

## Departmental Activities 2022-23

### Workshop on Cell culturing Techniques

Department of Microbiology organized workshop on cell culturing techniques to MSc Microbiology final year students (37 participants) on 20<sup>th</sup> April, 2023 at Jeeva Biotech, Cherlapally, Hyderabad. Dr.K.Anuradha and Dr.Y.Aparna, faculty, Department of Microbiology, BVC accompanied the students. The session started with a lecture on facilities available at the unit. Dr.Uttam Kumar briefed about the Microbiology facility and demonstrated the Bio safety levels and containment facility in the lab emphasizing on the processing of sample received for analysis. Different equipment like HPLC, GC, Aflatoxin testing were demonstrated. Dr. Raju, Director of the company demonstrated cell culture techniques and maintenance techniques, growing of cells in DMEM media and Packaging of cells. Techniques demonstrated were Bacterial endotoxin test, Sterility testing, Air sampling by petriplate exposure, Cryopreservation techniques etc. The workshop ended at 4.30 pm with concluding remarks by director of company.



## *Report on Visit to Sewage Treatment Plant*



On April 12 and 13, 2023, students pursuing M.Sc., Microbiology at Bhavan's Vivekananda College, Sainikpuri, Hyderabad, visited the 339 MLD Capacity Sewage Treatment Plant (STP) located at Amberpet, Hyderabad. The said STP is the biggest STP in the Asia, and each day, it converts 339 million liters of sewage into river-standard water.

Specifically, on April 12, 2023, 38 final year M.Sc. Microbiology students along with two faculty members Dr. Anju Nair and Dr. V.R.V. Narayana Rao visited the plant. On April 13, 2023, 38 previous year M.Sc. Microbiology students along with Dr. VRV Narayana Rao visited the plant.

On the both days of visit to the STP, students first attended a guest lecture titled 'Design and Operation of the 339 MLD STP'. The guest lecture was delivered by Mr. B. Suryaprakasa Rao, Senior Chemist at the STP. Subsequently, Mr. B. S. Rao spent his entire day along with the students and guided the visit to the facility. During the tour, Mr. B. S. Rao explained each and every component of the plant to the students; students understood and appreciated the process of sewage treatment. Students learned newer aspects of sewage treatment especially the components of secondary sewage treatment such as up-flow anaerobic sludge blanket reactor (UASBR), facultative aerobic lagoon (FAL), and polishing pond (PP), and the tertiary treatment of sewage water by chlorination. At the end, students visited the laboratory in the Administrative Building of the STP where water quality parameters such as dissolved oxygen, biochemical oxygen demand, chemical oxygen demand, pH, total suspended solids, fecal coliform counts, levels of nutrients such as sulfate and nitrate, are measured.

The Department of Microbiology, BVC, Sainikpuri, Hyderabad, thanks the Principal of BVC, and Director (Projects-I), Hyderabad Metropolitan Water Supply and Sewerage Board, Khairatabad, Hyderabad, and Indu Travels, Hyderabad, for making this field trip safe and successful. We also thank students (Harish, Rajesh, and Aakanksha) for taking the photographs during the visit and Rajesh for helping us write the report.

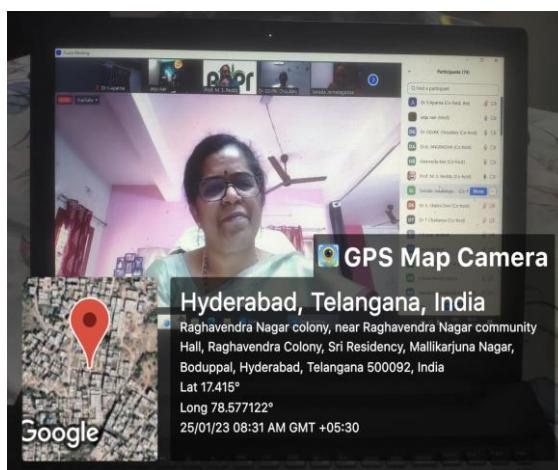
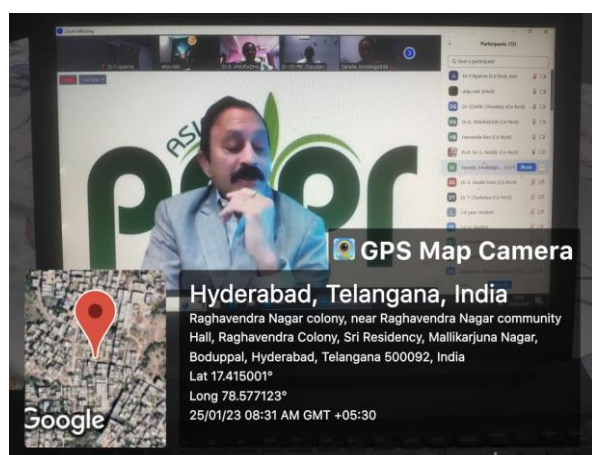


**Photographs taken during the STP visit on April 12, 2023**



## Guest Lecture Report

Department of Microbiology organized an online guest lecture on 25<sup>th</sup> January, 2023 at 8:30 am. The resource person Prof.M.S. Reddy, Founder and Chairman of Asian PGPR Society, Auburn University, USA elaborately discussed on the topic “Eco-Evolutionary response of Plant- Microbiome interactions under Climate change for sustainable Agriculture.” The speaker was introduced by Dr.B. Hameeda Bee, Associate Professor, Department of Microbiology, Osmania University. He enlightened on the importance of plant growth promoting microorganisms and the need for sustainable developments in the agriculture. The online guest lecture was attended by 90 students and faculty various institutions.







# **BHAVAN'S VIVEKANANDA COLLEGE** **of Science, Humanities & Commerce**

Sainikpuri, Secunderabad, Telangana - 500094

Autonomous College, Affiliated to O.U.

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## *Guest Lecture on* **Eco-Evolutionary responses of** **Plant-Microbiome interactions under** **Climate change for sustainable Agriculture**

**organized by**  
**Department of Microbiology**



**Resource Person**

**Prof. M. S. Reddy**

**Founder and Chairman of Asian PGPR Society,  
Auburn University, USA**

**Coordinator**

**Dr. K. Anuradha, Head,  
Department of Microbiology**

**Platform: Zoom Click here**

**Youtube Livestream Click here**

**Date: 25th January, 2023**

**Time: 8:30 am**

## Report on

### Outreach for School Children on “Microbes in our daily Life”

Outreach programme for school students at Zilla Parishad High School, Kapra was organized on 11<sup>th</sup> October, 2022 by Department of Microbiology. Two faculty members Dr.J.Sarada and Ms.S.Anju along with Five B.Sc Microbiology students conducted the programme for 150 students of 10<sup>th</sup> class. Programme started with a brief introduction of the participating members and the topic “Microbes in our daily Life”. Dr. J.Sarada and Ms. Anju briefed on importance of Microbes in our daily life followed by students talking on beneficial and harmful organisms with examples. Ms. Shreya & Alekhya talked about beneficial bacteria with examples, Saketh and Anirvin spoke on Probiotic bacteria and fermented foods, Sushma spoke on Disease causing bacteria, Ms.S.Anju made the session active by giving examples of bacteria in our day to day life Quiz was conducted at the end to know the understanding of students. Mrs. Radha, Biology teacher in school had thanked the Bhavan’s Team for selecting their school for the programme and requested to organize some more programmes to their students.



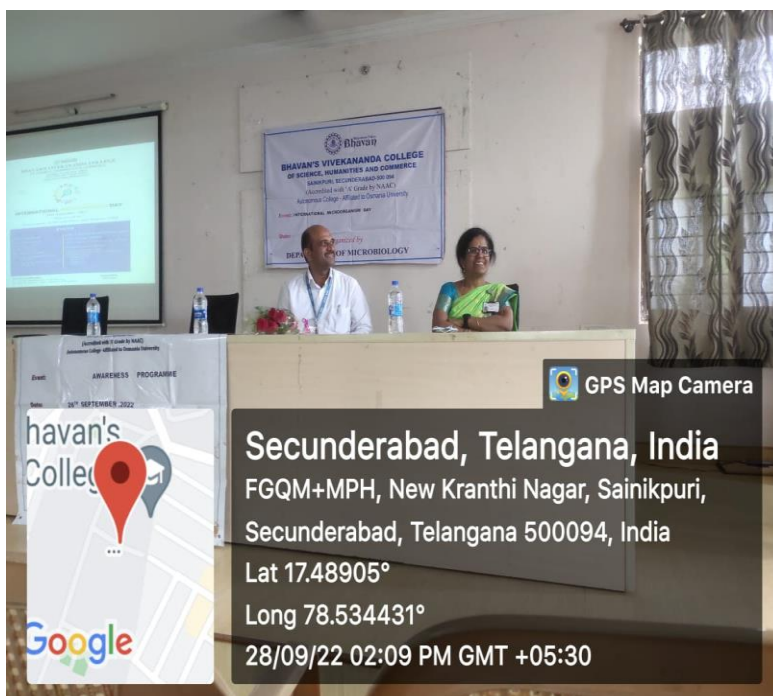




# **GUEST LECTURE - USE OF LYTIC PHAGES FOR**

## **BIO FOOD PRESERVATION**

A guest lecture was organised by Department of Microbiology and Science club, BVC on the occasion of “**International Microorganism’s Day**” on **28-09-2022**. Dr. K. Anuradha and Ms T. Chaitanya Kumari, from Department of Microbiology, BVC coordinated the event. 120 students from B.Sc and M.Sc Microbiology took part in the event. Guest speaker, **Dr. Naveen Kumar R, Senior Technical Officer, National Institute of Nutrition (ICMR)**, Tarnaka, Hyderabad, discussed his research findings on the topic “**Use of lytic phages for Bio Food preservation**”. Dr. Naveen explained about isolation of bacteriophages, methods to evaluate efficacy of phages as bio-control agents for prevention of food contamination by salmonella. Guest speaker also highlighted the importance and advantages of bio preservative phages over chemical and physical food preservation techniques. This lecture enlightened students on development of novel strategies for food preservation.





## **International Microorganism Day-2022**

### **REPORT ON INTER HOUSE 'JUST A MINUTE' COMPETITION**

**Just a Minute**, popularly referred to as **JAM** is an innovative way of testing the speaker's presence of mind, fluency of language, ability to connect their thoughts on the given topic and overall communication skills of the participants. Keeping this in mind, an Inter House JAM session was conducted for Life sciences Undergraduate students on 28th September, 2022 as a part of **International Microorganism Day-2022** celebrations.

