

**DEPARTMENT OF
BIOTECHNOLOGY**

NEWSLETTER

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BIOGAZETTE

Echoing multidisciplinary perspectives



EDITORIAL TEAM



DR. M. SIVANANDHAM
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Visiting Professor
Biotechnology



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Professor and Head
Biotechnology



DR. K. DIVAKAR
Associate Professor
Biotechnology



DR. K. GANESH PRASATH
Assistant Professor
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DR. J. G. ASWIN JENO
Assistant Professor
Biotechnology

STUDENT EDITORIAL TEAM



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IV Year Student
Biotechnology



MS. R. JYOTSNA
III Year Student
Biotechnology

Vision

To produce higher caliber Biotechnologists to attain new heights in bioinformatics and bioprocess technology as per industrial needs and to provide leaders in the field of Biotechnology.

Mission

- To progress the department to attain center of excellence in bioinformatics and bioprocess technologies by providing best Undergraduate, Postgraduate, Doctoral programs and R&D activities within a decade.
- To develop special skilled training programs for graduates to meet the personality characters stipulated by the industries within a period of five years.
- To build potential biotechnologists capable of dealing with new challenges and socio-ethical implications.

B. Tech. Biotechnology

Program Educational Objectives

PEO-1. To produce Biotechnology graduates who will be employable in core Biotech/Pharma industries and domain-based software services.

PEO-2. To produce research-oriented Biotechnology graduates who will be employable in academic/Industry sponsored research and also who will be pursuing higher studies.

PEO-3. To produce bioentrepreneurs.

Program Outcomes

PO-1. Engineering Knowledge: Apply the knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems.

PO-2. 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-3. 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 considerations.

PO-4. 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-5. 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-6. The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO-7. 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-8. Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO-9. Individual and team work: Function effectively as an individual and as a member or leader in diverse teams, and in multidisciplinary settings.

PO-10. 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-11. Project management and finance: Demonstrate knowledge and understanding of the engineering management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO-12. Life-long learning: Recognize the need for and have the preparation and ability to engage in independent and lifelong learning in the broadest context of technological change.

Program Specific Outcomes (PSOs)

PSO-1: To make the students understand and apply the knowledge of computational systems biotechnology to design and develop biologics to meet societal needs.

PSO-2: To train the students to meet the requirement of bioprocess industries for developing techno-economical processes.

PSO-3: To empower the students with competent skill sets for bridging the gap between academia and the requirements of the healthcare industry.

M. Tech. Biotechnology

Program Educational Objectives

PEO-1: To prepare the students to excel and succeed in biotechnology research or industry through the latest state-of-art postgraduate education.

PEO-2: To train students with good scientific and technical knowledge so as to comprehend, analyze, design and adopt innovative and new technology that provides solutions for developing novel biotechnological products.

PEO-3: To create bioentrepreneurs with good communication and leadership skills, respect for authority and the life-long learning needed for a successful professional career.

Program Outcomes

PO-1: Apply the knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems.

PO-2: An ability to write and present a substantial technical report/document.

PO-3: Students should be able to demonstrate a degree of mastery over the area as per the specialization of the program. The mastery should be at a level higher than the requirements in the appropriate bachelor program.

PO-4: Ability to examine the technological problems in various domains of Biotechnology apply modern engineering tools for the prediction and modeling of complex engineering problems with a focus on sustainable development.

PO-5: Students should be able to acquire self-management and teamwork skills to collaborate with multidisciplinary teams from academic, industry and research institutes of national or international repute, with a commitment to lifelong learning.

PO-6: Potential to apply biotechnological solutions by adhering to the standards of bioethics with social responsibilities.

Program Specific Outcomes (PSOs)

After the successful completion of M.Tech. Biotechnology program, the students will be able to:

PSO-1: Demonstrate the biotechnology concepts and research approach and apply them for healthcare and industrial applications.

PSO-2: Possess scientific and technological skills to design and develop novel bioproducts for addressing biological and healthcare challenges.

PSO-3: Analyze the socio-economical needs and possess the necessary expertise to become a bioentrepreneur.

