

**DEPARTMENT OF
BIOTECHNOLOGY**

NEWSLETTER

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BIOGAZETTE

Echoing multidisciplinary perspectives



EDITORIAL TEAM



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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

Workshop

Unlocking Spectroscopic Techniques: A Two-Day Hands-On Training Workshop

The workshop, "Unlocking Spectroscopic Techniques: A Two-Day Hands-On Training Workshop" started with an inaugural function which was held at the Biotechnology Conference Hall, SVCE on 11th October 2023 9.30 AM. The inaugural ceremony was graced by the presence of **Dr. Pazhanimuthu Annamalai**, Managing Director, Aura Biotechnologies Pvt. Ltd, Chennai, as the chief guest in the presence of our Head of the Department, Event coordinators, Faculty members and our participants. His motivating and energizing talk on the various aspects of biology in the manufacturing sector enlightened the gathering. He also explained about the growth of his organization which inspired many young entrepreneurs among the participants. He also quoted the importance of various analytical techniques and its significance in the area of life sciences. The workshop was even more dignified with the arrival of participants from different colleges encompassing various streams like engineering, arts & sciences, pharmaceuticals and much more across Tamil Nadu.

A total of 25 participants took part in the workshop who belong UG, PG and doctoral degrees. Out of which 3 participants were from the department of biotechnology, SVCE and all others from the external institutes. The participants were segregated into 3 teams in order to give them individual Hands-On sessions which is the prime motto of the workshop. After the inaugural ceremony, the participants were given exposure to the diversified and state-of- art instrumental facility which the department of Biotechnology, SVCE has and was followed by a tea break. After that, the first session of the Hands-On workshop was conducted with the common introductory lecture for all 3 teams by Dr. G. Karthiga Devi wherein she explained the principle, mechanism, instrumentation of various spectroscopy techniques. The Spectroscopy Techniques which were planned for the workshop are UV-Visible Spectroscopy, Fourier Transform InfraRed Spectroscopy (FTIR) and Fluorescence spectroscopy. In addition to this one of our Research Scholars, Ms. R. Linekha gave a real-life case study where spectroscopic techniques are extensively used which gathered the attention of the participants to a great extent.

Fluorescence Spectroscopy was handled by Dr. K. Divakar wherein he detailed about the detailed instrumentation, procedure along with the various trouble shooting mechanisms to be done in Fluorescence spectroscopy. The participants in the team were given individual Hands-On wherein they quantified the amount of DNA present in the sample. Fourier Transform InfraRed Spectroscopy (FTIR) was handled by Dr. K. Vasantharaj wherein he detailed about the detailed instrumentation, procedure along with the various trouble shooting mechanisms to be done in FTIR spectroscopy. He was assisted by 2 of our second year PG students Ms. Abirami K and Ms. Yamunadevi B.

The participants in this team were given individual Hands-On training wherein they worked with various samples like dextrose, glucose, starch and much more. Participants were also taught the methods to interpret data from the graphs after FTIR analysis. As a motivating factor and as a form of service, 2 real life samples from the PhD scholars who were the participants, were analyzed in FTIR and the results of the same were provided to them as a part of the regular consultancy services which the Department of Biotechnology, SVCE provides to the science community.

UV – Visible spectroscopy was handled by Dr. G. Karthiga Devi wherein she detailed about the detailed instrumentation, procedure along with the various trouble shooting mechanisms to be done in UV - Visible spectroscopy. She was assisted by 3 of our third year UG students, Ms. Anushya N, Ms. Parinitha S And Ms. Nandita S. The participants in this team were given individual Hands-On wherein they learnt to plot standard graphs, determine the absorbance values of samples like microbial culture and enzymatic assays. In all 3 sessions, the professors who handled gave a detailed explanation of the various sources of errors that are prone to occur in each spectroscopic technique. Finally, the organizing committee of the event along with the student volunteers (Mr. Arvind Srinivasan A, Mr. Gurucharan J K, Mr. Jayaraman R, Mr. Jeya Prasath R, Mr. Sakthivel S, Mr. Mohamed Shadir V O A And Ms. Nivashini Vindhya S) worked tirelessly to ensure the smooth conduct of the workshop including hospitality, technical support and much more.

