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DEPARTMENT OF BIOTECHNOLOGY

NEWSLETTER

BO-TECHNOLOGY

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Echoing multidisciplinary perspects

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



MR. J. G. ASWIN JENO Assistant Professor Biotechnology

STUDENT EDITORIAL TEAM



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 socioethical 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.

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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 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 the biological and healthcare challenges.

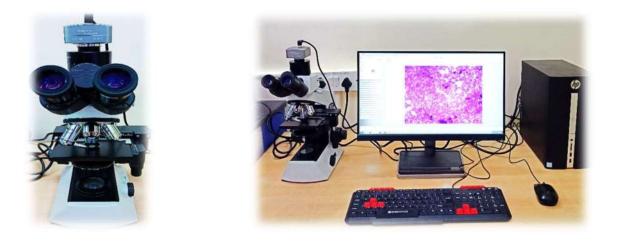
PSO-3: Analyze the socio-economical needs and possess the necessary expertise to become a bioentrepreneur.

Recent Addition to our Instrumentation Facilities

Trinocular Microscope with Magcam DC5 camera

Model: CX21i

Make: Magnus



Specifications:

Compliance Software	MagVision
Optical System	Universal Infinity System
Illumination	6V, 20W, Halogen Bulb
Focusing Mechanism	Fine adjustment Scale – 2.5 μm Per graduation Fine adjustment Stroke – 0.3 mm per Turn
Condenser	Abbe condenser (Daylight filter)
Interpupillary adjustment range	48-75 mm

Events Organized

HACK O'BIOLICS Hackathon

23rd and 24th February 2023, a 24-hour event

The Department of Biotechnology in association with the Students' Biotech Forum has organized its first ever National Level Hackathon for all colleges around India organized by Dr. K. Divakar, Associate Professor and Mr. Aswin Jeno J G, Assistant Professor, Department of Biotechnology with Prof. M. Sivanandham, Secretary-SVEHT and Prof. E. Nakkeeran, Head of the Department as conveners.

The hackathon was inaugurated by Mr. Balasundaram Subramanian, Director - Life Science Cognizant Technology Solutions, Chennai as chief guest in the presence of Prof. S. Muraleedharan, Chief Placement Officer, SVCE. The Chief Guest was introduced by Mr. K. Jhishnu Raj, IV-year B. Tech Biotechnology followed by a keynote lecture of Mr. Balasundaram Subramanian.



Mr. Balasundaram Subramanian delivered a keynote lecture.

The event has hosted many colleges consisting of around 79 participants of 30 teams participating with vigor to solve the given problem statement that were set by the peers of the Biotechnology Department. This encompassed all the fields and students from all backgrounds participated in this event. The event composed of three technical events conducted namely TECHBIO, MUN'DELA and FITWORLD that covered the manifestation of the presentations, the addressal of a problem statement and solution and finding the clues linking to a particular field, respectively.

The winners were awarded a cash prize of Rs. 12,500/-, and the second prize was awarded with Rs. 7,500/-. The first runners up and the second runners up were awarded with Rs. 2,500. Finally, the event was wrapped in a disclosure with the valedictory event and the winners and participants were awarded with the cash prize and certificates.



A Glimpse of HACK O'BIOLICS

Participants interaction on "TECHBIO".



Participants from various colleges and their interactions on "MUN'DELA".



Participants presented their ideas on "FITWORLD" event.

Prize winners of HACK O'BIOLICS



Ms. V. Nithyashree, Mr. R. Jayaraman, Ms. K.R. Varshini of III Year B. Tech Biotechnology has secured first prize of Rs. 12,500.



Ms. Sakthi Aishvaryaa C, Ms. Lakshmi Priya P, Ms. Andal Priyadharshini S of Mepco Schlenk Engineering college, won 2nd price with cash price of Rs.7500 in the Hack O'Biolics.



Ms. A. Abineha, Ms. S. G. Keerthanaa, Ms. R. S. Shreya, I Year B. Tech Biotechnology has won Runner-up prize.



Mr. Bakialakshmi V B and Ms. Krithiga K of Arunai Engineering College, Thiruvannamalai, won Runner-up with cash price of Rs. 2500.