Events Organized

BIOTRYST 2023

The Department of Biotechnology has organized a “National Biotechnology Summit BIOTRYST 2023 – An Industry and Academia Meet” on 16th May 2023.

Conveners: Prof. M. Sivanandham, Secretary, SVEHT and Prof. E. Nakkeeran, Head, Department of Biotechnology.

Event Coordinators: Dr. S. Pandi Prabha, Professor and Ms. N. Kanagam, Assistant Professor, Department of Biotechnology.

The primary objectives of this event were to foster strong connections between industries and students and to promote entrepreneurial skills among the students.

The summit commenced with a lecture by Mr. Arun Ramasamy, Managing Director of @Uniway Engineers Private Limited, Chennai. He delivered an informative session on the application of Artificial Intelligence, data management, software tools such as IoT, and their potential in futuristic biotechnological approaches. He also provided a detailed explanation of their scope. Following the lecture, an Ideathon event was conducted, during which students presented and shared their innovative ideas for enhancing existing processes and procedures to improve the quality of life.

Subsequently, three distinguished professionals from Syngene International Limited, namely Dr. Ganesh Babu Karunakaran, Dr. Sourav Ghosh, and Dr. Varun Ahuja, DVM, PhD, DABT, ERT, delivered talks. Their presentations covered various topics, including modified antibodies and their application in therapeutics, as well as the impact of chemical modifications on drug systems with regard to pharmacokinetic models. This session received positive feedback from students, highlighting the potential career prospects in the pharmaceutical industry in India and providing valuable insights into the requirements for securing placements in industries.

Glimpse of BIOTRYST 2023



Glimpse of BIOTRYST 2023



Glimpse of BIOTRYST 2023



Guest Lecture

A guest lecture on “Knowledge exchange session: Translating the student experience into success in a workplace” on 06th May 2023



Dr. Pooja Srinivasan, Process Development Senior Scientist, Biovectra Inc., Canada

The Department of Biotechnology of Sri Venkateswara College of Engineering organized a Guest Lecture on “Knowledge exchange session: Translating the student experience into success in a workplace” by Dr. Pooja Srinivasan, Process Development Senior Scientist, Analytical Services Biovectra Inc., Windsor, Nova Scotia Canada on 06th May 2023 (Saturday) at 07.00 - 08.00 PM (IST). Dr. Pooja Srinivasan's insights on how students can leverage their educational experiences to succeed in the workplace were truly enlightening. As a professional who has made a successful transition from academia to industry, her advice and guidance were invaluable.

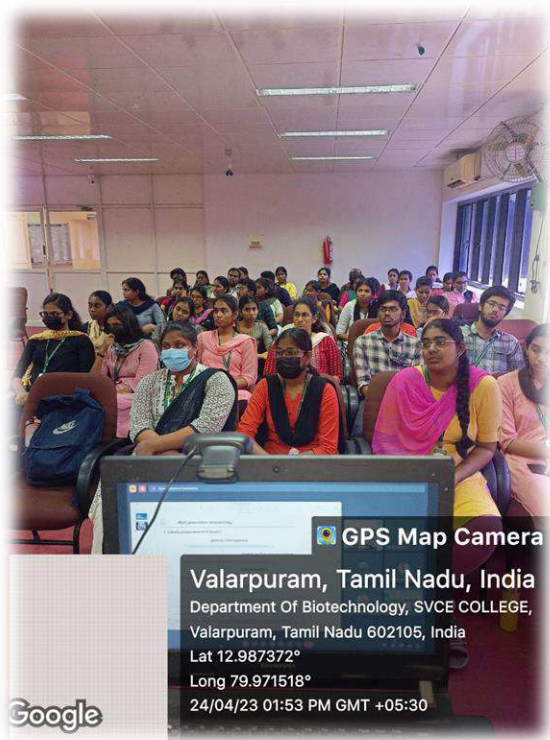


A guest lecture on “Clinical Basis of Chemotherapy and Drug Resistance” on 23rd May 2023.



Dr. Ricardo J. Parker Director, Cancer Research SageMedic Corp California, USA

The Department of Biotechnology of Sri Venkateswara College of Engineering is organized a Guest Lecture on “Clinical Basis of Chemotherapy and Drug Resistance” by Dr. Ricardo J. Parker Pr Director, Cancer Research, SageMedic Corp, California, USA on 23rd May 2023 (Tuesday), 09.00 - 10.00 AM (IST).



