Sri Venkateswara College of Engineering

DEPARTMENT OF BIOTECHNOLOGY

MONTHLY NEWSLETTER

BIOGAZETTE

ECHOING MULTIDISCIPLINARY PERSPECTIVES

Inside:

- Events Conducted
- Research Activities
- Student Activities
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- Upcoming Events

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EDITORIAL TEAM

DR. M. SIVANANDHAM
Secretary, SVEHT
Visiting Professor
Biotechnology

DR. E. NAKKEERAN
Professor and Head
Biotechnology

DR. K. DIVAKAR
Associate Professor
Biotechnology

DR. K. GANESH PRASATH
Assistant Professor
Biotechnology

DR. J. G. ASWIN JENO
Assistant Professor
Biotechnology

STUDENT EDITORIAL TEAM

MS. S. THARANGKINI
IV Year Student
Biotechnology

MS. U. MRUDULA
III Year Student
Biotechnology

Vision

To foster an environment that empowers individuals to shape their future in biotechnology on both national and global platforms, enabling them to unleash their potential and drive innovation, by providing state-of-the-art facilities and robust support systems.

Mission

- **Empowering Excellence**: Cultivate a dynamic environment where individuals are equipped with the knowledge, skills, and resources to innovate and lead on both national and global platforms in biotechnology.
- **Advancing Innovation**: Fostering a supportive ecosystem to develop the technical skills and ethics of individuals, enabling them to explore, experiment, and push boundaries to unleash their potential.
- **Enabling Future Leaders**: To empower the next generation of leaders who will shape the future of biotechnology, by providing a conducive environment where individuals can grow, thrive, and make contributions, instilling values of excellence, integrity, and social responsibility.

B. Tech. Biotechnology

Program Educational Objectives

PEO-1. To empower students with specialized biotechnology proficiencies essential for domain based industries and software sectors, fostering their readiness for multifaceted professional opportunities.
PEO-2. To cultivate critical thinking, foster innovation in healthcare, sustainability, and food security, and nurture research-driven biotechnology professionals, preparing them for advanced studies in higher education.
PEO-3. To empower students with entrepreneurial skills and ethics, cultivating leaders for innovation-driven growth in the bioindustry and beyond.

Program Outcomes

PO1: Engineering Knowledge: Apply knowledge of mathematics, natural science, computing, engineering fundamentals and an engineering specialization to develop to the solution of complex engineering problems.
PO2: Problem Analysis: Identify, formulate, review research literature and analyze complex engineering problems reaching substantiated conclusions with consideration for sustainable development.
PO3: Design/Development of Solutions: Design creative solutions for complex engineering problems and design/develop systems/components/processes to meet identified needs with

consideration for the public health and safety, whole-life cost, net zero carbon, culture, society and environment as required.

PO4: Conduct Investigations of Complex Problems: Conduct investigations of complex engineering problems using research-based knowledge including design of experiments, modelling, analysis & interpretation of data to provide valid conclusions.

PO5: Engineering Tool Usage: Create, select and apply appropriate techniques, resources and modern engineering & IT tools, including prediction and modelling recognizing their limitations to solve complex engineering problems.

PO6: The Engineer and The World: Analyze and evaluate societal and environmental aspects while solving complex engineering problems for its impact on sustainability with reference to economy, health, safety, legal framework, culture and environment.

PO7: Ethics: Apply ethical principles and commit to professional ethics, human values, diversity and inclusion; adhere to national & international laws.

PO8: Individual and Collaborative Team work: Function effectively as an individual, and as a member or leader in diverse/multi-disciplinary teams.

PO9: Communication: Communicate effectively and inclusively within the engineering community and society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations considering cultural, language, and learning differences

PO10: Project Management and Finance: Apply knowledge and understanding of engineering management principles and economic decision-making and apply these to one's own work, as a member and leader in a team, and to manage projects and in multidisciplinary environments.

PO11: Life-Long Learning: Recognize the need for, and have the preparation and ability for i) independent and life-long learning ii) adaptability to new and emerging technologies and iii) critical thinking in the broadest context of technological change.

Program Specific Outcomes (PSOs)

PSO-1: Design biologics to meet societal needs using insights obtained from theoretical and practical knowledge of molecular biology, genetics, and bioprocessing through computational systems biology.