IAEC Meeting

Institutional Animal Ethics Committee (IAEC) meeting along with the members of Committee for Control and Supervision of Experiments on Animals (CCSEA) was held in The Department of Biotechnology, Sri Venkateswara College of Engineering, Sriperumbudur on 17 February 2023 from 11.00 am onwards.



The CCSEA committee had the esteemed presence of

Dr. A.R. Vijayakumar, Professor of Pharmacology, Mohd Sathak A.J. College of Pharmacy,

Dr. D. Ezhilarasan, Associate Professor/Senior Scientist, Dept. of Pharmacology, Saveetha Dental College & Hospitals, Chennai

Dr. G. Dayanand Reddy, Assistant Director, Siddha Central Research Institute Central Government, Chennai

Dr. M. Sekar, Biologist, Arignar Anna Zoological, Chennai.

Dr. S. Pandi Prabha, Member secretary, Biotechnology welcomed all the members of IAEC and convened the meeting, which began with the introduction of CCSEA Nominees and SVCE IAEC members.

The CCESA members visited the animal house facility in the department of biotechnology. Later, there was discussion on the procurement of animal species for conducting research activities and workshops in the department which was approved by the IAEC members.



SBF Inauguration

The Students' Biotech Forum, SVCE (SBF) of Biotechnology, SVCE of Sri Venkateswara College of Engineering held its inaugural function on 21st February 2023, in the presence of esteemed guests, faculty members, and students. The chief guest for the event was Dr. Nagaraj Manickam, a renowned scientist from Madras Diabetes Research Foundation, and the guest of honour was Prof. M Sivanandham, Secretary, SVEHT. Prof. Nakkeeran E, Head of the Department of Biotechnology, was also present at the event.

Dr. Nagaraj Manickam delivered an insightful inaugural address on the challenges posed by diabetes and the goals that students can set for themselves to tackle this growing problem. He emphasized the need for interdisciplinary collaboration and innovation to address the issue effectively.



The office bearers for the academic year 2022-2023 were introduced at the event, President: Mr. Jhishnu Raj K, IV yr B.Tech Biotech, General Secretary: Ms. Sadhakshi Balaji, III yr B.Tech Biotech, Treasurer: Mr. ADITYA KRISHNAN, III yr B.Tech Biotech,

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Joint Secretary: Ms. Kaaviya Velmurugan II yr B. Tech Biotech,

Executive member: Ms. Tharangkini senkathiravan S & Mr. Kevin M II yr B. Tech Biotech,

Student Adviser: Mr. Bharadwaj R, II Year M.Tech Biotech.

The student president, Mr. Jhishnu Raj presented a report on the achievements of the previous year. The Head of the Department, Prof. Nakkeeran E, delivered a report on the department's achievements in the previous academic year. Dr.K.Vasantharaj `, the SBF faculty coordinator, concluded the event with a vote of thanks, expressing gratitude to all those who contributed to the success of the function.





Alumni Interaction

Alumni interaction on "International Graduate Application" 19th January 2023, 10.00 - 11.00 AM (IST)



Dr. Karthik Pushpavanam, Assistant Professor, IIT Gandhinagar

The Department of Biotechnology of Sri Venkateswara College of Engineering has organized an Alumni interaction on "Bio-Nanotechnology Approaches Towards Design of Next-Generation Sensors and Materials" by **Dr. Karthik Pushpavanam, Assistant Professor, IIT Gandhinagar** on 20th February 2023 (Monday) at 10.00 - 11.00 AM (IST).





