

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 M. Sc final year students on 8th and 9th September, 2023. Dr. S. Anju and Dr. Mahalakshmi accompanied 36 M. Sc final year students for the workshop.

On first day, Resource person Dr K. Prasuna CEO of 'S' Mushroom Agri tech, briefed on her experience as entrepreneur and significance of Mushroom cultivation. Her 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, preservation and common diseases encountered during cultivation of mushrooms. Hands on training was given to students on 9th September on sterilization of raw materials and preparation of beds for Milky Mushrooms, Oyster and Paddy straw Mushroom (Layer and thorough spawning) etc. This workshop had provoked entrepreneurial skills and motivated students to think about startups in this area.



Report on Value Added course on “*Basics in Nanobiotechnology*”

Department of Microbiology had organized 30 hours Value added course on “*Basics in Nanobiotechnology*” for UG and PG students from 6th September to 25th September 2023. This course was designed to cater the needs of science students and provide basic foundation in Nanobiotechnology – an emerging frontier in Life sciences. Dr. K. Anuradha, Head, Department of Microbiology, Dr.J.Sarada and Dr. T Chaitanya coordinated the programme. Course was designed as 4 modules and spread over two weeks (14 days) and each session for 2 hours (6 p.m to 8 p.m) in online mode. Principal Dr. GSVRK Choudary, Dr.K.Anuradha, Dr.J.Sarada, Dr.S. Anju, Dr. Y. Aparna .Dr. Shalini Devi, Dr. T Chaitanya, Dr.Venkat Narayana Rao, Dr. K.Deepak Raj and Dr. K. Mahalakshmi were the resources persons for the course. Total 49 students from different colleges Telangana , Tamil Nadu and Maharashtra had registered in the online course and successfully completed..

On 6th September Course was initiated with a formal Inaugural session by Principal Dr.G.S.V.R.K Choudary, Dr.K.Anuradha, HOD of Microbiology department and all resource persons and participants.

Module 1: Introduction to Nanoparticles

Dr. K. Anuradha briefed the course content and overview of the subject. Dr.Y.Aparna delivered lecture on Types of Nanoparticles and their Classification during second session. Dr.S.Anju took 3rd and 4th session on Properties of Nanoparticles and their functional significance.

Module 2- Synthesis and characterization of Nanoparticles

5th & 6th sessions was taken by Dr. GSVRK Choudary on Physical and chemical synthesis of Nanoparticles this was followed by 7th session on Biological Synthesis of Nanoparticles conducted by Dr. T. Chaitanya. 8th & 9th sessions on Characterization of nanoparticles were delivered by Dr.J.Sarada.

Module 3 - Application of Nanoparticles

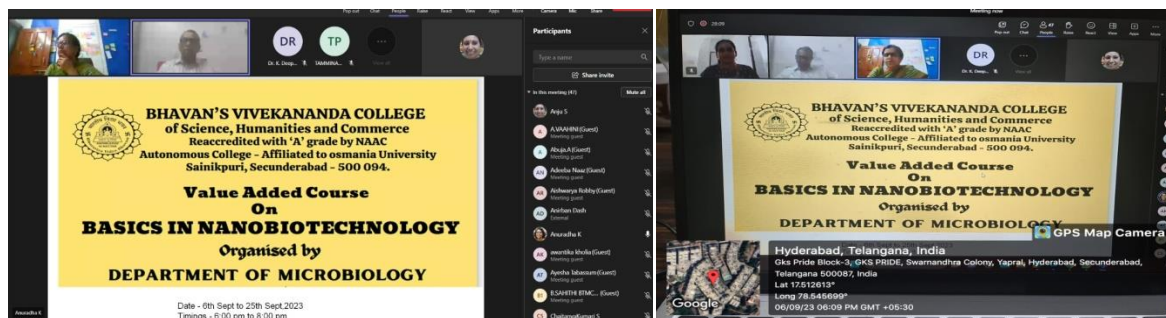
10th session on Developments in Nanobiotechnology was carried out by Dr. V. Narayana Rao followed by 11th session on Applications of Nanobiotechnology - Water Purification and desalination by Dr. Y.Aparna and 12th session on Nanobiotechnology - Environmental bioremediation by Dr. K. Mahalakshmi. 13th session on Nanobiotechnology- In Medicine was delivered by Dr. K.Deepak Raj.

