gle/Vth4S3smUeYse8TC9> or copy-paste in search bar. **Last date of registration 30th July, 2020 up to 5.00 pm.**

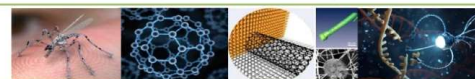
Platform Zoom apps Streaming YouTube. Meeting link will be provided one day prior to the Webinar through registered e-mail or WhatsApp.

e-certificates will be issued only after successful filling of Feedback form.



The Impact of Nanotechnology in our life A ONE DAY STATE LEVEL WEBINAR

Organized by : Department of Chemistry
MUGBERIA GANGADHAR MAHAVIDYALAYA
BHUPATINAGAR, EAST MIDNAPORE, WEST BENGAL



Program Under DBT STAR COLLEGE Strengthening Scheme
(Govt of India); 3rd July, 2021: 11:30AM



Invited Speaker
Dr. Satsuyyriya Bhandari,
DST Inspired Faculty,
Department of Chemistry,
University of North Bengal



Chair Person
Dr. Swapan Kumar Misra,
Principal, Mugberia
Gangadhar Mahavidyalaya



Jt. Convener
Dr. Bidhan Chandra Samanta,
Associate Professor, Coordinator
DBT Star College Program, HOD
Chemistry, Mugberia Gangadhar
Mahavidyalaya



Jt. Convener
Dr. Narottam Sutrathar,
Assistant Professor,
Department of Chemistry,
Mugberia Gangadhar
Mahavidyalaya



A P C Ray Memorial Lecture on "Control Drug Delivery and Health Care"

On the occasion of 160th Birth Anniversary of A P C Ray

Organized by : Department of Chemistry
MUGBERIA GANGADHAR MAHAVIDYALAYA
BHUPATINAGAR, EAST MIDNAPORE, WEST BENGAL

Program Under DBT STAR COLLEGE Strengthening Scheme (Govt of India); 2nd August, 2021: 3:30 pm



Speaker
Dr. Pralay Maiti
Professor
School of Material Sc &
Tech
IIT-BHU, Varanasi

Platform: Zoom.us

Live Streaming on YouTube

Link:



Chair Person
Dr. Swapan Kumar Misra,
Principal, Mugberia
Gangadhar Mahavidyalaya



Convener
Dr. Bidhan Chandra Samanta,
Associate Professor, Coordinator
DBT Star College Program, HOD
Chemistry, Mugberia Gangadhar
Mahavidyalaya



Jt. Convener
Dr. Narottam Sutrathar,
Assistant Professor,
Department of Chemistry,
Mugberia Gangadhar
Mahavidyalaya



Recent Development of Chemical Research being implemented in Biology and Medicine

A TWO DAY NATIONAL CONFERENCE



Organized by
Department of Chemistry
MUGBERIA GANGADHAR MAHAVIDYALAYA

Supported by: DBT (Govt. of India)

**2nd & 3rd
Nov,
2021**



Organizing President
Dr. Swapan Kr. Misra
Principal
Mugberia Gangadhar
Mahavidyalaya



Inaugurator
Prof. Ashutosh Ghosh
Vice-Chancellor
Rani Rasmoni Green University
Hooghly, West Bengal



Speaker
Dr. Anil Dasak
Visiting Professor, School of
Bioscience, IIT, Kharagpur
West Bengal



Speaker
Dr. Prady Maiti
Professor and Ex-coordinator
School of Material Sc. & Tech
IIT-BHU, Varanasi
UP



Speaker
Dr. Tanmay Pathak
Professor, Dept of
Chemistry, IIT,
Kharagpur, WB

Theme of the Webinar
Natural and synthetic chemical compounds have served mankind for healing and life saving purpose since ancient times. However better understanding of human physiology, its working procedure, constituent elements of human body, its interaction with environment along with the development of technology in different field of science has triggered discovery of newer drug molecules with better healing abilities. Development of inorganic materials like polymers, nano-materials is coming up with emerging techniques of drug delivery with better results for treatment of cancer, heart blockage, cataract etc. Nanomaterials are coming up with their antibacterial, antiviral effect for fighting pandemic situations like COVID 19. Uses of newer inorganic elements are also finding their abilities towards new possibilities in therapeutic use.



Coordinator & Speaker
Dr. Bidhan Chandra Samanta
Associate Prof, HOD Chemistry,
Coordinator, Star College Scheme
Mugberia Gangadhar Mahavidyalaya

Registration is free, but it is mandatory

Registration link: <https://forms.gle/xyTS&SxxO5ROGMCN8>

Last date of registration: 28th October, 2021 up to 5.00 pm.

Platform Zoom apps Streaming YouTube. Meeting link will be provided one day prior to the Webinar through registered e-mail or WhatsApp.

e-certificates will be issued only after successful filling of Feedback form.

Invitation for abstract and full length Paper

Abstract submission deadline (300 words)-**October 20, 2021.** Full paper submission **October 25, 2021** for proceeding publication with ISBN No.

Send your abstract and full paper to bidhansamanta@yahoo.in



One day innovative model and poster exhibition cum competition for students on the theme Science and Environment dated 1st March, 2021



One Day Workshop on Career Counseling for Higher Education

Under DBT STAR COLLEGE Strengthening Scheme (Govt. of India)

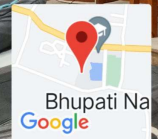
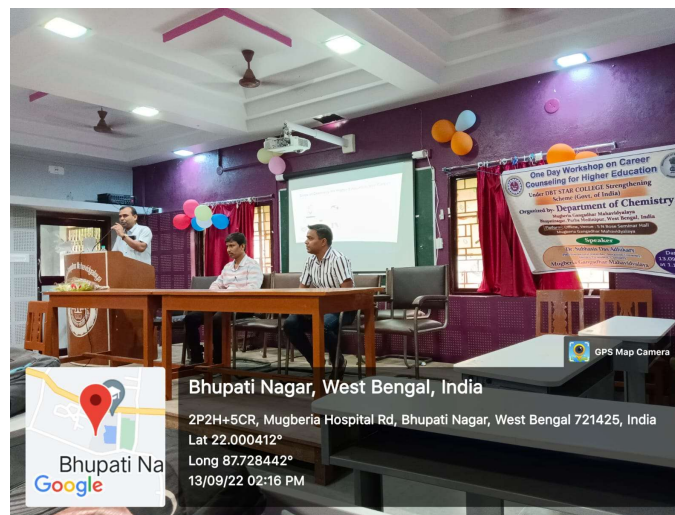


Organized by Department of Chemistry, Mugberia Gangadhar Mahavidyalaya, Bhupatinagar, Purba Medinipur, West Bengal, India.