Higher Studies Update

Post-Graduate Admissions



भारतीय प्रौद्योगिकी संस्थान हैदराबाद
Indian Institute of Technology Hyderabad



Ms. Rajashree T
(2019-2023 Batch)

M. Tech Medical Biotechnology at Indian Institute of Technology, Hyderabad



Post Graduate Programme in Management (PGPM) at Indian Institute of Management, Raipur



Ms. Preyadarshne T
(2019-2023 Batch)



Ms. Sanjana S
(2019-2023 Batch)



Master of Biotechnology - The University of Melbourne, Australia

Outstanding PG Student Award 2023

Ms. Abi Sherlin. E, (2021-23 Batch) Final year, M. Tech Biotechnology has received the Outstanding PG Student Award for her exceptional academic performance at SVCE. We congratulate her on this remarkable achievement, which is a reflection of her unwavering dedication to biotechnology and her drive to succeed. Ms. E. Abi Sherlin's consistent academic excellence and deep understanding of the subject have earned her this well-deserved recognition.



Outstanding Biotechnology Student Award 2023

Mr. Nithin Raj S (2019-23 Batch) Final year, B. Tech Biotechnology, has been awarded the Outstanding Biotechnology Student Award for his exceptional performance throughout his academic journey at SVCE. We extend our warmest congratulations to him on this remarkable achievement. Mr. S. Nithin Raj has consistently demonstrated his passion for biotechnology, with an unwavering commitment to academic excellence and a drive to succeed. His outstanding academic record is a testament to his dedication to learning and his deep understanding of the field.



Budding Bright Engineer Award 2023

Ms. Thulasi Kalaivani B (2021-25 Batch) and **Mr. K. Gopikrishnan**, (2021-25 Batch) Second year, B. Tech Biotechnology of Sri Venkateswara College of Engineering, has been honoured with the 'Budding Bright Engineer Award' from Biotechnology for his outstanding academic performance throughout his academic journey at SVCE.



Long Service Award

Dr. Nakkeeran E, Professor and Head, Department of Biotechnology has been awarded for 10 years of outstanding service at Sri Venkateswara College of Engineering. Prof. Nakkeeran E has been an invaluable asset to the department, consistently demonstrating his passion for research. His contributions have been instrumental in shaping our department's success and driving the mission forward. This milestone is a testament to his unwavering dedication to the field of biotechnology and to his outstanding leadership within the department.



Long Service Award

Ms. N. Amirtha Prabha, Lab Instructor (Grade-4) has been recognized for her 10 years of dedicated service at Sri Venkateswara College of Engineering. She has been an integral part of our department's success, contributing her expertise and dedication to support our laboratory courses and research efforts. Her commitment to excellence and tireless work ethic has been an inspiration to all of us. This milestone is a testament to her exceptional service and unwavering commitment to our department's mission.



Research Activities

SVCE-Faculty Research Day 2023



Ms. Linekha Radhakrishnan, Research Scholar - First Prize in Paper Presentation entitled “Evaluating the acrylamide mitigation potential of L-asparaginase in Indian festive snack foods” under the supervision of Dr. Nakkeeran E, Professor & Head of the Biotechnology Department, SVCE.



Mr. J. Hariharan, Assistant Professor for his Second Prize in Paper Presentation entitled “-Evaluating inhibitory potential of anticancer molecules against genes expressed in BCC-MSC interaction” under Biotechnology stream conducted during the SVCE Faculty Research Day 2023.



Mr. N. Sathish, Assistant Professor for his Third Prize in Paper Presentation entitled “Mechanisms of resistance in microbe against heavy metal in Bacteria” under Biotechnology stream conducted during the SVCE Faculty Research Day 2023.