Module 4- Ethical issues

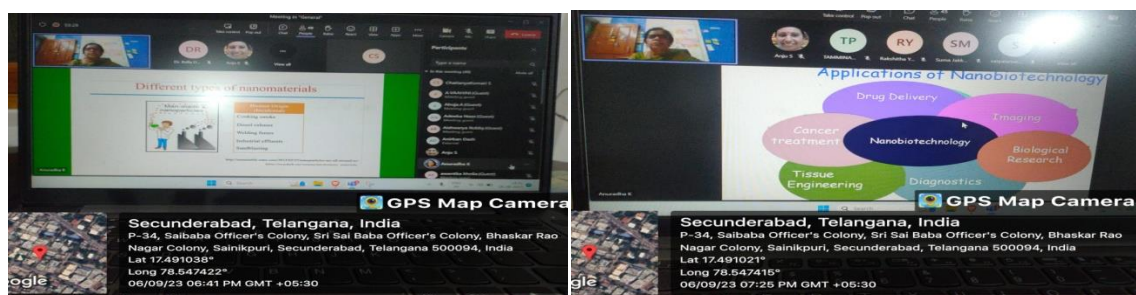
Last session on Ethical issues in Nanobiotechnology was delivered by Dr. Shalini Devi on 25th September.

Throughout all sessions, students actively participated and interacted with the speakers. All resource persons shared their research experience apart from the subject knowledge. Upon successful completion of the assignments/ activities given during each session and feedback, Valedictory programme was conducted on 30th September in Department of Microbiology during which participation certificates were distributed to all.

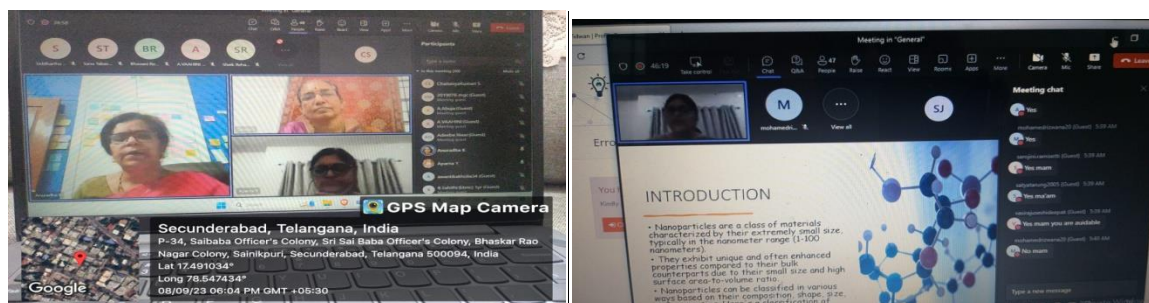
Inaugural Session on 6th September



Day 1: Dr.K.Anuradha –Introduction to Nanoparticles



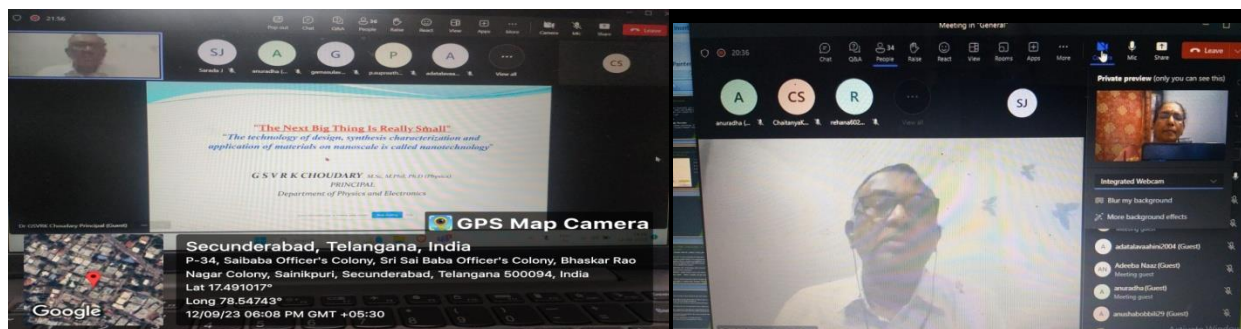
Day 2 : Dr. Y Aparna – Classification of Nanoparticles