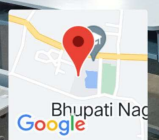
❖ Platform: Offline, Venue: S N Bose Seminar Hall, Mugberia Gangadhar Mahavidyalaya

❖ Date: 13/09/2022 at 1.15 pm

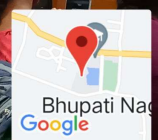
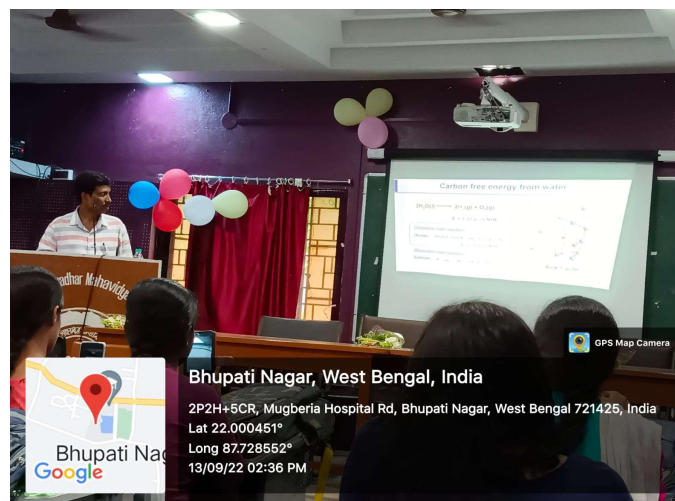
Speaker
Dr. Subhasis Das Adhikary, PhD
Postdoctoral researcher,
Stockholm University, Sweden,
Ex-student, Chemistry
Mugberia Gangadhar
Mahavidyalaya



Bhupati Nagar, West Bengal, India
2P2H+5CR, Mugberia Hospital Rd, Bhupati Nagar, West Bengal 721425, India
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Long 87.728442°
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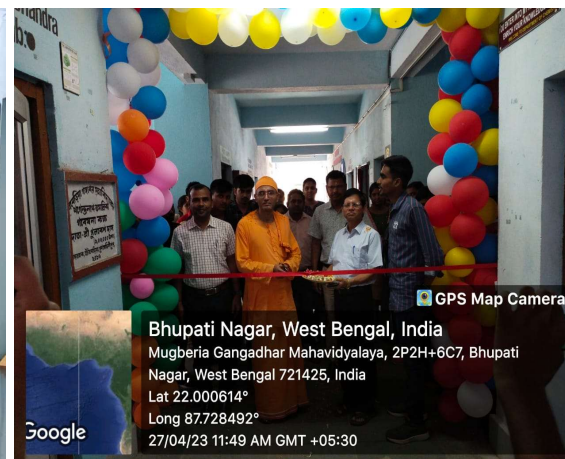


Bhupati Nagar, West Bengal, India
XPXH+MRP, Bhupati Nagar, West Bengal 721425, India
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Bhupati Nagar, West Bengal, India
2P2H+5CR, Mugberia Hospital Rd, Bhupati Nagar, West Bengal 721425, India
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Long 87.728552°
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Wall Magazine Publication under the support



Online Summer Training School supported under the scheme on “Emerging Trends at the interface of Chemistry, Zoology and Mathematics



Summer Training School
on
“Emerging Trends at the interface of
Chemistry, Zoology and Mathematics

Under
DBT STAR COLLEGE STRENGTHENING
SCHEME, GOVT. OF INDIA

Organized by Department of Chemistry, Zoology and Mathematics,
Mugberia Gangadhar Mahavidyalaya, Bhupatinagar, Purba Medinipur,
West Bengal, India.



Course Design
Area: Biochemistry, Biomathematics
and Zoology
Number of Topics: 9 (3 in each area) on
Theoretical aspects and 2 (1 each in
Chemistry and Zoology) on Practical
aspects

Span for the Course
10 days
From July 15 to July
24, 2021
Class time: 11.00
am to 1.00 pm

Evaluation and Certificate
After completion of the course,
evaluation test will be conducted.
Certificate will be issued only
after qualifying the evaluation
test.



Inaugurator
Prof. (Dr.) Ashis Kumar Panigrahi,
Pro-Vice-Chancellor, University of
Burdwan

Organizing Committee

- ❖ **Chairperson:** Dr Swapan Kumar Misra,
Principal, Mugberia Gangadhar
Mahavidyalaya
- ❖ **Course Co-ordinator:** Dr Bidhan Chandra
Samanta, Associate Professor, Dept of
Chemistry and Co-ordinator, DBT Star
College Scheme
- ❖ **Jt Course Co-ordinators:** Dr Kalipada
Maity, Associate Professor & HOD, Dept of
Mathematics and Dr Soma Karmakar,
Assistant Professor & HOD, Dept of Zoology
- ❖ **Contact Email:**
bidhansamanta@yahoo.in;
kmaity78@gmail.com;
somakarmakar941@gmail.com

❖ **Course Fee:** No course fee will be charged

Google Form for Registration: <https://forms.gle/otZuJGnBPBvtigvF6>
Last Date of Registration: 14th July, 2021 up to midnight.