Total **33 participants** took up the challenge wholeheartedly and spoke on various Microbiology related topics, showcasing their logical flow of thoughts, coherence of ideas, spontaneity and general knowledge in just a minute, which impressed the judge **Dr J Sarada**, Assistant Professor, Department of Microbiology, BVC.

Vaishnavi (BSc-BtMC 1 year) bagged the first position, while Naganjali (BSc-BtMC 1 year) stood second. All the other participants were awarded participation certificates. The contest enriched one and all.



**Bhavan's**

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**INTERNATIONAL MICROORGANISM DAY**  
28th September, 2022  
Organized by  
Department of Microbiology and Science Club

### Events

**GUEST LECTURE BY**  
**Dr. Naveen Kumar R**  
Senior Technical Officer  
National Institute of  
Nutrition, Hyderabad  
**Time: 2:00pm - 3:00pm**  
Topic: Use of lytic phages for Bio Food  
preservation  
Venue- Seminar Hall, Biochemistry Block,  
Room No. 71

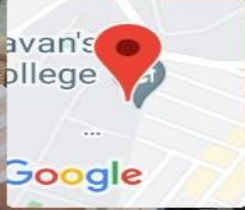
**JUST A MINUTE COMPETITION (JAM)**  
**Time: 3:00pm - 4:00pm**  
Venue- Department of Microbiology , IT Block  
**Rules for Just A Minute**  
1. Only one participant in JAM.  
2. Each participant will be given a topic on the spot.  
3. Distribution of Marks:-  
Spontaneity - 10  
Method - 10  
Content - 10  
Fluency - 10

**Event Coordinator**  
Dr. R. Anuradha, Head, Department of Microbiology  
Mrs. Y. Chaitanya, Assistant Professor, Department of Microbiology

**Registration**  
[Click here](#)







### Secunderabad, Telangana, India

FGQM+VX8, Defence Colony, Sainikpuri, Secunderabad,  
Telangana 500094, India

Lat 17.489638°

Long 78.534866°

28/09/22 04:06 PM GMT +05:30

GPS Map Camera

## **RABIES AWARENESS PROGRAM 2022**

### **DEPARTMENT OF MICROBIOLOGY**

#### **Outreach programme**

Department of Microbiology under the Science Club of Bhavan's Vivekananda College of Science Humanities and Commerce, Sainikpuri, Secunderabad, organized an awareness rally on the occasion of "World Rabies Day" on 28<sup>th</sup> Sep 2022. Rabies a disease which is observed in mammals can spread to human beings via a bite or scratch by an infected mammal. Though there is no treatment for the disease if infected, still it is 100% preventable by vaccination. To stress on the prevention of this dreadful disease the awareness program was conducted.

The event was organized based on theme proposed by Global Alliance for Rabies Control, World Health Organization (WHO), "One Health and Zero Deaths". Faculty, students, NCC,NSS & Bharath Scouts & Guide Team of BVC took an active part in the rally which comprised of 400 members. The rally was organized from college to the Neredmet X Roads, Secunderabad.





## Report on “Six Sigma Yellow Belt in Health Care” Workshop

Four day Online workshop on *Six Sigma in Health Care* was organized by Department of Microbiology for M.Sc Microbiology final year students in collaboration with MSME Technology Development Centre, PPDC, and Agra. This workshop was conducted online on 13<sup>th</sup>, 14<sup>th</sup> and on 20<sup>th</sup> and 21<sup>st</sup> April during afternoon session i.e 3p.m to 5p.m. Thirty-three M.sc students and two faculty. i. e Dr.J.Sarada and Ms.S.Anju had attended the workshop .

On 13th April, Workshop was inaugurated by Mrs. Niaramathi, officiating principal at 3.p.m followed by the welcome address by Dr.K. Anuradha, Head Department of Microbiology. She introduced the resource person Dr. Panneer Selvam Ramaswamy to M.Sc students and faculty members. Dr. Panneer Selvam Ramaswamy, Principal and director of PPDC centre, delivered his introductory lecture on concept of Six Sigma in health care and its significance.

On 14<sup>th</sup> April i.e on second day, session started with lecture on Lean Six Sigma YB in Health care services by Dr. Panneer Selvam. He briefed on Six sigma focus, goal, its genesis and responsibility in details to students.

On 3<sup>rd</sup> and 4<sup>th</sup> day, focus was made on Lean Six Sigma Tools like KAIZEN, MURI-STRAIN, MURA-INCONSISTENCY, MUDA-WASTE, GEMBA KAIZEN , 5 S etc. on 21<sup>st</sup> Dr. Rajesh had conducted an online exam for students and took feedback from students. This workshop had provided students awareness on Six sigma concept and its benefits in Health care industry.



### When to use Six Sigma ?

		Cause	
		Known	Unknown
Solution	Known	Simple Issues Just do it!	Be Careful Issues Ask "What cause does this solution address?"
	Unknown	Complex Issues Do "I" or "C"	DMAIC Issues Use DMAIC

~Do you REALLY know?

Hyderabad, Telangana, India  
Gks Pride Block-3, GKS PRIDE, Swarnandhra Colony, Yapral, Hyderabad, Telangana 500087, India  
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Long 78.545744°  
15/08/22 04:56 PM

### Lean Six Sigma In Health care services

Dr. Pannierselvam

Hyderabad, Telangana, India  
Gks Pride Block-3, GKS PRIDE, Swarnandhra Colony, Yapral, Hyderabad, Telangana 500087, India  
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Long 78.545728°  
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### Sigma measure ( $\sigma$ ) represents

- **STANDARD DEVIATION**
- Which indicates the **AMOUNT OF VARIATION**
- OR
- **INCONSISTENCY**
- in a process.....





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## **Report on Hands training On PCR Workshop**

One day workshop on Hands on Training was conducted on 16<sup>th</sup> June 2022 by Department of Microbiology for M.Sc Microbiology final year students (semester IV) in collaboration with Albot Technologies and AgamiGen Biologicals. Workshop was organized at Albot Technologies located at M2 Tech Hub, Near the Hindu Office, Genpact Road Habsiguda, Hyderabad. Dr. J. Sarada, senior faculty accompanied 9 M.Sc microbiology students for the workshop.





Dr. Vidya Sagar Malshetty, Senior scientist and workshop convener inaugurated the programme and briefed on the objectives of the training and programme schedule .This was followed by the Dr.Akash Kumar , trained professional with Industrial experience discussed the Principles of polymerase chain reaction (PCR), preparation of various PCR reagents required for the experiment. Students were provided with hands on training for setting up PCR amplification. This was followed by analysis of the amplification obtained after PCR reaction using Agarose Gel electrophoresis. Students expressed their satisfaction during the feed back session and were given with participation certificate by Dr. Vidya Sagar Malshetty.This workshop gave students an opportunity to acquire skill in setting PCR.





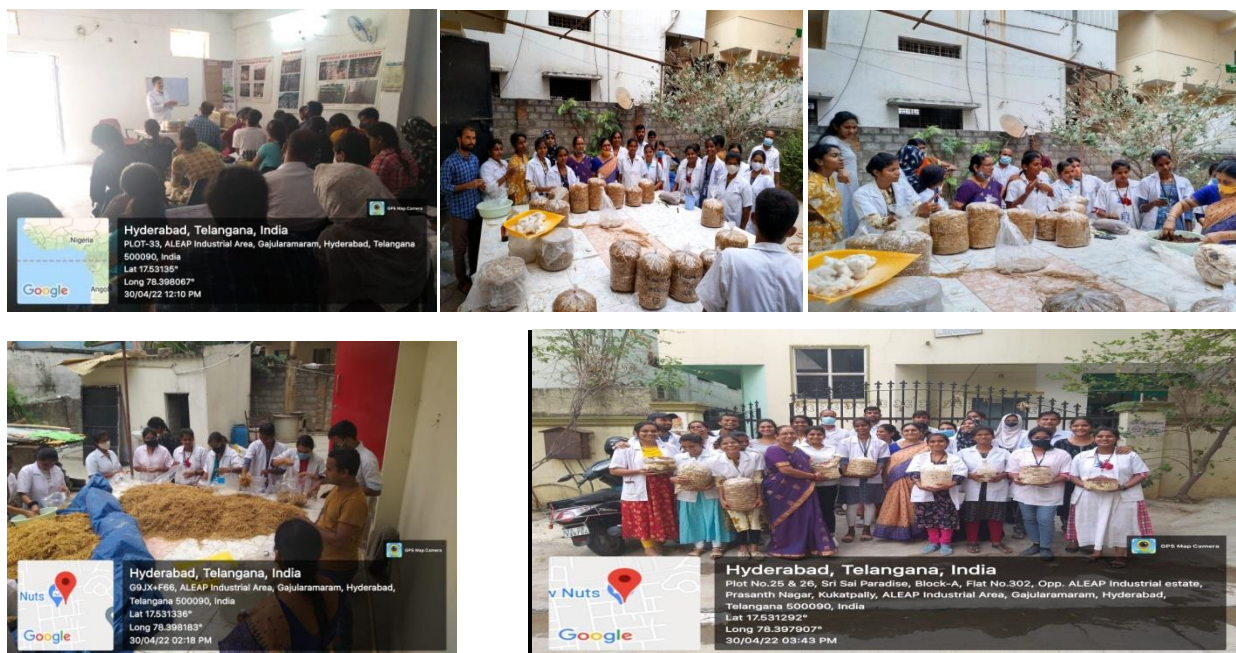
## Activities 2021-22

### Report on Mushroom Cultivation Workshop

A two day workshop on Mushroom cultivation was conducted on 29<sup>th</sup> and 30<sup>th</sup> of April 2022 by Department of Microbiology for M.Sc Microbiology final year students (semester III) . Workshop was organized at 'S'Mushroom Agritech Pvt Ltd located at industrial estate, Pragathi nagar, Hyderabad. Dr. J. Sarada, senior faculty accompanied 34 M.Sc microbiology students for two days.

On 29<sup>th</sup> April , Dr K. Prasuna, Proprietor of 'S' Mushroom Agri Tech Pvt Ltd and resource person have explained various types of mushrooms, methods of cultivation.