Higher Studies Update



MS Quantitative Biology and Bioinformatics at Carnegie Mellon University, Pennsylvania, USA



Mr. Anirudh J (2019-2023)



MBIOT Biotechnology at Texas A&M University, Texas, USA

Mr. Abhinav RA (2019-2023)

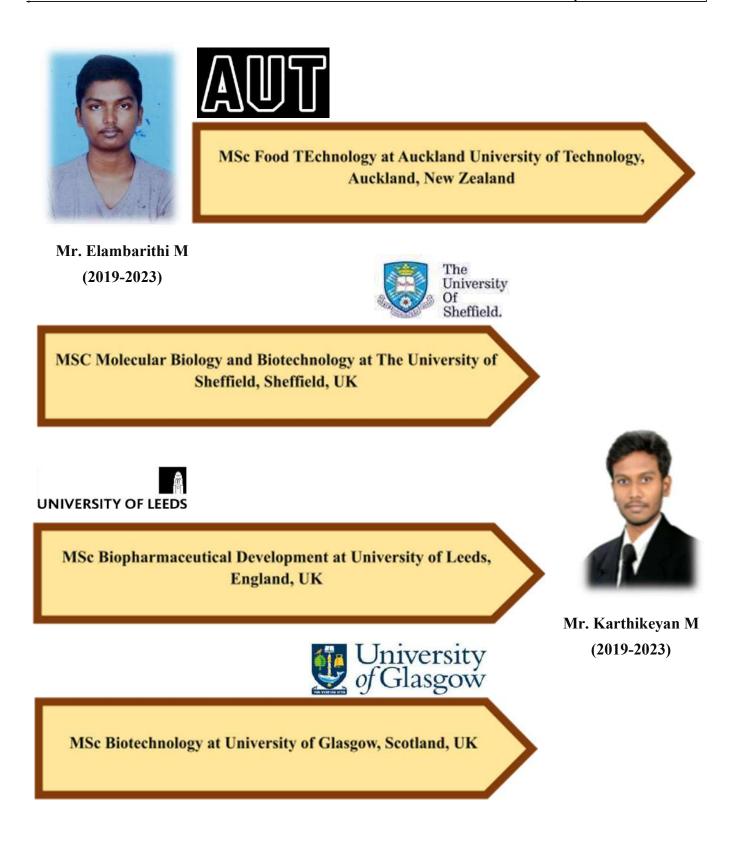


Università degli Studi di Padova

MSc Biotechnology for Food Science at University of Padua, Padua, Italy



Mr. Elambarithi M (2019-2023)







Ms. Shruthi V (2019-2023)

MBIOT Biotechnology at Texas A&M University, Texas, USA



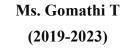
MS Molecular Biology, Cellular Biology and Genetics at Drexel University, Pennsylvania, USA



MBIOT Biotechnology at Texas A&M University, Texas, USA

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MS Microbiology and Immunology at University of Buffalo,

New York, USA

Ms. Aakanksha Venkateswar (2019-2023) Jacobs School of Medicine

and Biomedical Sciences

University at Buffalo



Mr. Nithin Raj S (2019-2023)





MS Medical Biotechnology at University of Illinois, Chicago, USA



MS Food Science and Technology at University of Queensland, Queensland, Australia

Ms. Leema Rose Sebastian (2019-2023)

Research activities

UG Intramural Project for 2019-2023 Batch

Name of the Students

Title of the Project

Name of the supervisor with Designation



Mr. Elambarithi M



Mr. Prem Kumar G

Enhancing the Shelf-Life of Bread from Starch Retrogradation Using Cellulose Nanocrystals

Sanctioned: Rs 10,000/-



Prof. E. Nakkeeran



Mr. Karthikeyan M



Mr. Ajay K

Marine Polysaccharides Based Scaffold for Tissue Engineering Applications

Sanctioned: Rs 9,500/-



Dr. G. Karthigadevi Assistant Professor

Publication of Research Article



Ms. N. Kanagam Assistant Professor

Ms. N. Kanagam, Assistant Professor, Department of Biotechnology published a research article entitled "Reformation of dairy effluent- A phycoremediation approach" in Environmental Monitoring and Assessment Journal of Springer publications with an impact factor of 3.307.

D Springer Link

Home > Environmental Monitoring and Assessment > Article

Published: 16 February 2023

Reformation of dairy effluent—a phycoremediation approach

Nachiappan Kanagam & Chandrasekaran Rajasekaran 🖂

Environmental Monitoring and Assessment **195**, Article number: 405 (2023) Cite this article **54** Accesses Metrics

Publication of Review Article





Ms. Aakanksha Venkateswar (2019-2023)

Dr. K. Ganesh Prasath, Assistant Professor

Ms. Aakanksha Venkateswar of IV year, B.Tech Biotechnology and Dr. K. Ganesh Prasath, Assistant Professor, Department of Biotechnology have published a review article entitled "Exploring Possible Ways to Enhance the Potential and Use of Natural Products through Nanotechnology in the Battle against Biofilms of Foodborne Bacterial Pathogens" in **Pathogens** of MDPI publications with an **impact factor of 4.531**.