PSO-2: Apply bioprocess knowledge to develop a techno-economic process for addressing global health and environmental challenges through sustainable solutions.

PSO-3: Exhibit the skill sets necessary to bridge the industry-academia gap, fulfilling the needs of domain-based sectors.

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.

Memorandum of Understanding

The Department of Biotechnology of Sri Venkateswara College of Engineering (SVCE) is delighted to announce the signing of a Memorandum of Understanding (MoU) with Theevanam Additives & Nutraceuts Pvt. Ltd., Chennai.

This strategic partnership aims to:

1. Foster collaborative research and the submission of joint research proposals.
2. Provide skill-oriented training, internships, and other beneficial programs for students and staff of both organizations.
3. Facilitate academic excellence through shared activities, creating new knowledge and opportunities.
4. Promote networking and collaboration for mutual growth and innovation.

We are thrilled to embark on this journey of academic and research excellence and look forward to the remarkable outcomes this partnership will bring.

Memorandum of Understanding

We are excited to announce that Sri Venkateswara College of Engineering (SVCE) has signed a Memorandum of Understanding (MoU) with Softgel Healthcare Private Limited, Chennai.

This collaboration aims to bridge the gap between academia and industry by fostering joint research, industrial projects, expert knowledge exchange, and student exposure to real-world biotechnology applications.

Key highlights of this partnership include:

✓ Industrial projects for B. Tech & M. Tech students

✓ Hands-on learning through industrial visits

We look forward to an enriching partnership that will enhance research excellence and provide cutting-edge industry insights for our students and faculty.

Events Hosted

Empowering Startups: From Innovation to Incubation

The Department of Biotechnology, Sri Venkateswara College of Engineering, Sriperumbudur organized the National Seminar on "Empowering Startups: From Innovation to Incubation" on 8th January 2025. The Guest Lecture was organised by Dr. V. Sumitha, Professor and Coordinated by Mr. Nagavignesh, Assistant Professor, and Dr. K. Ganesh Prasath, Assistant Professor. This event gathered a diverse assembly of participants, including students, faculty members and entrepreneur aspirants, to discuss the critical role of innovation in the establishment of successful startups.

The session started with a welcome address by Prof. E. Nakkeeran, Professor and HOD. In the inaugural address Prof. E. Nakkeeran extended a warm welcome to the distinguished guest speakers, faculty members, and participants. In his address, he emphasized the importance of fostering an entrepreneurial mindset and highlighted the pivotal role of academic institutions in nurturing young entrepreneurs. These sessions provided invaluable perspectives on the multifaceted process of launching and scaling successful businesses.

Dr. K. Ganesh Prasath, Coordinator introduced the Guest speaker, **Prof. Mukesh Doble**, **Retired Professor at IIT Madras and Founding Director of Theevanam Additives Pvt. Ltd**. Prof. Mukesh Doble delivered the keynote session on "Startup – What, How, My Journey" and shared his personal entrepreneurial journey, offering attendees an inspirational and candid look at the challenges and rewards associated with starting a business. He discussed the initial stages of setting up a startup, emphasizing the importance of perseverance, innovation, and strategic decision-making. He provided an in-depth analysis of various types of startups, business models, and key considerations for success, highlighting the support available from government initiatives such as BIRAC and MSME. Additionally, he outlined the pros, including flexibility, and cons, such as failure, stress, competition, and capital challenges, that entrepreneurs may face.

In the second session, guest speaker **Ms. Divya Sridharan**, **Patent Consultant delivered lecture on "From Lab to Market: Navigating Patents and IP for Biotech Entrepreneurs**". During her talk, Ms. Divya Sridharan, explored the critical role of intellectual property (IP) in the biotechnology sector. The session was designed to equip entrepreneurs with the knowledge required to protect their innovations. Ms. Divya Sridharan explained the process of patent filing, the significance of IP in establishing a competitive advantage, and the various types of IP protection available to biotech entrepreneurs. She also provided an overview of the legal framework surrounding patents, trademarks, copyrights, and industrial designs, offering a comprehensive understanding of the IP landscape that biotech startups must navigate.

The final session was led by **Mr. R. Rangarajan, CEO of KRR AIR Pvt. Ltd., Chennai**. Mr. Rangarajan provided valuable insights into what investors look for when evaluating potential startup ventures. He discussed critical factors such as a clear market need, scalability, a solid business plan, and a capable team. The session emphasized the importance of aligning business strategies with investor priorities to enhance the likelihood of securing

funding. Additionally, Mr. Rangarajan spoke about evolving trends in the investment landscape and the role of venture capital in scaling businesses.

