



**VIT**<sup>®</sup>  
Vellore Institute of Technology  
(Decreed to be University under section 3 of UGC Act, 1956)

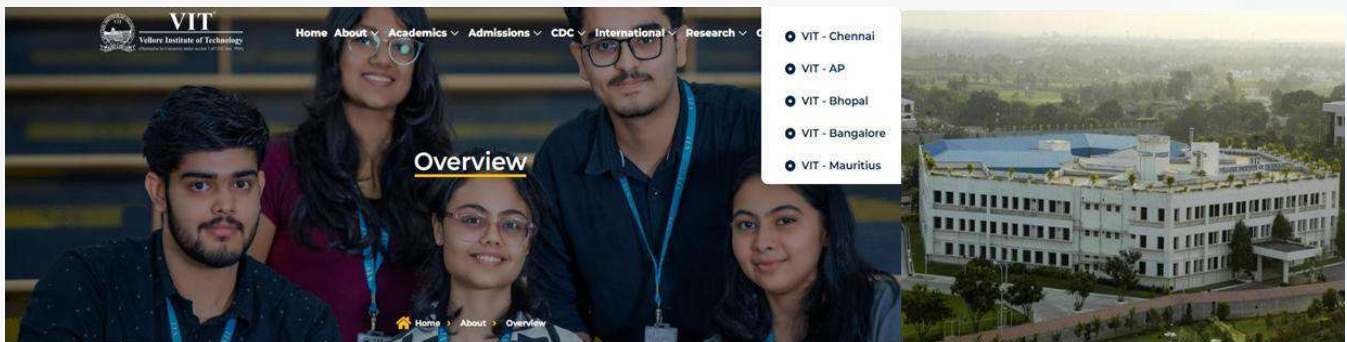
# **SCHOOL OF BIO SCIENCES AND TECHNOLOGY**



**BIOBROADCAST**  
**JANUARY - MARCH 2026**

# VELLORE INSTITUTE OF TECHNOLOGY

VIT is a distinguished educational institution committed to achieving excellence in higher education. It was founded to deliver high-quality higher education that meets international standards. The university is ranked 691st in the QS World University Rankings and 142nd Best Institution in the world in Engineering and Technology. The VIT Group of Institutions provides 71 undergraduate programs, 58 postgraduate programs, 15 integrated programs, 2 research programs, and 2 MTech industrial programs. Furthermore, full-time PhD, deep-tech PhD programs in Engineering and Management, PhD. programs in Science and Languages, and Direct PhD programs in engineering fields are available in 2025.



**Dr. G. Viswanathan**  
**Founder & Chancellor**

**Dr. Sankar Viswanathan, Vice President**

**Dr. Sekar Viswanathan, Vice President**

**Dr. G. V. Selvam, Vice President**

**Dr. Sandhya Pentareddy, Executive Director**

**Ms. Kadhambari S. Viswanathan, Assistant Vice President**

**Dr. V. S. Kanchana Bhaskaran, Vice Chancellor**

**Dr. Partha Sharathi Mallick, Pro-Vice Chancellor**

**Dr. T. Jayabharathi, Registrar**

# OUR INSPIRATION



Hon'ble Chancellor **Dr. G. Viswanathan** stands as a guiding light for the younger generation, inspiring countless students to pursue excellence with purpose. Under his visionary leadership, Vellore Institute of Technology (VIT) has grown into a global institution committed to innovation, integrity, and impactful education. The university fosters a dynamic and inclusive atmosphere that encourages creativity, discipline, and a shared responsibility for progress. As Dr. Viswanathan rightly states, "Knowledge is a protective shield which cannot be ruined by any external force." This belief forms the cornerstone of VIT's academic philosophy.

The institute promotes an environment where faculty and students alike thrive in a culture of care, accountability, and continuous improvement. With robust national and international collaborations across academia and industry, VIT remains dedicated to fostering global competencies and economic development. Anchored in service and compassion, VIT's mission extends to improving lives through education that uplifts communities. Its core values include student-centric learning, strong ethical foundation, excellence in execution, social responsibility, and mutual respect to shape the institution's enduring legacy of transformation through knowledge.