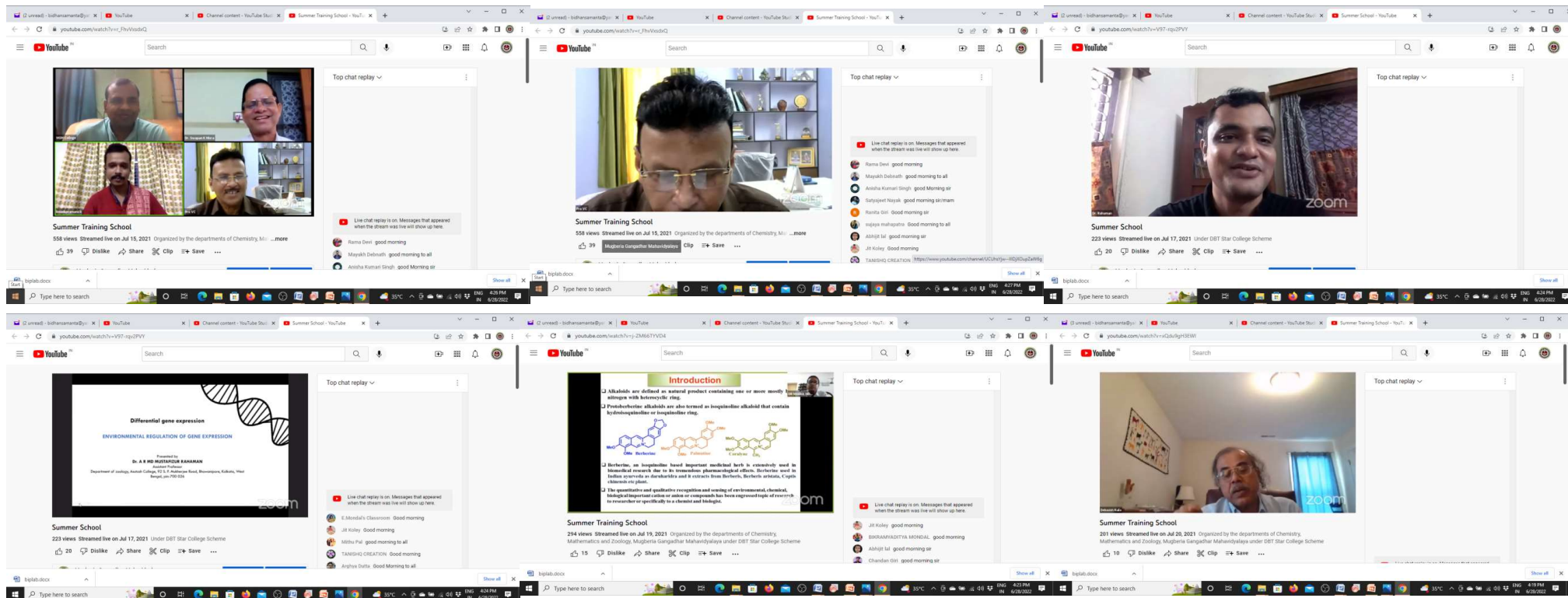
Follow this link to join the WhatsApp group:
<https://chat.whatsapp.com/Kf3onA2ItYJA3XW7Q3HSp4>

All are cordially invited

Resource Persons & Topics of presentation of Summer Training School

1. Prof. Debasis Kuila, Professor & Research Director, NSF-CREST Bio-energy Center, Department of Chemistry (NSB 342), North Carolina A & T State University, USA. **Title: Conversion of Biomass into fuels and value added chemicals**
2. Dr. Maidul Hossain, Department of Chemistry and Chemical Technology, Vidyasagar University, Paschim Medinipur- 721302, West Bengal, India. **Title: "Synthesis of 9-O-(substituted) berberine analogues : Their application towards DNA and protein binding and as a toxic material sensor"**
3. Dr Rajarshi Ghosh, Associate Professor, Department of Chemistry, The University of Burdwan, Burdwan 713 104, India. **Title: "Magnetic interactions in dinuclear transition metal complexes and prussian blue analogues"**
4. Dr. Uttam Bera, Associate Professor Dept. of Mathematics, NIT Agartala Tripura. **Title : Effect of supply chain during Covid -19**
5. Dr. Jayanta De. Associate Professor, Dept of Mathematics, Mahisadal Raj College, Purba Medinipur, West Bengal. **Title: Role of Mathematics in the present context**
6. Dr. Anupam De, Assistant Professor, Department of Applied Science & Humanities. Haldia Institute of Technology, West Bengal. **Title: Role of Mathematics in Modeling and Controlling Pandemic**
7. Prof. Kousik Pramanick, Professor, Department of Life Science , Presidency University, Kolkata 700073, India. **Title: Species Concept**
8. Dr. A.R. Md. Mustafizur Rahaman, Assistant Professor, Dept. of Zoology, Asutosh College, Kolkata 700026, India. **Title: Developmental Biology**
9. Dr. Sandip Pal, Assistant Professor, Dept. of Zoology, Barrackpore Rastraguru Surendranath College, North 24 Pgs, 700120, India. **Title: The World of Non-Chordates**

Some Glimpses of this Summer Training Camp



Faculty improvement programs initiated for the faculty



One day faculty improvement programme on Research Ethics and Practice dated 1st March, 2021



Faculty Development Program

On and From 20/06/2022 to 27/06/2022

Under

DBT STAR COLLEGE STRENGTHENING SCHEME, GOVT. OF INDIA

Organized by Department of Chemistry, Zoology and Mathematics, Mugberia Gangadhar Mahavidyalaya, Bhupatinagar, Purba Medinipur, West Bengal, India.



Course Design
Area: CAS, IPR, Teaching Learning, Innovative Research, Software, Environment
Number of Topics: 7 on both Theoretical and Practical aspects

Span of the Program
7 days
Time: 1.15 pm to 3.15 pm (Monday –Friday)
Saturday: 12.15-2.15 pm

PARTICIPANTS: Faculty members including Librarians, Research Scholars and PG students

Mode of Program
OFF-LINE

Resource Persons, Theme of presentation & Tentative Dates

1. Dr. Shyamal Kumar Mondal, Professor, Dept. of Applied Mathematics with Oceanology and Computer Programming, Vidyasagar University. Theme: Software, 20/06/22
2. Dr Pritha Bhattacharjee, Asst. Prof. Department of Environmental Science, University of Calcutta. Theme: Environmental Research, 21/06/22
3. Dr. Pijush Kanti Tripathi, Officer-in-Charge, Haldia Government College, Theme: CAS, 22/06/22
4. Apurba Kumar Chatterjee, Technical Manager, Good Earth Enviro Care, Narendrapur, Kolkata. Theme: Environmental Pollution Monitoring, Management & Research, 23/06/22
5. Prof. (Dr.) Pradipta Kumar Mishra, Principal, Yogoda Satsanga Palpara Mahavidyalaya. Topic: An Effective Teacher in Higher Education for 21st Century, 24/06/22
6. Sri Amiya Kumar Kalidaha, Senior Scientific Officer, Department of Science and Technology & Biotechnology, GoWB, Kolkata. Theme: IPR, 25/06/22
7. Prof. (Dr.) Nandan Bhattacharyya, Principal, Panskura Banamali College, Theme: Innovative Research ideas, 27/06/22

