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**DEPARTMENT OF BIOTECHNOLOGY  
PRESENTS**

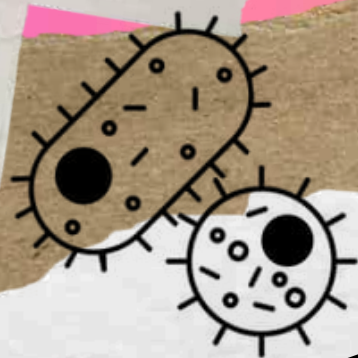
# **BIOBYTES NEWSLETTER**

**JULY 2024 - OCT 2024**

## **NEWS**

**H2 A**  
**Newsletter**  
**for the**  
**Year 2024**

## **BT**





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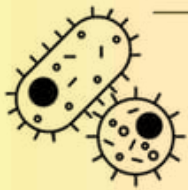


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# DEPARTMENT OF BIOTECHNOLOGY PRESENTS **BIOBYTES NEWSLETTER** JULY 2024 - OCT 2024



## DEPARTMENT VISION & MISSION

### VISION

To strive towards the innovative knowledge in the domain of biotechnology for the development of new processes and product useful to the society and enrich economy.

### MISSION



To impart knowledge and skills in the biological sciences to improve human health, protect environment and to enrich economy. To provide an outstanding environment to learn for facing the global need in the fields of Biotechnology. We focus on excellence in teaching and research as well as to promote entrepreneurship







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## DEPARTMENT OF BIOTECHNOLOGY

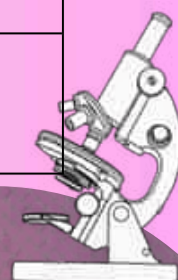
### Program Educational Objectives of the Department

#### PROGRAM EDUCATIONAL OBJECTIVES STATEMENTS (PEOs)

PEO No.	PROGRAM EDUCATIONAL OBJECTIVES STATEMENTS
<b>PEO 1</b>	Pursue higher studies or involve themselves in R&D activities in Biotechnology Industries and related organizations
<b>PEO 2</b>	Be a successful entrepreneur in creating jobs related to health science and Biomedical Society.
<b>PEO 3</b>	Promote ethics, sustainability, social environmental responsibility in their profession and career.

#### LIST OF PROGRAM SPECIFIC OUTCOMES (PSOs)

PSO No.	LIST OF PROGRAM SPECIFIC OUTCOMES (PSOs)
<b>PSO 1</b>	Ability to apply knowledge of basic life sciences for Biotechnological innovation and promoting entrepreneurship
<b>PSO 2</b>	Proficiency to develop value-added Biotechnological products through implementation, design, optimization, and scale-up of Biotechnological processes.
<b>PSO 3</b>	Competency to promote Biotechnological research in the fields of biomedical, food and environment-related fields and also to publish papers in highly reputed journals.





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## DEPARTMENT OF BIOTECHNOLOGY

### Program Educational Objectives of the Department

#### PROGRAM OUTCOMES (PO)

PO<sub>1</sub>

**Engineering Knowledge:** Apply the Knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

**PO<sub>2</sub> Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching, substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

**PO<sub>3</sub> Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental consideration.

**PO<sub>4</sub> Conduct investigations of complex problems:** Use research based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

**PO<sub>5</sub> Modern tool usage:** Create, select and apply appropriate techniques, resources and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

**PO<sub>6</sub> The engineer and society:** Apply reasoning informed by the contextual knowledge to access societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

**PO<sub>7</sub> Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts and demonstrate the knowledge of and need for sustainable development.

**PO<sub>8</sub> Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

**PO<sub>9</sub> Individual and team work:** Function effectively as an individual and as member or leader in diverse teams and in multidisciplinary settings.

**PO<sub>10</sub> Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large such as being able to comprehend and write effective reports and design documentation, make effective presentations and give and receive clear instructions.

**PO<sub>11</sub> Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work as a member and leader in a team to manage projects and multidisciplinary environments.