Publication of Review Article

Ms. N. Kanagam, Assistant Professor, Ms. Kaaviya V (B. Tech, 2021-25 Batch), Ms. Harini GV (B. Tech, 2021-25 Batch), Ms. Abirami K (M. Tech, 2022-24 Batch), Mr. Gopinath S (M. Tech, 2022-24 Batch) and Ms. Yamuna Devi B (M. Tech, 2022-24 Batch) for their book chapter publication titled "Impact of Blue Green Algae on heavy metal remediation: A clean Green Approach" in the Book "Climate change: Conservation Biodiversity & Sustainability".

Recent Book Chapter Publication

"Impact of Blue Green Algae on heavy metal remediation: A clean Green Approach"

Climate Change: Conservation, Biodiversity & Sustainability



CLIMATE CHANGE
CONSERVATION, BIODIVERSITY & SUSTAINABILITY

College of Agriculture, Jorhat
Assam Agricultural University

AUTHORS

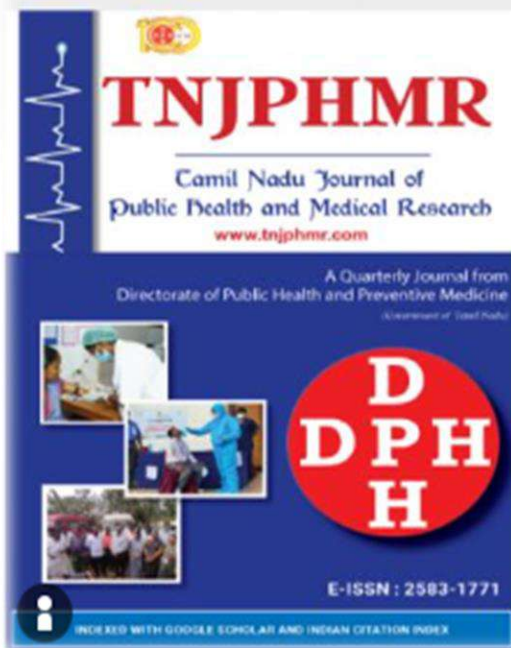
 Ms. N. KANAGAM Assistant Professor Biotechnology	 Ms. KAAVIYA V II-UG Student Biotechnology	 Ms. HARINI G V II-UG Student Biotechnology
 Ms. ABIRAMI K PG Student Biotechnology	 Mr. GOPINATH S PG Student Biotechnology	 Ms. YAMUNADEVI B PG Student Biotechnology

Publication of Review Article

Prof. P.K. Praveen Kumar, Department of Biotechnology, published a review article entitled "Two novel SNPs, rs1545 and rs1547, in the BBS6/MKKS gene of Bardet Biedl syndrome have been linked to metabolic syndrome: Review" in the Tamil Nadu Journal of Public Health and Medical Research.

Two novel SNPs, rs1545 and rs1547, in the BBS6/MKKS gene of Bardet Biedl syndrome have been linked to metabolic syndrome: Review

Tamilnadu Journal of Public Health and Medical Research



AUTHOR



Dr. P.K.Praveen Kumar
Professor
Biotechnology

Filing of Patent

Prof. P.K. Praveen Kumar, Department of Biotechnology filed a design patent titled "Wireless Liver Cancer Detector" with the Patent Office, Kolkata, Intellectual Property India on 18th May 2023.



Student/ Faculty Achievements

Top h-index SVCE Faculty



Dr. E. Nakkeeran, Professor and Head of Biotechnology Department has received the "Certificate of Appreciation for Top h-index SVCE Faculty". This recognition was bestowed upon Dr. Nakkeeran during the SVCE-Faculty Research Day 2023, by Dr. C. Umarani, Director-Research at Anna University, for having a h-index of 15.



Dr. K. Divakar, Associate Professor has received the "Certificate of Appreciation for Top h-index SVCE Faculty". This recognition was bestowed upon Dr. K. Divakar during the SVCE-Faculty Research Day 2023, by Dr. C. Umarani, Director-Research at Anna University, for having a h-index of 12.



Dr. G. Karthigadevi, Assistant Professor has received the "Certificate of Appreciation for Top h-index SVCE Faculty". This recognition was bestowed upon Dr. G. Karthigadevi during the SVCE-Faculty Research Day 2023, by Dr. C. Umarani, Director-Research at Anna University, for having a h-index of 11.