*Thank you so much, sir, for your blessings, encouragement, and support...*

# VIT UNIVERSITY RANKINGS - 2026



# VIT UNIVERSITY RANKINGS - 2025



BY SUBJECT 2025

Vellore Institute of Technology (VIT)

**351-400**

in QS World University Rankings by Subject 2025:

BIOLOGICAL SCIENCES

March 2025

Date

A handwritten signature in black ink, appearing to read 'Ben Sowter', written over a horizontal line.

Ben Sowter  
Senior Vice-President  
QS Quacquarelli Symonds

# VIT UNIVERSITY RANKINGS - 2025



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## Pioneering Sustainability




**WORLD UNIVERSITY RANKINGS**  
SUSTAINABILITY | 2026

Sl. No	World Rank	India Rank	Institution Name	Location	Overall Score
1	=205	1	Indian Institute of Technology Delhi (IITD)	India	83.1
2	235	2	Indian Institute of Technology Bombay (IITB)	India	81.4
3	=236	3	Indian Institute of Technology Kharagpur (IIT-KGP)	India	81.3
4	=241	4	University of Delhi	India	80.9
5	305	5	Indian Institute of Technology Madras (IITM)	India	77.3
6	=310	6	Indian Institute of Technology Kanpur (IITK)	India	77
<b>7</b>	<b>=352</b>	<b>7</b>	<b>Vellore Institute of Technology (VIT), Vellore, India</b>	<b>India</b>	<b>74.9</b>
8	=352	7	Indian Institute of Technology Roorkee (IITR)	India	74.9
9	=462	9	Indian Institute of Science (IISc) Bangalore	India	70.5
10	=467	10	Manipal Academy of Higher Education, Manipal, Karnataka, India	India	70.3
11	478	11	Anna University	India	69.8
12	487	12	Birla Institute of Technology and Science, Pilani	India	69.4

# DEAN'S MESSAGE



It is with immense pride and joy that we present the **January–March 2026** edition of BioBroadcast, a testament to the extraordinary energy and dedication that define the School of Bio Sciences and Technology. As SBST approaches its Silver Jubilee, this quarter stands as a shining chapter in our collective journey, marked by exceptional achievements across research, innovation, academics, and outreach.

Our faculty have continued to lead from the front, with impactful publications spanning prestigious journals, significant grants secured from ICMR, and an impressive portfolio of patents filed, published, and granted. From nanoemulsion-based drug delivery systems and 3D bioprinted therapeutic scaffolds to AI-driven computational approaches in oncology and antimicrobial resistance, the breadth of our research reflects SBST's unwavering commitment to translational science that addresses real-world health challenges. It is gratifying to see our scholars receiving recognition on national and international stages through invited talks, conference awards, and collaborative projects that bridge the laboratory with clinical impact.

Our students, too, have risen to extraordinary heights this quarter. A remarkable cohort of BTech and MTech students secured outstanding ranks in the GATE examination, with several achieving positions in the top 30 nationally. Our students and scholars have distinguished themselves with award-winning poster presentations, hackathon victories, and research publications, a reflection of the culture of research, innovation, and excellence we nurture at SBST. This quarter also celebrated vibrant intellectual engagement through events like GEORIFT, ELUCID 3.0, and ALPHAFORGE 3.0, alongside the Quality Week product showcase that highlighted the ingenuity of our students in developing sustainable and health-focused innovations. Our Research and Developmental Series brought distinguished global scholars to engage with our community, inspiring our young researchers to think boldly and pursue purposeful science.

As we mark SBST's 25th year, we do so with gratitude for the vision of our Honourable Chancellor Dr. G. Viswanathan, whose transformative leadership continues to illuminate our path. I extend my heartfelt congratulations to every member of our SBST family — faculty, students, scholars, and staff for their remarkable contributions. Let us carry this momentum forward as we strive to make SBST a beacon of innovation, excellence, and societal impact in the years to come.