Open Access Review



Exploring Possible Ways to Enhance the Potential and Use of Natural Products through Nanotechnology in the Battle against Biofilms of Foodborne Bacterial Pathogens

by (Kannappan Arunachalam ¹, (Ganesh Prasath Krishnan ², (Sathya Sethuraman ³, Sybiya Vasantha Packiavathy Issac Abraham ⁴, (Swetha Thirukannamangai Krishnan ⁵, Aakanksha Venkateswar ², Davoodbasha MubarakAli ^{7,*}

Pathogens 2023, 12(2), 270; https://doi.org/10.3390/pathogens12020270

Students/ Faculty Achievements

Conference



Mr. Karthikeyan M (2019-2023)



Mr. Anirudh J (2019-2023)



Ms. Gomathi T (2019-2023)



Dr. K. Divakar Associate Professor

Ms. Gomathi T, Mr. Anirudh J and Mr. Karthikeyan M of IV year B. Tech Biotechnology under the supervision of Dr. K. Divakar, Associated Professor, Department of Biotechnology presented a paper entitled "Screening of Phytochemicals from Vitex Negundo for Inhibition of Growth of Biofilm forming Pathogens in Environmental Microbiome" in the International Conference on Recent Advancements in Chemical, Environmental & Energy Engineering, held at Sri Sivasubramaniya Nadar College of Engineering, Chennai on 16th & 17th February 2023.



Ms. Kamalavarshini B (2019-2023)



Ms. Harini Sundar (2019-2023)



Dr. P.K. Praveen Kumar Associate Professor

Ms. Kamalavarshini B and Ms. Harini Sundar of 2019-2023 batch B. Tech Biotechnology, under the guidance of **Dr. P.K. Praveen Kumar** attended "Multi-staged gene expression profiling reveals potential genes and the critical pathways in Kidney cancer", National conference on "Integrated approaches in Drug Discovery and Development - Phytodrugs '23, Anna University Tiruchi, on 16th February 2023.



Ms. Tharangkini S (2021-2025)



Dr. S. Nagavignesh Assistant Professor

Ms. S. Tharangkini of II Year B. Tech Biotechnology under the supervision of Mr. S. Nagavignesh, Assistant Professor, Department of Biotechnology has given an Oral Presentation entitled "Exploration of an EPS From Earthworm Gut Bacterium For Heavy Metals Removal Potential" in the 7th International Conference on Recent Advancements in Chemical, Environmental & Energy Engineering (RACEEE-2023) organized by the Department of Chemical Engineering, Sri Sivasubramaniya Nadar College of Engineering Chennai, Tamil Nadu, India held on 16th and 17th February 2023.

Ms. S. Tharangkini of II Year B. Tech Biotechnology under the supervision of Mr. S. Nagavignesh, Assistant Professor, Department of Biotechnology has given an Oral Presentation entitled "An approach to Bio-fertilizer using Dhaincha (*Sesbania bispinosa*) and rice husk" and recognized for their outstanding effort to take part in An Inter/Intra Institutional Innovation Competition (IDEIA DO QUE 2023) organized by the Department of AR & VR. Computer Science and Engineering Programme, SIMATS School of Engineering, Saveetha Institute of Medical and Technical Sciences on 08th February 2023.

Ph.D Admission at The University of Queensland



Ms. Rathna Ravi Assistant Professor

The Department of Biotechnology of Sri Venkateswara College of Engineering congratulates Ms. Rathna Ravi, Assistant Professor, Biotechnology on being accepted into The University of Queensland, Australia for a PhD program in Immunology.

