

### REGISTRATION FEE

Students & Research Scholars : Rs. 3000  
Academicians : Rs. 4000  
Professionals from Industry : Rs. 5000

Participants are requested to send their details through e-mail on or before 5<sup>th</sup> May 2018. Confirmation will be sent to the selected participants through e-mail. Only the selected participants are requested to register with registration fee in the form of Demand Draft drawn in favor of "The Principal, SVCE, Sriperumbudur" payable at Indian Bank, Sriperumbudur. Filled in registration form along with DD should be sent to the below mentioned address on or before 10<sup>th</sup> May, 2018. **The number of participants is limited to 10** and the selection will be based on first-cum-first serve.

### BONAFIDE CERTIFICATE

(For Students only)

Mr./Ms. \_\_\_\_\_ is permitted to attend Short Term Training Programme on "Bioprocess and Downstream Process Techniques" from May 21<sup>st</sup>-25<sup>th</sup>, 2018 at Sri Venkateswara College of Engineering, Sriperumbudur Tk-602 117, Tamilnadu.

Date: \_\_\_\_\_ Signature  
(Designation & Seal)

### MAILING ADDRESS

**Prof. E. Nakkeeran**

Head & Professor

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### Short Term Training Programme on Bioprocess and Downstream Process Techniques

May 21 - 25, 2018

### REGISTRATION FORM

1. Name :
2. Designation :
3. Age :
4. Participant Category : Student / Faculty / Industry
5. Branch & Year
6. Name of the Institution with postal address:
  
7. E-mail ID:
8. Mobile number:
9. Specialization:
10. Registration fee:  
Demand draft No. & Date:

### Declaration

I agree to abide by the rules and regulations of the training programme.

Place:

Date:

Signature

(Copy of this form can be used for registration)

## SRI VENKATESWARA COLLEGE OF ENGINEERING

(Autonomous)

Affiliated to Anna University, Chennai

An ISO 9001:2015 certified Institution

Accredited by NBA, New Delhi

### Short Term Training Programme on Bioprocess and Downstream Process Techniques

May 21<sup>st</sup> - 25<sup>th</sup>, 2018



### CONVENERS

**Prof. M. Sivanandham**

**Prof. E. Nakkeeran**

### COORDINATORS

**Ms. P. Jaibiba**

**Mr. S. Naga Vignesh**

### Organized by

Department of Biotechnology

Sri Venkateswara College of Engineering

Sriperumbudur Tk -602 117, Tamilnadu, India

<http://www.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 10 UG programmes and 10 PG programmes. The National Board of Accreditation accredited many of the eligible programmes, and SVCE is an ISO 9001:2008 certified institution.

## 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. 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 Labs, Animal house and Computational System Biotechnology Lab. The Department received Research Grants (1.2 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.

## PROGRAMME OBJECTIVE

Bioprocess plays a vital role in the production of enzymes, colorants, amino acids, organic acids, vitamins, fatty acids, flavors, hydrocolloids, sweeteners and value-added technology-cum-waste management.

Downstream processing techniques such as extraction, centrifugation, precipitation, membrane separation, aqueous two-phase extraction, chromatographic separations, freezing and spray drying play a major role in the purification and concentration of desired product by eliminating the impurities present in the fermented broth before its indented industrial application. Keeping in view of the industrial need, this short term training programme is focused to train the graduates and research scholars with hands-on-experience on various bioprocess and downstream processing techniques.

This training programme will impart practical knowledge on various bioprocess and downstream processing techniques through series of hands-on-sessions as listed below.

Through this training programme the participants will be able to perform different bioprocess and downstream process operations independently and interact with the experts in the related field.

## COURSE CONTENT & SCHEDULE

The short term training programme consists of series of hands-on-sessions on various Bioprocess and Downstream process techniques. The content and day-wise schedule is as follows.

Day	Work plan	Description of hands-on-sessions
1	Fermentation using CSTR (Bioreactor)	Media preparation Sterilization Inoculation and incubation
2	Harvesting of enzyme	Cell disruption Ammonium sulphate precipitation Dialysis Calculation of specific activity
3	Purification techniques	Microfiltration and Ultrafiltration Performance analysis Rejection

		Recovery Productivity Membrane cleaning Aqueous Two Phase Extraction
4	Purification techniques	Chromatographic techniques HPLC & FPLC
5	Freeze Drying	Drying of biomolecules SDS-PAGE

## VENUE AND DURATION

This training programme is organized at Sri Venkateswara College of Engineering (SVCE), Sriperumbudur, Tamilnadu, India, during May 21<sup>st</sup> - 25<sup>th</sup>, 2018.