Snapshots of the workshop



Workshop

National Workshop on “Design of Experiments and Ethics in Preclinical Research”

The Department of Biotechnology, SVCE conducted the National Workshop on ‘Design of Experiments and Ethics in Preclinical Research’ on 17th October 2023 at the Biotech Department Conference Hall. The event was organized by Prof. S. Pandi Prabha and Coordinated by Dr. J. Isaivani and Ms. D. Swathi, Assistant Professors, Department of Biotechnology, Sri Venkateswara College of Engineering, Sriperumbudur.

The registration was started at 8:30 am on 17th October 2023. Totally 39 external participants registered for the workshop from various colleges of Tamil Nadu. The inauguration started with the prayer song sung by Ms. Sudharshini at 9:15 am. Prof. E. Nakkeeran, the Head of the Department of Biotechnology, Sri Venkateswara College of Engineering welcomed the Chief Guest and Keynote speaker **Dr. Nagaraj Manickam**, Scientist, Department of Vascular Biology, Madras Diabetes Research Foundation, Chennai and the participants. The inaugural function was started with lighting the lamp and the workshop manual were released by the chief guest. The Keynote speaker was introduced to the participants by Prof. S. Pandi Prabha, Organizing Secretary of the workshop followed by the Address” Animals – The Life Saviour of Human” by the keynote speaker.

After that the second keynote speaker **Dr. Ezhilarasan Devaraj, Professor and Scientist, Saveetha Institute of Medical and Technical Sciences, Chennai** addressed “Ethics in preclinical research”. The participants had a tour of the Animal house facility and the animals housed in the facility. **Dr. Vijeyagopal**, Veterinary Officer demonstrated the dos and don’ts in animal handling. Then there was a session on “How to start your research” and “filling of Form B of IAEC” by Prof. S. Pandi Prabha.

The valedictory function was presided over by the **Chief Guest, Dr. T. Vijay**, Medical Officer, SVCE along with the head of the Department, Organizing Secretary and Coordinators of the workshop. Certificates were handed over to the participants and feedback was received from the workshop participants. There was a suggestion on improving the time for hands-on sessions. Further, the organizing secretary of the workshop delivered the Vote of Thanks to the participants, Keynote speakers and all the stalwarts associated with the workshop.

Snapshots of the workshop



Workshop

Hands-on Workshop on Bioengineering Life: Exploring Microbial and Animal Cell Culture

The Department of Biotechnology, Sri Venkateswara College of Engineering, Sriperumbudur organized a Hands-on Workshop on “Bioengineering Life: Exploring Microbial and Animal Cell Culture” in association with Indian Institute of Technology, Madras from 18th - 20th October, 2023. Prof. V. Sumitha, Mr. S. Naga Vignesh and Dr. M. Naresh Kumar, organized/coordinated the workshop. The basic objective of this workshop is to provide hands-on experience in Microbial and Animal cell culture handling. As an outcome, the participants are expected to have Hands-on Proficiency in handling microbial and animal cell cultures and Gain knowledge on the design of experiments using cell cultures.

About 40 participants registered for the workshop. The workshop started with a formal welcome address by Prof. E. Nakkeeran, Head of the Department. The HOD also welcomed the chief guest Dr. G. K. Suraish Kumar, Professor/Department of Biotechnology, IIT Madras and the research scholars Mr. Gautam Mohapatra, Mr. Sai Saranga Das and Ms. Sambhavi Pattnaik from IIT Madras. Following this, the organizing secretary Dr. V. Sumitha, gave a short “Workshop overview”. The chief guest inaugurated the workshop and released the workshop Manual. Dr. M. Naresh Kumar, the coordinator of the workshop, introduced the Chief guest Prof. G. K. Suraish Kumar. Followed by which, the chief guest delivered a lecture on “Reactive Species in Cancer Treatment and Management”. His lecture was both enlightening and inspiring, his expertise and insights left a profound impact on our participants. The guest speaker interacted with the participants and addressed all the questions raised by the faculty and students. The HOD felicitated the chief guest with a memento.