With best wishes,

**Dr. Suneetha V.**

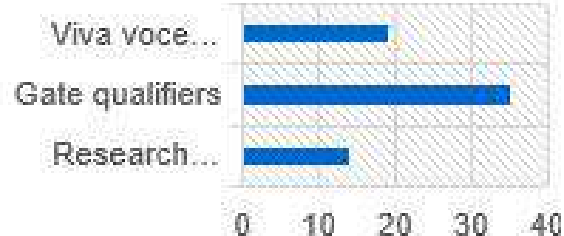
**Dean, School of Bio Sciences and Technology, VIT**

# SBST HIGHLIGHTS

## Journal Publications



## Students and Scholars achievement



## Patents



## GUEST LECTURES



# HONOURING EXCELLENCE: A LIFETIME OF IMPACT



VIT<sup>®</sup>

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## Lifetime Achievement Award conferred by the



[vituniversity](#) [vellore\\_vit](#) [vellore-institute-of-technology](#) [VIT\\_univ](#) [Vellore Institute of Technology \(VIT\)](#) [Vellore Institute of Technology](#)

Heartiest Congratulations to **Our Honourable Chancellor, Dr. G. Viswanathan** on receiving the **Lifetime Achievement Award**, a true recognition of his visionary leadership and unwavering commitment to education.

# GLOBAL RECOGNITION FOR EDUCATIONAL LEADERSHIP



Heartfelt Congratulations to honourable Vice President, **Dr. Sankar Viswanathan** on being conferred the **Honorary Doctorate** in Engineering & Technology Management by Rajamangala University of Technology Krungthep, Thailand. This honor recognizes his exceptional leadership and significant contributions to the advancement of engineering and technology management. The honor was formally conferred on 20th February 2026, marking a moment of great pride for our university community.

# MEMORANDUM OF UNDERSTANDING (MoU)



**MoU signed with Waters Corporation India Private Limited - Global Capability Center (GCC)**



**MoU signed with BioKart**

# ORIENTATION FOR RESEARCH SCHOLARS JANUARY 2026



# PG FAREWELL OF THE CLASS OF 2027











# BIRTHDAY CELEBRATIONS OF MS. KADHAMBARI S VISWANATHAN (ASSISTANT VICE PRESIDENT)



# QUALITY WEEK



# RESEARCH AWARDS 2024-25

## SBST Research Award Key Highlights

**OVERALL HIGHEST SCORE**  
**Prof. George Priya Doss**  
**577.80** total points



  
**PUBLICATIONS**  
**557.8**  
Highest publication points

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● Prof. George Priya Doss

  
**SPONSORED PROJECTS**  
**4 Grants**  
Highest number of grants awarded

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● Prof. George Priya Doss

  
**CONSULTANCY PROJECTS**  
**8 Projects**  
Leading in consultancy engagements

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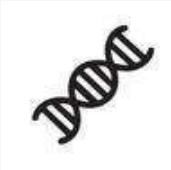
● Prof. Jabez Osborne

  
**PATENTS**  
**6 Patents**  
Total of 60 points from patents filed

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● Prof. Dr. Suneetha Vuppu





# UNIVERSITY DAY & ANNUAL SPORTS DAY 2026



# SBST FAMILY TOUR





# EVENTS ORGANIZED

## GEORIFT HACKATHON

**GEORIFT**, an offline event was conducted on **8th & 9th January, 2026**, focusing on Exploration of **life: Beyond Boundaries.**” This event challenges participants to explore extreme and unconventional environments, such as the deep sea, outer space, radioactive zones, mining habitats, and microbial ecosystems, and develop biotechnology-driven solutions to survive, adapt, or thrive in these settings.

The key highlights of GEORIFT are as follows: Expert Session, Creative Ideation & Pitching, Prototype Development, IoT Workshop for Beginners, Crisis Challenge Round.

GEORIFT offers students a unique opportunity to apply classroom learning to real-world challenges, develop critical research and innovation skills, and collaborate across disciplines.