The seminar concluded with a vote of thanks delivered by Dr. V. Sumitha, Professor and Organizing Secretary. Dr. Sumitha expressed her sincere gratitude to the distinguished speakers, participants, and the organizing committee for their invaluable contributions to the success of the event. She acknowledged the collective efforts of all involved in making the seminar a meaningful and impactful experience. Dr. Sumitha emphasized the importance of such platforms in fostering innovation and entrepreneurship. Certificates of participation were distributed to the attendees, and the seminar was widely appreciated for its role in inspiring young minds to explore entrepreneurial opportunities.

Snapshots of the event

Guest Lecture

The Standards Club SVCE of Sri Venkateswara College of Engineering, in collaboration with the Bureau of Indian Standards (BIS) and the Department of Biotechnology, is delighted to host a Guest Lectures on "Storage of Agricultural Produce (Foodgrains/Perishables)" by **Ms. Lavika Singh,** Scientist, Food and Agricultural Department, BIS on 28th January 2025 at conference hall, Department of Biotechnology, SVCE.

Graduation Day

A proud moment for the B. Tech and M. Tech Biotechnology Graduates of the 2024 batch at Sri Venkateswara College of Engineering. Graduation day marks the end of a journey filled with hard work and the beginning of new adventures. This photo captures the smiles and excitement as they celebrate their achievements and look toward the future.

Congratulations to the Class of 2024 – may all your dreams and goals shine brightly.

Research Activities

Grant of Indian Design Patent

The Department of Biotechnology is delighted to share that **Prof. Praveen Kumar PK** Professor/Biotechnology from Sri Venkateswara College of Engineering has been granted an Indian Design Patent (Design No. 439080-001, dated 30/11/2024) for their research on a "Liver Cancer Detector." This achievement is an outcome of two funded research projects sponsored by ANRF, Govt. of India and AICTE, Govt. of India. A heartfelt appreciation to SVCE's leadership and Dr. S. Vijayanand (ECE Dept.) for their support in securing this milestone. This patent underscores our commitment to cutting-edge research and innovation in healthcare.

Winners of the Climate Tech 2024 Hackathon

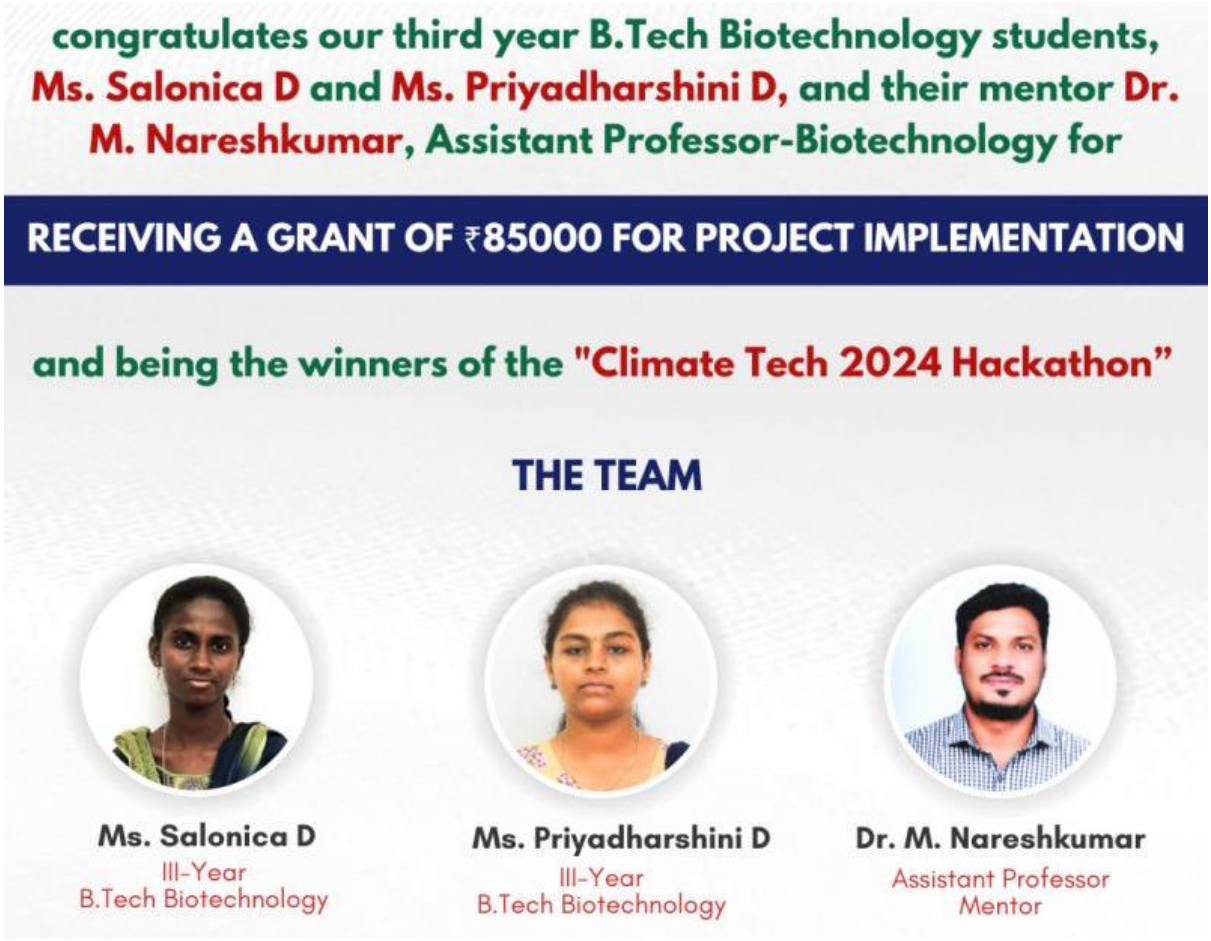
The Department of Biotechnology of Sri Venkateswara College of Engineering is proud to announce that our SVCE-BIO team has emerged as winners of the Climate Tech 2024 Hackathon organized by Anna University and the Balakamalam Environmental Fund.