Some Glimpses of 7-days Faculty Development Programme



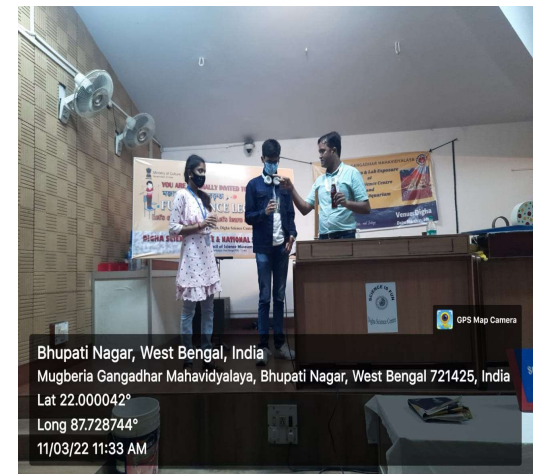
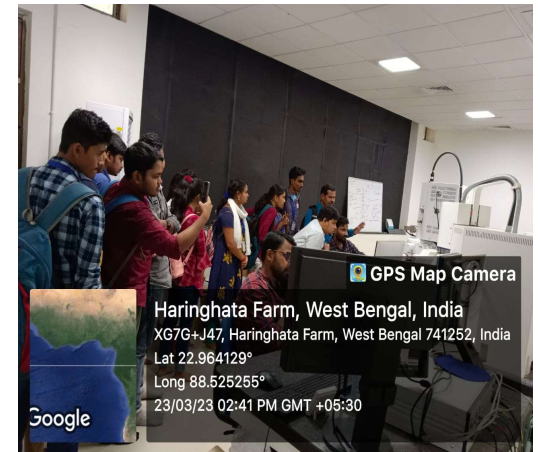
Visits to Incubation Centre and important labs of national eminence

Titles


- 1. Lab exposure visit to Science City Digha, Purba Medinipur organized by department of Chemistry, Mathematics and Zoology on 2nd March, 2021**
- 2. 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.**
- 3. Effective exposure to the modern facilities (academic and research) at IISER Kolkata organized by department of Chemistry, Mathematics and Zoology on 23/03/2023**



Exposure and field visit to IISER Kolkata and Zoological survey of India, Digha



Outcome of the Visit

- **Exposure to a Lab of National Eminence containing different High Precision Analytical Instruments used for chemical samples analyses.**
 - **One-to-one interaction with eminent scientists of the visited institutes.**
 - **Hands on training for samples analyses.**
 - **Understanding the chemical process and analytical techniques for samples analyses.**
 - **Preparing a survey report.**
 - **Motivation and acquiring ideas for becoming a chemist in future.**
- 

Industrial Visit to Haldia Energy Limited, Haldia, Purba Medinipur

HAL 2X300 MW THERMAL POWER PLANT SAFETY INDUCTION TRAINING

Course Title - Working At Height/Advantages of PPE/Hot Work/Confined Space/Electrical Safety/Earthling/PPE/ATD/Slip Tripping/Practical First Aid/Resuscitating/Chemical Handling/Spilling of Incident/Working in Transmission Line/Other

Faculty: *Mr. Shivam Chandra Mahapatra* Duration: *10:00 AM to 1:00 PM*

I have understood the safety rules, procedures communicated to me during training. I commit to follow the same at site and also responsible for my own safety.

Sr. No.	Name & Age	Designation	Gate Pass number.	Signature
1	Sanku Prasad	Student		
2	Arjun Prasad	Student		
3	Arjun Prasad	Student		
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30	Arjun Prasad	Student		

Instructor: *Mr. Shivam Chandra Mahapatra*
 HSL Safety & Env. Contractor Safety/ Supervisor



HAL 2X300 MW THERMAL POWER PLANT SAFETY INDUCTION TRAINING

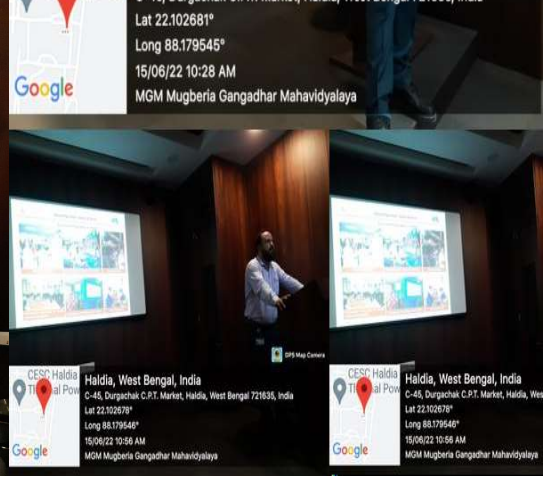
Course Title - Working At Height/Advantages of PPE/Hot Work/Confined Space/Electrical Safety/Earthling/PPE/ATD/Slip Tripping/Practical First Aid/Resuscitating/Chemical Handling/Spilling of Incident/Working in Transmission Line/Other

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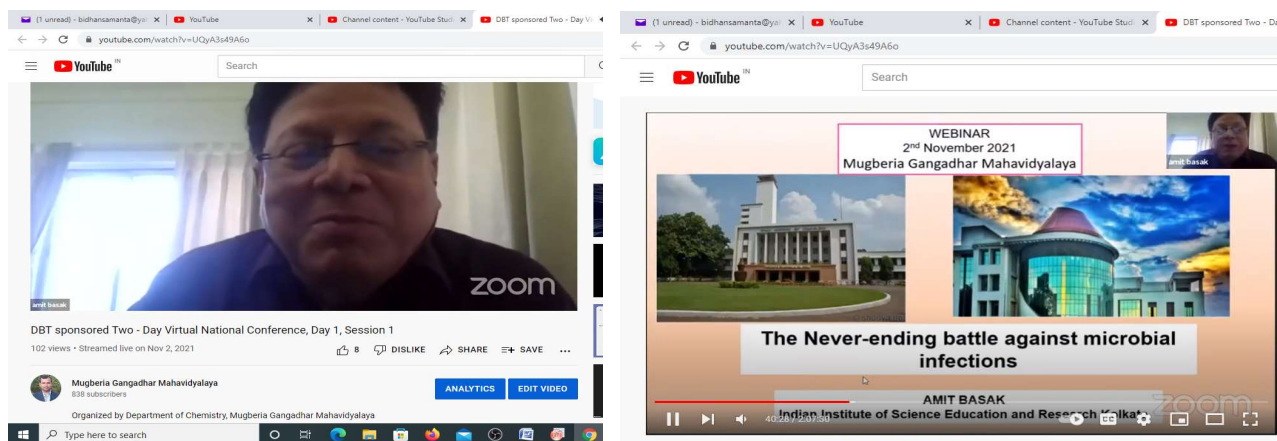
Instructor: *Mr. Shivam Chandra Mahapatra*
 HSL Safety & Env. Contractor Safety/ Supervisor



