



# **RAMAKRISHNA MISSION VIVEKANANDA CENTENARY COLLEGE**



## **DBT-STAR College Scheme**

### **Annual Progress Report (2020 -21)**

### **Department of Botany**

**Dr. Anirban Kundu**  
Assistant Professor  
Departmental Coordinator  
DBT-STAR College Scheme

# Overview of the Presentation



Sl. No.	Topics to be Covered
1.	New practicals introduced in each Dept. supported under the scheme
2.	Equipments procured for the proposed new practicals
3.	Interdisciplinary/interdepartmental projects executed by the students
4.	Workshops and seminars organized supported under the scheme
5.	Faculty improvement programs
6.	Visits to industry and important labs of national eminence
7.	Lectures Delivered by Experts/Speakers
8.	Outreach activities
9.	Resource Generated
10.	Impact of the Star College Scheme
11.	Grant Received and Utilization
12.	Future Activities



## Innovative New Practical's Introduced:

Sl. No.	Name of the Practical	Level	Number of Beneficiaries
1.	Isolation of Soil Microbes.	UG, 1 <sup>st</sup> Sem	46
2.	Study of Mitotic Index.	UG, 1 <sup>st</sup> Sem	46
3.	Cytoplasmic Streaming in Plant Cells.	UG, 1 <sup>st</sup> Sem	46
4.	Assessment of Water Quality.	UG, 3 <sup>rd</sup> Sem	12
5.	Study of Placentation Types.	UG, 3 <sup>rd</sup> Sem	12
6.	Acetolysis and Pollen Analysis.	UG, 3 <sup>rd</sup> Sem	12
7.	Cell Viability Assay using Trypan Blue Staining.	UG, 5 <sup>th</sup> Sem	42
8.	Spectrophotometric Quantification of DNA.	UG, 5 <sup>th</sup> Sem	42
9.	Agarose Gel Electrophoresis.	UG, 5 <sup>th</sup> Sem	42
10.	Introduction to Bioinformatics	UG, 5 <sup>th</sup> Sem	42

# List of Equipment Procured Under the Scheme



Sl. No.	Instrument Name	Quantity	Practical's Covered
1.	Deep Freezer (-20°C)	1	General Lab Equipments
2.	Digital Weighing Balance	2	
3.	Double door Refrigerator	1	
4.	Microwave Oven	1	
5.	pH meter	2	
6.	Magnetic Hot Plate Stirrer	1	
7.	Digital Water Bath	1	
8.	Microscope – Dissecting	2	
9.	Compound microscope with LED light	20	
10.	D5600 Camera	1	
11.	Hot Air Oven	1	
12.	UV-Vis Spectrophotometer	1	Molecular Biology Lab
13.	Mini Horizontal Gel Electrophoresis	2	
14.	Power Supply	2	
15.	Mini Vertical SDS Page Apparatus	1	
16.	Microcentrifuge with Rotor	2	
17.	UV Transilluminator	1	
18.	Starter pipette set	1	
19.	Vortex shaker	1	
20.	Digital TDS / Conductivity Meter	1	Ecology Lab
21.	GPS	1	
22.	Hygrometer	1	
23.	Lux Meter	1	
24.	Digital Anemometer	1	
25.	Rain Gauge	1	
26.	Soil Thermometer	1	
27.	Laptop	1	Genomics /Bioinformatics Lab
28.	Desktop	1	
29.	1TB external HDD	1	
30.	Printer	1	
31.	Online Inverter UPS	1	

Strengthening of  
Existing Infrastructure

Establishment of  
New Facilities

- Quotations invited from 3 Vendors
- Purchased with 5% GST as per SIRO Certification



## Projects (Review) Undertaken by UG Students

Name of the Project	Level	Guided By
1. Ocean Microbes and Their Importance	UG, 1 <sup>st</sup> Sem.	Dr. Anirban Bhar
2. Space Dwelling Microbes - The Panspermia Theory	“	
3. The Human Skin Microbiome	“	