Mr. Gautam Mohapatra handled the sessions “Preparation of Recombinant Culture for Mitochondrial Metabolic Study” and “Designing the Genetic Studies Using CRISPR-CAS9 DNA Editing Tools”. Mr. Sai Saranga Das handled the sessions “Understanding Photosynthesis Using Photobioreactor” and “Understanding the Design of Photobioreactor”. Ms. Sambhavi Pattnaik handled the sessions “Revival of Frozen Cells and Cryopreservation” and “Subculturing and Transfection of Cell Line”. The participants were divided into three batches and were allowed to attend all the sessions on rotation basis in Day 1 and Day 2.

On Day 3, a department tour was organized to exhibit the department facilities to the participants. Mr. S. Naga Vignesh the coordinator of the workshop, introduced the chief guest Dr. Krithika Ravi, Assistant Professor, Department of Biotechnology, IIT Madras. She gave a valedictory talk on the topic “Lignin is the New Cellulose”. Her talk was so interesting and motivating.

Through hands-on experimental learning, attendees acquired practical skills in microbial and animal cell culture methods, including aseptic techniques, media preparation, and maintenance of cell lines. The workshop facilitated a collaborative learning environment, encouraging participants to connect, share ideas, and exchange knowledge with peers, guest lecturers, and experts in the field. Participants also gained insights into the real-world applications of bioengineered cells in various industries and research fields, equipping them with the knowledge needed to contribute to cutting-edge advancements in bioengineering. Dr. V. Sumitha gave the vote of thanks, and the workshop came to an end with the National anthem.

Snapshots of the workshop



Guest Lecture

A guest lecture on "**Sustainable Food Systems**" was organized by the Department of Biotechnology and Placement Cell of Sri Venkateswara College of Engineering, Sriperumbudur on 06th October 2023 (11.00 AM to 12.30 PM IST) at the Biotechnology Conference Hall, SVCE. The guest lecture was organized by Prof. S. Muraleedharan, Chief Placement Officer and Prof. E. Nakkeeran, Head of the Department, Biotechnology with Dr. K. Ganesh Prasath and Ms. D. Swathi, Assistant Professor, Biotechnology as Coordinator with Prof. M. Sivanandham, Secretary, SVEHT as Convener.

The session was started with a welcome address by Ms. A. Abineha and Mr. S. Yashwanth Kumar of II Year, B. Tech Biotechnology have introduced the guest speaker, **Prof. Tom Curran Associate Professor, School of Biosystems and Food Engineering, University College Dublin, Ireland**. The main objective of the Guest Lecture was food system that delivers security and nutrition for everyone in such a way that the economic, social and environmental bases to generate implementation on food security for future generations. The lecture also covers the interlinked value-adding activities involved in the production, aggregation, processing, distribution, consumption and disposal of food products that originate from agriculture, forestry and fisheries.

Participants including UG, PG students and the faculty members from SVCE attended the event with a total of 70. The session was concluded with a vote of thanks delivered by Mr. S. Yashwanth Kumar of II Year, B. Tech Biotechnology. The Guest speaker, Prof. Tom Curran thanked the organizers and the management of SVCE for organizing this event.



Guest Lecture

The Department of Biotechnology at Sri Venkateswara College of Engineering was delighted to host a Guest Lecture on “**Lipid Nanoparticles - New Champion for Nucleic Acid Delivery**” by **Dr. Subhadeep Dutta, Scientist-I, SalioGen Therapeutics, Massachusetts, USA** on 26th October 2023 (Thursday). He shared the latest breakthroughs and techniques in utilizing lipid nanoparticles for enhanced nucleic acid delivery, offering a glimpse into the future of biotechnology. Attendees gained valuable knowledge on the practical applications of this technology, opening doors to potential research and therapeutic advancements.