Lectures Delivered by Experts/Speakers in the relevant subject area

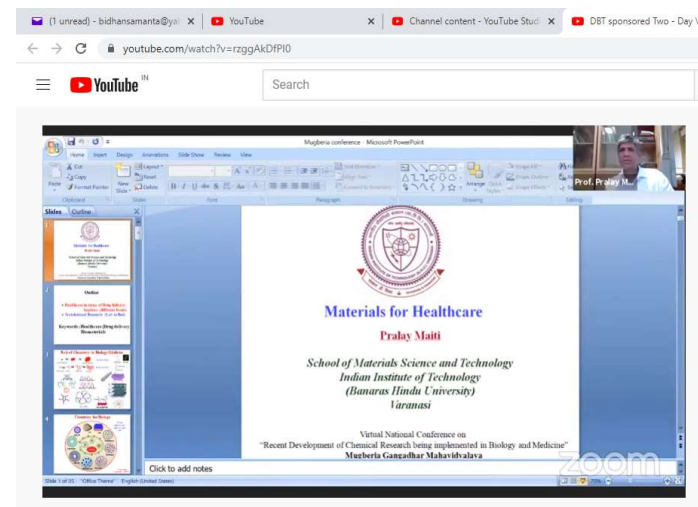
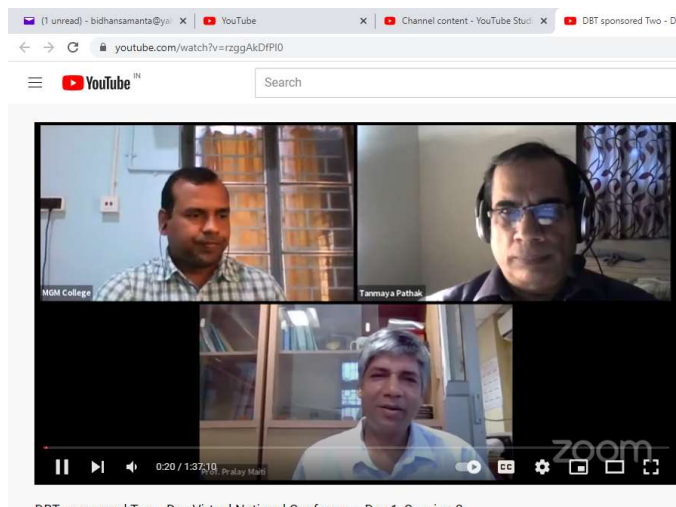
1. Speaker: Dr. Amit Basak, FNA, FASc, FNASc, FAScT, JC Bose National Fellow, D. Phil. (Oxford), Ph. D. (Calcutta), Visiting Professor, Department of Chemistry School of Bioscience, Indian Institute of Technology, Kharagpur.

Title of the talk: “The Never-ending battle against microbial infections”



2. Speaker: Dr. Pralay Maiti, Professor, School of Materials Science and Technology, Indian Institute of Technology (BHU), Varanasi

Title of the talk: “Materials for Healthcare”



3. Speaker : Dr Tanmaya Pathak, PhD, FAScT, FASc, Professor, Department of Chemistry, Indian Institute of Technology Kharagpur

Title of the talk: “Sugar-Modified Inhibitors of Ribonuclease A”

The image displays two screenshots from a YouTube video recording a Zoom meeting. The left screenshot shows a Zoom meeting grid with three participants: a man in a blue face mask (labeled 'MGM College'), a man in glasses (labeled 'Dr. Swapan K Mishra'), and a woman in a purple top (labeled 'Tanmaya Pathak'). The right screenshot shows a presentation slide titled 'Sugar-Modified Inhibitors of Ribonuclease A' by Tanmaya Pathak, Department of Chemistry, Indian Institute of Technology Kharagpur. The slide includes the IIT Kharagpur logo, the speaker's name and affiliation, and a quote: 'Recent Development of Chemical Research being implemented in Biology and Medicine'. The slide number 'MUGBERIA GANGADHAR MAHAVIDYALAYA_20211103' is visible at the bottom.

4. Speaker : Dr Bijan Kumar Das, Professor, Department of Chemistry, Presidency University, Kolkata, India

Title of the talk: “Origin of life”

Acharya Prafulla Chandra Ray Memorial Lecture

Date: 02nd August, 2022; Time: 10 am to 4 pm,
Venue: Satabdi Sadan auditorium hall

Origin Of Life: কিভাবে পৃথিবীতে প্রাণের উদ্ভব হল
Prof (Dr.) Bijan Kumar Das
Presidency University, Kolkata

Organized by
DEPARTMENT OF CHEMISTRY,
MUGBERIA GANGADHAR MAHAVIDYALAYA
BHUPATINAGAR, EAST MIDNAPORE

Under DBT Star
College scheme, Govt
Of India

Events:
Poster presentation.
Theme: Save soil, soil pollution, water scarcity
Model presentation:
Theme: solid waste management, green energy

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2P2H+5CR, Mugberia Hospital Rd, Bhupati Nagar, West Bengal 721425, India
Lat 22.000548°
Long 87.728493°
02/08/22 12:56 PM

Bhupati Nagar, West Bengal, India
Mugberia Gangadhar Mahavidyalaya, 2P2H+6C7, Bhupati Nagar, West Bengal 721425, India
Lat 22.00052°
Long 87.728513°
02/08/22 03:48 PM
MOM Mugberia Gangadhar Mahavidyalaya

5. Speaker : Dr. Mukut Chakraborty, Professor, Department of Chemistry, West Bengal State University, Barasat, North 24 Parganas, West Bengal

Title of the talk: “Life and works of P C Ray”



6. Speaker : Dr. Manoj Kumar Chakrabarti, Convener, ISCA Kolkata & Director-in-charge, National Institute of Cholera and Enteric Diseases (ICMR), Beliaghata, Kolkata

Title of the talk: “Various discoveries in Biology and Medicine”



7. Speaker: Dr. Goutam Kumar Dalapati, Senior Research Fellow, National University of Singapore delivered a Popular talk and interactive session
Title of the Talk: "Decarbonization and Sustainable Energy"



Popular talk and interactive session on "Decarbonization and Sustainable Energy"

Organized by Science Faculties
Mugberia Gangadhar Mahavidyalaya
 (A College with Potential for Excellence, DBT Star College, Re-accredited by NAAC 3rd Cycle with Grade B+, Affiliated to Vidyasagar University, West Bengal, India)

In Collaboration with IQAC, Mugberia Gangadhar Mahavidyalaya

Eminent Speaker:

Dr. Goutam Kumar Dalapati
 Senior Research Fellow,
 National University of Singapore




Date : 06.12.23 Time: 12.15 pm
Venue: S. N. Bose Hall



Community Outreach activities

1. One Day Workshop on “Conservation and Utilization of the Traditional Surface Water (Ponds/Rivers/Lakes) for Domestic Consumption” Dated 18/01/2022



One Day Workshop on “Conservation and Utilization of the Traditional Surface Water (Ponds/Rivers/Lakes) for Domestic Consumption”