# QUALITY WEEK CELEBRATION

**SBST, in collaboration with DQAA, had celebrated the Quality Week, as part of the celebrations, a training session was organised on 3rd March 2026.**



# QUALITY WEEK –PRODUCT DISPLAY

Sl.No	Product name	Participants
TEAM 1	<p><b>NUTRAFIB</b></p> <p>Health Bar is a microgreen-enriched, high-fibre functional snack formulated to support digestive health, provide sustained energy, and promote overall metabolic wellness using natural plant-based ingredients.</p>	<p>FEMIDA SHARAF 22MFI0082</p> <p>KALYANI SHAJI 22MFI0031</p> <p>NEERAJA P 22MFI0035</p>
TEAM 2	<p><b>SUSTAINABLE BIOPLASTICS FROM BANANA PEEL</b></p> <p>Bioplastics from banana peel fibre using simple processing—an eco-friendly way to reduce plastic pollution and utilize waste.</p>	<p>RITHUMITHA.S 24MFI0009</p> <p>RAKSHITHA .K 24MFI0020</p> <p>ASIN.G.R 24MFI0028</p>
TEAM 3	<p><b>CARROT PEEL COOKIES</b></p> <p>Carrot peel cookies with watermelon rind extract is a healthy and eco-friendly bakery product made from vegetable waste materials. It is a sustainable, innovative, and tasty alternative to regular cookies. It is rich in dietary fiber, antioxidants, and natural nutrients.</p>	<p>VISHALINI.V 24MFI0032</p> <p>HARINI.B 24MFI0013</p> <p>SUDARSINI .V 24MFI0037</p>
TEAM 4	<p><b>BEET &amp; OAT BLONDIES</b></p> <p>A nutrient enriched functional blondie made using whole grain oats and beetroot, designed as a healthier alternative to refined flour bakery products.</p>	<p>NARMADHA .U 24MFI0022</p> <p>PRIYANKA .B 24MFI 0057</p> <p>SHALINI .S 24MFI0007</p>

# QUALITY WEEK –PRODUCT DISPLAY

Patented Innovations under the guidance of Dr. Deepankumar

## 1. $\kappa$ -Carrageenan-Based Biodegradable Packaging Film

- Title: Preparation, Characterization, and AI-Driven Computational Validation of a  $\kappa$ -Carrageenan-Based Biodegradable Composite Film from *Halymenia dilatata*
- This product was developed by M.Sc. Integrated Biotechnology student, which integrates biomaterial engineering and AI validation focusing on sustainable food packaging solutions
- Patent Status: Filed
- IPR No.: IPR0003155P

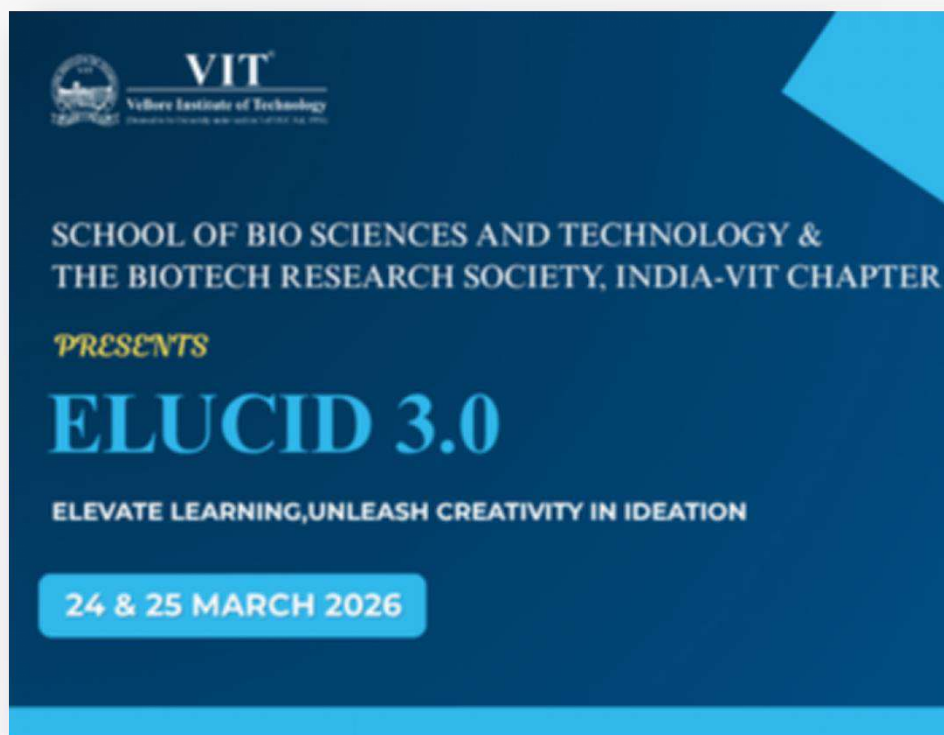
## 2. Biodegradable Composition Film for Food Packaging

