



SVCE | Sri Venkateswara
College of
Engineering

An Autonomous Institute - Affiliated to Anna University Chennai
1, Pennalur, Sriperumbudur Tk. Tamil Nadu 602117



INSTITUTION'S
INNOVATION
COUNCIL
(Ministry of HRD Initiative)

Department of Biotechnology

(Accredited by NBA)

Organizes a Two days Hands-On Workshop on Molecular Biotechnology



29th & 30th March, 2022

Participants will get Hands-On training on the following techniques

Molecular Biology

Plasmid isolation & Gel electrophoresis
DNA extraction from Agarose Gel
Quantification of DNA using QUBIT 4.0

Genomics

Primer Designing
NGS Data Analysis
Genome Viewer

Who can attend: Pre-final year & Final year students of B.Tech Biotechnology

Registration Fee: Rs. 300

Registration Link: <https://forms.gle/HEmPtK2wZGuViFD7A>

Registration deadline: 25th March 2022

Limited Participants, Selection based on First-Cum-First-Serve Basis

Patrons:

Prof. M. Sivanandham, Secretary, SVEHT
Prof. S. Ganesh Vaidyanathan, Principal, SVCE

Organizing Secretary: Dr. K. Divakar, ASP-BIO

Coordinator: Mr. J. Hariharan, AP-BIO

Convener: Dr. V. Sumitha, HoD (i/c)-BIO



biocc@svce.ac.in





About the Institution:

Sri Venkateswara College of Engineering (SVCE), one of the premier technical institutions in Tamilnadu, was established in 1985. The College is situated on the Chennai – Bangaluru National Highway (NH4) about 37 km south-west of Chennai. The college offers 11 UG programmes and 8 PG programmes. The National Board of Accreditation accredited many of the eligible programmes, and SVCE is an ISO 9001:2015 certified institution.

Brief profile of the Department of Biotechnology

- Sri Venkateswara College of Engineering noted the recent growth in Modern Industrial Biotechnology. In order to support the growth in Biotechnology, SVCE started the Department of Biotechnology in 2005 under the guidance of our Chairman Dr. A.C. Muthiah, a well-known Industrialist who understands the strength of Industrial Biotechnology.
- The department offers B.Tech and M.Tech Biotechnology programmes approved by AICTE. B.Tech programme was accredited by NBA. It is also approved as a Research Center in Biotechnology for Ph.D. programme by Anna University, Chennai.
- The Department has well established laboratory facilities namely Genetic Engineering, Bioprocess, Research Labs, Animal house and Computational System Biotechnology Lab. The Department received Research Grants (1.5 Crore) 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.

Video tour of the department: <https://youtu.be/p6TZo15pL7U>

Webpage : <https://www.svce.ac.in/departments/biotechnology/>



Department of Biotechnology

Report

Hands-On Workshop on Molecular Biotechnology

29th & 30th March 2022

A Hands-on Workshop on “Molecular Biotechnology” was organized by Department of Biotechnology, Sri Venkateswara College of Engineering, Sriperumbudur on 29th & 30th March 2022. Dr. K. Divakar, Associate Professor, Biotechnology & Mr. J. Hariharan, Assistant Professor, Biotechnology organised/coordinated to conduct the workshop.

The workshop started with formal registration, registration kit, workshop manual was provided to the participants during registration. A total of 70 participants from other engineering colleges registered for the workshop. Hostel facilities for lodging and boarding were provided for 20 outstation participants. Transport facilities were arranged (in SVCE college bus) for other participants. A department tour/laboratory visit was arranged for the participants, they were grouped into 15 participants per batch and they visited all the laboratories in the department of biotechnology to get to know about facilities available in the department. The inaugural ceremony started at 10:00 am with the welcome address by Dr. V. Sumitha, Head (i/c), Department of Biotechnology, SVCE. Dr. K. Divakar, organizing Secretary of the workshop introduced the chief guest Prof. M. Sivanandham, Secretary, Sri Venkateswara Educational and Health Trust and Professor of Biotechnology, Department of Biotechnology, SVCE. The chief guest Prof. M. Sivanandham, delivered the inaugural address and enlightened the young minds about importance of molecular biology in vaccine design and development. He shared his research experience with the participants and discussed about various vaccines available for COVID-19. Participants including students, faculty members from SVCE and external participants from various institutions (engineering colleges) attended the inaugural event. The inaugural ceremony ended with a thanking note to the chief guest by Mr. Hariharan.

The on day one, hands-on session (session-1) on isolation of plasmid from bacterial cell was held in the forenoon session, the session was handled by Dr. K. Divakar and Mr. Hariharan. The participants were grouped into 2 participants per batch, they have isolated the plasmid DNA from the given sample (overnight grown bacterial cell) by following protocol given in the workshop manual. It was followed by a question and answer/interaction session. Following this participants performed agarose gel electrophoresis using the plasmid isolated by them.



Following hands-on session, the participants attended a guest lecture session on “3D Bioprinting” delivered by Mr. Piyush Padmanabhan, Founder, Next Big Innovation Labs, Bengaluru. He discussed about the importance of 3D bioprinting, its applications, job opportunities and possibility of getting hands-on training in 3D bioprinting in India. Mr. Piyush Padmanabhan addressed the questions raised by the participants and interacted with the participants.

The day 2 (30th March 2022), was started with a hands-on session on DNA extraction from agarose gel, participants extracted plasmid DNA from the agarose gel, the session was handled by Mr. Hariharan. This was followed by quantification of purified plasmid using QUBIT 4.0, a demonstration on using QUBIT 4.0 was delivered by Dr. K. Divakar. Later participants performed the experiment to quantify the DNA.

Hands-on session on designing of PCR-primers using ncbi primer blast was conducted in parallel. Participants chosen their gene of interest and designed the PCR primer for the gene the session was handled by Mr. Hariharan. This was followed by hands-on session on Next Generation Sequencing Data analysis, participants were given with the sample data set and they performed FastQC analysis for the given fastq sequence file. Following this a hands-on session on Genome Data Viewer (GDV) was conducted. Dr. Divakar demonstrated the usage and navigation of GDV. Participants explored and learned about view, search, data retrieval options available in the GDV and practiced it using their organism of interest,.

The valedictory session of workshop started with a formal welcome address by Dr. V. Sumitha, Head (i/c), Department of Biotechnology, SVCE. Participants including students, faculty members from SVCE and external participants from various institutions (engineering colleges) attended the event. Mr. J. Hariharan introduced the chief guest Prof. S. Ganesh Vaidyanathan, Principal, SVCE. The chief guest Prof. S. Ganesh Vaidyanathan, delivered the valedictory address and enlightened the young minds about importance of hands-on workshop, skill development program and life long learning. Feedback from participants were collected and couple of participants expressed their views on stage during the event. They expressed the hands-on session was very usefull and learned the handling methods. The participants thanked the management of SVCE and the organizers for organizing this hands-on workshop. Certificates were distributed to the participants by Prof. S. Ganesh Vaidyanathan, Principal, SVCE. The workshop with vote of thanks by Dr. Divakar followed by nationa anthem.

Prepared by

Dr. K. Divakar, ASP/BIO

Approved by

Dr. V. Sumitha, HoD (I/C) BIO



Photos captured during the event



Inauguration of workshop



Guest lecture on 3D Bioprinting



Hands-On session – Plasmid DNA isolation



Hands-On genome data viewer (GDV)



Hands-On session – Gel electrophoresis



Certificate distribution during valedictory function