Research Scholar Activities

Ms. R. Linekha, Full-Time Research Scholar, Department of Biotechnology is awarded the 'SVCE Research Fellowship' for conducting research on the project titled "Development of Natural Antioxidant-rich Food Condiments to Prevent and Ameliorate Acrylamide Induced Toxicity" under the guidance of Prof. E. Nakkeeran, the Department of Biotechnology with a monthly stipend of Rs. 18000/-.



Events attended by the Faculty

- **Prof. S. Pandi Prabha** participated in “FDP/Training Program on Exploring Dynamics of National Education Policy 2020” With Reference to NAAC Perspectives jointly organized by Faculty of Commerce, Parul University-Gujarat Research Foundation of India RFI-CARE from 12th - 18th May 2023.
- **Dr. G. Karthigadevi** successfully completed the NPTEL - AICTE FDP certification course on Medical Biomaterials during the period of February - April 2023.
- **Dr. K. Ganesh Prasath** attended a one-month International Workshop on Bioinformatics data science with R and MySQL conducted by Decode life, Haryana from 15th April – 16th May 2023.

Events attended by the Students

- **Mr. Sriram M, Ms. Srinidhi Srikanth, Ms. Aditi S, Ms. Kanika Loganathan, Mr. Aswatha Narayana R, Ms. Keerthana J and Mr. Sivagurunathan R** of II-year B. Tech Biotechnology (Batch 2021-25) completed NPTEL course "Principles of Management".
- **Ms. Sulakshuna B, Ms. Nithila S, Ms. Maseera Ahmedi M and Mr. Kevin M** of II-year B.Tech Biotechnology (Batch 2021-25), completed NPTEL course "Structural Biology".
- **Nithila S** of II-year B.Tech Biotechnology (Batch 2021-25), completed NPTEL course "Data Analysis for Biologists".
- **Ms. Reshma R** (Batch 2022-26) I-year B. Tech Biotechnology has participated in two weeks “Bioignite – Hands on Programme on Molecular Biology and Bioprocess” organized by PSG- STEP BioNEST PSG College of Technology during 3rd – 16th May 2023.
- **Ms. Shruthi V** (Batch 2022-26) I-year B. Tech Biotechnology has participated in two weeks “Bioignite – Hands on Programme on Molecular Biology and Bioprocess” organized by PSG- STEP BioNEST PSG College of Technology during 3rd – 16th May 2023.

Alumni Write-up



Mr. Karthik Raja
(UG: 2014-18
PG: 2019-21)

Through my college experience in SVCE and my reflection on Teaching and Learning Reconsidered, SVCE's life experience is truly one of a kind. The most common memories I have of SVCE life are goofing around with friends. They remember how the group of friends walked around the college in style and played silly pranks on each other. Moreover, people always look back at the times spent in the college canteen. It was considered the hub for me where we enjoyed eating and chatting away with friends, I have come to recognize several ideas that have greatly impacted me, my views on learning, and my actual learning. My overall experience in SVCE has been beneficial because of the faculty in the Department of Biotechnology, who approached teaching with a more conscious effort and taught me to approach learning and my role as a learner in the same way. I want to stress that it was the faculty, not the subject, College, or delivery method, that made classes interesting and made learning more effective for me. Regardless of teaching styles or preferences, those courses that I finished with a sense of accomplishment and meaningful knowledge were based, more than anything else, on the instructor's engagement with the students. It is absolutely clear to students when they have a Faculty who wants to help them succeed. This support and guidance allow students to thrive and take the risks associated with learning this can be seen Biotechnology Department, SVCE.

Sri Venkateswara College of Engineering SVCE

(Autonomous - Affiliated to Anna University), Sriperumbudur Tk - 602 117, Tamilnadu, India



Biotechnology Department

INFORMATION BROCHURE FOR ADMISSION TO M.TECH. BIOTECHNOLOGY & Ph.D. PROGRAMME (2023-2024)

ABOUT SVCE

Sri Venkateswara College of Engineering (Autonomous) is a premier self financing institution started in 1985 and received Autonomous status in 2016 and accredited by NAAC with A+ grade. Department of Biotechnology established in 2005 under the guidance of our chairman, Governing Council Dr. A.C. Muthiah, a well known industrialist, in order to explore and experience new frontiers of Biotechnology. The department has started B.Tech Biotechnology in 2005, M.Tech Biotechnology in 2010 & Ph.D. in 2011.