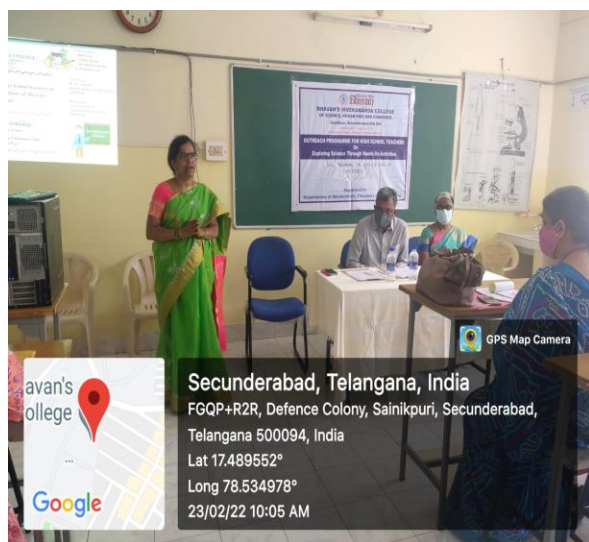


On second day i.e on 30<sup>th</sup> April students had hands-on training, sterilization of raw material, bed preparation, cultivating methods for different mushrooms, care and attention required for incubation and cropping stages. This was Skill enhancement program which also provided students with necessary information for setting up a startup and marketing strategies.



# Outreach Program for Biology School Teachers on “Skill Training on Applications of Microbes”

An outreach program was organised to High school teachers on 23rd feb, 2022 by Department of Microbiology funded by DBT-Star college scheme. The theme of this program was “Skill Training on Applications of Microbes”. A total of 11 High School Teachers from various schools took active participation in this outreach program. The program started at 9.30 with a formal inauguration by Prof. Y Ashok, principal, Bhavan’s Vivekananda College, Mrs B. Naraimati, Vice Principal, Bhavan’s Vivekananda College and Dr. Anuradha, Coordinator, DBT-Star college scheme. Participants were provided hands-on training on various applications of microbes like Isolation and application of Biofertilizers, Isolation and identification Probiotics, Role of microbes in Biodegradation methods of composting and screening of microbes producing industrially important enzymes. The program ended with the Valedictory program at 4.00 by distribution of certificates to all the participants.







## Report on Mushroom Cultivation Workshop

A two-day workshop on Mushroom cultivation was conducted on 9th and 10th of November 2021 by Department of Microbiology under DBT Star College Scheme. The programme was organised at 'S' Mushroom Agritech Pvt Ltd located at industrial estate, Pragathi nagar, Hyderabad. Twenty two students from UG Microbiology and two faculty members, Mrs S. Anju and Dr S. Shalini Devi took active participation in the workshop. The resource person of the workshop, Dr K. Prasuna, Proprietor of 'S' Mushroom Agri tech pvt ltd have explained various types of mushrooms, methods of cultivation, pests and pathogens and their control and farm design for Mushroom cultivation. All the students experienced hands-on training of methods of bed preparation for cultivating various types of mushrooms and care taken during incubation and cropping during this Skill enhancement program. Participants also gained knowledge about storage methods to increase shelf life, economics for setting up a startup and marketing strategies.



G9JX+F66, ALEAP Industrial Area, Gajularamaram, Hyderabad,  
Telangana 500090, India

Latitude 17.531341551094254°	Longitude 78.39821755582955°
Local 02:10:09 PM GMT 08:40:09 AM	Altitude 553.32 meters Wednesday, 10-11-2021



G9JX+F66, ALEAP Industrial Area, Gajularamaram, Hyderabad,  
Telangana 500090, India

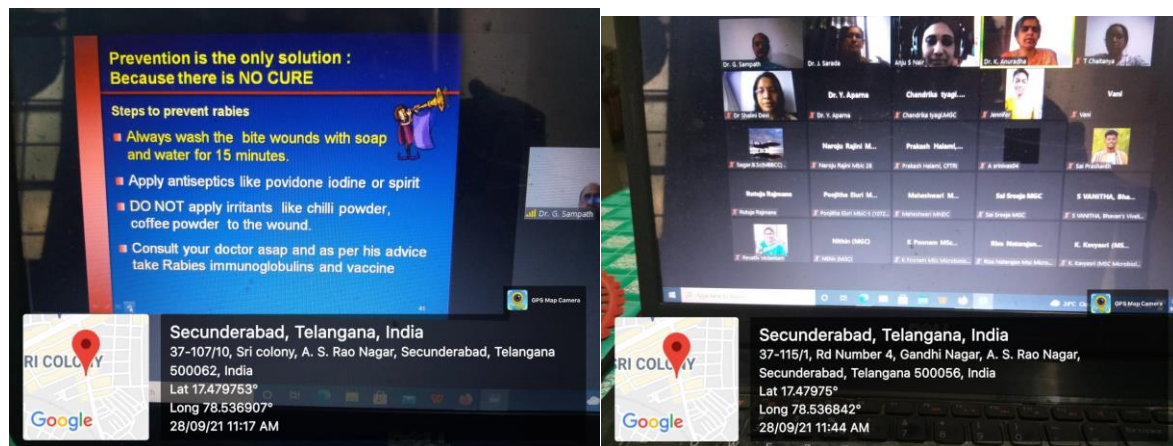
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Local 03:23:01 PM GMT 09:53:01 AM	Altitude 540.3 meters Wednesday, 10-11-2021



## Report

### A webinar on 'Rabies Awareness'- 2021

A webinar on 'Rabies Awareness' was organized by Science club, Department of microbiology, BVC under DBT star college scheme on 28th September 2021 at 10.30am on the account of world rabies day. DR. G. Sampath, Former, In charge of Rabies Clinic & vaccination center, Institute of Preventive Medicine, Hyderabad was the speaker of the program. One hundred and fifty undergraduate and post graduate students actively participated in the webinar and interacted with the resource person. Dr G. Sampath, speaker of the webinar briefed on sources, symptoms, preventive and curative measures of rabies. Importance and schedule of rabies vaccination is thoroughly discussed in the webinar. The resource person also informed the students about preexposure vaccination and explained the mechanism of immune responses to rabies vaccine. The responsibilities of pet owners for the control of rabies virus were also reminded on this platform. Also, types of rabies vaccines available in market were discussed



## **Report on Invited Lecture on July 08, 2021 at the Department of Microbiology**

**Dr. Justin Montemarano**, Lecturer, Department of Biology, Georgia Southern University, Savannah, Georgia, USA, delivered an invited lecture entitled 'A Practical Application of Inferential Statistics' to the students of Department of Microbiology, Bhavan's Vivekananda College, Sainikpuri, Hyderabad, on July 08, 2021, from 7 PM to 9.30 PM (Indian Standard Time). This lecture was initially planned for the first year post-graduate students in the Department of Microbiology as an extension lecture for the Research Methodology & Techniques (a core course). However, later, due to the importance of statistics in the Biological Research and understanding research articles, all students of the Department of Microbiology were given a chance to attend and participate in the lecture.

The link the Zoom Meeting July 08, 2021 at 7 PM (IST) was:

<https://georgiasouthern.zoom.us/j/89631278514?pwd=TIpabml3SE9CQ0cxUHZNb2EvNTNuZz09>

Dr. Montemarano has shared most of his lecture slides one day ahead of his actual online lecture to our students. This lecture can be accessed using the following link:

<https://docs.google.com/presentation/d/1TbwMFdYw9THbwOZuP1YC1y9in289zcCOAs0XRiujOw/edit?usp=sharing>

In addition, prior to the lecture, Dr. Montemarano had asked our students to solve the two worksheets. The second worksheet included figures from recently published research articles.

These worksheets can be accessed using the following links: Worksheet-1,

<https://docs.google.com/document/d/1pRd4q7QrFZVjBJhLeO9Tm8BGi6skwJ2eqEimYjnkwhg/edit?usp=sharing>; Worksheet-2,

[https://docs.google.com/document/d/112Xx3R12D7cP5Zcl\\_ZVclvHyLZ2qfAVFUWGzfwyNxAY/edit?usp=sharing](https://docs.google.com/document/d/112Xx3R12D7cP5Zcl_ZVclvHyLZ2qfAVFUWGzfwyNxAY/edit?usp=sharing)

In addition, Dr. Montemarano's made his lecture more interactive by dividing student participants into several groups in the Zoom meeting and assessing their answers in real-time during the class using <http://www.pollev.com/>.

Link for the recorded video lecture is as follows:

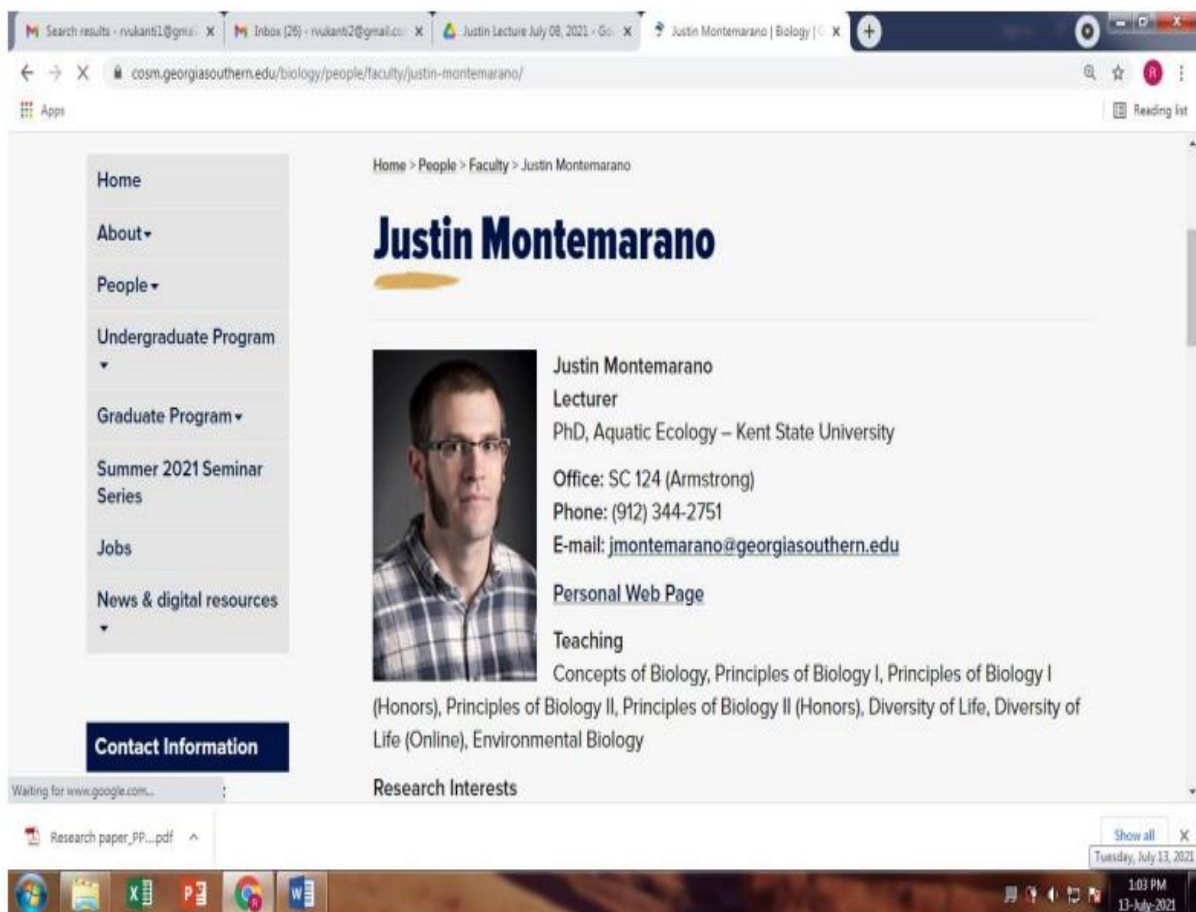
[https://drive.google.com/file/d/1RFDaP3qX8a3wL3HyZWYU09Cuz\\_4VmRYN/view?usp=sharing](https://drive.google.com/file/d/1RFDaP3qX8a3wL3HyZWYU09Cuz_4VmRYN/view?usp=sharing)

Overall, the beneficiaries of this interactive lecture by Dr. Montemarano were our students. Our students learned about various kinds of variables along with their classes; determining the type and class of variable in the data is the first step towards choosing a statistical test for hypothesis testing (inferential statistics). In addition, the lecture focused on parametric and non-parametric statistical tests.



