

AICTE Sponsored Online Short Term Training Programme
On

Functional Metagenomics and Bioprocessing of Therapeutic Enzymes (FMBTE – 2021)

4 – 9th January 2021
(Phase-I)

Organised by



Department of Biotechnology
(Accredited by NBA)

Sri Venkateswara College of Engineering

(Autonomous – Affiliated to Anna University)
Sriperumbudur Tk. – 602 117, Tamil Nadu

About the Institute

Sri Venkateswara College of Engineering (SVCE), is a unit of Sri Venkateswara Educational and Health Trust (SVEHT). The Trust was founded on 1 August 1985 at the behest and benign blessings of His Holiness Pujashree Kanchi Kamakoti Peedathipathi Sri Jayendra Saraswathi Swamikal. Dr. A. C. Muthiah, a renowned engineer, industrialist and philanthropist, is the Chairman of the Governing Council of the college. SVCE is one of the premier technical institutions in Tamilnadu, the College is situated on the Chennai – Bangaluru National Highway (NH4) about 37 km south-west of Chennai. The college is in a 95-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 11 UG programmes and 7 PG programmes. The National Board of Accreditation accredited many of the eligible programmes, and SVCE is an ISO 9001:2015 certified institution.

About the Department

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 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 is accredited by NBA. 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 (1.7 Crore) from various funding agencies such as SERB, ICMR, AICTE, CTS and also several grants for organising 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>

About the Short Term Training Programme

Vast majority of microbes (around 95-99%) in any chosen environment are uncultivable and therefore these microbes cannot be studied using traditional microbial techniques. Metagenomics provide a new paradigm for researches to look at the uncultivable microbial communities and to transform the way we seek for solutions to biomedical/therapeutic, energy and environmental related problems. There is an inherent lag in teaching and learning of the concepts in metagenomics and recombinant protein production due to lack of exposure/opportunity to learn by hands-on experience. Faculty members need to update and reorient themselves to meet the rapidly changing professional and scientific needs of the society. This STTP is designed to bring together the experts working in metagenomics and bioprocess engineering to impart knowledge to the participants about metagenomics and its application in industrial biotechnology. This STTP is expected to benefit faculty members from AICTE approved engineering colleges, scientists and researchers who are working/ teaching in the area of Biotechnology/Bioinformatics/Chemical Engineering. **This online STTP will be conducted through Google Meet platform.** The exact program with slot-wise distribution of lectures will be made available in the website ([Click Here](#)) in due course of time to all those who register their “Expression of Interest” to attend the programme.

Resource Persons

Eminent personalities from Department of Biotechnology (DBT), Government of India, IIT's, Anna University, R&D centers and Industries will share their expertise on metagenomic and its implication in bioprocess engineering.

KEYNOTE SPEAKERS



Dr. T. Madhan Mohan

Advisor, Department of Biotechnology
Govt. of India, New Delhi



Dr. Mahesh S Dharne

Principal Scientist, National Collection of
Industrial Micro-Organisms, NCL, Pune



Prof. Sathyanarayana N Gummadi

Professor, Department of Biotechnology
IIT Madras, Chennai



Dr. Rajkumar Rajagopal

Managing Director,
CELLZYME Biotech, Coimbatore



Prof. S. Ramalingam

Professor, Centre for Biotechnology
Anna University, Chennai



Dr. Nagendra Thakur

Assistant Professor, School of Life Sciences
Sikkim University, Sikkim



Dr. P. Vijayakumar

Assistant Professor, Tamil Nadu Veterinary and
Animal Sciences University, Thanjavur



Prof. G. Baskar

Professor, Department of Biotechnology
St. Josephs College of Engineering, Chennai

Key Points for the Participants

- The faculty members/ Post-Doctoral Fellows/ Research Scholars of AICTE approved technical institutions, Universities, Research laboratories, Industry personnel's and staff of the host institute may participate in this STTP.
- **Interested persons can fill the details in the registration link available in the programme website ([Click Here](#)) under registration tab.** Copy of institute/college ID card shall be uploaded while submitting the registration form. Confirmation of their participation will be sent through E-mail.
- Last date for registration: **On or before 1 January 2021** (Limited seats Available).
- Intimation about selection: On or before 2 January 2021. (Registration dates for Phase 2, 3 and 4 will be published soon)
- **No Registration fee for attending this online STTP. A test shall be conducted at the end of the programme. The Certificate shall be issued to those participants who have minimum 80% attendance and scored minimum 60% of marks in the test after submission of feedback.**

Organising Committee

Chief Patron

Prof. M. Sivanandham
Secretary, SVEHT

Patron

Prof. S. Ganesh Vaidyanathan
Principal, SVCE

Convenor

Dr. V. Sumitha
HoD-Incharge/BIO

Organising Secretaries

Dr. E. Nakkeeran, Professor/BIO
Dr. K. Divakar, Associate Professor/BIO

Coordinators

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For Queries contact the coordinators. Website: <https://sites.google.com/view/fmbte-2021/home>



DEPARTMENT OF BIOTECHNOLOGY

**REPORT ON AICTE-SPONSORED ONLINE SHORT TERM TRAINING
PROGRAMME ON “FUNCTIONAL METAGENOMICS AND BIOPROCESSING OF
THERAPEUTIC ENZYMES” (PHASE - 1)**

4-9th JANUARY 2021

The All India Council for Technical Education (AICTE), New Delhi sponsored online short term training programme (STTP) on “Functional Metagenomics and Bioprocessing of Therapeutic Enzymes” (Phase-1) was organized during 4-9th January, 2021 by the Department of Biotechnology at Sri Venkateswara College of Engineering, Sriperumbudur through Google Meet platform. This one week STTP included series of lectures from eminent personalities of various industries and institutions and practical demonstration sessions by the in-house faculty members. 57 registered participants were actively participated in this STTP from various colleges/Institutions across the country.