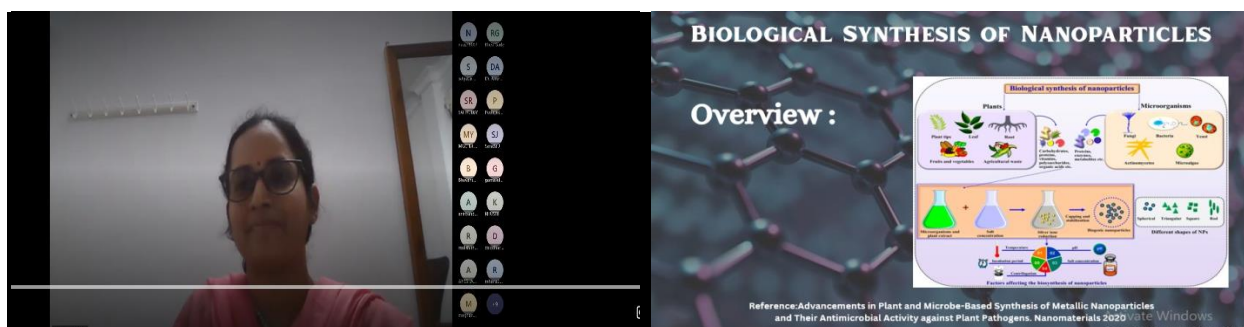
Day 3 & 4 : Dr. S. Anju- Properties of Nanoparticles



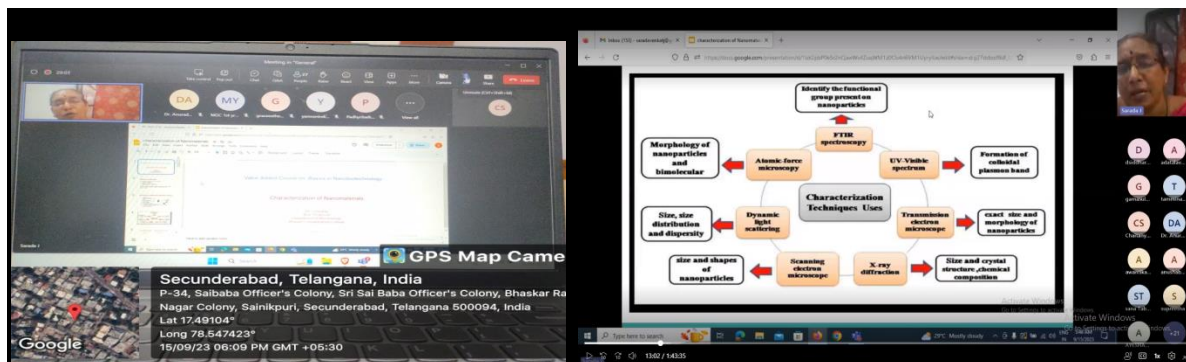
Day 5& 6: Dr.GSVRK Choudary – Physical and Chemical Synthesis of Nanoparticles



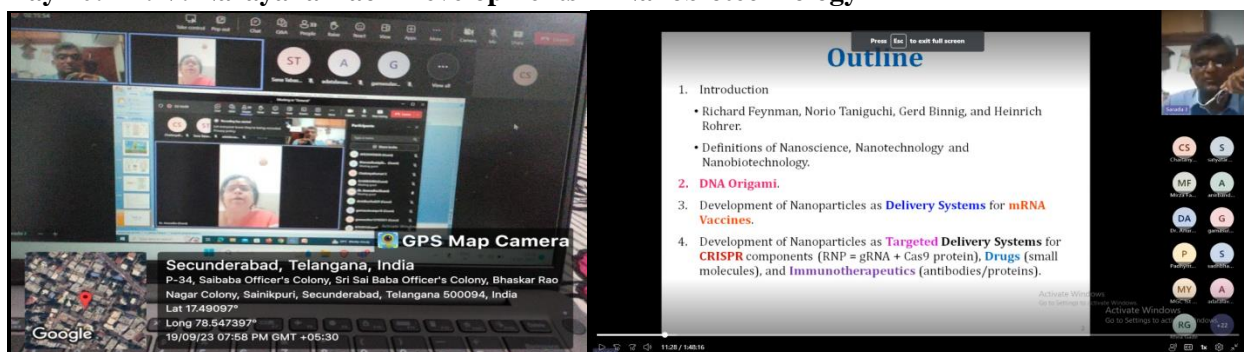
Day 7: Dr.T. Chaitanya – Biological synthesis of Nanoparticles



Day 8 & 9 : Dr. J. Sarada– Biological synthesis of Nanoparticles



Day 10: Dr. V. Narayana Rao - Developments in Nanobiotechnology



Day 11: Dr. Y. Aparna - Applications of Nanobiotechnology - Water Purification and desalination

Introduction

- Water purification and desalination are essential processes to ensure access to clean and safe drinking water, especially in regions facing water scarcity.
- Traditional methods often have limitations in terms of efficiency, cost, and environmental impact.
- Nanobiotechnology, the convergence of nanotechnology and biology, has opened up new avenues for addressing these challenges.