Project: "Feather Waste to Biofertilizer"

Team Members:

1. Ms. Salonica Alex (III Year BBT)
2. Ms. Priyadharshini D (III Year BBT)

Mentor: Dr. Nareshkumar Manickam.



Award at International Conference

Ms. A. S. Swalakshana (2021-25 Batch) of Final Year Biotechnology, under the guidance of Dr. Isaivani jayachandran, has been awarded the Best Paper at the BEST2025 - 7th International Conference on Bioenergy, Environment, and Sustainable Technologies held at Arunai Engineering College, Tiruvannamalai from 29th - 31st January 2025.

Her research, titled "Innovative Hydrogel Therapy: Utilizing Chicken Feather Keratin and Plant Extract for Ichthyosis Vulgaris (BEST20253016)", showcases groundbreaking advancements in sustainable biomaterials for medical applications. Congratulations to Ms. Swalakshana A S and Dr. Isaivani J on this incredible achievement.

Research Scholar Corner

The Department of Biotechnology of Sri Venkateswara College of Engineering is proud to share that our DST WISE-PhD Fellow, **Ms. Linekha Radhakrishnan**, and her mentor, Dr. Nakkeeran Ekambaram, Professor & Head, Department of Biotechnology, have been featured in Happiest Health for their insights on the health risks of charred food consumption. Their contribution to the article highlights the potential carcinogenic effects of acrylamide formation when food is cooked at high temperatures for prolonged periods. This recognition underscores the impactful research happening at SVCE.

- Ms. Preethi J, Dr. P.K.Praveen Kumar presented a paper titled, "Nanoencapsulation of Withanolide in Chitosan Nanoparticles: A Novel Approach for Enhanced Bioavailability and Therapeutic" in the 7th International Conference on "Bioenergy, Environment & Sustainable Technologies – BEST2025 conducted by Arunai Engineering College, Tiruvannamalai on 30/01/25.
- Ms. Preethi J under the mentorship of Prof. P. K. Praveen Kumar has completed her pre-confirmation seminar cum Doctoral Committee meeting on 08/01/2025 through online mode.

Student Activities

Award in Technical Event

The Department of Biotechnology, Sri Venkateswara College of Engineering, is thrilled to share that our first-year B. Tech Biotechnology students, **Mr. Immanuel Nesaraja M, Ms. Nivethetha V, Ms. Tharini A L, and Ms. Haritha T,** have secured first place in the Biomimicry - Nature's Best Builders event at Shaastra 2025, hosted by IIT Madras on January 4th, 2025. Their remarkable achievement was recognized with a prize money of ₹10,000.

