



Dr. M.G.R.
Educational and Research Institute



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Poonamallee High Rd, Vishwas Nagar, Maduravoyal, Chennai, Tamil Nadu 600095

**DEPARTMENT OF BIOTECHNOLOGY
PRESENTS
BIOBYTES NEWSLETTER**

FEB 2024 - JULY 2024

NEWS

H1 A
Newsletter
for the
Year 2024

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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





DEPARTMENT OF BIOTECHNOLOGY

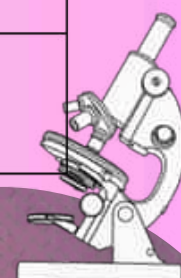
Program Educational Objectives of the Department

PROGRAM EDUCATIONAL OBJECTIVES STATEMENTS (PEOs)

PEO No.	PROGRAM EDUCATIONAL OBJECTIVES STATEMENTS
PEO 1	Pursue higher studies or involve themselves in R&D activities in Biotechnology Industries and related organizations
PEO 2	Be a successful entrepreneur in creating jobs related to health science and Biomedical Society.
PEO 3	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)
PSO 1	Ability to apply knowledge of basic life sciences for Biotechnological innovation and promoting entrepreneurship
PSO 2	Proficiency to develop value-added Biotechnological products through implementation, design, optimization, and scale-up of Biotechnological processes.
PSO 3	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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Program Educational Objectives of the Department

PROGRAM OUTCOMES (PO)

PO1

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

PO2 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.

PO3 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.

PO4 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.

PO5 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.

PO6 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.

PO7 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.

PO8 Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO9 Individual and team work: Function effectively as an individual and as member or leader in diverse teams and in multidisciplinary settings.

PO10 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.

PO11 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.

PO12 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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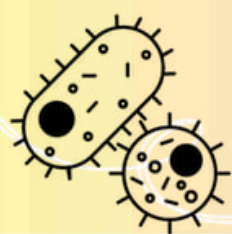


DESK MESSAGE



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 advantage 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



Congratulations to **Shivathmika, Priyanka, and Sedhukarasi** from the Biotechnology Department for their innovative AKC-funded project, AGIS SWARM CONNECT! This groundbreaking 24/7 satellite-based monitoring system, utilizing MQDT technology, aims to detect and prevent illegal fishing activities. Their dedication to addressing critical environmental issues through advanced technology is truly commendable. Wishing them great success in further developing this impactful project!



Congratulations to **Kuduma Meghana and Sai Sri G. K.** for securing the top rank in the even semester-IV with an outstanding GPA of 9.52! This remarkable achievement reflects their hard work, dedication, and academic excellence. Wishing them continued success in their future endeavors!



Congratulations to **Thrisha M.** for securing the top rank in the even semester-VI with an exceptional GPA of 9.82! This remarkable achievement is a testament to her dedication, hard work, and academic excellence!



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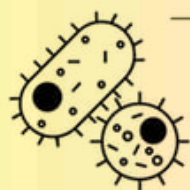


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STUDENT CORNER

Congratulations to **Sai Sri G. K.** for winning the second prize for her creative presentation on improving soil health through an innovative solution to an industry-defined problem! Her innovative thinking and dedication to addressing critical environmental challenges are truly commendable. Wishing her continued success in all her future endeavors!



Congratulations to **Nishta Rawat** from B.Tech Biotechnology for her outstanding achievement in securing the top rank in Viksit Bharat@2047! Her active participation in both non-technical and technical events showcases her versatility, dedication, and commitment to excellence!





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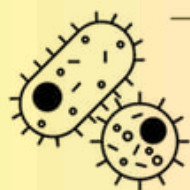


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EVENT CORNER



“SARVASASTRA 2k24”

On the inaugural day of **SARVASASTRA 2k24** on 14th and 15th March, we were honored to have Dr. Thangam Menon, a renowned microbiologist, deliver the keynote address. She highlighted the critical role of the microbiome in human health, offering valuable insights. During the afternoon session, participants showcased their research findings and innovative ideas, contributing to a dynamic exchange of knowledge and ideas.