## About the Resource Person

In 2013, Dr. Montemarano has received a PhD degree in Aquatic Ecology from Kent State University, Kent, Ohio, USA. His PhD research focused on '*Biotic controls of decomposition dynamics in aquatic systems*'. Till date, He has experience teaching nearly 20 different subjects in three different American Universities (Kent State University, Armstrong State University, and Georgia Southern University). He trained almost 30 undergraduate students of Biology (in both the United States and overseas – Costa Rica); these students were funded under the prestigious programs of the National Science Foundation (NSF), USA such as Research Experience for Undergraduate Students (REU) and Undergraduate Mentoring in Environmental Biology (UMEB). He is a recipient of several fellowships and international travel grants to perform ecological research in Costa Rica. He has authored several referred research articles. He is also an expert in 'Biostatistics'. He has served in several academic committees at the University-level.



The screenshot shows a web browser window with the URL [cosm.georgiasouthern.edu/biology/people/faculty/justin-montemarano/](http://cosm.georgiasouthern.edu/biology/people/faculty/justin-montemarano/). The page features a left-hand navigation menu with links: Home, About, People, Undergraduate Program, Graduate Program, Summer 2021 Seminar Series, Jobs, and News & digital resources. The main content area is titled 'Justin Montemarano' and includes a portrait photo. To the right of the photo, the following information is listed: Justin Montemarano, Lecturer, PhD, Aquatic Ecology – Kent State University, Office: SC 124 (Armstrong), Phone: (912) 344-2751, and E-mail: [jmontemarano@georgiasouthern.edu](mailto:jmontemarano@georgiasouthern.edu). Below this is a 'Personal Web Page' link. The 'Teaching' section lists: Concepts of Biology, Principles of Biology I, Principles of Biology I (Honors), Principles of Biology II, Principles of Biology II (Honors), Diversity of Life, Diversity of Life (Online), and Environmental Biology. The 'Research Interests' section is partially visible at the bottom. The browser's taskbar at the bottom shows various application icons and the system clock indicating 1:03 PM on Tuesday, July 13, 2021.



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**Invited Lecture**  
**on**  
**A Practical Application of Inferential Statistics**

*Resource Person*

**Justin Montemarano, PhD**  
Lecturer  
Georgia Southern University  
USA



**July 08, 2021**  
**IST 7:00 PM**  
**EDT 9:30 AM**  
**(Thursday)**

**Organized by**  
**Department of Microbiology**  
**Under DBT - Star College Scheme**

[Click here](#)  
for the Zoom meeting

Contact  
Dr. K.Anuradha  
Mobile: 9849977396  
Head, Department of Microbiology

Zoom Meeting

467079 V.Hirany... thota pravalika... G.vijaya Lakshmi Reshma Sulthan... Shruthi Shru G.lahari

Recording...

## Inferential Statistics

- Used in hypothesis testing:
  - These test *statistical* hypotheses
    - Null vs. alternative
  - Often identify a specific descriptive statistic
  - Each test assumes some basic structure in
    - E.g., Distribution, independence

Participants (61)

Find a participant

- Raja Vukanti (Co-host, me)
- Justin Montemmarano (Host)
- 467079 V.Hiranya Lakshmi
- Adeeba fathima
- Dr.A.Sai padma
- G.lahari
- G.vijaya Lakshmi
- J Sai kumar
- M. Valya

Invite Mute All

7:33 PM 7/8/2021

Justin talk Screenshots July 08, 2021 - PowerPoint

File Home Insert Design Transitions Animations Slide Show Review View Tell me what you want to do

Clipboard Slides Font Paragraph Drawing Styles Editing

36

37

38

39

40

41

Slide 37 of 46

Which test might we use to compare plant growth in the MiracleGro experiment?

Chi-square goodness-of-fit A

Chi-square test of independence B

Student's t-test C

One-way ANOVA D

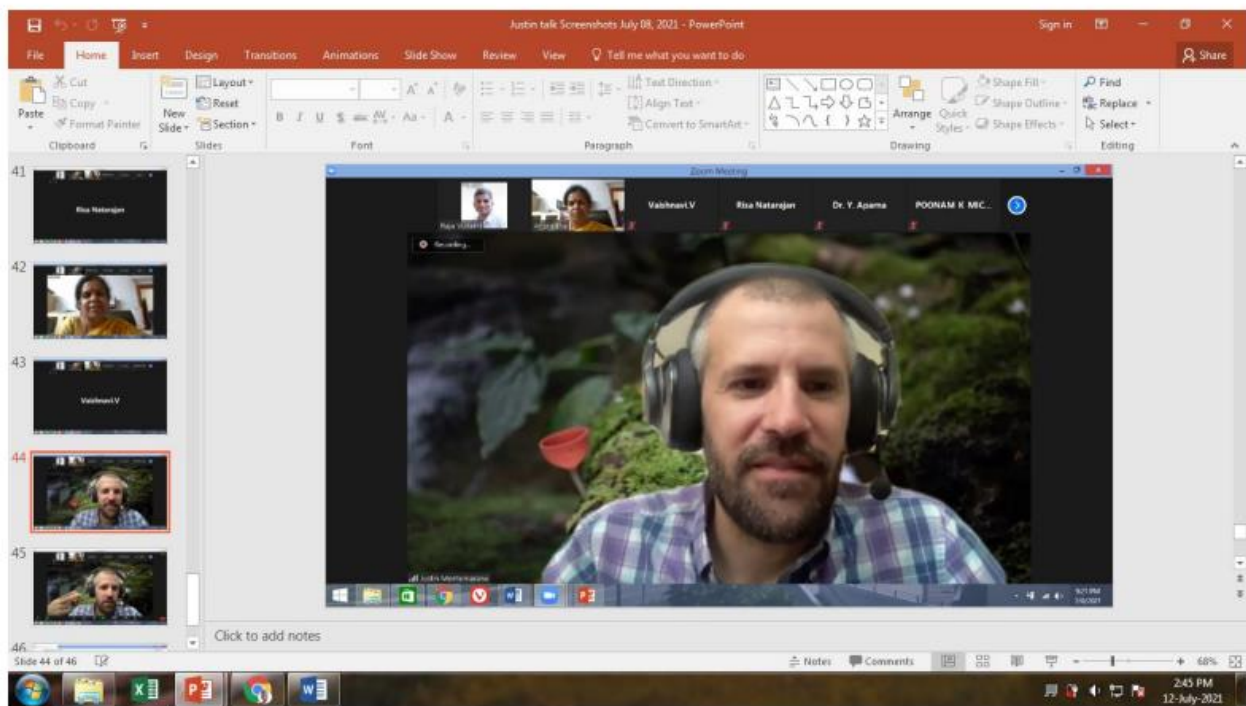
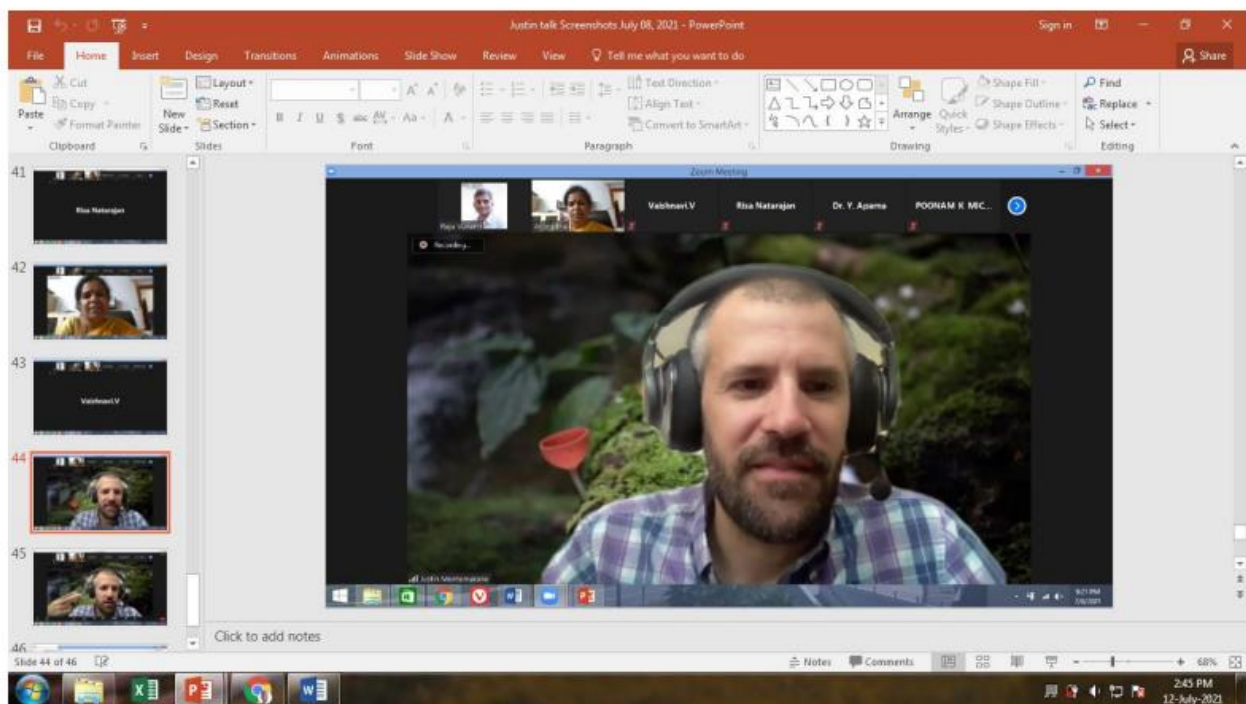
Two-way ANOVA E

Total Results 13

Powered by Poll Everywhere

2:46 PM 12-July-2021





2020-21

## Department of Microbiology

### Report on Mushroom cultivation workshop (SEC)

Department of Microbiology in collaboration with 'S' Mushroom Agri tech, Kukatpally organized a Two day workshop on "Mushroom cultivation" for B.SC final year students (MGC, MBiC, BtGC) on 31<sup>st</sup> March and 1<sup>st</sup> April, 2021 under STAR DBT Scheme. Mrs S.Chaitanya Kumari, faculty accompanied 14 B.Sc final year students for the Two day workshop.