## General Awareness Programme for the UG Students

**In addition, online general awareness program were organized:**

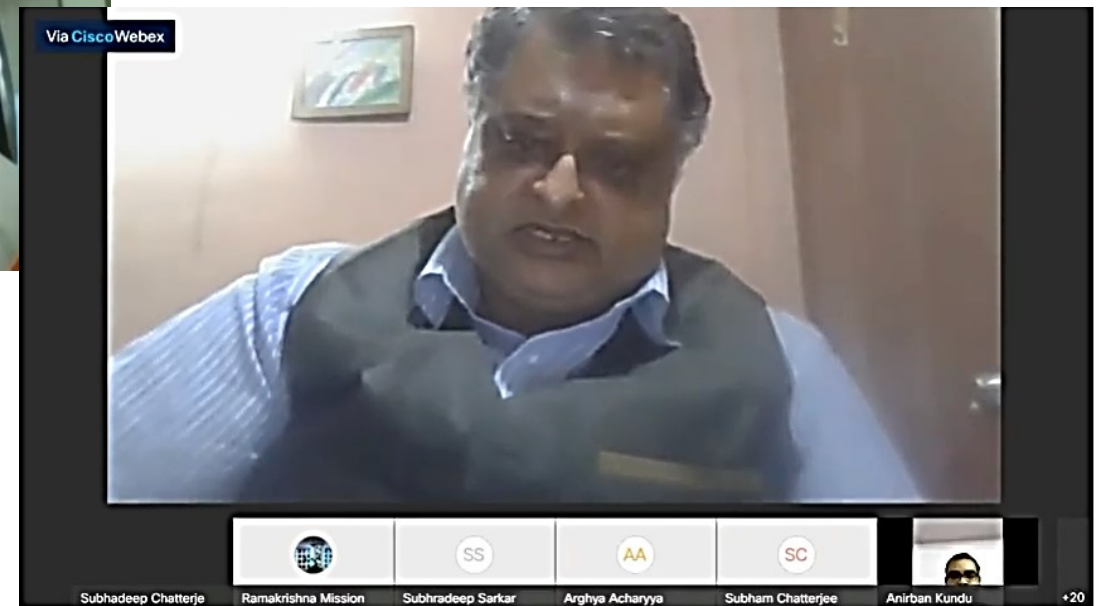
- **How to Reduce Risk of COVID-19 Infection.**
- **IPR and Biosafety Issues.**

# Webinars by Eminent Scientists



Date	Topic	Delivered By
14th Oct, 2020	UG Induction Programme, 2020 Scope of Biotechnology	Dr. Subhra Chakraborty, Director, National Institute of Plant Genome Research, New Delhi
5th Dec, 2020	Understanding the social language of bacteria: Speak or not to speak?	Dr. Subhadeep Chatterjee, Scientist, Bhatnagar Awardee-2020, Centre for DNA Fingerprinting & Diagnostics, Hyderabad, Telengana
5th Dec, 2020	Covid-19: Possible strategies to prevent neurodegenerative diseases	Dr. Malabendu Jana, Assistant Professor, Rush University Medical Center Neurological Science, Chicago, IL-60612, USA
11th Dec, 2020	Bacterial warfare mediated by Type VI Secretion system	Dr. Biswanath Jana, Department of Clinical Microbiology and Immunology, Sackler Faculty of Medicine, Tel Aviv University, Tel Aviv, Israel.