The inaugural function was started at 10.00 am with a prayer song followed by welcome address by Dr. V. Sumitha, Associate Professor and Head in-charge, Department of Biotechnology. Prof. M. Sivanandham, Secretary, SVEHT & Visiting Professor of Biotechnology, SVCE delivered the Patron address. In his speech, he highlighted the importance of the STTP and addressed the significance of the topics. After his speech, the STTP was inaugurated by the Chief Guest, Dr. T. Madhan Mohan, Former Advisor, Department of Biotechnology, Govt. of India, New Delhi. The inauguration was followed by his keynote address on Bioinformatics-Promises and Challenges:An Overview. After this, Dr. R. Vijaya Raghavan, Scientist, National Institute of Ocean Technology, Chennai delivered a lecture on Metagenomic Insights into Bioprospection: A Bioinformatics Perspective.

On day 2, Dr. Nagendra Thakur, Assistant Professor, School of Life Sciences, Sikkim University, Sikkim delivered a lecture on Microbiome of Extreme Environments in the forenoon. This was followed by a lecture on Functional Metagenomics for Discovery of Enzymes – A Case Study on Metagenomic Screening of Nitroreductases by Dr. K.Divakar, Associate Professor, DBT-SVCE in the afternoon.

On day 3, Dr. Mahesh S Dharne, Principal Scientist, National Collection of Industrial Micro-Organisms, National Chemical Laboratory, Pune delivered a lecture on Functional Metagenomics Guided Bioprospecting of Microbes for Biomass Chemicals in the forenoon. This was followed by a lecture on Challenges and Opportunities for Metagenomic Next-Generation Sequencing in Viral Pathogens Detection by Dr. P. Vijayakumar, Assistant Professor, Tamil Nadu Veterinary and Animal Sciences University, Thanjavur in the afternoon.

On day 4, Prof. S. Ramalingam, Centre for Biotechnology, Anna University, Chennai delivered a lecture on Bioprocess Strategies for Recombinant Protein Production in the forenoon. This was followed by Hands on Session on Metagenomic Tools – Galaxy Server by Ms. R. Rathna, Assistant Professor, DBT-SVCE in the afternoon.

On day 5, Prof. Sathyanarayana N. Gummadi, IIT Madras, Chennai delivered a lecture on Biochemical Characterization of Xylose Reductase from *Debaryomyces nepalensis* in the forenoon. This was followed by a lecture on Fermentative Production of Enzymes – A case study on Pectinases by Prof. E. Nakkeeran, DBT-SVCE in the afternoon.

On the last day, Dr. Rajkumar Rajagopal, Managing Director, CELLZYME Biotech, Coimbatore delivered a lecture on Industrial Production of Pharmaceuticals Products Using Enzymes in the forenoon. This was followed by Hands on Session on Bioprocess Modeling by Dr. A. Senthil Nagappan, Assistant Professor, DBT-SVCE. In the afternoon, lecture on Fungal Asparaginase as a Therapeutic Agent for Cancer Treatment was delivered by Prof. G. Baskar, Department of Biotechnology, St. Josephs College of Engineering, Chennai followed by the valedictory address to the participants.

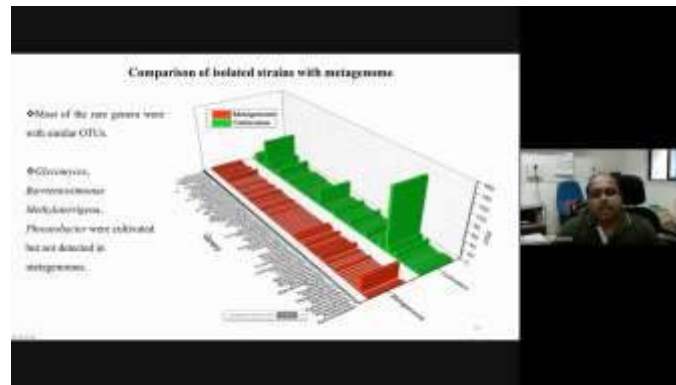
The organizing secretary, Prof. E. Nakkeeran summarized the proceedings of the STTP phase-1. The program was concluded by thanking all the contributors, the management, the funding agency, AICTE-New Delhi for sponsoring the STTP by the organizing secretary, Dr. K. Divakar. The Assessment Test to the participants was conducted through online and the feedback for all the sessions were also obtained from the participants through online Google forms. On the whole the STTP was extremely informative and helpful, and enlightened the participants. The overall feedback provided by the participants for the workshop was more than satisfactory for their needs.

Prof. E. Nakkeeran & Dr. K. Divakar

Organizing Secretaries

STTP - FMBTE - 2021

Screenshots captured during the event



Prepared by

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Approved by

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