Students visit to IIT Madras

2022-26 Batch and 2022-26 Batch UG Biotechnology students, have visited the laboratories at IIT Madras as PALS initiative on 24th January 2025. All students experienced the interactive session with professors and research scholars of IIT Madras.

Internship attended by the students

1. **Ms. Shreeiya Swaminathan** of the 2022-26 batch, B.Tech Biotechnology, is undergoing an internship in the Microbiology Department at IITM Bioincubator, IIT Research Park, from 30th December 2024 to 1st February 2025.
2. **Ms. Mrudula U** of the 2022-26 batch, B.Tech Biotechnology, successfully completed an internship in the Department of Microbiology at Orchid Pharma Ltd, Alathur, from 2nd January to 16th January 2025.
3. **Ms. Shreya R S and Ms. Abineha A** of the 2022-26 batch, B.Tech Biotechnology, successfully completed an internship in the Department of Genetics at Theracues Innovations Pvt. Ltd. from 2nd January to 24th January 2025.
4. **Ms. Salonica D and Ms. Reshma R** of the 2022-26 batch, B.Tech Biotechnology, are undergoing an internship in the Cell Design Department at IITM Bioincubator, IIT Research Park, from 20th January to 3rd February 2025.
5. **Ms. Tharani G** of the 2022-26 batch, B.Tech Biotechnology, successfully completed an internship in the Cell Design Department at IITM Bioincubator, IIT Research Park, from 20th January to 26th January 2025.
6. **Ms. Riduvarshini E, Ms. Gayathri R, and Ms. Monica S** of the 2022-26 batch, B.Tech Biotechnology, successfully completed an internship in the Department of Algal Technology at Phycosol Ecotech Pvt. Ltd, Anna Nagar, from 30th December to 31st December 2024 and 11th January to 21st January 2025.
7. **Mr. Tamilselvan P, Mr. Azeez A, Mr. Fahir U, Mr. Gopikrishnan V, and Mr. John Samuel S** of the 2022-26 batch, B.Tech Biotechnology, successfully completed an internship in the Department of Algal Technology at Phycosol Ecotech Pvt. Ltd, Anna Nagar, from 13th January to 21st January 2025.

Faculty Activities

BIS Annual Convention

The Department of Biotechnology of Sri Venkateswara College of Engineering is happy to announce that, **Prof. P.K. Praveen Kumar**, Department of Biotechnology, SVCE, participated in the Bureau of Indian Standards (BIS) Annual Convention in the Healthcare Sector at the National Institute of Training for Standardization (NITS), Noida, on 31st January 2025.

Served as a Session Chair

Prof. P.K. Praveen Kumar served as a session Chair in International Conference on "Bioenergy, Environment and Sustainable Technologies (BEST 2025)" organized by Department of Biotechnology, Arunai Engineering College, Tiruvannamalai in association with Biotech Research Society of India (BRSI) during 29-31 January 2025.

Dr. K. Vasantharaj served as a session chair in "BEST 2025 - 7th International Conference on Bioenergy, Environment and Sustainable Technologies" organized by Department of Biotechnology, Arunai Engineering College, Tiruvannamalai in association with Biotech Research Society of India (BRSI) during 29-31 January 2025.