# Some Glimpses of the Webinars



# eWorkshops (Hand's-on-Training) Supported Under the Scheme



Department of Botany  
**RAMAKRISHNA MISSION VIVEKANANDA CENTENARY COLLEGE**

Under the DBT-STAR College Scheme

*Organizes*

## Basics in Bioinformatics

An Online Workshop on

March 26 - 27, 2021

Virtual Platform: Google Meet

Capacity: 25 Students

Who can apply: Undergraduate Students (5<sup>th</sup>/6<sup>th</sup> Semester or 3<sup>rd</sup> year)

Registration Link: <https://surveyheart.com/form/60571efe05ab364acc9c289f#welcom>

Last Date of Registration: 24.03.2021

Registration Fee: Nil

Patron:  
Swami Kamalasthananda

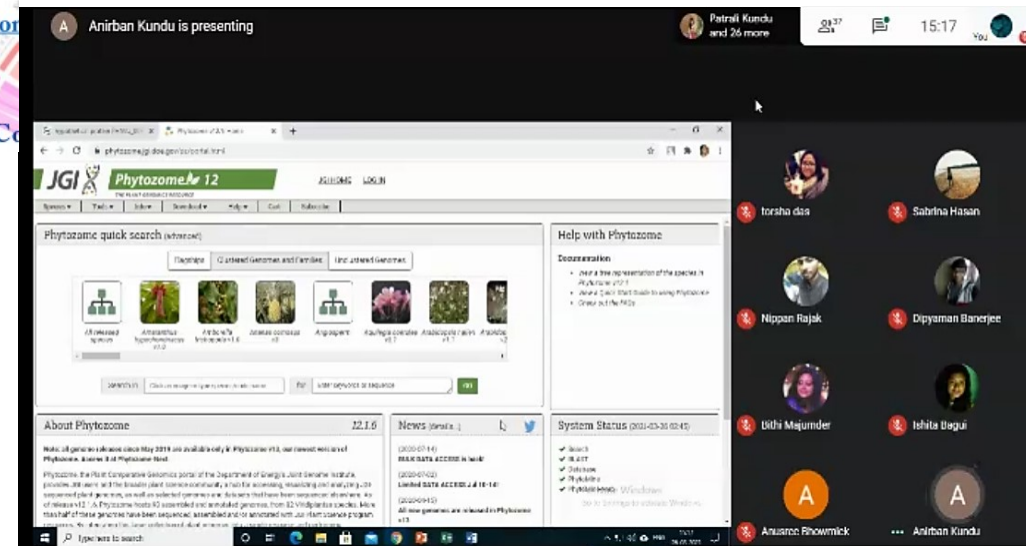
Organizing Co

## Resource Persons

Dr. Anirban Kundu,

Dr. Anirban Bhar,

Ramakrishna Mission Vivekananda Centenary College





# Outreach Activities



Date	Topic	Delivered By	Number of Beneficiaries
09 <sup>th</sup> Apr, 2021	<i>Light and Life: The Indispensable Process of Photosynthesis</i> <b>One-Day Science Outreach Program</b>	<b>Dr Avik Kumar Choudhury</b> Assistant Professor Ramakrishna Mission Vivekananda Centenary College	45

Organized By

**Ramakrishna Mission Vivekananda Centenary College**



In-association with

**Govt Sponsored Multipurpose School for Girls**

**Programme Schedule**

**Date: 9<sup>th</sup> April 2021 (Friday)**

<b>Lecture 4</b> <b>Subject: Botany</b> <b>Title: <i>Light and Life: The Indispensable Process of Photosynthesis</i></b>	<b>Dr Avik Kumar Choudhury</b>	<b>Talk: 1:30</b> <b>Students 1:30</b>
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# Interdepartmental Enrichment Program



Date	Topic	Delivered By	Number of Beneficiaries
07 <sup>th</sup> Apr, 2021	<i>Protein bioinformatics: Structural dynamics and properties</i>	Dr. Anirban Kundu Assistant Professor Ramakrishna Mission Vivekananda Centenary College	60



RAMAKRISHNA MISSION VIVEKANANDA  
CENTENARY COLLEGE  
(An Autonomous College)  
P.O. RAHARA, KOLKATA-700118  
WEST BENGAL, INDIA  
Centre with Potential for Excellence (CPE)