- Title: A Biodegradable Composition Film for Food Packaging and Method for its Preparation
- This product is eco-friendly alternative to conventional plastics, which was designed for safe and sustainable food storage.
- Patent Status: Published
- IPR No.: IPR0000107P

***These products highlight the efforts in sustainable biomaterials development and AI-integrated validation approaches for eco-friendly food packaging solutions.***

# ELUCID 3.0

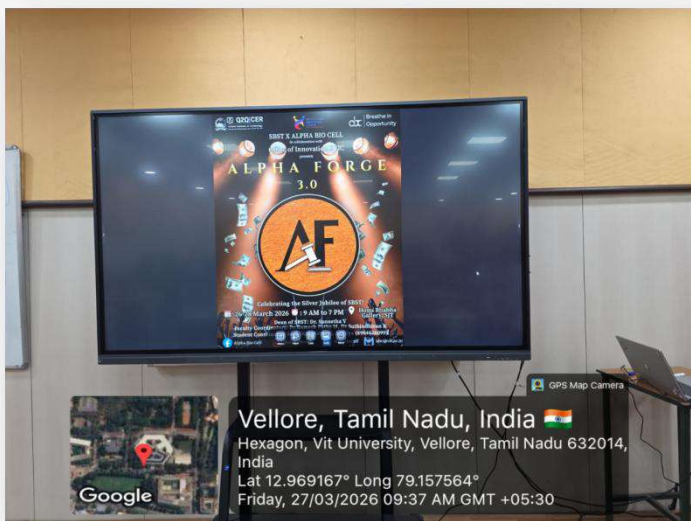
On the eve of SBST's Silver Jubilee celebrations, **ELUCID 3.0 — Elevate Learning, Unleash Creativity in Ideation** — was unveiled by the **Biotech Research Society of India (BRSI)**, VIT Student Chapter on 24-25 March 2026. This milestone initiative reflected a commitment to fostering innovation, inspiring creative thinking, and empowering the next generation of biotech enthusiasts. The event marked the beginning of an exciting journey of ideas, collaboration, and discovery.



# ALPHAForge 3.0

ALPHAForge 3.0, an event with bigger ideas and sharper minds is proposed to be conducted from 26-28th March, 2026 by SBST and ALPHA BIO CELL in collaboration with the Office of Innovation, VITIST, IIC and EDC.

AlphaForge 3.0, ABC's flagship biotechnology entrepreneurship event is a dynamic three-day innovation challenge to think, create, and pitch, where bold scientific ideas turn into market-ready innovations.

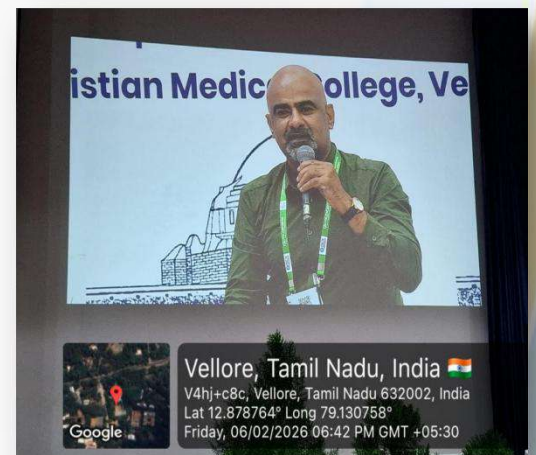


# FACULTY ACHIEVEMENTS

1. **Prof. Rasool M**, delivered a talk on “Exploring the therapeutic potential of Majoon Ushba, an Unani medicine against Psoriasis with reference to IL-17A cytokine signalling” at Unani Day 2026 & National Conference, organised by CCRUM, Ministry of AYUSH, scheduled on 14-15 Feb 2026 at Mumbai.