GPS Map Camera

Secunderabad, Telangana, India
P-34, Saibaba Officer's Colony, Sri Sai Baba Officer's Colony, Bhaskar Rao Nagar Colony, Sainikpuri, Secunderabad, Telangana 500094, India
Lat 17.491019°
Long 78.547428°
20/09/23 06:19 PM GMT +05:30

Day 12: Dr. K.Mahalakshmi- Nanobiotechnology in Environmental bioremediation

Nanotechnology in green clean up...

- Nanoscale science**
 - ✓ Smaller particle size
 - ✓ High surface to volume ratio
 - ✓ Ease of deployment at impact sites
 - ✓ Flexibility
- Viewing, analyzing, modelling and manipulating**

Day 14: Dr. K.Deepak Raj - Nanobiotechnology in Medicine

APPLICATIONS OF NANOBIO TECHNOLOGY IN MEDICINE

Quantum Dots

1 μm

Day 15: Dr. S. Shalini Devi - Ethical issues in Nanobiotechnology

What is ethics ? What is need for it

- Ethics -moral principles that govern conducting of an activity.
- It is required to distinguish between good and bad, right and wrong, just and proper.
- Following ethics is a social responsibility

Ethics of nanotechnology is the study of the ethical issues emerging from advances in nanotechnology and its impacts.

30 th September :Valedictory Programme







BHAVAN'S VIVEKANANDA COLLEGE of Science, Humanities & Commerce

Sainikpuri, Secunderabad - 500094

(Reaccredited with 'A' Grade by NAAC)

Autonomous College, Affiliated to OU

DEPARTMENT OF MICROBIOLOGY & SCIENCE CLUB, BVC

In Association With

MICROBIOLOGY SOCIETY OF INDIA

Organizing

RANGOLI COMPETITION

Date: 02-09-2023

TIME: 2:30 pm to 3:30 pm

Venue: IT BLOCK, 2nd Floor

Theme: VIRAL DISEASES

Faculty Co-Ordinators

Dr. K. Anuradha

Head, Dept of Microbiology, BVC.

Dr. S. Anju

MSI, OU CO-ORDINATOR

Dr. K. Deepak Raj

Dept of Microbiology, BVC

Student Co-Ordinators

Mr. Sai Anirvin (MNDC Final)

Contact No. 6303964073

Ms. Meghana (MNDC Final)

[CLICK HERE TO REGISTER](#)

RANGOLI COMPETITION

Department of Microbiology & Science Club, BVC in Association with Microbiologist Society of India

Department of Microbiology & Science Club, Bhavan's Vivekananda College, Sainikpuri in association with Microbiologist Society of India, conducted Rangoli Competition with the theme Viral Diseases on 2nd September 2023. Forty participants registered from various departments of Life-Sciences. For the event, 28 members attended in 14 teams. Various backgrounds, organisms like HIV, Rota Virus, HBV etc were selected to match with the theme of the event. Participants took an active participation in the event and showcased their creativity and art associated with microbiology. Judge Dr. A. Madhuri, Asst. Professor and Head, department of Microbiology, Government Degree College for Women, Begumpet, Ms. B. Niraimathi, IQAC Co-Ordinator, BVC and Dr. K. Anuradha, Head of Department of Microbiology, BVC distributed with their appreciation certificates for the winners.