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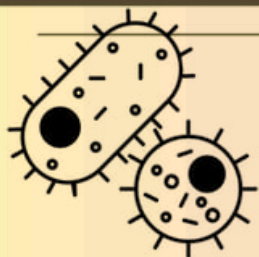


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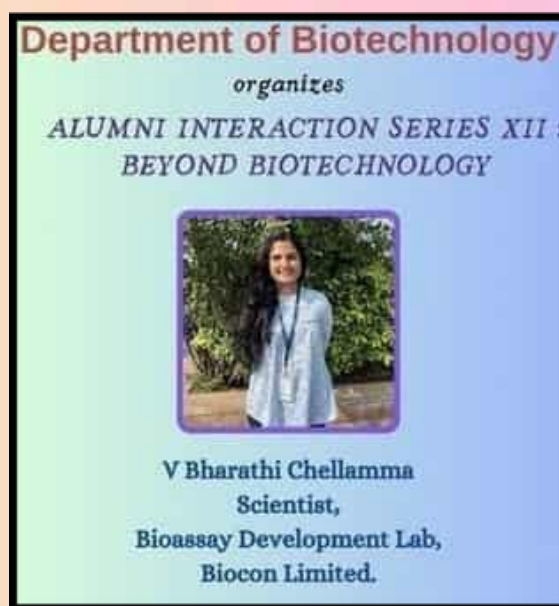
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ALUMINI



"Beyond Biotechnology"

On 18th June 2024, as part of the "Beyond Biotechnology" session, we had the privilege of hosting Ms. Bharathi Chellamma, a distinguished alumna from Biocon, at the Bioinformatics Lab. She shared her valuable insights on emerging trends in biotechnology and inspired students to pursue careers in this dynamic field. Her address was both motivating and enriching for all in attendance.



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STAR OF H₃ (STUDENT)

Congratulations to **Tejaswari A and Amrith G. R.** for their outstanding achievement in securing the first rank for their paper presentation on "Media Formation" at Sarvasastra 2K24! Their hard work, creativity, and excellence in research are truly commendable.!



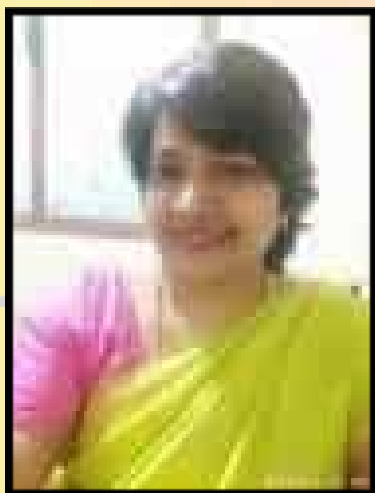
Congratulations to **Sai Sri G. K.** for securing the second rank in her paper presentation on "Marine Biotechnology" at Sarvasastra 2K24! Her exceptional research and presentation skills are truly commendable!



STAR OF H₃ (STAFF)



Congratulations to **Dr. K. Gomathi**, assistant HOD of the Department of Biotechnology, for having her innovative idea selected and approved by MSME in Women Hackathon 3.0! Out of 23 ideas, hers was one of the top two chosen, with a project budget of Rs 14.5 lakhs. This achievement is a testament to her creativity, leadership, and dedication to advancing biotechnology. Wishing her continued success in bringing this impactful project to fruition!



Dr. K. Gomathi



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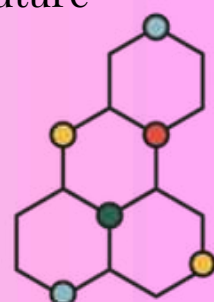
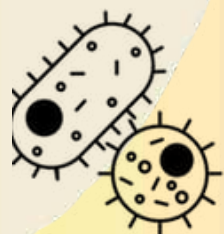
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RESEARCH & INNOVATIONS



Congratulations to **Shanmugapriya D**, a final-year B.Tech Biotechnology student, for her remarkable achievement in publishing a review article on Polycystic Ovary Syndrome (PCOS) in the prestigious *Elsevier Journal "Life Sciences." This insightful article, guided by Dr. Thirunavkarasu Palaniyandi, explores the complexities of PCOS, shedding light on its significant impact on women's health. It also highlights recent advancements in research and treatment, emphasizing the need for point-of-care technologies to enhance the diagnosis and management of this challenging disorder. With an impact factor of 5.2 and a total of 17 reads, Shanmugapriya's work makes a valuable contribution to the growing body of knowledge on PCOS and its potential solutions. This accomplishment reflects her dedication, deep understanding of the subject, and commitment to advancing healthcare solutions. Wishing her continued success in her future academic and professional endeavors!





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