**PO<sub>12</sub> Life-long learning:** Recognize the need for and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.



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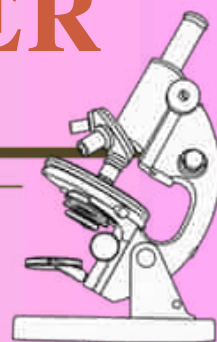


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**DESK MESSAGE**

**Dr. Rajeswary Hari**  
**HOD of Biotechnology Department**

The Department of Biotechnology was started in the year 2003 with an objective of generating trained manpower in Biotechnology with disciplinary skills from Chemical engineering, Computer Science and Management Skills. Biotechnology is the application of Biology for industrial purposes such as development of vaccines, biomaterials reducing toxic waste by using microbial or enzyme based processes, development of new drugs for treating emerging and reemerging diseases, development of newer diagnostic methods for diagnosis of human diseases, development of crops with additional productivity or added advantages etc. The Research focus in our Department Involves methods to reduce environmental pollution by using micro organisms, identifying the plant products which can be used to treat diabetes, fasten the wound healing processes; understanding the role of SNP in critical gene in the development of cancer; and monitoring and understanding the mechanisms of antibiotic resistance in bacteria. The Dept. is supported by grants from the SERB, DST, DBT & CSIR .The department is motivating the students and faculties to actively involve in research programme and also to publishish articles in national and international journals & Conference The Department offers B.Tech and M.Tech Programs in Biotechnology, M.Tech in Medical Biotechnology and Ph.D. programs also.



*Rajeswary Hari*  
**HOD Sign**





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### ACHIEVERS

A huge congratulations to **B.M Pawan, S. Ganesh, Manav Vamshi and Sachin Raj** for winning the **1st prize** in Model Making at **Sarvasastra'24!** & awarded with a cash prize of ₹1000 for their creative work



Kudos to **Malarvizhi D.K, Athithi.S, and Amirtha Varshini.M** for their exceptional contributions in Magizh, for securing the 1st prize in "Harmony Heaven" along with a cash prize of ₹1000.



Congratulations to **Prasanth.E** for securing **1st place** in **Brain Buzz** and **3rd place** in the **Puzzle competition**.



Hearty wishes to **Lavanya**, who secured the third place in **techastra**, under the event **forensic fiesta**



Congratulations to **Sreepooja Parthasarathy, Shivathmika, and Vedhika** for securing the **runner-up position** in both **Model Making** and **Poster Making**. . Well done!





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## STUDENT CORNER



The ACS Advanced Medical Research Institute extends heartfelt appreciation to Dr. Murugan Nandagopal from Lifecell Diagnostics for leading the impactful pre-conference workshop on 21st October focussing on Next-Generation Sequencing (NGS) as part of "ILLUMINATE 2024." Congratulations to third-year B.Tech Biotechnology **Meenakshi, Sri Ram, Abdu Rahman, Kiren, Kishore, and Mallesh** for their enthusiastic participation.



## Paper Presentation on Innovations and Translational Research

On 22nd and 23rd October, paper and poster presentations were held focusing on innovations and translational research. **Sreepooja Parthasarathy** presented a paper titled "**Green Synthesis of Silver Nanoparticles**" highlighting advancements in eco-friendly nanotechnology.







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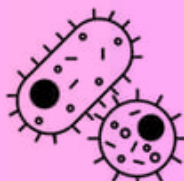
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## EVENT CORNER

### Biozone'24



**Biozone 24**, the National level symposium organized by **Department of Biotechnology** titled **Sea to Science: Innovations in Marine Biotechnology**. The primary goal of the symposium is to offer a forum for talking about and sharing the opinion on sea to science and innovations in marine biotechnology.



**Dr. A. Ganesh Kumar**, Scientist-E at the Ministry of Earth Sciences, and **Mr. G. S. Vaidyanathan**, Food Safety & Quality Assurance Manager at Dindigul Thalappakatti Hotels Pvt. Ltd., were honored as speakers and alumni at the BioZone event.







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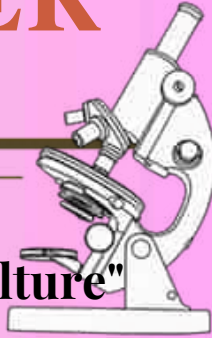
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## Industrial visit to Pondicherry

"Exploring the Science of Shrimp Farming and Aquaculture"



Industrial visit conducted on 6th November 2024 for III<sup>rd</sup> year around 47 students from both "A" and "B" section of B.tech Biotechnology department. IV arrangements were coordinated by our department staffs, Dr. Thirunavukkarasu, Mrs. Deepalakshmi, and Mrs. Aparna. There we visited "SUNSHINE AQ CARE PRIVATE LIMITED"



*2022-2026 batch*



Our shrimp cultivation experience provided insights into **prawn farming**, including **feeding**, **breeding**, and **freshwater/saltwater practices**. We learned advanced techniques, sustainable methods, and large-scale production from experts. A visit to **Sun AQ Care Private Limited** showcased marine biotechnology and ecosystem management, offering a deeper understanding of **modern aquaculture**.