Alumni Interaction

The Department of Biotechnology of Sri Venkateswara College of Engineering conducted an alumni meet and project discussion session with **Dr. Karthik Subramaniam Pushpavanam, Assistant Professor, IIT-Gandhinagar** for discussion related to a six-month project at IIT Gandhinagar on 19th October 2023. The final-year students participated in the online session and had a fruitful and interactive session. The students cleared the doubts regarding the formalities and other details regarding taking up their final year project at IIT-Gandhinagar.



Delegates visited SVCE Campus

Ms. Hanna Dinkelbach, International Marketing Advisor, University of Twente, The Netherlands, Mr. Erik Van Dijk, Marketing and Recruitment Advisor, University of Twente, The Netherlands, along with Ms. Sudha Sudheep, Country Advisor, University of Twente visited the SVCE campus and made a presentation during the staff council meeting (SCM) on 18th October 2023.



Higher Studies

The following students have cleared International English Language Testing System (IELTS) for PG admission abroad.

- **Mr. Aditya Krishnan** of the 2020-24 batch B. Tech Biotechnology has scored 7.5 out of 9.
- **Ms. Akshara B S** of the 2020-24 batch B. Tech Biotechnology scored 8.5 out of 9.
- **Ms. Janani Harikrishnan** of the 2020-24 batch B. Tech Biotechnolog has scored 8.0 out of 9.
- **Ms. Jyotsna R** of the 2020-24 batch B. Tech Biotechnology scored 8.0 out of 9.

The following student batch has cleared Graduate Record Examinations (GRE) for PG admission abroad.

- **Ms. Janani Harikrishnan** of the 2020-24 batch B. Tech Biotechnology scored 316 out of 340.

PG Scholarship 2023

Ms. Deepika S, Ms. Nandini A I and Ms. Priyadharshini G (2023-25 Batch) of I-Year M.Tech Biotechnology received the 2023 PG Scholarship of Rs.50,000/year from Prof. M. Sivanandham, Secretary-SVEHT in the presence of Prof. S. Ganesh Vaidyanathan, Principal, SVCE, Prof. E. Nakkeeran, HoD-Biotechnology and Dr. J. G. Aswin Jen0, Faculty Advisor. The PG Scholarship is given to 30% of the top scorers in their UG degree for 2 years with an amount of Rs.50,000/year to encourage the students during their course of study at SVCE.

Awardees of PG Scholarship - 2023

Ms. Deepika S, Ms. Nandini A I and Ms. Priyadharshini G received the 2023 PG Scholarship of Rs.50,000/year from Prof. M. Sivanandham, Secretary-SVEHT in the presence of Prof. S. Ganesh Vaidyanathan, Principal, SVCE, Prof. E. Nakkeeran, HoD-Biotechnology and Dr. J. G. Aswin Jen0, Faculty Advisor.



Students Activities

Poster Making Competition

Ms. G Varsha (2021-25) of III Year B. Tech Biotechnology student has secured second place with cash award in poster making competition organized by Science Club and Students Council, SVCE on 16th October 2023.

**congratulates our III year Biotechnology student won 2nd place
in poster poster-making competition held by the
Science club and Students Council, SVCE**



MS G VARSHA
III Year Student
Biotechnology

Award in Tech-Fest Event

Ms. Reshma R and Ms. Shruthi V (2022-26) of II Year B.Tech Biotechnology, have secured Third place and Rs.1000/- cash award in the tech-fest event, Invente'23 in CANVA QUEST" held on 7th October 2023, at SSN College of Engineering, Chennai.

The graphic features a purple rounded rectangle at the top containing the text "Third Place and Rs.1000/- Cash Award". Below this, in blue text, is the event information: "in the tech-fest event, Invente'23 in CANVA QUEST" held on 7th October 2023, at SSN College of Engineering, Chennai." Two circular portraits of the students are shown below the text. Under each portrait is a blue rounded rectangle with the student's name and year/department in white text.

Third Place and Rs.1000/- Cash Award

in the tech-fest event, Invente'23 in CANVA QUEST" held on 7th October 2023, at SSN College of Engineering, Chennai.