Organized by : Department of Chemistry, Mathematics and Zoology
MUGBERIA GANGADHAR MAHAVIDYALAYA
BHUPATINAGAR, EAST MIDNAPORE, WEST BENGAL
(OUTREACH ACTIVITY)

Speaker

Manas Ranjan Maiti

Project Officer

Community Based Mini Rural
Water Supply Project

International Academy of
Environmental Sanitation and
Public Health (A Subsidiary
of Sulabh International
Social Service Organization)

Program Under DBT STAR COLLEGE Strengthening
Scheme (Govt of India)

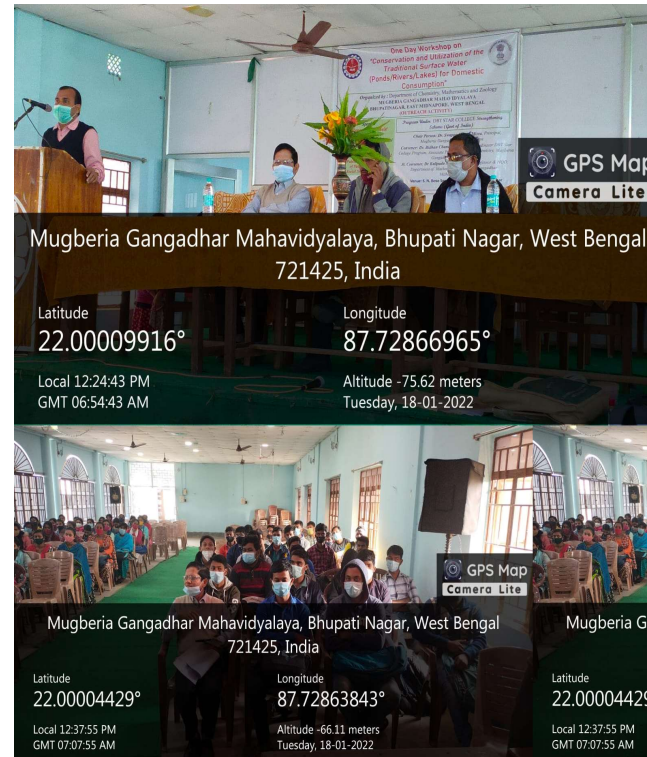
Chair Person: Dr. Swapan Kumar Misra, Principal,
Mugberia Gangadhar Mahavidyalaya

Convener: Dr. Bidhan Chandra Samanta, Coordinator DBT Star
College Program, Associate Professor & HOD Chemistry, Mugberia
Gangadhar Mahavidyalaya

Jt. Convener, Dr. Kalipada Maiti, Associate Professor & HOD,
Department of Mathematics, Mugberia Gangadhar
Mahavidyalaya

Date: 18th January, 2022: 11:30 am

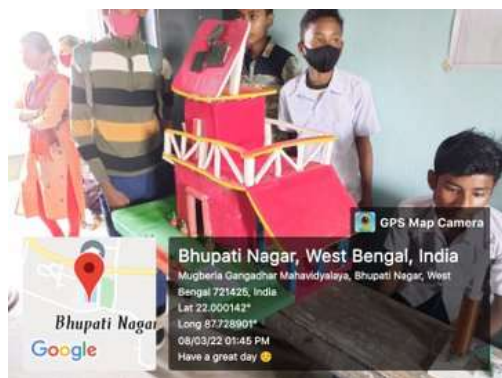
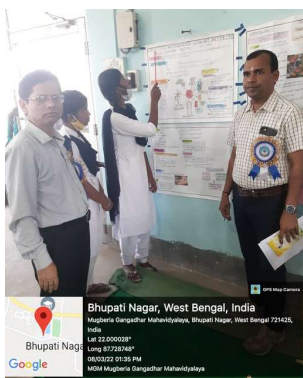
Venue: S. N. Bose Seminar Hall, Mugberia Gangadhar
Mahavidyalaya



2. Two day National Seminar on “Popularization of Mushroom’s Cultivation, its Medicinal Values and Trade for Socio-economic development of Rural Areas



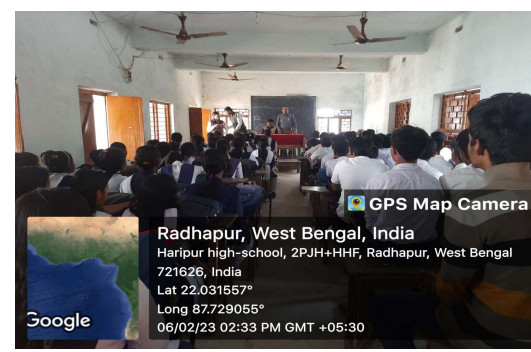
3. Poster and Model competition among the college and nearby school students on the occasion of National Science Day 2022 under DBT Star College Strengthening scheme in collaboration with Pachim Banga Biggyan Mancha and IIC of the college



4. Poster and model competition on soil pollution, water scarcity, solid waste management and green energy arranged among the local school and college students



5. Awareness camp in local schools to encourage and motivate the students towards higher studies in bioscience along with allied sciences like Chemistry, Mathematics



6. Exposure Visit and workshop for School Students to DBT Star College Strengthening Scheme awarded departments



7. Innovation & Entrepreneurship Outreach Program in Schools




8. Solar assisted Ecological balance approach to upgrade traditional Pond Water sourced from Rain Water to safe Drinking Water



9. Outreach Activity for Local School Students on Advancement of knowledge in addressing global health challenges



Outcome of the Outreach Activities

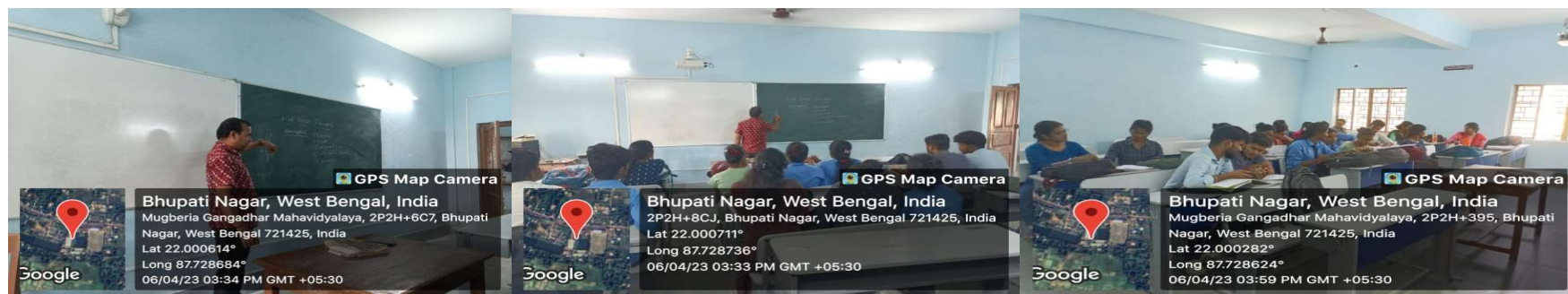
- ❖ **Students and teachers from ten different higher secondary schools located near by the college visited the three supporting departments of our college and got exposure to the different laboratories, understanding the chemical process and analytical techniques for doing experiments along with other laboratory works.**
 - ❖ **Exposure to different Analytical Instruments commonly used for UG practical works.**
 - ❖ **One-to-one interaction with eminent teachers of the departments and also with the invited speakers from the institutes of repute.**
 - ❖ **Hands on training for some fundamental experiments as well as for the processes related to mushroom production, surface water treatment, chemical and bacteriological testing of water.**
 - ❖ **Also given exposure to the research works performed in the department to motivate and to acquire ideas for becoming a research scientist in future.**
- 