2. **Dr. Anand Anbarasu** was invited to chair a session on “Computational Biology” on the second day (6<sup>th</sup> February, 2026) of **ClinViCON 2026**, the 2nd Annual Clinical Virology Conference organized by the Department of Virology at Christian Medical College Vellore, held from February 5–7, 2026, at the Scudder Auditorium.



3. Congratulations to **Dr. Janaki Ramaiah M** on being awarded for cancer research at IABS, 2025.



# PROJECTS GRANTED

Sr. No	Title	Faculty	Sanctioned Amount	Funding agent
1	Development of Pitcher Plant-Inspired Liquid-Infused and Multi-Modal bio selective Implant Coatings for Combating Implant-Associated Infections and Bone Losses	  Dr. Debasish Mishra    Dr. Ramesh N Mishra	1.79 Crore	ICMR
2	Identification of Machine Learning Driven Candidate Biomarkers of Antibiotic Resistance in Pseudomonas aeruginosa Infections: A Multi-Omics Based Approach on Chronic Lung Disease	  Dr. George Priya Doss C    Dr. Sasikumar K	85.87 Lakhs	ICMR
3	Climate Change and Brain Infections in India – A Multi-centre, Multidisciplinary Collaborative Study on the Impact of Climate Change on Brain Infections (CLIMB-INDIA)	 Dr. George Priya Doss C	14.26 Lakhs	ICMR-CAR

# PATENTS FILED

S. No	Title	Filed Date	Inventors	Application No	School/Center
1	A Method for Producing a Sphingolipid-Like Biosurfactant	21-12-2025	Dr. Dhanya V; Dr. Jeevitha G C; Alice Angel S; Asharfi Pathela; Shruthi Rajendra Rangari; Sejal Shashikant Mali	2025411297 23	SBST
2	A Biocompatible, Tumor-Targeted, pH-Responsive Dual-Therapeutic Nanocarrier, herein referred to as Tf-(EGCG–Mir-30A-5P)-L-PSLs	21-12-2025	Dr. Abul Kalam Azad Mandal; Priya Dharshini L C	2025411297 29	SBST
3	A Nanoemulsion-Based Mouthwash Composition and Method for Preparation Thereof	21-12-2025	Dr. Natarajan Chandrasekaran; Dr. George Priya Doss C; Mohanraj Gopikrishnan; Kakani Bhavani Satyasai Poornima	2025411297 28	CNBT, SBST
4	A Phytosome-Integrated Bioink Composition for Fabricating 3D-Printed Therapeutic Patches	24-12-2025	Dr. Natarajan Chandrasekaran; Dr. George Priya Doss C; Mohanraj Gopikrishnan	2025411316 54	CNBT, SBST
5	Method for Preparation of Transferrin-Conjugated pH-Sensitive Dual-Drug Liposomes	24-12-2025	Dr. Abul Kalam Azad Mandal; Priya Dharshini L C	2025411316 43	SBST
6	Method for Extraction and Purification of Outer Membrane Vesicles from <i>Chromobacterium violaceum</i> Biofilms	25-12-2025	Dr. E. Nalini; Venkatramanan Mahendrarajan; Huldah Pearlina Sarah Lazarus	2025411318 37	SBST
7	A Nanoemulsion-Based Composition for Pulmonary Delivery of Antimicrobial Agents	26-12-2025	Dr. Natarajan Chandrasekaran; Dr. George Priya Doss C; Mohanraj Gopikrishnan	2025411318 45	CNBT, SBST 33