On 31<sup>st</sup>, Resource person Dr K. Prasuna CEO of 'S' Mushroom Agri tech, briefed on her experience as entrepreneur and significance of Mushroom cultivation. The Lecture included the basic knowledge on structure and various stages in mushroom growth, environmental factors influencing their growth, farm design, budget for starting mushroom cultivation as small scale industry and preservation and common diseases encountered during cultivation of mushrooms. Hands on training was given on 1<sup>st</sup> April to students on sterilization of raw materials and preparation of Beds for Milky Mushrooms, Oyster, Paddy straw and Button Mushroom (Layer spawning) etc. This workshop had provoked entrepreneurial skills and motivated students to think about start ups in this area.





2020-21

## WORKSHOPS:

### Workshop on Prokaryotic gene prediction using bioinformatics tools

Department of Microbiology organized a three day online workshop from 15<sup>th</sup> -17<sup>th</sup> January 2021, on Bioinformatics tool for ***Prokaryotic gene prediction*** under DBT- Star college scheme. Dr. G.P.L.Jayasree, Professor in Department of Biotechnology, Srinidhi Institute of Science and Technology was the resource person. Total 30 undergraduate students have participated in the workshop which was scheduled in afternoon sessions. First day workshop started with basics on Sequence alignments pair wise and multiple types using *EMBOSS* and *WATER* algorithms. Second day i.e on 16<sup>th</sup> January, 2021 prokaryotic gene prediction basics were explained followed by hands on session with *ORF Finder*. Third day session was conducted on Gene structure and function with a hands on session with *DNA functional site miner*. This workshop was organized as skill enhancement programme for students at undergraduate level and concluded with student assignments.





2020-21

## WORKSHOPS:

### International Online Workshop for Undergraduate Biology Teachers “Student- Centric Learning Strategies”

2<sup>nd</sup> to 11<sup>th</sup> November 2020

Department of microbiology organized an online international workshop on “**Student- Centric Learning Strategies**” from 2<sup>nd</sup> to 11<sup>th</sup> November 2020

under Star DBT college scheme. The workshop provided a platform for Biology teachers to update with rapidly changing teaching methodologies adapted globally for undergraduate education. The participants were engaged in asynchronous and synchronous activities, interacting with Five exemplary American undergraduate educators. It emphasized on practical ways to enrich undergraduate biology classrooms by engaging and enabling students to become self-motivated and life-long learners. 23 Undergraduate teachers from all over India had participated. Participants were acquainted in handling Teaching tools like Genome Browser, Qubes and Perusall Platforms for student centric learning. All participants were awarded with certificates after their presentations in the valedictory session.

#### *Schedule of the Workshop:*

Date	Topic	Discussion led by...
MON, 2 November	Introduction Student-centered learning spaces	Dr. Anil Kumar Challa UAB and DRILS, Hyderabad
WED, 4 November	Innovating active learning in all seasons	Dr. Ashley Turner Jacksonville State U, AL
THU, 5 November	Genomics Education Partnership	Dr. Maria Santisteban U of North Carolina, Pembroke
MON, 9 November	Integrating Concepts in Biology	Dr. Malcolm Campbell and Dr. Chris Paradise Davidson College, NC
	Classroom implementations	Workshop participants



## International Microorganism Day-2021

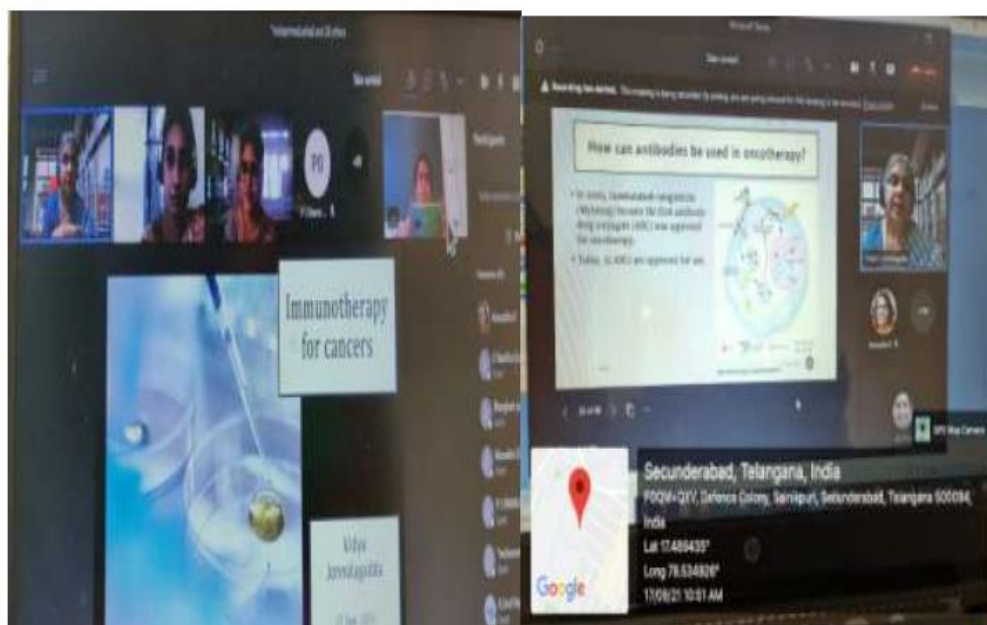
**International Microorganisms Day** was celebrated by **Science club and Department of Microbiology, BVC** in association with **AMI unit, Hyderabad Unit** under DBT star college scheme on **17<sup>th</sup> September 2021** at 12.30pm. Dr K. Anuradha, Head, Dept of Microbiology, BVC presented the welcome address followed by Dr Y. Ashok, principal, BVC address the gathering. The inaugural message was given by the chief guest of the program **Prof Dr Ch. Venkat Ramana, President, AMI Hyderabad unit, Dept of plant sciences, University of Hyderabad**. The chief guest elucidated the role of microbes in every walk of human life. A total of 125 students from various colleges had participated in the session. The inaugural message was followed by online quiz and JAM- My favorite microbe in which about 92 enthusiastic participants were involved. The session was ended up by Dr Y. Aparna, Asst. professor, Dept of Microbiology with a vote of thanks.





## GUEST LECTURE ON “IMMUNOTHERAPY OF CANCER”

Department of Microbiology organized a guest lecture on the topic ‘immunotherapy of cancer’ on 17<sup>th</sup> September 2021 at 10.00am under DBT star college scheme. Dr Vidya Jonnalagadda, site head, Aarkus therapeutics India PVT. LTD, the resource person explained about basis of tumor formation, role of mutations in regulating tumor suppressor genes, various viruses causing cancer. She highlighted the scope of immunotherapy in cancer treatment and elaborated on the mechanism of action of antibodies tagged by drugs in cancer therapy. A total of 112 participants including undergraduate and postgraduate students attended the session.



2020-21

## A Guest lecture on

## Understanding the facts on Covid-19 vaccines versus new variants

Department of Microbiology organized an Online- Guest Lecture by Dr P Veera Bramhachari, Senior faculty & HOD, Department of Biotechnology, Krishna university, Machilipatnam on 22<sup>nd</sup> May 2021. The Guest lecture was followed by an interactive session with the audience regarding various issues related to COVID -19 pandemic. Dr P Veera Bramhachari gave detailed information on the emergence of new Covid-19 virus its structural details along with cellular tropism and how it is efficient in invasion of lungs by immunological imbalance. Also emphasized on the Gene cluster diversification especially BatCoV RaTG13, Genome epidemiology and importance to study about variants (UK-B.1.1.7, South Africa-B.1.351) as these contain Polybasic cleavage site-more prone to mutations along with neutralization mechanism by various Covid-19 vaccines. There were about 200 enthusiastic participants including students and faculty.



**DEPARTMENT OF MICROBIOLOGY**  
**Basics in Patent Drafting**

**BHAVAN'S VIVEKANANDA COLLEGE**  
**of Science, Humanities & Commerce**

Sainikpuri, Secunderabad - 500094  
Autonomous College, Affiliated to O.U  
Accredited with 'A' Grade by NAAC



**Basics in Patent Drafting**

**Value added course for Academic Year 2021**

**Organized by**

**Department of Microbiology, BVC**  
**&**  
**Intellectual Property Rights Cell of BVC**

**In Association With**

**PROMETHEUS IP**

**Under DBT-STAR College Scheme**



## COURSE OBJECTIVE

“Basics in Patent Drafting” is designed for students to obtain fundamental knowledge required to gain expertise in drafting a patent and filing an application. The course aims to provide skills in obtaining suitable protection for inventions and understand functioning of patent system.

## COURSE OVERVIEW

- COURSE DURATION: 30 Hours
- COURSE DATE: 25.9.2021 Onwards @ 10 Hrs/month
- The course is offered to B.Sc Microbiology IIIrd & IInd Year

• **TOPICS COVERED:** *Introduction to intellectual property rights, Patents, Trademarks, Copyrights and industrial designs, Geographical indication and plant varieties, Trade secrets, semiconductor chip/integrated circuits, Patents as a technical solution to a technical problem, Indian patent law- a primer (The patents act, 1970), Pre-requisites in patenting process (NDA, IDF, searches), Parts of patent specification (provisional v/s non-provisional) including field of invention, background, Objectives, summary, detailed description, experimental details, independent and dependent claims, drawings, etc. Patent drafting (enablement, definiteness, clarity etc) and claims (types of claims). Patent drafting exercises, practical discussion and module wise assessments.*

- Certificate shall be issued on completion of the course.