MS. RESHMA R
II Year B.Tech Biotechnology

MS. SHRUTHI V
II Year B.Tech Biotechnology

Blood Donation by the Students

Ms. Bhavisha J R, F/C NCC Air Wing & 2021-2025 batch of B. Tech Biotechnology and **Mr. Srihari Krishna N** of 2021-2025 batch, B. Tech Biotechnology have donated blood in the Blood Donation Camp Conducted by all NCC Wings of Sri Venkateswara College of Engineering In association with Sri Sathya Sai Seva Organisation-Tamil Nadu (Kanchipuram South District, Sriperumbudur) and Govt. A.A.M.C.Hospital (Kanchipuram) on 26th October 2023.



Events Attended by the Students

- **Mr. Yashwanth S** and **Ms. Harini P** (2022-26 Batch) of B. Tech Biotechnology, have attended the workshop on “Proteomics and Transformation techniques, held at PSG College of technology, from 09th - 14th of October 2023.
- **Ms. Reshma R**, **Ms. Shruthi** and **Ms. Vaishnavi** (2022-26 Batch) of B. Tech Biotechnology, have participated in the “Illuminate Workshop” – an entrepreneurial workshop organized by E Cell SVCE in association with E Cell IIT Bombay held on 30th October 2023.
- **Ms. Dharshni R** and **Ms. Jeevitha G** (2022-26 Batch) of B. Tech Biotechnology have attended the on Animal cell culture and Immunofluorescence techniques held at Sathyabama Institute of Technology, from 12th - 14th of October 2023.
- **Ms. Monica** and **Ms. Vaishnavi** (2022-26 Batch) of B.Tech biotechnology have participated in the EWB Inauguration ceremony held at SVCE on 12th October 2023.

Faculty Activities

Dr. K. Ganesh Prasath has acted as evaluator on district level presentation at 31st National Children Science Congress, a programme of National Council of Science and Technology, Govt. of India under the focal theme of “Understanding Ecosystem for Health and Well-Being” held at Sri Venkateswara College of Engineering on 28th October 2023.



Alumni Write-up



Ms. Sanjana S
(2019-2023 Batch)

Every student's career begins in college, and for me, SVCE was an important starting point that changed my outlook on education and my ability for creativity. My college's infrastructure and natural surroundings kept me feeling energized every day, and my biotech professors made us feel comfortable sharing our opinions about education and constantly encouraged us to try something new in our careers that linked to our studies. In addition to this, my department encouraged me to participate in academic extracurricular activities. With respect to that, I was the treasurer of the Student Biotech Forum, where I gained valuable management experience and had the chance to network with members of the biotech industry. I am grateful to all of my Department Professors and the College administration for providing such a positive exposure. I am currently associated with Accenture as Junior Drug Safety Associate in Pharmacovigilance services.

Upcoming Events

REGISTRATION FEE

No registration fee is charged from the Participants.

SELECTION CRITERIA

Participants are faculty members of the AICTE approved institutions, Research scholars, PG Scholars, participants from Government, Industry Bureaucrats/Technicians/ Professionals/School Teachers and staff of host institutions nominated by the head of the institutions. Selection is based on a first-come, first serve basis. Maximum of 50 participants will be permitted to attend this FDP.

CERTIFICATION CRITERIA

Upon attending of the program on all the sessions, participants shall be awarded E-Certificates of participation by respective ATAL academy. Minimum 80% attendance and 60% marks in the online test at the end of the FDP are compulsory for certification.

HOW TO APPLY?