SCHOLARSHIPS

- PG scholarship of Rs. 50,000/year for 30% of the top scorers of sanctioned class strength for 2 years.
- Management Scholarships for tuition fees and assistance for books and instruments.
- AICTE-GATE Scholarship of Rs. 12,400/month for student having valid GATE score from AICTE.
- Intramural M.E/M.Tech Student Research Grant to carry out innovative projects in Biotechnology.
- Sponsorships for students to attend conferences.

Awardees of PG Scholarship



WHY BIOTECHNOLOGY @ SVCE

- State of the art research facilities are available to carry out research in various fields & experienced faculty members.
- Well equipped infrastructure for imparting practical knowledge to the students.
- MoU with industries to help the students for Internship, Training & Placement.
- Student Research Day to appreciate innovative students research projects.
- Encouraging students to take up Entrepreneurship through SVCE-EPIC Scheme.
- Industry Visits & Guest lectures by eminent speakers from reputed institutions & Industries.
- Handling courses by eminent visiting Professors from Abroad.
- Motivating students to participate in International competition like iGEM, USA.
- Encouraging students leadership activity through Technical symposium.
- Encouraging students to publish their research findings in reputed journals.
- Providing placement in biotechnology based core companies like Tata Chemicals Ltd., Zifo RnD Solutions, AstraZeneca, AGS Health, etc.
- Department received research grants (1.71 Crore) from various funding agencies such as DBT, ICMR, DST-SERB, CSIR, AICTE, MSME, TNSCST, etc.
- Department received several grants (23 lakhs) for organizing workshops, conferences, popular lectures, short-term training programmes and FDP from various funding agencies like DBT, CSIR & ICMR, AICTE, EDII, etc.

MAJOR FACILITIES

- Animal House facilities - CCSEA approved
- Wave Cell Bag Bioreactor for Mammalian Cell Culture
- Real Time - PCR & ELISA, FT-IR
- Automated Continuous Stirred Tank Bioreactor
- Computational Systems Biotechnology Laboratory
- Facilities for Stem Cell Technology
- Fluorescence & Phase Contrast Microscope
- High Performance Liquid Chromatography
- Column chromatographic Systems like FPLC
- Freeze Dryer & Spray Dryer
- Spectrofluorophotometer
- 2D - Gel Electrophoresis
- Exclusive cold room facility

ADMISSION INFORMATION

Eligibility: As per Anna University Guidelines.

Admissions are through Tamil Nadu Common Admissions by Anna University & Entrance Examinations conducted by Consortium for the Management seats.

For department video tour, click the below link
<https://youtube.com/watch?v=Ryc3-wJ2ACY>

RESEARCH FOCUS

- Immunology & Immuno-technology
- Biomaterials & Tissue Engineering
- Stem Cell Technology
- Genetic Engineering & rDNA Technology
- Cellular & Molecular Biology
- Computational Systems Biotechnology
- Bioprocess Engineering
- Degenerative Diseases & Regenerative Medicine
- Herbal Medicines & Antioxidants Research
- Microbial Technology & Metagenomics
- Food Biotechnology
- Bioseparation Techniques
- Product Development
- Metabolic Engineering
- Aquatic Fish Toxicology
- Algal Biotechnology
- Environmental Biotechnology
- Nano-Biotechnology & Drug Delivery



BIO-SVCE

[Department webpage](#)

FOR MORE INFORMATION PLEASE CONTACT

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DEPARTMENT OF BIOTECHNOLOGY
SRI VENKATESWARA COLLEGE OF ENGINEERING



COURSES OFFERED

1. B.Tech Biotechnology
2. M.Tech Biotechnology
3. M.S. (By Research)
4. Ph.D. Biotechnology

A GLIMPSE OF OUR MAJOR FACILITIES



EPPENDORF REAL-TIME PCR THERMAL CYCLER

**FOR
FURTHER DETAILS
OR
ENQUIRIES**

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