S. No	Title	Filed Date	Inventors	Application No	School/ Center
8	Method for Degradation of Synthetic Dyes in Textile Effluent Using a Bacterial Consortium	26-01-2026	Dr. Kannabiran K; Sakthishabarish K	2026410074 94	SBST
9	A Plant-Derived Sesquiterpene-Based Method for Structural Modulation of Estrogen Receptor Alpha (ESR1)	26-01-2026	Dr. Sudandiradoss C; Manshi Kumari Gupta; Siddharth Shome	2026410074 82	SBST
10	A Method for Modulating GPR10 Using Small Molecule Ligands	26-01-2026	Dr. Sudandiradoss C; Manshi Kumari Gupta; Pranjali Dutta	2026410074 72	SBST
11	A Process for Simultaneous Extraction of Carotenoids and Pectin from Fruit Peel Biomass	26-01-2026	Dr. Jeevitha G C; Saravanan R; Arya K	2026410074 77	SBST
12	A Method for Preparing Dual-Drug Ethosomal Gel Formulations	26-01-2026	Dr. Natarajan Chandrasekaran; Dr. George Priya Doss C; Mohanraj Gopikrishnan; Tanya Diga	2026410074 78	CNBT, SBST
13	A Metal-Crosslinked Polymer Coating for Ceramic Substrates and a Method Thereof	28-01-2026	Dr. Gayathri S S; Dr. Sunita Nayak; Soumalya Mukherjee	2026410087 90	SBST
14	A Process for Isolation of a Thermostable Microbial Protease Inhibitor	28-01-2026	Dr. K. V. Bhaskara Rao; Dr. Deepti Parashar; Dr. Kalichamy Alagarasu; Poonam Patil; Aparana Kumari	2026410087 89	SBST

S. No	Title	Filed Date	Inventors	Application No	School/Center
15	A Molecular Modulator of Estrogen Receptor-A and a Method for Receptor-Level Modulation Thereof	30-01-2026	Dr. Sudandiradoss C; Manshi Kumari Gupta; Samiksha Middy	2026410095 70	SBST
16	A Novel DARPIn Molecule Targeting Human Neurotensin Receptor-1	30-01-2026	Dr. Sudandiradoss C; Manshi Kumari Gupta; Harshitha Saradhi	2026410095 67	SBST
17	Computer-Implemented Method for Molecular Interaction Analysis of GPR10 Using $\alpha$ -Phellandrene	30-01-2026	Dr. Sudandiradoss C; Manshi Kumari Gupta; Siddharth Shome	2026410095 68	SBST
18	A Computer-Implemented Method for Molecular Interaction Analysis of Estrogen Receptor Alpha	30-01-2026	Dr. Sudandiradoss C; Manshi Kumari Gupta; Pranjali Dutta	2026410095 69	SBST
19	A Structure-Guided System and Method for Selective Catalytic-Cleft Modulation of GSK3B	30-01-2026	Dr. Sudandiradoss C; Deborah Vincent	2026410095 59	SBST
20	Computer-Implemented Method for Designing Angiotensin II Type-1 Receptor Antagonistic Flavonoid Derivatives	30-01-2026	Dr. Sudandiradoss C; Poobana Dharmalingam	2026410095 62	SBST
21	A Bio-Nano Hybrid Immobilized Matrix for Textile Dye Remediation and Process for Synthesizing the Same	30-01-2026	Dr. K. V. Bhaskara Rao; Priyanka Mary Sebastian	2026410095 38	SBST