The participant has to sign-up through ATAL portal:

<https://atalacademy.aicte-india.org/signup>

COORDINATOR CONTACT DETAILS

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AICTE ATAL sponsored National FDP on "Unraveling Molecular Mechanisms and Artificial Intelligence Approaches of Drug Design in Cancer"

18th to 23rd December, 2023

INVITED SPEAKERS

- 1) Prof. M. Sivanandham, Secretary & Professor, Department of Biotechnology, SVCE
- 2) Dr. Bahu Renganathan, Director, CanBrs Therapeutics Pvt Ltd, IITM Research Park, Chennai
- 3) Dr. Manikandan Narayanan, Professor, Department of CSE, IITM, Chennai
- 4) Dr. Gopisetty Gopal, Professor, Department of Molecular Oncology, Cancer Research Institute, Adyar
- 5) Dr. Suresh Kumar Rayala, Department of Biotechnology, IITM, Chennai
- 6) Dr. Ezhilarasan, Professor, Department of Pharmacology, Saveetha Dental Hospital, Chennai
- 7) Dr. Badrinathan, Professor & Dean (Educational Development), SVCE
- 8) Ms. Dhivya Shanmugarajan, Senior Application Scientist, Altem technologies, Bengaluru
- 9) Dr. Pawan Kumar Gupta, Associate Professor, SVKMs Institute of Pharmacy Dhule, Maharashtra.
- 10) Dr. Arnold Emerson I, Professor & HOD, Department of Biosciences, VIT, Vellore

CO-CORDINATOR CONTACT DETAILS

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AICTE ATAL sponsored National FDP on "Unraveling Molecular Mechanisms and Artificial Intelligence Approaches of Drug Design in Cancer"

18th to 23rd December, 2023



Organized by
Department of Biotechnology



Sponsored by



CONVENERS

Prof. M. Sivanandham, Secretary & Prof/ BIO
Prof. S. Ganesh Vaidyanathan, Principal
Prof. E. Nakkeeran, HOD/BIO

COORDINATOR

Prof. P.K. Praveen Kumar

CO-CORDINATOR

Dr. K. Vasantharaj

Pennalur, Sriperumbudur Tk - 602 117,
Tamilnadu, India



svce.ac.in

Upcoming Events

ABOUT THE INSTITUTION

Sri Venkateswara College of Engineering (SVCE) is a unit of Sri Venkateswara Educational and Health Trust (SVEHT). SVCE is one of the premier technical institutions in Tamilnadu; the College is situated on the Chennai – Bangahuru National Highway (NH4) about 37 km south-west of Chennai. The college is in a 90-acre lush green Campus. It is housed in architecturally exquisite buildings with ample infrastructure such as classrooms, laboratories, libraries, sports arena, canteen, hostels, dispensary etc., The college offers 12 UG programmes and 7 PG programmes. SVCE is an ISO 9001:2015 certified institution and accredited by 'NAAC' with 'A+' grade.

DEPARTMENT OF BIOTECHNOLOGY

Sri Venkateswara College of Engineering noted the growth in Modern Industrial Biotechnology. In order to support the growth in Biotechnology, SVCE started the Department of Biotechnology in 2005. The department offers B.Tech and M.Tech Biotechnology programmes approved by AICTE. It is also approved as a Research Center in Biotechnology for MS (by Research) and Ph.D. programmes by Anna University, Chennai. The Department has well-established laboratory facilities namely Genetic Engineering, Bioprocess, Research Lab, Animal house and Computational System Biotechnology Lab. The Department received Research Grants (2.85 Crores) from various funding agencies such as SERB, ICMR, AICTE, CTS and also several grants for organizing Short Term Training courses, Workshops, Faculty Development Programmes from various funding agencies such as DBT, SERB, ICMR, CSIR and EDII.

PROGRAMME OBJECTIVE

High personalized oncology care is one of the emerging technologies observed in Healthcare Industry. One of the most exciting potential applications of Artificial Intelligence (AI) is the possibility of designing novel anti-cancer therapies and guiding the development of such therapies to decrease the failure rate and decrease the time to approval.

The purpose of this program is to create a platform for the research scholars and faculties from various institutions across India to gain knowledge on understanding molecular mechanisms and applications of artificial intelligence in Drug design in cancer. The FDP will consist of a series of interactive lectures and practical sessions. Participants will have the opportunity to work with open-source bioinformatics tools and software, gaining hands-on-experience in mining and using stages of cancer data in online cancer web resource portals. The participants would prepare themselves to identify drug targets and navigate the molecular pathway mechanisms to target cancer disease using computational aided drug design tools that are available online.