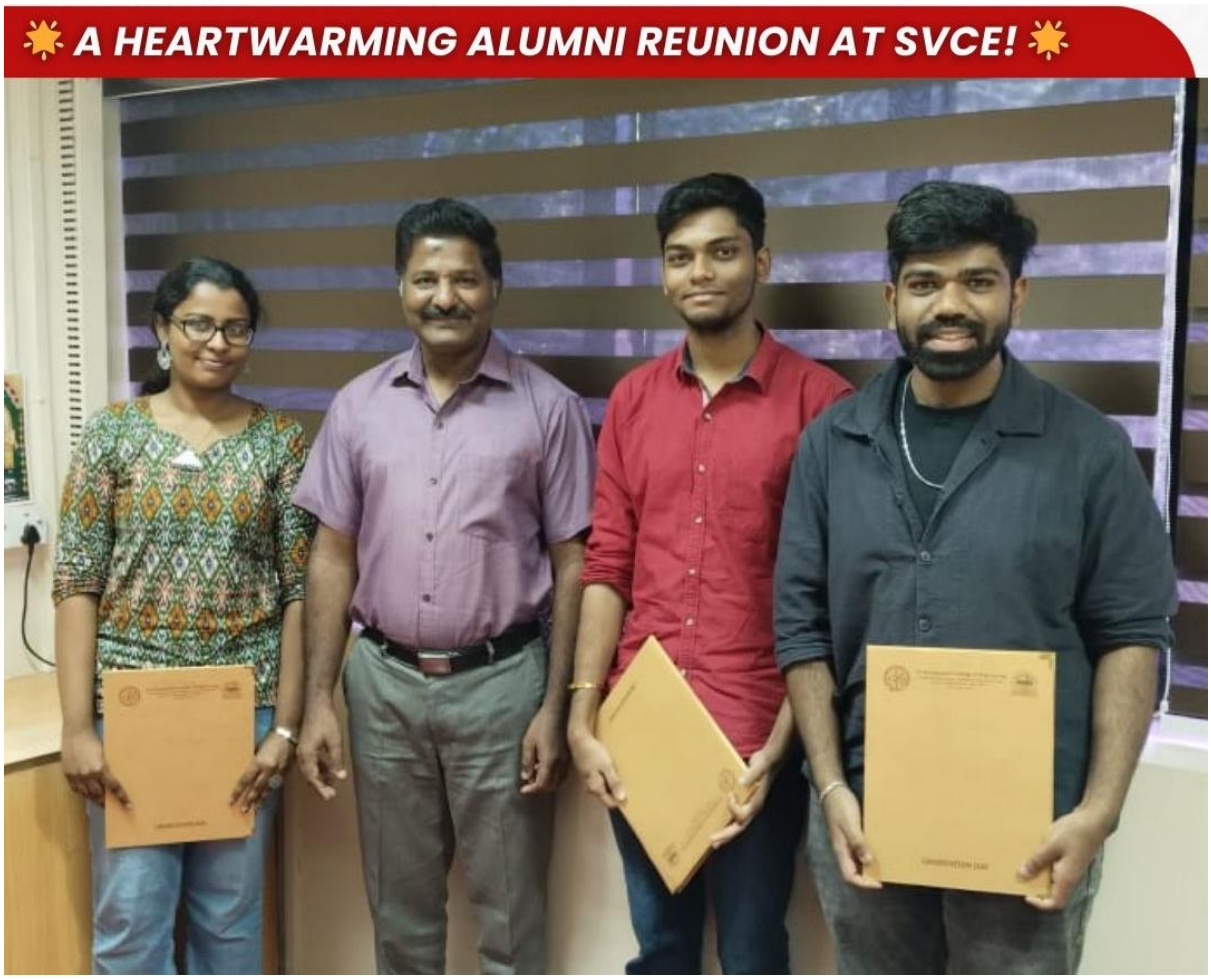
Events attended by the Faculty

- **Mr. N. Sathish** attended an Industrial training at PA Footwear Private Limited- tannery section, SIPCOT industrial estate, Ranipet from 03/01/2025 to 07/01/2025.
- **Prof. S. Pandi Prabha**, completed an industrial training on microalgae-based wastewater treatment at Phycosol Eco Tech Pvt. Ltd., Chennai, from January 2 to January 8, 2025.
- **Mr. J. Hariharan** attended a workshop on Reverse Transcription—quantitative Polymerase Chain Reaction (RT-qPCR) at SRM Institute of Science and Technology Chennai from 09/1/2025 to 10/01/2025.
- **Mr. S. Nagavignesh** attended a workshop on Reverse Transcription—quantitative Polymerase Chain Reaction (RT-qPCR) at SRM Institute of Science and Technology Chennai from 09/1/2025 to 10/01/2025.
- **Dr. G. Karthigadevi** attended a workshop on Reverse Transcription—quantitative Polymerase Chain Reaction (RT-qPCR) at SRM Institute of Science and Technology Chennai from 09/1/2025 to 10/01/2025.
- **Dr. J. Isaivani** attended a workshop on Reverse Transcription—quantitative Polymerase Chain Reaction (RT-qPCR) at SRM Institute of Science and Technology Chennai from 09/1/2025 to 10/01/2025.
- **Dr. K. Divakar** attended an online AICTE-ATAL FDP on Smart Farming with Machine Learning: Sustainable Practices for Modern Agriculture conducted by Hyderabad Institute of Technology and Management, Hyderabad from 20/01/2025 to 25/01/2025.
- **Mr. J. Hariharan** attended an online AICTE-ATAL FDP on AI-driven Innovations-Transforming Core Engineering Disciplines conducted by SSN College of Engineering from 20/01/2025 to 25/01/2025.
- **Mr. S. Naga Vignesh** attended an online AICTE-ATAL FDP on AI-driven Innovations-Transforming Core Engineering Disciplines conducted by SSN College of Engineering from 20/01/2025 to 25/01/2025.
- **Dr. K. Divakar** attended an online AICTE-ATAL FDP on Agri Tech Innovations: Creating Opportunities for Gen Z conducted by Indian institute of Plantation Management from 27/01/2025 to 02/02/2025.