Disaster Awareness and Management Training – Phase II



The Sports Development Authority of Tamil Nadu - SDAT in association with the Government of Tamil Nadu conducted Tamil Nadu Chief Minister's Sports Trophy at Kanchipuram District Stadium. Ms. Varshini K R, III-Year, B.Tech Biotechnology won cash prize in Badminton Women Doubles.

Disaster Awareness and Management Training – Phase II



Disaster Management Team of Sri Sathya Sai Seva Organization along with Sri Venkateswara College of Engineering has conducted "Disaster Awareness and Management Training" Program for the First Year B. Tech Biotechnology of 2022-2023 Batch on 18 February 2023,, 8.30 AM to 3.00 PM. Dr. K. Ganesh Prasath, Assistant Professor and First Year B. Tech Biotechnology students (Ms. Aishwarya S, Mr. Azeez A, Mr. Balasubramaniam JM, Mr. Dhivakar K, Ms. Divyasri M, Ms. Keerthana V, Ms. Pavithra A, Ms Varsha M, Ms. Naksatra T S, Ms. Pratibha Peroline Jones. P) have attended the event.

HACK O'BIOLICS Hackathon

B. Tech Biotechnology students have attended the Hackobiolics event on 23th & 24th February, 2023

Ms. Dharini D, Ms. Nivethaa JM, Mr. Adhavan, Mr. Fahir U, Mr. Gilford Thomas, Mr.Dhivakar K, Ms. Abineha A, Ms. Shreya R S, Ms. Keerthanaa S G, Ms. Keerthana V, Ms. Pavithra A, Ms. Varsha M, Ms. Salonica D, Ms. Jeevitha G, Ms. Dharshni R, Mr. Tharun D, Mr. John Samuel S, Mr. Yashwanth Kumar S of I year B. Tech Biotechnology.

Ms. Aditi S, Ms. Abinaya T, Ms. Ashwini P, Ms. Nithila S, Ms. Gaayathri M, Ms. Srinidhi S, Ms. Varsha G, Ms. Swalakshana A S, Mr. Nandakishor V, Mr. Srihari Prasath, Mr. Arun Pravin. C V, Ms. Maseera Ahmedi M, Ms. Sudharsini V, Ms. Thulasi Kalaivani B, Mr. Aswatha Narayana, Mr. Harrish, Mr. Sivagurunathan, Ms. Harinishree Ravikumar, Ms. Christina Britney.S.N, Mr. Gopikrishnan.K, Ms. Parinitha S, Ms. Anushya N, Ms. Priyanka Raj R, Ms. Poojitha Vardhini G of II year B. Tech Biotechnology.

Ms. Varshini K R, Mr. Jayaram R, Ms. Nithyasree V of III year B. Tech Biotechnology.

Sparring for Science

Ms. Purvasri Sivakumar, Ms. Shruthi.V, Ms. Monica.S, Ms.Vaishnavi Madabhushi, Ms. Reshma.R, Ms.Maadhangi.M, Ms.Mageshwari M, Mr. ShriHari.J, Ms.Priyadharshini.D, Mr.Tharun.D, Mr.Yashwanth kumar S, Ms. S G Keerthana, Ms.Abineha A of I year B. Tech Biotechnology have attended Sparring for Science event conducted by Science club of SVCE on 22nd February 2023.

Alumni Write-up



Ms. Arthi R (UG 2013-2017) Statistical Programmer M/s. Pfizer India, Chennai All the research that I have done on SVCE proved that it was the best institute for anyone to pursue their passion for Biotechnology. SVCE has the best infrastructure, laboratory equipment, and world-class staff, mainly in the Biotechnology department. I spent hours in the labs performing experiments and I actually graduated with two successful projects! SVCE is an all-inclusive package for a Biotechnology student. Hence, I always knew that this is where I would fit in and I was right!



SVCE is the best place for learning and research. It gave me tools to succeed with confidence and perseverance. It has the excellent infrastructure for hands on training and to support dedicated research for those whose aspires to be the best.

Mr. Jagadeesh Mahadevan (PG 2017-2019) PhD Scholar IIT Hyderabad

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

RECENT ADDITION TO OUR FACILITIES



MAGNUS CX21I - TRINOCULAR MICROSCOPE WITH CAMERA