Thus, this FDP includes invited lectures by eminent scientists and academicians from leading Educational Institutions, Industries and Research organizations in India with practical demonstration of AI based computational methods of drug designing techniques in Cancer research in equipped computer labs.

VIDEO TOUR OF DEPARTMENT

<https://youtu.be/p6TZo15pL7U>

ABOUT ATAL

All India Council for Technical Education (AICTE) through its newly established AICTE training and learning (ATAL) academy have started unique FDP in various thrust areas of modern technology.

LECTURE AND PRACTICAL SESSIONS

The FDP is planned to disperse knowledge from eminent experts who had earlier and presently had working experience from leading Institutions like IITM, Universities, Medical colleges, BIRAC Big Grant Startups and reputed MNC Industries.

Moreover, the FDP consists of hands-on training sessions provided in the Genomic Big Data Science, Differential expression of genes with SNPs from Biological databases, exploring and gene richment pathways using cytoscape, Pharmacokinetics models, diagnosis of cancer using MATLAB Simulink, Virtual screening of anti-cancer drugs and Molecular docking of anti-cancer compounds with drug targets using PyRx and Autodock.

VENUE

Dr.A.C.Muthiah Central Library Seminar Hall, Sri Venkateswara College of Engineering (SVCE), Sriperumbudur Tk.- 602 117, Tamilnadu
Distance from Domestic Airport: 31 kms
Distance from Central railway station: 35.5 kms
Distance from Sriperumbudur Toll Plaza: 1.4 kms

DATES TO REMEMBER

Last date for e- registration	: 03.12.2023
Intimation of selection	: 04.12.2023

Upcoming Events

Resource Persons:

Faculty members from IIT's, NITs, Central Universities, Scientists, Bioinformaticians from Industries and Research Laboratories will deliver lectures and demonstrate the experiments for Hands-On sessions.

Registration is open to:

All the faculty members, research Scholars, PG students from AICTE approved institutions and also for scientists, technical officers, bureaucrats working in government institutions and industry. Number of participants is limited to 50.

No Registration fee will be charged from the participants.

How to Apply:

Eligible candidates may apply online through AICTE-ATAL Portal.

<https://atalacademy.aicte-india.org/>. Candidates are advised to apply early to avoid disappointment. Selected applicants will be intimated through E-mail **on or before 05-01-2024**.

Accommodation:

Accommodation can be arranged in the campus on prior notice, for which the participants will have to bear the subsidized charges and the participants are advised to send the request on or before **15-01-2024** to ensure the accommodation.

For further details, please contact

Dr. K. Divakar / Dr. E. Nakkeeran

Department of Biotechnology

Sri Venkateswara College of Engineering

Sriperumbudur Tk -602 117, Tamilnadu, India

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ATAL FDP

on

“Microbial Metagenomics and Next Generation Sequencing”

5th- 10th February, 2024

Sponsored by

AICTE Training and Learning Academy (ATAL)



Patrons

Prof. M. Sivanandham, Secretary, SVEHT

Prof. S. Ganesh Vaidyanathan, Principal, SVCE

Coordinators

Dr. K. Divakar, Associate Professor/BIO

Dr. E. Nakkeeran, Professor/BIO



Organized by

Department of Biotechnology

SVCE | Sri Venkateswara
College of
Engineering

(An Autonomous Institution - Affiliated to Anna University, Chennai)

Sriperumbudur Tk -602 117, Tamil Nadu, India

Upcoming Events

About the Institution:

Sri Venkateswara College of Engineering (SVCE) is one of the premier technical institutions in Tamilnadu; the College is situated on the Chennai – Bengaluru National Highway. The college offers 12 UG programs and 7 PG programs. SVCE is an ISO 9001:2015 certified institution and Accredited by “NAAC” with A+ grade.

For more details visit: www.svce.ac.in.