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### STAR OF H2 (STAFF)



Congratulations to Dr. Sri Devi M on her admission to the Doctor of Philosophy program in Biotechnology. Her research on the "Ameliorative Effect of Ethanolic Leaf Extract and Its Loaded Phytoniosomes of *Tinospora cordifolia* in Mifepristone-Induced PCOS Rats" is a testament to her dedication to advancing scientific knowledge. We wish her great success in her academic journey and impactful contributions to the field of biotechnology.

**Dr. Sri Devi M**  
Assistant Professeur  
M.Tech, Doctor of  
philosophy, PhD,  
Biotechnology



The Department of Biotechnology warmly welcomes its newest faculty members, whose expertise and enthusiasm will further enrich our academic and research environment:



**Ms. Anupriya S**  
Date of joining-22-08-2024 Qualification-M.Tech Biotechnology Rajalakshmi Engineering College, Thandalam



**Mr. Yukesh B**  
Date of joining: 13/08/2024 Assistant Professor M.sc in Biochemistry at University of Madras, Guindy campus.



**Ms. Priyanka**  
Date of joining: 15.07.2024 Qualification-M.Tech Biotechnology Dr.M.G.R educational and research institute, chennai



**Ms. S.Ishwarya**  
Date of joining: 02:09:2024 Qualification MSc biochemistry education Worked as a Teaching Assistant in DG Vaishnav college from 2019 to 2024





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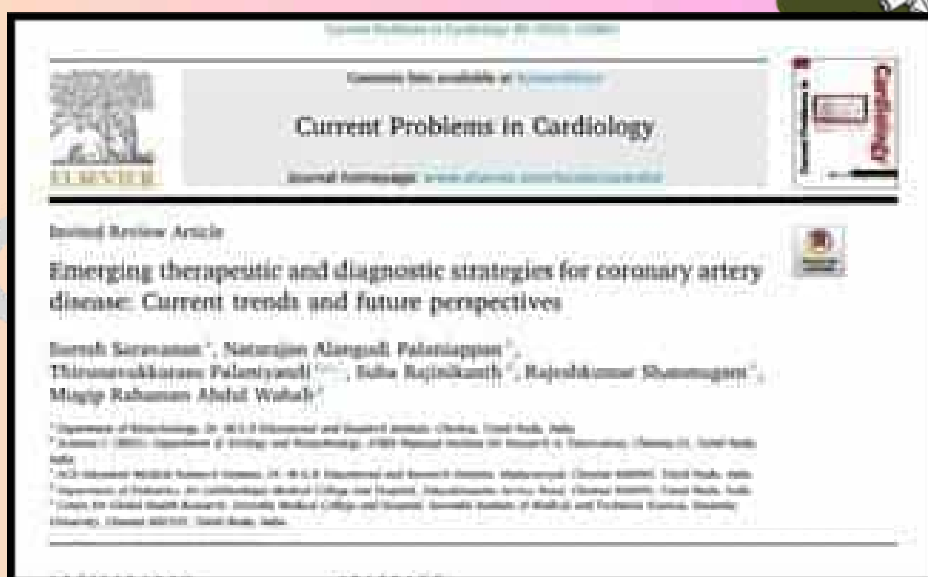
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## RESEARCH & INNOVATIONS

### Suresh S. Publishes High-Impact Review on Coronary Artery Disease



**Suresh S**  
**B.Tech Biotechnology**  
**2021-2025**



Congratulations to the final-year B.Tech Biotechnology student, under the expert guidance of **Dr. Thirunavukkarasu Palaniyandi**, on the remarkable achievement of publishing a review article titled **“Emerging Therapeutic and Diagnostic Strategies for Coronary Artery Disease”** in a prestigious journal with an **Impact Factor of 3.0 (2024)**. This comprehensive and cutting-edge article delves into groundbreaking advancements such as nanoparticles for targeted drug delivery, RNA therapeutics, and stem cell-based therapies, while also exploring exciting future trends like AI-driven diagnostics and minimally invasive treatment approaches. His research provides innovative and valuable insights into the evolving landscape of coronary artery disease management, marking a significant contribution to the field.



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