



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



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(An ISO 21001: 2018 Certified Institution) (University with Graded Autonomous Status)

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

DEPARTMENT OF BIOTECHNOLOGY
PRESENTS
BIOBYTES NEWSLETTER

AUG 2023 - NOV 2023

NEWS

H2

A
Newsletter
for the
Year 2023

BT





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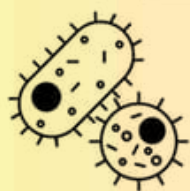


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DEPARTMENT VISION & MISSION

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





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DEPARTMENT OF BIOTECHNOLOGY

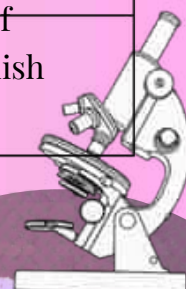
Program Educational Objectives of the Department

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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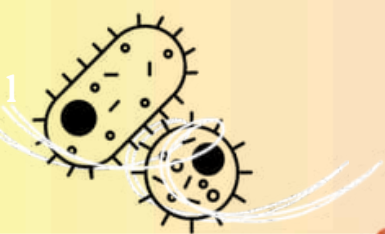


DESK MESSAGE



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 program also.



Rajeswary Hari
HOD Sign



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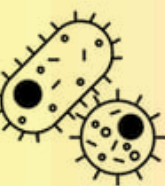
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ACHIEVERS

FUND PROJECT OF AKC



MEENAKSHI



KEERTHANA



MAHALAKSHMI

Accolades to the team for developing a smart IoT device that analyzes soil nutrients, helping farmers optimize fertilization and prevent soil degradation. With ₹2,50,000 in funding, this project is a valuable addition to the 5th cohort at AKC. Well done!



SEMESTER TOPPERS

Saisri G K from B.Tech Biotechnology [2022-2026] has secured the top rank in odd semester III with an impressive GPA of 9.14. Her dedication and hard work are truly inspiring



Heartiest congratulations to **Suresh S** from B.Tech Biotechnology [2021-2025] for securing the top rank in odd semester V with an exceptional GPA of 9.85! His hard work and commitment to excellence are truly commendable.



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STUDENT CORNER



Congrats to **D.K. Malarvizhi, Amirthavarshini, and Aditi S** for winning 3rd prize in the Pot Pourri event at Specta'23 at Dwaraka Doss Goverdhan Vaishnav College! Well done!



Kudos to **Malarvizhi D K, Varshini M, Athiti S, and Prakavi K** for securing 3rd place in the Forensic event at Techastra'23. Their teamwork truly paid off!



Saisri G K participated in a 3-day seminar on "Biotechnology in Healthcare," held at Birla Planetarium from October 16-18, 2023. Organized by Science City and the Department of Higher Education, Tamil Nadu, this event is one of many she has attended to deepen her expertise in the field.



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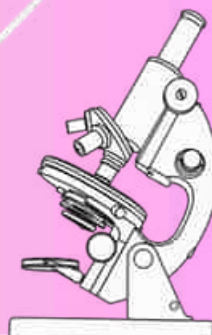
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EVENT CORNER

A NATIONAL LEVEL SYMPOSIUM "BIOZONE 2K23"



The Department of Biotechnology organized "**Biozone 2K23**" on August 9, 2023, themed "Harvesting Nature's Potential for a Greener Tomorrow." Dr. Rajeswary Hari welcomed the gathering, Dr. S. Geethalakshmi, Vice Chancellor, gave the presidential address, and Dr. K. Gomathi introduced chief guest Dr. J. Balamurugan, who spoke on clean energy and biofuels. The event ended with a valedictory address by Dr. G. Gopalakrishnan and prize distribution. Gratitude was expressed to the Hon. Founder Chancellor and President for their support.





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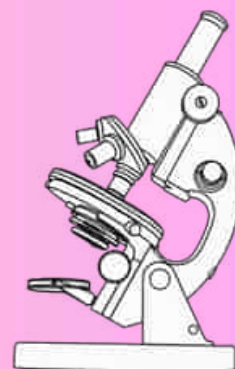
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ALUMINI

**The Alumni Interaction Series XII, titled
"Beyond the Petridish: Biotechnology in
the Real World,"**



The Alumni Interaction Series XII, titled **"Beyond the Petridish: Biotechnology in the Real World,"** featured Nithish Raj, a Research Scholar from the University of Illinois, as the keynote speaker. He explored biotechnology's practical applications in healthcare, agriculture, environment, and industry, using real-world case studies. The event also offered networking opportunities for attendees to connect and collaborate.



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STAR OF H2 (STUDENT)



Sallakolusu Venkata Swathi excelled at the National Level Technical Symposium held at Dr. M.G.R Educational and Research Institute on 11th and 12th September 2023, securing the 2nd prize. Great job!



STAR OF H2 (STAFF)

Dr. Thirunavukkarasu Palaniyandi



A distinguished scientist and a true pioneer in Research Coordinator and a recipient of the prestigious to With numerous published papers to his name, his work continues to inspire and elevate the scientific community. Congratulations, Dr. Thirunavukkarasu on Your truly. These well deserved achievements, dedication and excellence are exemplary



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RESEARCH & INNOVATIONS



Avanthika S
B. Tech
Biotechnology
2020 – 2024



Congratulations to Avanthika S, a final-year B. Tech Biotechnology student, on the publication of her insightful review article, "Microfluidics as Diagnostic Tools", in Clinica Chimica Acta (Elsevier, I.F. 5.0). Supervised by Dr. Thirunavukkarasu Palaniyandi, the article presents groundbreaking research on microfluidic chip technologies for diagnosing a range of medical conditions, from autoimmune disorders to neurodegenerative diseases. With a total impact factor of 15.2 across three publications, Avanthika's exceptional work demonstrates her dedication and excellence in scientific research. Well done on this remarkable achievement!



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