Winners

First: Ms. D. Naga Sushma and Ms. Avanthika from 3rd Year B. Sc MGC

Second: Ms. Ch. Harshitha and R. B. Sarojini from 2nd Year B. Sc MGC

Third: Ms. V. J. Sushmitha and Ms. R. Shirisha from 2nd Year M. Sc Microbiology



Report on
One Week, One Lab Celebrations at CSIR-Centre for Cellular and Molecular Biology, Hyderabad
1st August, 2023

The students (28) of BSc Life Sciences, Bhavans Vivekananda College of Science, Humanities and Commerce, accompanied with two faculty Dr T Chaitanya and Mrs S Vanitha participated in CSIR- CCMB “One Week, One Lab” program aimed to showcase and propagate the technological breakthroughs and innovations in the CSIR labs as emphasized by the Hon’ble Minister (Science & Technology) Dr. Jitendra Singh. This "One Week, One Lab" celebrations at CSIR- Centre for Cellular and Molecular Biology (CCMB) commenced on 1st August, 2023, and the event is to be continued with enthusiasm till 5th August, 2023. The event was inaugurated by Dr. N. Kalaiselvi, Director General, CSIR and Secretary DSIR, Dr. Vinay K. Nandocoori, Director, CSIR- CCMB, Hyderabad, Dr D Srinivasa Reddy, Director, CSIR- IICT, Hyderabad, Dr Prakash Kumar, Director, CSIR- NGRI, Hyderabad and Dr. N. Madhusudhana Rao, Chief, Executive Officer, Atal Incubation Center (AIC- CCMB), Hyderabad who graced the occasion.

The inaugural session set the stage for an engaging and informative week. The talks covered a wide array of subjects, starting from inception of CCMB, collaborative projects, achievements and awards received by scientists and illuminating the opportunities CSIR offers to aspiring scientists. As one of the country's premier central institutes, CSIR-CCMB provided a remarkable platform for the attendees to explore the institution's offerings and gain insights into how it could pave the way for their future in this prestigious institute. Throughout the event, the dias showcased a captivating display of expertise, with leading scientists and researchers gracing the occasion. The presence of prominent personalities added to the significance of the event, emphasizing the institute's commitment in pushing the boundaries of scientific research.

The event featured various exhibits from startups, showcasing ground-breaking technologies such as mental health detectors and wireless ECGs, which caught the attention of the participants. Additionally, exhibits on various ongoing projects in areas like structural biology displaying the Cryo- TEM significance, new Samba Masuri rice variety in mitigating bacterial blight disease and also with low glycemic index, developmental biology, epigenetic regulation, stages in brain organoid development, cancer research and demo on expression of a gene starting from amplification of it using PCR, followed by its expression and identification using western blotting method showcased the institution's dedication in advancing various sectors of medical and healthcare.

In conclusion, the "One Week, One Lab" celebrations at CSIR-CCMB were a resounding success, offering a stimulating and informative experience for all involved. The event's engaging sessions, interactive exhibits, and the presence of renowned experts provided a remarkable platform for young minds to discover the exciting world of science and technology. The

knowledge and inspiration gained from this event have the potential to influence and shape the future of the budding scientists, as they embark on their journey in the realm of scientific research and innovation. The week-long celebration at CSIR-CCMB undoubtedly will create a positive impact and further will solidify the institution's position as a pioneer in cutting-edge research and development. All the students had the unique opportunity to witness the happenings and engagement with the experts, created a lasting impression on their scientific aspirations.



Figure 1 Dr N Kalaiselvi, Director General, CSIR welcomed by the CSIR- CCMB organizers during the inaugural of " One Week One Lab" programme, 1st August, 2023



Figure 2 Dr N Kalaiselvi, Director General, CSIR addressing the audience during the inaugural of “One Week One Lab” programme at CSIR- CCMB on 1st August, 2023



Figure 3 Dr Vinay Nandocoori, Director, CSIR-CCMB presenting the facilities, awards, achievements, developments, technologies and opportunities at CCMB, 1st August, 2023



Figure 4 Exhibits by research scholars on Cryo- TEM, 1st August, 2023



Figure 5 Model of Structural organization of protein, 1st August, 2023



Figure 6 Demo by Research scholars on gene amplification (PCR) and expression, 1st August, 2023



Figure 7 Group photo of the faculty and students who have attended the "One Week One Lab" programme at CSIR- CCMB, 1st August, 2023

Report

Department of Microbiology organized a guest lecture by Dr.Sandhya Ganesan, Assistant Professor, Department of Biology, IISER Thiruvananthapuram Kerala, on 27th July 2023. The topic of the lecture was on “Immune Evasion mechanisms. The online guest lecture showed an active participation of 180 members, that included faculty and students of M.Sc and B.Sc Microbiology. The resource person enlightened the students with fundamentals of immune responses against *Chlamydiae*, *Listeria monocytogenes*, *Mycobacterium tuberculosis*. The lecture also included innate immune recognition against bacterial and fungal pathogens, inflammasome responses, intracellular trafficking and endocytic mechanisms. The event was coordinated by Dr.K.Anuradha, Head, Department of Microbiology and Dr.Y.Aparna, Assistant Professor, Department of Microbiology.