Training of Lab Manpower

1. Training program regarding accounting and admission software provided by InfoTech Lab, Kolkata dated 01.06.22



2. Certificate Course on Chemical Lab Technician during 02nd December 2022– 17th January 2023



Impact of the Star College Scheme

Sl No.	Indicator	Pre-support	During/After support			Remarks
			2020-21	2021-22	2022-23	
1	No. of applications for admission	60	75	90	105	Increasing
2	Pass percentage	100	100	100	100	100
3	Dropout Rates	12%	10%	8%	6%	Decreasing
4	No. of students opting for M. Sc.	09	11	10	12	Tendency to choose professional courses
5	Awareness of DBT JRF exam	Not aware	Aware but not applied			Applied for JAM, GATE, NET Exam

- ❖ 2020-21: Both JAM and GATE qualified 1
- ❖ 2021-22: JAM qualified 2
- ❖ 2022-23: JAM qualified 2, CUET: 1

Budget Expenditure

Item	Grants received from DBT during the period (in lakh)	Expenditure incurred during the period (in lakh)	Balance (in lakh)	Remark
1. Non-Recurring	10.00	10.00	0.00	Purchase of equipments
2. Recurring	9.00	9.00	0.00	Purchase of chemicals and glass apparatus
Total	19.00	19.00	0.00	

Assets acquired by the department out of DBT Grant

S. No	Name of Equipment	Item wise Cost (In Rs.)	Date of purchase of equipments
1	Digital pH meter 3 Nos (Systronics)	42126/-	22.01.21
2	Microwave Oven 1No (LG)	33040/-	22.01.21
3	Rota vapor 1 No (Kshitij)	37225.99/-	17/03/21
4	Water Chiller Circulation (Kshitij)	77484.00/-	17/03/21
5	Heating Mantle 2 Nos	21898.00/-	17/03/21
6	Electrophoresis Unit 1 No (Cole-Parmer)	99999.99/-	17/03/21
7	Stirring Hotplate Stuart (Cole-Parmer)	44250.04/-	17/03/21
8	Water Bath (6 hole) 5 lit (Cole-Parmer)	72097.99/-	17/03/21
9	Flame Photometer (Elico)	97420.99/-	17/03/21
10	Ultra Centrifuge (Kubota Japan)	77290/-	26.02.21
11	Centrifuge Head (100 ml, 1.5 ml)	22538/-	26.02.21
12	Teflon lined steel autoclave	25075/-	26.02.21
13	Digital Photoelectric colorimeter 3 Nos	20425.80/-	08.02.21
14	Digital Potentiometer	20933.20/-	08.02.21
15	UV light with chamber	11799/-	08.02.21
16	Digital Balance Nos 2 upto 0.1 mg (Wensler)	23364/-	08.02.21
17	Soil Tensiometer	47141/-	08.02.21
18	Rough Digital Balance 5kg	3776/-	18.03.21



Rotavapor with chiller



Electrophoresis unit



Ultrasonicator



Conductivity meter



pH meter



Potentiometer



Hot Air Oven



Flame photometer



Digital Viscometer



Stirrer with hotplate



Furnace



Centrifuge



Microwave oven



UV chamber



Table top UV light

Basic research published in reputed journals under the financial support of DBT

The screenshot shows a web browser window displaying an article on the ACS Publications website. The browser's address bar shows the URL: pubs.acs.org/doi/10.1021/acsabm.3c00590. The page header includes the ACS Publications logo and navigation links. An advertisement for the 'HEROES of CHEMISTRY' award is visible. The article title is **In Vitro Insight on Antifungal-Specific Potentiality of Ni(II) Complex against *Colletotrichum siamense* and *Fusarium equisetum* Phytopathogens**. The authors listed are Minakshi Maity, Ribhu Maity, Tuhin Sarkar, Ankika Bhakat, Paula Brandao, Tithi Maity, Priyanka Das, Keka Sarkar*, and Bidhan Chandra Samanta*. The article is cited in *ACS Appl. Bio Mater.* 2023, 6, 11, 4836–4845. Metrics show 104 Article Views, 1 Altmetric, and 0 Citations. The page also features a thumbnail for *ACS Applied Bio Materials* and a Windows activation notice.

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In Vitro Insight on Antifungal-Specific Potentiality of Ni(II) Complex against *Colletotrichum siamense* and *Fusarium equisetum* Phytopathogens

Minakshi Maity, Ribhu Maity, Tuhin Sarkar, Ankika Bhakat, Paula Brandao, Tithi Maity, Priyanka Das, Keka Sarkar*, and Bidhan Chandra Samanta*

Cite this: *ACS Appl. Bio Mater.* 2023, 6, 11, 4836–4845
Publication Date: November 7, 2023
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pubs.rsc.org/en/content/articlelanding/2023/ra/d2ra08341h

Issue 11, 2023, Issue in Progress

From the journal: **RSC Advances**

Combined theoretical and experimental insights on DNA and BSA binding interactions of Cu(II) and Ni(II) complexes along with the DPPH method of antioxidant assay and cytotoxicity studies†

Check for updates

Prasun Acharya,¹ Anun Kulla,² Ushasi Pramanik,³ Venkatesha R. Hathwar,⁴ Paula Brandao,⁵ Sandarshi Mukherjee,⁶ Swapan Maity,⁷ Tihti Maity,⁸ Ribhu Maity⁹ and Bidhan Chandra Samanta⁹

Author affiliations

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Supplementary information
PDF (2991K)

Crystal structure data
CIF (4859K)

Article information
https://doi.org/10.1039/D2RA08341H

pubs.rsc.org/en/content/articlelanding/2023/nj/d2nj05462k

Issue 5, 2023

From the journal: **New Journal of Chemistry**

Unveiling the catecholase activities and DNA binding interaction of mono-, di-, and polymeric Cu(II) complexes derived from heterogeneous Schiff base ligands†