## TRANSPORTATION

The participants can avail the SVCE bus facility to attend this programme. For route details, please refer [www.svce.ac.in](http://www.svce.ac.in).

## ACCOMMODATION

Accommodation can be arranged in the campus on prior notice, for which the participants will have to bear the charges and the participants are advised to send the request on or before 15<sup>th</sup> May, 2018 to ensure the accommodation.

## DATES TO REMEMBER

Last date for e-mail registration : 05.05.2018

Intimation of selection : 07.05.2018

Last date for registration with DD : 10.05.2018

Last date for accommodation : 15.05.2018

For further clarifications please e-mail to [nakkeeran@svce.ac.in](mailto:nakkeeran@svce.ac.in)

**DEPARTMENT OF BIOTECHNOLOGY**  
**REPORT ON SHORT TERM TRAINING PROGRAMME ON BIOPROCESS AND**  
**DOWNSTREAM PROCESS TECHNIQUES**

**21-25<sup>th</sup> MAY, 2018**

One week short term training programme on Bioprocess and Downstream Process Techniques was organized during 21-25<sup>th</sup> May, 2018 by the Department of Biotechnology at Sri Venkateswara College of Engineering, Sriperumbudur. This one week STTP included series of lectures and practical hands-on-sessions by in-house faculty members. 7 registered participants were actively participated in this STTP from various colleges/Institutions.

The inaugural function was started at 9.00 am with a prayer song followed by welcome address by Prof. E. Nakkeeran, Professor and Head, Department of Biotechnology. Prof. M. Sivanandham, Secretary, SVEHT & Visiting Professor of Biotechnology, SVCE delivered the Inaugural address. In his speech, he highlighted the importance of the STTP and addressed the significance of the topics. After his speech, he inaugurated the STTP. After this, Hands on Session on Fermentation using CSTR (Bioreactor) was handled by Prof. E. Nakkeeran.

On day 2, Prof. E. Nakkeeran and Ms. R. Rathna delivered a lecture on various cell disruption techniques followed by Hands on Session on Harvesting of enzyme using Cell Disruption by Ultrasonication and Recombinant Protein Separation by Salt Precipitation - Ammonium Sulphate Precipitation in the forenoon session. Ms. P. Jaibiba, Asst. Professor of Biotechnology, SVCE handled the Hands on Session on Desalting using Dialysis in the afternoon.

On day 3, Prof. E. Nakkeeran and Ms. R. Rathna delivered a lecture on membrane processing followed by Hands on Session on Microfiltration of enzymes and Concentration and Purification of enzymes by Ultrafiltration in the forenoon. Ms. P. Jaibiba and Mr. S. Naga Vignesh, Asst. Professor of Biotechnology, SVCE handled the Hands on Session on Aqueous Two Phase Extraction of Protein in the afternoon.

On day 4, Mr. J. Hariharan, Asst. Professor of Biotechnology, SVCE handled the Hands on Session on Quantification of  $\beta$ -Galactosidase using High Performance Liquid Chromatography (HPLC) in the forenoon. Prof. E. Nakkeeran and Ms. P. Jaibiba handled the Hands on Session on Size Exclusion Chromatography and Ion-Exchange Chromatography using FPLC.

On day 5, Ms. R. Rathna handled the Hands on Session on SDS-PAGE for Protein Separation in the forenoon. Later, Prof. E. Nakkeeran delivered a lecture on Spray and Freeze drying followed by Hands on Session on Spray Drying and Freeze Drying. The valedictory address was delivered to the participant by Prof. S. Ganesh Vaidyanathan, Principal, SVCE in the afternoon.

The organizing secretary, Prof. E. Nakkeeran summarized the proceedings of the STTP. The program was concluded by thanking all the contributors, the management and the

participants by the organizing secretary. Feedback for all the sessions was obtained from the participants. On the whole the STTP was extremely informative and useful, and enlightened the participants. The overall feedback provided by the participants for the workshop was more than satisfactory for their needs.

### Photographs taken during the event



Prepared by

Prof. E. Nakkeeran  
Organizing Secretary

Approved by

Prof. E. Nakkeeran, HoD/BIO

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