Alumni Reunion at SVCE

The Department of Biotechnology, Sri Venkateswara College of Engineering, is delighted to share a special moment as our alumni from the 2019 - 2023 B. Tech Biotechnology batch, who are now pursuing their master's degrees in the USA, visited the SVCE campus on 2nd January, 2025.

During their visit, they reconnected with their faculty members and shared their experiences, achievements, and journeys since graduating from SVCE. The session included an engaging interaction with our esteemed Head of the Department, Prof. Nakkeeran Ekambaram, who emphasized the department's continued support for our students and alumni, even beyond their academic journey at SVCE. It was a proud and nostalgic moment for the department, reflecting our commitment to fostering a lifelong bond with our students as they achieve great heights globally.



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DEPARTMENT OF BIOTECHNOLOGY

INFORMATION BROCHURE FOR ADMISSION TO M.TECH BIOTECHNOLOGY, M.S. (BY RESEARCH) & Ph.D PROGRAM (2025-2026)

OPPORTUNITY FOR PROJECT WORK AT UNIVERSITIES ABROAD

BEGIN YOUR BIOTECHNOLOGY CAREER JOURNEY AT SVCE – APPLY NOW!

Sri Venkateswara College of Engineering (Autonomous) is a premier self-financing institution started in 1985 and received Autonomous status in 2016. Department of Biotechnology was 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 started B.Tech Biotechnology in 2005, M.Tech Biotechnology in 2010 & M.S. (by Research) and Ph.D. in 2011.

EXTERNAL GRANTS

₹2.18 Crores

received from various funding agencies like DBT, ICMR, DST-SERB, CSIR, AICTE, TNSCST, EDII

RESEARCH FOCUS

- Immunology & Immuno-technology
- Biomaterials & Tissue Engineering
- Stem Cell Technology
- Food Biotechnology
- Genetic Engineering & rDNA Technology
- Cellular & Molecular Biology
- Computational Systems Biotechnology
- Bioprocess Engineering
- Regenerative Medicine & Diseases
- Herbal Medicines & Antioxidants Research

Biotechnology, SVCE

Awardees of PG Scholarship - 2024

SCHOLARSHIPS FOR PG STUDENTS

- PG scholarship of Rs.50,000/year for 30% of the top scorers in their UG degree 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 24 months from AICTE for students having valid GATE score.
- Intramural M.E/M.Tech Student Research Grant to carry out innovative projects in Biotechnology.
- Sponsorships for students to participate in conferences.

In-Demand Biotechnology Careers that will shape your future

- Research Assistant
- Technical Officer
- Clinical Scientist
- Pharma Engineer
- Biostatistician
- Academic Jobs
- Project Assistant
- Research Interns
- Bioinformatician
- Medical Writer
- Research Analyst
- Scientific Assistant
- Laboratory Technician
- Quality Control Analyst
- Regulatory Affairs Specialist
- Clinical Research Coordinator
- Calibration Technician
- Environmental Scientist

Eligibility: As per Anna University Guidelines. Tests and Admission by Anna University & Entrance Examinations conducted by Consortium of Self-Financing Professional, Arts and Science Colleges in Tamilnadu.

Connect @ www.svce.ac.in/departments/biotechnology/ hodbt@svce.ac.in 9791668110

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

MICROPROCESSOR-BASED FLAME PHOTOMETER

FOR FURTHER DETAILS OR ENQUIRIES

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