## COURSE OUTCOME

At the end of this course students learn the implication of Intellectual property rights and acquire the skill of Patent Drafting.

## Resource persons



**Dr. Poornima Chandran**  
Nehru- Fulbright Doctoral Fellow  
Patent Agent

**Mrs. S. ANJU**

Assistant Professor, Dept. of Microbiology  
Member, IPR Cell, BVC



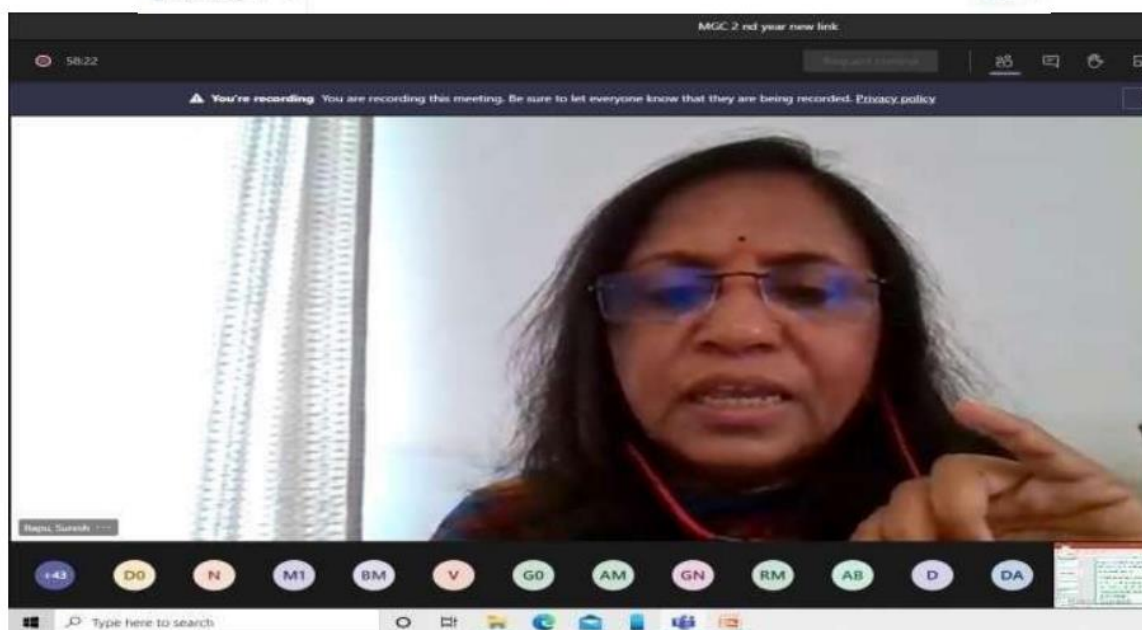
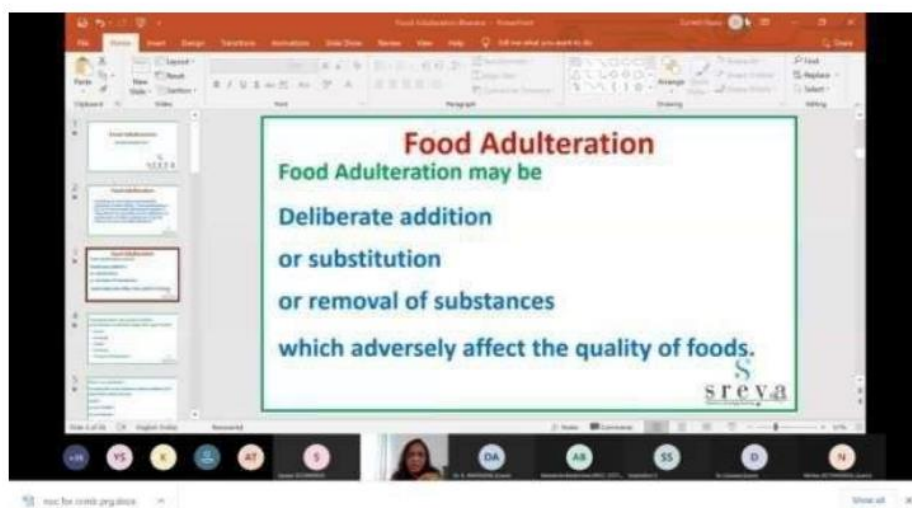
## Course Co-ordinator



**Dr. K. Anuradha**  
Head Department of Microbiology, BVC  
Co-ordinator DBT Star College Scheme

## A GUEST LECTURE ON FOOD ADULTERATION

Department of Microbiology has organized a guest lecture on 23.1.2021 by **Dr. Kavitha, Director, Shreya Nutrition** for B.Sc (MGC, MBiC-3<sup>rd</sup> year) and M.Sc final year students of Microbiology. The title of the topic was “**FOOD ADULTERATION**”. She emphasized on different kinds of food adulterants and toxic effects of food adulteration. The lecture enlightened the students with various simple methods that can be employed to detect adulteration of food. Dr Kavitha also elaborated about regulations and laws made by government to control food adulteration.







# BHAVAN'S VIVEKANANDA COLLEGE

of Science, Humanities & Commerce

Sainikpuri, Secunderabad - 500094

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## Guest Lecture on "FOOD ADULTERATION"

23<sup>rd</sup> January, 2021

1:00 pm



*Speaker*

**DR. KAVITHA**

*Director Sreya Nutrition*



Organized by  
**Department of Microbiology**  
Under DBT Star College Scheme

Session ID will be shared through email/whatsapp

Platform: Microsoft Teams

Contact:

Dr. K. Anuradha

Head, Dept of Microbiology

9849977396

2020-21

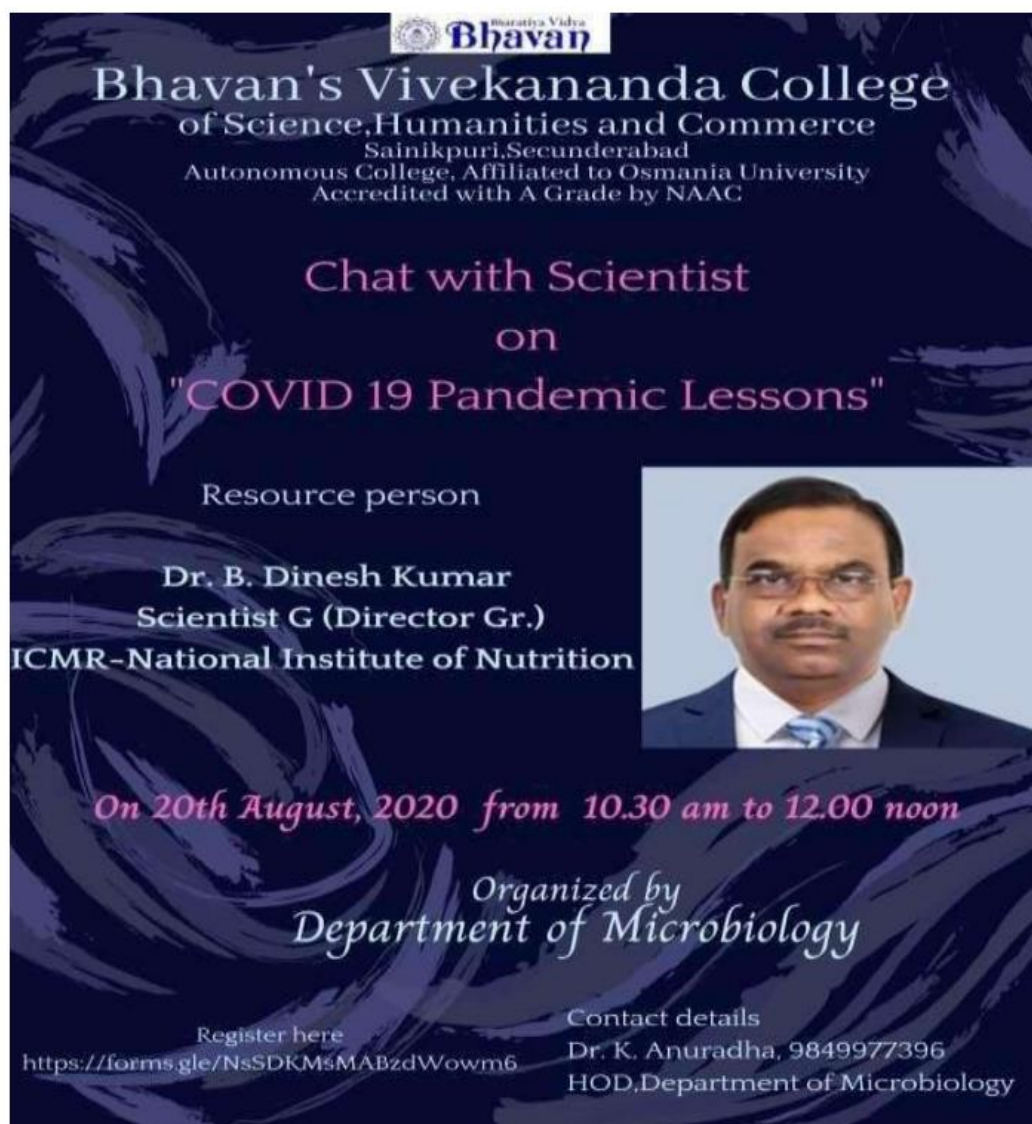
### Virtual tour to CFTRI, Hyderabad

Department of Microbiology had organized an online educational tour on 29th September, 2020 for **BSc and MSc students to Center for Food Technology Research Institute (CFTRI)**, a premier National Institute in food technology located in Hyderabad, India. This program was conducted under DBT STAR COLLEGE SCHEME where 170 students took part and got enlightened about different technologies involved in food processing. Jyothirmayi T, Sr. Principal Scientist and Sathiya Mala K, Principal Scientist, briefed on CFTRI mission and programmes that they undertake in the field of food technology. Scientists have also explained how food technologies aid in processing and preservation of various food products. Technical officers at CFTRI exhibited and summarized various equipments employed in research and development, quality control, quality assurance and packaging of food products. Experts at CFTRI encouraged students to startup food technology-based industries. Through this virtual visit students were exposed to the facilities available at the institute, internships available and training programs



## Chat with Scientist on COVID 19 Pandemic

Department of Microbiology organized a Guest Lecture by Dr.B.Dinesh Kumar, Scientist G (Director Gr.) ICMR – National Institute of Nutrition on 20<sup>th</sup> August 2020. The Guest lecture was followed by an interactive session with the audience regarding various issues related to COVID 19 pandemic. Dr.B.Dinesh gave detailed information on the guidelines specified by ICMR regarding the precautionary measures, treatment strategies and future endeavors in confronting the pandemic outbreak. There were about 300 people as audience that included students, academicians and professionals from various fields.