**Webinar on Interdepartmental  
Enrichment Program**  
Under DBT Star College Scheme  
On 7<sup>th</sup> April, 2021 (11am – 4.00pm)

## Program Schedule:

11am – 11.40 am: Dr. Kalayan Brata Chatterjee,  
RKMVCC ( Topic :The art of estimation)  
11.50am – 12.30 pm : Dr. Anirban Kundu, Botany  
RKMVCC ( Topic: Protein bioinformatics – Structural  
dynamics and properties )  
12.40pm – 1.20 pm: Dr. Sougata Sarkar, Chemistry  
RKMVCC ( Topic: Chemistry of Buffer Solution)  
1.30 pm - 2.30 pm : LUNCH  
2.30 pm – 3.10 pm: Dr. Subham Mookherjee, Zoology  
RKMVCC ( Topic: Environmental water sources and  
pollution )



## Faculty Improvement Programs

Date	Topic	Number of Beneficiaries
02 <sup>nd</sup> Aug, 2020	How to Use TCSion for Digital Classroom	60
16 <sup>th</sup> Oct, 2020	Use of Cisco Webex Platform	60

## Resource Generated:



### Lab Manual:

Resource Generated	Faculties Involved
Generation of Laboratory Manuals	Dr. Anirban Kundu
	Dr. Anirban Bhar

### Documentation of Flora:

Resource Generated	Faculties Involved
Documentation of Algal Microflora	Dr. Harisankar Dey
	Dr. Avik Kumar Choudhury
Documentation of Angiospermic Diversity	Dr. Biswajit Roy

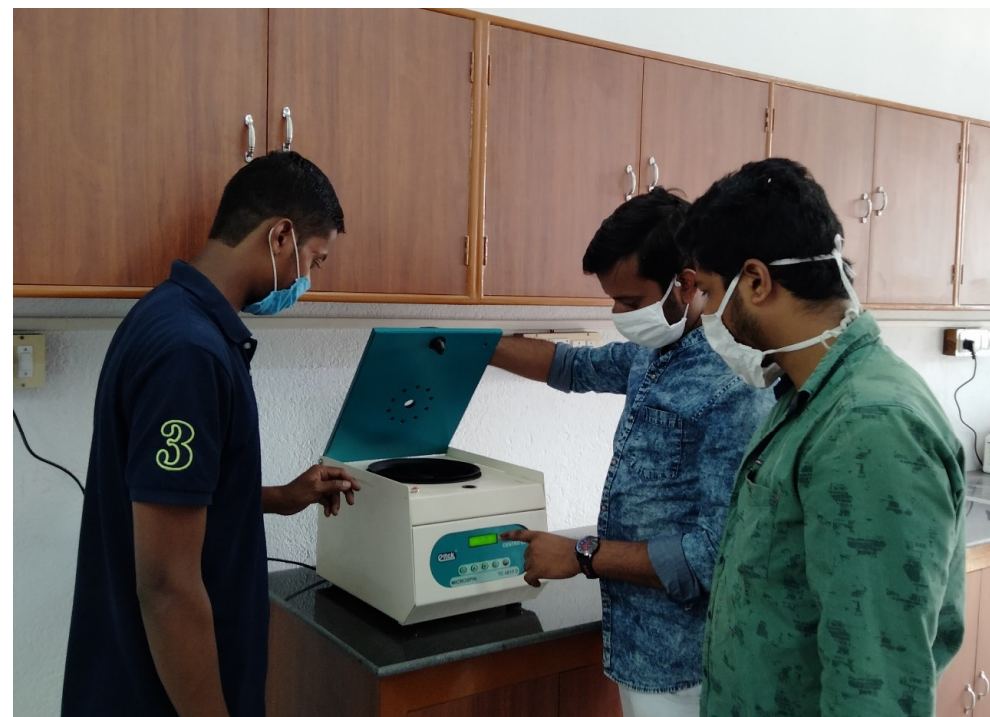
### Digitalization of Herbarium Specimens:

Resource Generated	Faculties Involved
Digitalization of Herbarium Specimens	Dr. Biswajit Roy

# Training of Lab Manpower

**Feb 08, 2021**

**Hands-on-Training: Reagents & Buffer Preparation**



**Demonstration of Instruments  
Procured Under the Scheme**

**Feb 08, 2021**





## Impact of the DBT-Star College Scheme

% Increase in Number of Students Admitted (2019 vs. 2020)	% Students Opted for Higher Studies	Successful Candidates	
		TIFR, JAM	CUCET, PU
50%	100%	3 (5 appeared)	4 (7 appeared)



# Impact of the DBT-Star College Scheme



## DBT-JRF Examination (BET - 2020)

No. of Applicants: 07;

Qualified:

Sl. No.	Name	Application No.	Category
1.	Parbej Laskar	1013534	I, JRF
2.	Diptesh Biswas	1005681	I, JRF

क्षेत्रीय जैवप्रौद्योगिकी केन्द्र  
राष्ट्रीय महत्ता की संस्था, जैवप्रौद्योगिकी विभाग,  
भारत सरकार द्वारा युनेस्को के तत्वावधान में स्थापित  
Regional Centre for Biotechnology  
An Institution of National Importance.  
Established by the Department of Biotechnology  
Government of India, Under the auspices of UNESCO



DBT-HRD Project & Management Unit

DBTHRDPMU/JRF/BET-20/I/2020/AL/374

Date: 12-02-2021

Mr. Parbej Laskar  
C/O Mubarak Ali Laskar, North Bhangankhali,  
Basanti, South 24 Parganas, West Bengal-743329  
Email: Parvej.laskar.win10@gmail.com  
Mobile: 9123031076  
Application Sequence Number: 1013534

Dear Mr. Parbej Laskar,

### SUB: AWARD LETTER FOR DBT-JRF CATEGORY-I

We are pleased to inform that you have qualified BET 2020 under Category-I and you are eligible for the award of Junior Research Fellowship (JRF) funded by the Department of Biotechnology (DBT), Government of India. This award letter is being issued to you for activation of fellowship under DBT-JRF programme following your admission in a Ph.D. programme. General terms and conditions governing the DBT – JRF fellowship are given below:

# Grant Received and Utilization



Grants Received		Recurring	Non-Recurring
Year	2020 - 2021	Rs. 3,00,000/-	Rs. 10,00,000/-
Total		Rs. 13,00,000/-	

Grant Utilization	
Year	2020 - 2021
Recurring	Rs. 3,02,059/-
Non-Recurring	Rs. 10,05,604/-
Total	Rs. 13,07,663/-





# **Future Activities**

## **Workshop for Faculties:**

**R - Programming for Biologists.**

**Workshop on Bioinformatics.**

## **Workshop for the Students:**

**Workshop on Biosafety and Biosecurity.**

**Workshop on Herbarium Techniques.**

**Hands-on-Training on DNA Isolation, Quantification & Gel Electrophoresis.**

## **Outreach Programmes:**

**Bioinformatics Awareness Programme.**

**Workshop on Modern Instruments in Biological Sciences.**

**Bioactive Compounds in Medicinal Plants.**

## **Study Visits:**

**Industry & Institutes of National Repute (NIBMG, Bose Institute etc.).**

**Educational Tour in Different Phyto-Geographical Regions.**

# Qualitative Improvements due to DBT Support



- Overall improvement of departmental infrastructure through the DBT-STAR College grant.
- Individual access to instruments & practicals.
- Interdepartmental Enrichment Activities to develop scientific aptitude of students in subject and allied field.
- Introduction of new practicals (SOP), development of resource materials and exposure of students to new techniques and instruments.

**Thank You**