Bhavan
BHAVAN'S VIVEKANANDA COLLEGE
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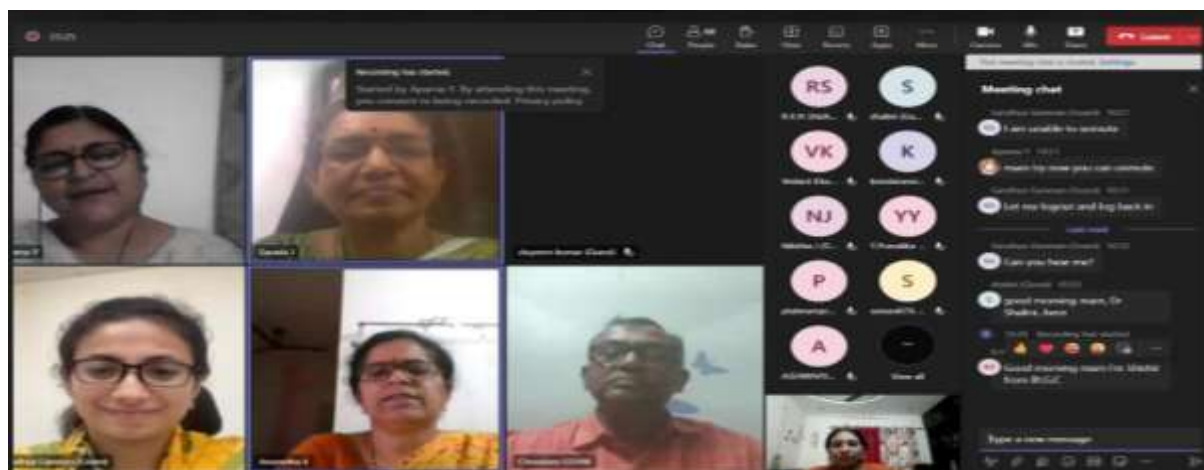
Guest Lecture
on
Immune Evasion Mechanisms

Thursday 27th Jul 2023
Time: 10:30 am

organized by
Department of Microbiology

Contact
Dr. K. Anuradha
Head, Department Of Microbiology

Resource person
Dr. Sandhya Ganesan
Assistant Professor
Department of Biology,
IISER, Thiruvananthapuram, Kerala.



REPORT ON OUTREACH PROGRAM-AWARENESS OF FOOD BORNE DISEASES AND SIGNIFICANCE OF DRINKING MILK

On July 12th 2023, the Department of Microbiology, Bhavan's Vivekananda College of Science, Humanities & Commerce, Sainikpuri in collaboration with Microbiologist's Society of India, BVC Unit organized an Outreach program at Kendriya Vidyalaya, Tirumalagiri with the Aim of creating awareness among students about foodborne diseases and their impact on health, to educate students about preventive measures to minimize the risk of foodborne illnesses and the significance of milk consumption for overall well-being.

With the Permission of Dr. G.S.V.R.K. Choudary, The Principal BVC; Dr. K. Anuradha, the Head of the Department of Microbiology, as the faculty coordinator, alongside Dr. S. Shalini Devi and Dr. T. Chaitanya, Assistant Professors in the department. Student coordinators Karthik Raj and Satyaprasad Sahoo efficiently managed the event.

The Outreach program received an overwhelming response, with over 50 active participants from classes 11th and 12th respectively. The primary objective was to provide valuable insights into foodborne diseases, their impact on health, and the Role of milk in maintaining a healthy lifestyle. The faculty coordinators presented comprehensive and engaging content to ensure effective understanding among the students, delivered a comprehensive presentation on foodborne diseases, including their causes, symptoms, and preventive measures, and conducted a session highlighting the nutritional value of milk and its role in maintaining a healthy lifestyle. The session also covered various aspects such as calcium and protein content, benefits for bone health, and the Role of milk in boosting the immune system.

The Student volunteers facilitated interactive discussions, allowing students to ask questions, share personal experiences, and engage in group activities related to food safety and milk consumption. This approach enhanced student involvement and ensured a deeper understanding of the subject matter.