Check for updates

Ribhu Maity,¹ Minakshi Maity,² Kalyanmoy Jana,³ Tihti Maity,⁴ Nayim Sepay⁵ and Bidhan Chandra Samanta⁶

Author affiliations

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Abstract

In this study, a comparative study of the catecholase activities and DNA binding of three

Supplementary files

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Synthesis of an Aryl-Semicarbazone-Based Cu(II) Complex for DNA and BSA Interaction and Anti-Cancer Activity against Human Cervix Uteri Carcinoma

by Ribhu Maity¹, Biplab Manna¹, Swapan Maity², Kalyanmoy Jana³, Tihti Maity³, Mohd Afzal⁴, Nayim Sepay⁵ and Bidhan Chandra Samanta^{1*}

¹ Department of Chemistry, Mughberia Gangadhar Mahavidyalaya, Bhubaneswar, Purba Medinipur 721425, West Bengal, India
² School of Materials Science and Technology (SMST), Indian Institute of Technology (IIT), Banaras Hindu University, Varanasi 221005, Uttar Pradesh, India
³ Department of Chemistry, Prabhat Kumar College, Contai 721401, West Bengal, India
⁴ Department of Chemistry, College of Science, King Saud University, Riyadh 11451, Saudi Arabia
⁵ Department of Chemistry, Lady Brabourne College, Kolkata 700117, West Bengal, India

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RESEARCH ARTICLE | VOLUME 8, ISSUE 11, E11345, NOVEMBER 2022

Biophysical insights into the binding capability of Cu(II) schiff base complex with BSA protein and cytotoxicity studies against SiHa

Minakshi Maity • Ushasi Pramanik • Venkatesha R. Hathwar • ... Ribhu Maity • Tihti Maity • Bidhan Chandra Samanta

Open Access • Published: November 03, 2022 • DOI: https://doi.org/10.1016/j.heliyon.2022.e11345

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Hydrophobicity-induced DNA, BSA binding, and biomaterial applications of a heteroleptic Cu(II) complex

Prasun Acharya, Ribhu Maity, Arun Kulla, Tirthi Maity, Swapan Maity, Nayim Sepay, Bidhan Chandra Samanta

First published: 14 February 2022 | <https://doi.org/10.1002/aoc.6640>

Funding information: Department of Biotechnology, Ministry of Science and Technology, India. Grant/Award Number: HRD-11011/161/2020-HRD-DBT

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Abstract

Herein, we report a new Cu(II) complex [Cu(L)(2) bis(μ-ClO₄)]₂ obtained from a NMO...

Protein analysis.jpeg protein analysis (2).jpeg This (C).docx biplab.docx

THE JOURNAL OF PHYSICAL CHEMISTRY B

Exploring the Noncovalent Interactions of the Dinuclear Cu(II) Schiff Base Complex with Bovine Serum Albumin and Cell Viability against the SiHa Cancer Cell Line

Ribhu Maity, Nayim Sepay,* Ushasi Pramanik, Kalyanmoy Jana, Saptarshi Mukherjee, Swapan Maity, Dasarath Mal, Tithi Maity, and Bidhan Chandra Samanta*

Cite This: <https://doi.org/10.1021/acs.jpbc.1c05794> Read Online

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ABSTRACT: In the present study, a dinuclear bis(μ-acetate) dicopper(II) complex [Cu₂L₂(μ_{1,1}-CH₃COO⁻)₂] has been synthesized from a tridentate NNO Schiff Base ligand L (L = 2,4-dibromo-6-((3-(methylamino)propylimino)methyl)-...

Significant photodegradation of carcinogenic organic dyes by a 1D supramolecular heteroleptic Cu(II) complex under sunlight irradiation†

Arun Kulla, Ribhu Maity, Prasun Acharya, Paula Brandao, Tirthi Maity, Nayim Sepay, and Bidhan Chandra Samanta

Author affiliations

Abstract

The crucial role of supramolecular interactions in determining the supramolecular layer architecture of the heteroleptic Cu(II) complex [Cu(L)(imid)(ClO₄)₂] synthesized from ortho-

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Supplementary files

Journal of Photochemistry & Photobiology, A: Chemistry 422 (2022) 113565

Journal of Photochemistry & Photobiology, A: Chemistry

journal homepage: www.elsevier.com/locate/jphotochem

Copper(II) complexes with NNN and NNO Schiff base ligands as efficient photodegradation agents for methylene blue, preferential BSA binder and biomaterial transplants

Kalyanmoy Jana^a, Ushasi Pramanik^b, Kapil S. Ingle^c, Ribhu Maity^d, Saptarshi Mukherjee^b, Susanta K. Nayak^e, Subhas Chandra Debnath^a, Tithi Maity^f, Swapan Maity^f, Bidhan Chandra Samanta^{g,*}

^a Department of Chemistry, University of Kalyani, Kalyani 741235, West Bengal, India
^b Department of Chemistry, IISER Bhopal, Bhopal Bypass Road, Bhopal 462 066, Madhya Pradesh, India
^c Department of Chemistry, VIT-VEERAWATI National Institute of Technology (VIT-NT), Nagpur, Maharashtra 440016, India
^d Department of Chemistry, Mukherjee Gangepari Mahavidyalaya, Bhatnagar, Purba Medinipur, West Bengal 721425, India
^e Department of Chemistry, Prabhat Kumar College, Conal, Purba Medinipur, West Bengal 721401, India
^f School of Materials Science and Technology (SMST), Indian Institute of Technology (IIT), BHU, India

Future Activities

- 1. Carry out more Minor Research projects on Synthesis of transition metal complexes and their bio applications and in advance chemistry research area for undergraduate Students**
- 2. More Outreach programme/workshops for school students and community people for self-employment**
- 3. More Academic visit of students to reputed research laboratories and industries and carry out more hands on training of advanced level and sophisticated instruments for students**
- 4. Carry out more Interdisciplinary and interdepartmental activities like Cultivate medicinal plants used to produce herbal medicines for the benefit of the society, Analysis of BOD and Heavy metals in water, DNA interaction studies of metal complexes, Sewage treatment for reuse, Pond water treatment for domestic uses**

Concluding Remarks

- ❖ In spite of rural and backward college we are struggling with all our existing potential and positive thinking to uplift the department.
- ❖ Our existing infrastructure and potentiality have been strengthened with estimated support from DBT.
- ❖ We would like to convey our thankful gratitude to DBT, Govt. of India for generating financial support to our department under Star college strengthening scheme.



Thank you