**Bhavan's Vivekananda College**  
of Science, Humanities and Commerce  
Sainikpuri, Secunderabad  
Autonomous College, Affiliated to Osmania University  
Accredited with A Grade by NAAC

**Chat with Scientist**  
on  
**"COVID 19 Pandemic Lessons"**

Resource person

**Dr. B. Dinesh Kumar**  
Scientist G (Director Gr.)  
ICMR-National Institute of Nutrition



*On 20<sup>th</sup> August, 2020 from 10.30 am to 12.00 noon*

*Organized by*  
**Department of Microbiology**

Register here  
<https://forms.gle/NsSDKMsMABzdWowm6>

Contact details  
Dr. K. Anuradha, 9849977396  
HOD, Department of Microbiology



### Coronavirus

- This has a unique pathogenesis because it causes both upper and lower respiratory tract infections and can also cause Gastroenteritis.
- In 2003 The SARS epidemic resulted in over 8,000 infections, about 10% of which resulted in death.
- In September 2019, what is believed to be a sixth new type of coronavirus, tentatively referred to as Novel Coronavirus 2019, being the SARS that did distinct from it and from the common cold coronavirus was discovered in Qatar and Saudi Arabia.



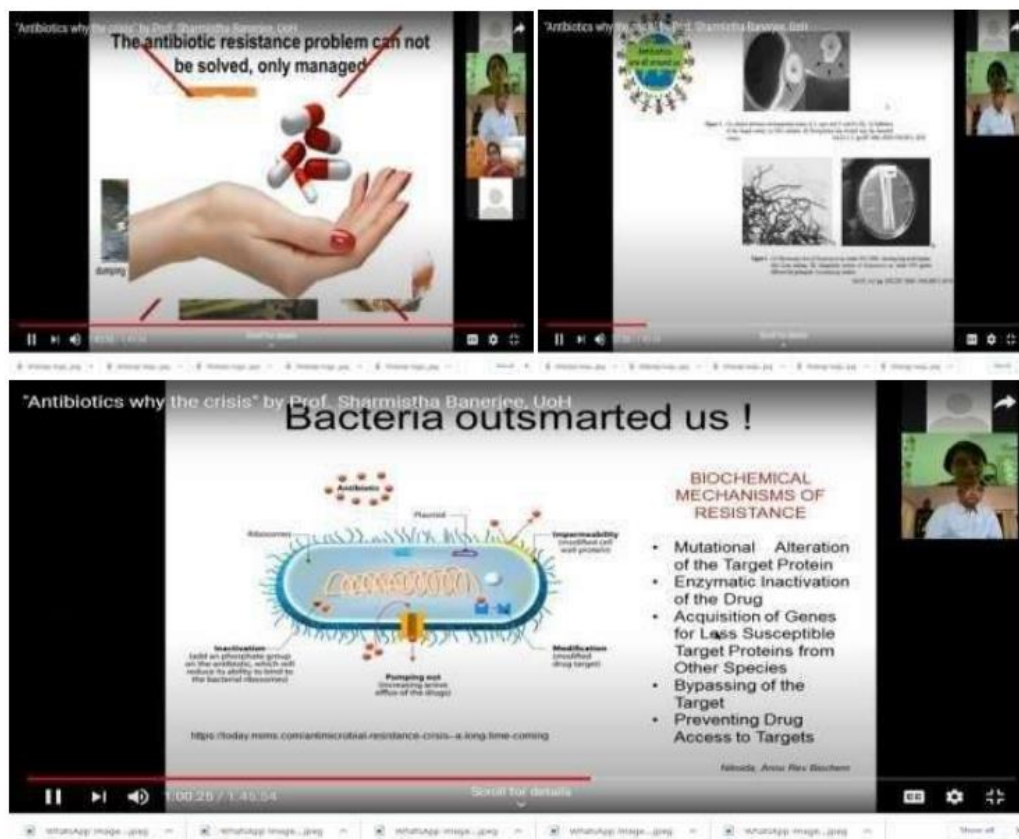






## “Antibiotics: Why the Crisis”

Department of Microbiology organized a webinar on “ **Antibiotics : Why the Crisis**” on 15<sup>th</sup>May, 2020 (11.00 am- 12.00noon). Prof. Sharmishtha Banerjee from Department of Biochemistry, University of Hyderabad was the guest speaker for the event. She spoke on the relevance of antibiotic therapy and the multi drug resistance leading to crisis. She briefed on the emergence of antibiotic resistant bacteria and its consequences. The focus of the talk was to understand why antibiotic resistance has been dubbed as „the end of modern medicine” and is considered a grand global health challenge. She discussed on what antibiotics are, how bacteria develop resistance to these, why to be careful in its usage, and explained the efforts in finding alternate solutions to antibiotic resistance and how we can put a stop to it.



**2019-20**

### **Report on Mushroom cultivation workshop**

Department of Microbiology in collaboration with S Mushroom Agri tech, Kukatpally organized a two day workshop on Mushroom cultivation for M.Sc final year students on 4 & 5th July ,2019. Dr.Smrithi Bajpai and Dr.J.Sarada accompanied 34 M.Sc final year students for the two day workshop. On 4th morning, Dr.K. Prasuna, CEO of 'S' Mushroom cultivation briefed on her experience as entrepreneur and on Significance of Mushroom cultivation and methods involved. Day started with the basic knowledge on stages in Mushroom growth, environmental factors influencing their growth, farm design. After basic knowledge, hands on exposure are given to students in preparation of Bed for Milky Mushrooms, Oyster, Paddy straw and Button Mushroom, sterilization of raw materials and spawn preparation and Layer spawning etc.



Second day, Hands on training was given to students in mushroom harvesting, processing and storage. Budget for starting mushroom cultivation as small-scale industry was also discussed. This workshop had provoked entrepreneurial skills and motivated students to think about start-ups in this area. Different products of Mushroom like –Biscuits, noodles, pickles, Soup



powder, dried and fresh mushroom were exhibited in the workshop. After successful completion of the programme, students were given with certificates.



2019-20

### Outreach Program for School Children on “Awareness on Vaccination”

An outreach program “Awareness on Vaccination” was organized by department of Microbiology on 20th July 2019. It was conducted to create awareness on different types of Vaccines for school students of Zilla parishad boys High School, Malkajgiri. Students of MSc. Microbiology final year presented vedio on history of vaccine preparation, animated PowerPoint presentations on small pox and rabies vaccines and an oral lecture on Hepatitis. In order to make the concept of Vaccine more appealing to school children, M.Sc students presented skit on school stage on Rabies and polio vaccination significance. There was an enthusiastic response from school students as they felt that the information was very useful in understanding the concept of Vaccination.



## GUEST LECTURE ON : “Bacterial growth and morphogenesis”

### Department of Microbiology

Department of Microbiology has organized a guest lecture on 23.7.19 by **Dr. Manjula Reddy, Chief Scientist, CCMB** for B.Sc (MGC, MBiC-3<sup>rd</sup> year) and M.Sc final year students of Microbiology. The title of the topic was “**Bacterial growth and morphogenesis**”. She emphasized on importance of cross link cleavage in bacterial peptidoglycan synthesis and expansion of PG sacculus. The lecture also highlighted on function of synthetic Mep K and MepS in cleavage of intact PG sacculi as it is a prerequisite to make space for incorporation of nascent glycan strands for its successful expansion





**2019-20**

**GUEST LECTURE ON : “Role of microbes in cancer and its prevention”**

**Dr VenkateshwarMadka**, Asst professor of Research, University of Oklahoma HSC,USA delivered a lecture on “**Role of microbes in cancer and its prevention**” on 30-7-2019. Undergraduate and postgraduate microbiology students attended the lecture with great enthusiasm. Types of cancers, cancer causing agents, vaccination for cancer prevention and the role of probiotic bacteria in prevention of different types of cancers were discussed in this presentation. Students interacted with the guest speaker and discussed on novel methods of cancer detection and therapy methods. Guest speaker, Dr VenkateshwarMadka also highlighted the impact of lifestyle and nutrition in cancer prevention .



**2019-20**

**OUTREACH PROGRAM FOR HIGH SCHOOL TEACHERS**

“Exploring science through Hands on Activities” An outreach program was organised to High school teachers on 30th July, 2019 by Departments of Chemistry, Biochemistry and Microbiology funded by DBT-Star college scheme. The theme of this program was “Exploring science through hands on Activities”. A total of 32 High School Teachers from various government and private schools took active participation in this outreach program. The program started at 9.30 with a formal inauguration by Air.cmdre (Retd). J.L.N. Sastry, Vice Chairman, BVB Kendra, Prof.Y Ashok, principal, Bhavans Vivekananda College and Dr. Anuradha, Coordinator, DBT-Star college scheme. They briefed on importance of Hands-on activities for science teachers. All the teachers were grouped in to three batches and assigned to three departments Chemistry, Biochemistry and Microbiology where they were trained on different experiments proposed. Department of Chemistry trained teachers on Green chemistry methods. The experiments included were Use of Curcumin instead of Nessler’s reagent for testing the presence of ammonium ion; use of Thioacetamide in place of Hydrogen sulphide for testing Cations and Microwave synthesis of Benzoic acid from Benzamide. Experiments included in Biochemistry are Qualitative test for alpha amylase from saliva, Preparation of blood smear for differential count of leukocytes and Blood grouping. Also, cardiac cycle was demonstrated to the teachers by model display. Hands on activities in Department of Microbiology emphasized on Staining of bacteria by simple staining, Lactophenol cotton blue staining of fungi, Observation of root nodules for bacteroid zones and Methylene Blue reduction test for testing the quality of Milk. Also, the department took initiative in bringing awareness on Foldscope-a paper microscope that comes at an affordable and cheaper price to all the schools. All the teachers got hands on training in the experiments and were highly appreciated. The program ended with Valedictory program at 4.00 by distribution of certificates to all the participants.









**2019-20**

### **Industrial Visit to NATCO Pharma**

An industrial trip for B.Sc Microbiology students was organized by Department of Microbiology on 27.7.2019, to NATCO Pharma Limited-Parenteral Nagarjuna Sagar, Nalgonda district. Students were given awareness on the Good lab practices and Good manufacturing practices that are followed in the pharmaceutical industries. Procedures followed as part of the Quality control and Quality assurance were also explained. The students visited different labs and instrumentation rooms. Various levels of bio safety and stages involved in the pharmaceutical manufacturing were introduced. This visit covered different aspects of Parenteral like batch mixing area, Store area, packing section, Quality control lab, Microbiology lab, Instrumentation room, Chemical laboratory, Retention sample room and Water filtration unit etc. Students were also demonstrated with various instruments and techniques like Lyophilisation, HPLC, Polarimeter, Muffle furnace, Fume hoods, So nicators, Vacuum oven, auto-titrators, Endotoxin test, Membrane filters, Laminar air flow with isolators, Water filtration unit and Distilled water plant (use of sand filters, carbon filters, anion and cation tanks for water purification).