About the Department of Biotechnology

The Department of Biotechnology was established in 2005. The department offers B.Tech and M.Tech Biotechnology programs approved by AICTE. It is also approved as a Research Centre in Biotechnology for MS (by Research) and Ph.D. programs by Anna University, Chennai. The Department has well-established laboratory facilities. The Department received Research Grants (2.85 Crores) from various funding agencies such as SERB, ICMR, AICTE, CTS and also several grants for organizing Short Term Training courses, Workshops, Faculty Development Programs from various funding agencies such as DBT, SERB, ICMR, CSIR and EDII.

Vision of the Department

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 of the Department

1. 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.
2. To develop special skilled training programs for graduates to meet the personality characters stipulated by the industries within a period of five years.
3. To build potential biotechnologists capable of dealing with new challenges and socio-ethical implications.

Overview of the FDP

Next-Generation sequencing technologies (NGS) are an essential part of almost all life sciences research and diagnostics. Due to their quantity and especially their complexity, NGS data are typically processed by qualified bioinformaticians. Considering the significance, the faculties and research scholars/students need to update and reorient themselves to meet the rapidly changing genomic data analysis tools. This FDP is designed to bring together the experts working in Metagenomics and Next Generation Sequencing to overcome the inherent lag in teaching and learning of concepts in genomics, high throughput genome sequencing and NGS data analysis. This ATAL-FDP will allow the participants to understand the basics of NGS data processing, including manipulation of raw data, quality control, and removal of low quality sequences, sequence adapters and artifacts.

Objectives of the FDP:

- To explain conceptual framework and create an awareness among the faculty members teaching biotechnology, on the importance of metagenomics and next generation sequencing.
- To catalyze and motivate participants to perform research in the field of metagenomics and next generation sequencing techniques and incorporate the same in teaching curriculum.

Topics covered in the FDP:

- Microbial Metagenomics and its application in bioproduct development.
- Functional metagenomics for bioprospecting of enzymes.
- Metagenomics for surveillance of Antibiotic Resistant Genes.
- NGS technology and platforms: Fundamental Concepts to Applications.
- Hands-on session on DNA sequencing using Oxford Nanopore Sequencer.
- Essential computing skills for NGS bioinformatics.
- Overview and Advances in Clinical NGS Technology.
- NGS technology, algorithms and data formats.
- Hands-on session on sequence data processing: MGnify, MGRAST, HMMER, InterPro, Gene Ontology (GO), FASTQC, Galaxy server and pathway analyses.
- Metagenomics Data Analysis and Population Dynamics analysis.

Expected Outcomes:

After attending workshop, Participants can be able to

- Design experiment to isolate/purify metagenomic DNA from environmental samples.
- Construct metagenomic fosmid library for functional screening of industrial/therapeutic enzymes.
- Get confidence to introduce the metagenomics experiments in the regular teaching in curriculum.
- Perform next generation sequencing using nanopore sequencer and analyze the DNA sequence data.



SVCE Sri Venkateswara College of Engineering

DEPARTMENT OF BIOTECHNOLOGY



INFORMATION BROCHURE FOR ADMISSION TO M.TECH BIOTECHNOLOGY & Ph.D PROGRAM (2024-2025)

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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 & and Ph.D. in 2011.

RECEIVED PROJECTS FROM

- DBT
- ICMR
- DST-SERB
- CSIR
- AICTE
- MSME
- TNSCST
- EDII

RESEARCH FOCUS

- Immunology & Immuno-technology
- Biomaterials & Tissue Engineering
- Stem Cell Technology
- 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 - 2023

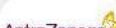


SCHOLARSHIPS FOR PG STUDENTS

- **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 a 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



Possible List of Industries to join after M.Tech Biotechnology Program

Eligibility: As per Anna University Guidelines. Admissions are through Common Engineering Entrance Test and Admission by Anna University & Entrance Examinations conducted by Consortium of Self Financing Professional, Arts and Science Colleges in Tamilnadu.

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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



OLYMPUS CX-23 BINO LED JAPAN BINOCULAR RESEARCH MICROSCOPE

**FOR
FURTHER DETAILS
OR
ENQUIRIES**

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