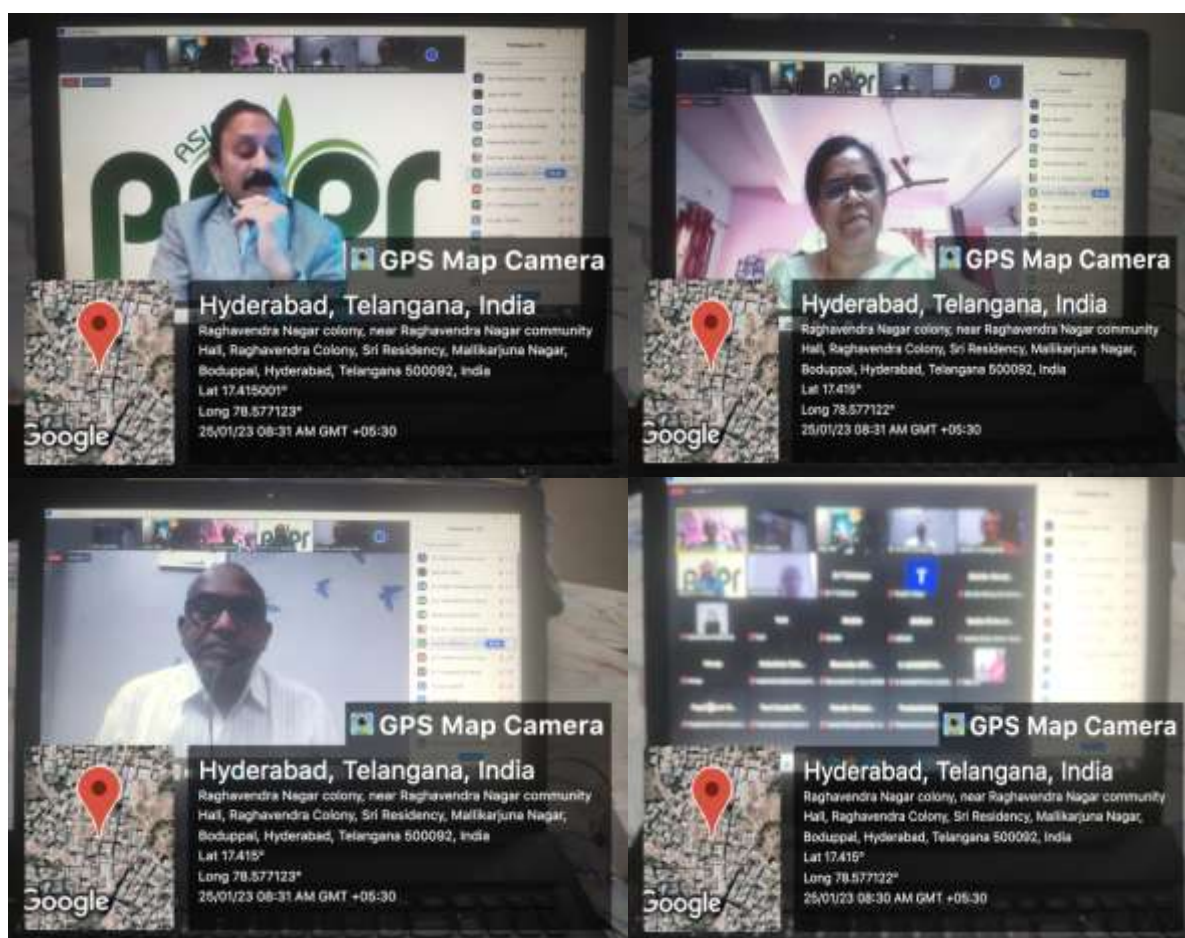
The success of the program can be attributed to the warm cooperation and support of the Principal and management of Kendriya Vidyalaya. Their encouragement played a vital role in the smooth execution of the event. Overall; the outreach program was a resounding success, with enthusiastic student participation and increased knowledge about foodborne diseases and the significance of milk. The Department of Microbiology at Bhavans Vivekananda College continues to promote awareness and knowledge in the field of microbiology, contributing to the well-being of society.





Guest Lecture Report

Department of Microbiology organized an online guest lecture on 25th 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.





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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

Workshop on Cell culturing Techniques

Department of Microbiology organized workshop on cell culturing techniques to MSc Microbiology final year students (37 participants) on 20th 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.