**2019-20**

**"Exploring Microbial Diversity Hands on training workshop"**

DEPARTMENT OF MICROBIOLOGY Hands on workshop on Exploring Microbial Diversity Hands on training workshop on "Exploring Microbial diversity" was organised from 16<sup>th</sup> to 21 September 2019. The workshop is organised for students of 2-year Undergraduate students in Microbiology in collaboration with Dr. Reddy's Institute of Life sciences (DRILLS), HCU under DBT star college scheme. Total 30 students from both the programs of MGC and MBiC were enrolled in the workshop. Dr.K.Anuradha, Dr.J.Sarada, Mrs.S.Anju, Dr.Y.Aparna, Dr.S.Shalini Devi were resource persons for the workshop. Dr. Anil Kumar Challa, Adjunct Professor from UAB university, USA was the resource person for Bioinformatics module. The students learnt different microbiological and molecular techniques like Screening of bacteria from various samples like Milk, Spoiled fruits and vegetables, Cow dung, Soil sample from lake side etc. The isolated colonies are subjected to colony PCR and Agarose gel electrophoresis for identification of DNA. They also learnt RFLP digestion followed by its analysis using Bioinformatics tool. An online Zoom conference an interactive session with Dr. Anil Kumar Challa on Bioinformatics components was organised.

The workshop was successful as all the students took active participation and also had good hands-on training individually.





## **Department of Microbiology**

### **World rabies Day**

On account of the “World Rabies Day” an awareness program consisting of:

1. e Poster Presentation
2. Rabies Awareness skit
3. Rabies Awareness rally
4. Guest lecture

Department of Microbiology ,under the Science Club of Bhavan's Vivekananda Degree & PG College, Sainikpuri organized an awareness program on the occasion of “World Rabies Day” on 27<sup>th</sup> & 28<sup>th</sup> Sep 2019. The event was supported by Global Alliance for Rabies Control, World Health Organization (WHO), and Hyderabad Chapter of Association of Microbiologists of India (AMI).

Day 1: 27<sup>th</sup> Sep 2019

Day 1 of the event was marked by the address of Mr. AjitNair,CEO,VINS Biotech on the prevention of Rabies virus using the vaccines available. There was a huge enthusiasm in students presenting the skit on Rabies as a disease: prevention & control. This was followed by a talk by Dr SampathKumar,FormerDirector,Institute of Preventive Medicines.DrSampath Kumar emphasized on safety measures for humans to prevent rabies virus attack & importance of vaccination if bit by a mammal.

An intercollegiate e-poster competition on ‘Rabies Prevention & Control’ gathered a huge response among participants.69 e-posters were received from various colleges. Students of Bhavans Vivekananda College,Sainikpuri,St Francis College, Little Flower Degree College,Govt college for women Begumpet,St Pious College,Govt Degree College Kurnool, Silver Jubilee Govt College, Kurnool took part in the e-poster.

Day 2: 28<sup>th</sup> Sep 2019

Day 2 was scheduled with an awareness rally on “Rabies Prevention & Control” in association with World Health Organization on account of World Rabies day by NCC Cadets ,NSS , Bharath Scouts & Guide,Youth Red Cross Society,Centre for Excelllence, students & Faculty of Bhavan's Vivekananda College. Vice Chairman of Bharatiya Vidya Bhavan ,SainikpuriKendra,Air Cmdre JLN Shastry flagged the commencement off the rally.The rallywitnessed the participation of Mr Ajit

Nair,CEO,VINSBiotech,Dr Sampath Kumar,FormerDirector,Institute of Preventive Medicines and member working group on Rabies, WHO, SAGE,Lion's Club Hyderabad&750 students.



**2019-20**

### **Educational Field Trip to Grover Zampa Vineyard at Bangalore and Coorg**

Department of Microbiology organized four day educational field trip from 3rd December to 7th December for M.Sc final year students to Coorg, Via Bangalore and Mysore. This field trip/ visit was planned to educate the M.Sc students with practical methods of wine fermentation production at one of Premier Institute in South India. Grover Zampa Vineyards located in Bengaluru, has well established wine production plant established in 1940. It has branches located at Nashik, Maharashtra and Nandi hills.

On 4th December students visited the winery, which owns 450 acres of Grape vineyard and cultivate special variety of grapes exclusively for wine preparation. After a brief history and information about vines and vineyard cultivation, students first visited automatic grape crushing unit, then proceeded to understand the industrial processing of filtration , fermentation and wine storage Mr.Vipin Singh had explained in detail about the sequential steps involved in wine making good reasoning . Two types of wines i.e white and red wines are generally produced and with their combinations in different proportions they make 32 other different types of wine and supply to 25 countries annually. Company has 185 Stainless steel Fermenters specially designed to resist heat production during anaerobic fermentation process. Barrel room facility is used to age premium brand of wine in imported oak barrels which is mostly used as conventional process of wine making. The industry has latest imported machinery for bottling, labeling, and packaging of alcohol bottles. Visit to Winery has helped the students to understand practically the industrial fermentation process of wine making by both conventional and modern methods.

Industrial processing unit of Wine at Grover Zampa





Vine yard for grape cultivation



Crushing and processing Unit



Conventional pot process



Modern fermenters



Bottling unit

On 4th evening, students were taken to one of the largest ISKCON temples in the world (International Society for Krishna Consciousness) in Bangalore for sightseeing.

On 5th December morning visited very old Sri Ranganatha Swamy temple, located in Srirangapatna. This temple has huge area with typical Dravidian style of temple architecture. On the way to Coorg, students were taken to see famous NamdrolingNyingmapa Monastery (or ThegchogNamdrolShedrubDargyeLing) is the largest teaching center of the Nyingma lineage of Tibetan Buddhism in the world. Idols are layered with gold hence the name golden temple. This temple is famous for the 3 giant idols with great sculpture and architecture.





On 5th evening students were taken to most popular tourist spot Raja Seat in Madikeri of Coorg district. A spectacle of layers of greenery, chain of high- and low-rise mountains attired with mist is great attraction and palace worth visiting. This Raja garden was favourite for the Kings of Kodagu, who used to watch the setting of sun. Students spent time in watching the beautiful sunset and it was a sight to behold



Students visited Tala Cauvery on 6th December, which is the birth place of Cauvery river which is worshipped as important pilgrimage. This place is 3780 feet high from the ground level and has scenic beauty and spiritual environment.





On 6<sup>th</sup> afternoon students reached Mysore and visited Popular Mysore Maharaja Palace which is a historical place and a royal residence at Mysore. This place was built around 14<sup>th</sup> century, but the new existing palace was built in between 18<sup>th</sup> – 19<sup>th</sup> century after the old palace was burnt. It is surrounded by 12 temples. The architectural style of the palace is Indo Saracenic, with blend of the Hindu, Mughal, Rajput and Gothic styles.



Educational and sightseeing trip was concluded on 7<sup>th</sup> December with the darshan of goddess Chamundeshwari at Chamundi Temple located on the top of Chamundi Hills about 13 km from the palace city of Mysore. It is one among the 18 Maha Shakti Peethas. Almost at all places students collected soil and water samples for Biodiversity analysis and for project work. Through the trip students enjoyed their journey with dance and Music. It was one of memorable trip they made during their post-graduation.





**2019-20**

**Department of Microbiology**

**Report on Mushroom cultivation workshop**

Department of Microbiology in collaboration with S Mushroom Agri tech, Kukatpally organized a two day workshop on Mushroom cultivation for B.Sc (MGC, MBiC, BtGC) final year students on 19<sup>th</sup>& 20<sup>th</sup> Dec, 2019. Mrs.S.Chaitanya kumari and Dr.Narayan rao accompanied 20 students for the two day workshop under skill enhancement program.

On 19<sup>th</sup> morning, Dr.K. Prasuna, CEO of 'S' Mushroom cultivation briefed on her experience as entrepreneur and on Significance of Mushroom cultivation and methods involved. Day started with the basic knowledge on stages in Mushroom growth, environmental factors influencing their growth, farm design. After basic knowledge, hands on exposure is given to students in preparation of Bed for Milky Mushrooms, Oyster, Paddy straw and Button Mushroom, sterilization of raw materials and spawn preparation and Layer spawning etc.

Second day, Hands on training was given to students in mushroom harvesting, processing and storage. Budget for starting mushroom cultivation as small scale industry was also discussed. This workshop had provoked entrepreneurial skills and motivated students to think about start ups in this area. Different products of Mushroom like –Biscuits, noodles, pickles, Soup powder, dried and fresh mushroom were exhibited in the workshop. After successful completion of the programme, students were given with certificates.



## Report on Value added course – “Training in Analytical Techniques”

Value added course on “Training in Analytical techniques” was organized from 23<sup>rd</sup> to 28<sup>th</sup> December 2019. This training was organized for students of second year postgraduate students in Microbiology in collaboration with Star Tech Labs, (Standard Total Analytical Research and Technical Laboratory) at Madinaguda, Hyderabad .Total 30 students have participated. Dr.K.Anuradha, HOD of Microbiology and senior faculty Dr.J.Sarada from Department of Microbiology had organized the six day training programme to provide value addition to their curriculum and skill enhancement for M.Sc students.



Star Tech Labs provides high quality analytical services and leading service provider in the field of Environmental Monitoring, Industrial Hygiene Monitoring, Indoor Air Quality Monitoring, Audits and related Consultancy Services. They have capabilities and expertise in the field of Quality Control / Quality Assurance / Validations in Pharmaceutical, Food, Packaged Drinking Water and Mineral & Engineering Industries.



On 23<sup>rd</sup> morning the course was initiated by Dr.K.Anuradha and Dr.Ramana from Star Tech Labs by briefing on the purpose and relevance of the training programme to students. Each day students were trained in handling high end models of laboratory testing equipments like HPLC, GC, LCMS, ICP-MS, GAS Chromatograph MS with Auto injector, Fourier Transform Infrared Spectrophotometer etc.



Training was designed by conducting a demonstrative lecture , followed by a analysis of the data .Training programme was concluded with feedback of students and certificate distribution. Students were happy with the training and gave good feedback on the training programme.