S. No	Title	Filed Date	Inventors	Application No	School/Center
22	A Microneedle Patch with Plant-Derived Exosomes for Targeted Triple-Negative Breast Cancer Therapy and Method Thereof	01-02-2026	Dr. Devi Rajeswari; Manosi Banerjee	202641010552	SBST
23	Synergistic Triple-Oil Nanoemulsion for Treating OXA-Type Carbapenem-Resistant <i>Acinetobacter baumannii</i> Infections	01-02-2026	Dr. Natarajan Chandrasekaran; Dr. George Priya Doss C; Mohanraj Gopikrishnan	202641010429	CNBT, SBST
24	Ciprofloxacin-Gentamicin Loaded Betel Leaf Oil Nanoemulsion for Inhalable Pulmonary Drug Delivery	01-02-2026	Dr. Natarajan Chandrasekaran; Dr. George Priya Doss C; Mohanraj Gopikrishnan	202641010419	CNBT, SBST
25	Dual-Action Tetracycline-Lemongrass Nanoemulsion Spray for Topical Antimicrobial Treatment	01-02-2026	Dr. Natarajan Chandrasekaran; Dr. George Priya Doss C; Mohanraj Gopikrishnan	202641010428	CNBT, SBST
26	Nanocomposite Hydrogel Bead Encapsulating <i>Lactobacillus fermentum</i> for Antibiotic-Associated Diarrhea Management	01-02-2026	Dr. Natarajan Chandrasekaran; Dr. Amitava Mukherjee; Dr. George Priya Doss C; Mohanraj Gopikrishnan; Geetha G; Ananthaselvam A	202641010469	CNBT, SBST
27	Electrohydrodynamic Polymeric Nanofiber Matrix with Methicillin-Loaded Eugenol Microemulsion for Wound Treatment	01-02-2026	Dr. Natarajan Chandrasekaran; Dr. George Priya Doss C; Mohanraj Gopikrishnan; Disha Pramanick	202641010462	CNBT, SBST
28	Anti-Tubercular Drug-Loaded Eugenol Nanoemulsion Bioink for Three-Dimensional Bioprinted Scaffolds	01-02-2026	Dr. Natarajan Chandrasekaran; Dr. George Priya Doss C; Mohanraj Gopikrishnan; Lakshmipriya S	202641010437	CNBT, SBST

S. No	Title	Filed Date	Inventors	Application No	School/Ce nter
36	Ciprofloxacin and Gentamicin-Loaded Clove Bud Nanoemulsion for Treatment of Drug-Resistant <i>Klebsiella pneumoniae</i> Pneumonia	01-02-2026	Dr. Natarajan Chandrasekaran; Dr. George Priya Doss C; Mohanraj Gopikrishnan	20264101044 3	CNBT, SBST
37	Triple Nanoemulsion Spray Comprising Clove Bud, Lemongrass, and Garlic Oils for Oral Antimicrobial Applications	01-02-2026	Dr. Natarajan Chandrasekaran; Dr. George Priya Doss C; Mohanraj Gopikrishnan	20264101046 3	CNBT, SBST
38	Multi-Cartridge 3D Bioprinted Scaffold with Antimicrobial Nanoemulsions for Diabetic Wound Treatment	01-02-2026	Dr. Natarajan Chandrasekaran; Dr. George Priya Doss C; Mohanraj Gopikrishnan; Disha Pramanick	20264101044 4	CNBT, SBST
39	PAMAM Dendrimer-Conjugated Antibiotic-Vitamin Electrospun Nanofiber Gauze for Wound Healing	01-02-2026	Dr. Natarajan Chandrasekaran; Dr. George Priya Doss C; Mohanraj Gopikrishnan; Disha Pramanick	20264101046 8	CNBT, SBST
40	Meropenem Trihydrate-Loaded Lemongrass-Clove Bud Nanodroplet System for Treating Typhoid Fever	01-02-2026	Dr. Natarajan Chandrasekaran; Dr. George Priya Doss C; Mohanraj Gopikrishnan	20264101046 5	CNBT, SBST
41	<i>Cinnamomum verum</i> Oil-Based Nanoemulsion Co-Loaded with Colistin and Meropenem for Treating Multidrug-Resistant <i>Acinetobacter baumannii</i>	01-02-2026	Dr. Natarajan Chandrasekaran; Dr. George Priya Doss C; Mohanraj Gopikrishnan	20264101043 6	CNBT, SBST
42	Antimycobacterial Nanoemulsion Composition	12-02-2026	Dr. Natarajan Chandrasekaran; Dr. George Priya Doss C; Azger Dusthakeer Vijayan Nynar; Mohanraj Gopikrishnan	20261101577 8 (VIT & ICMR – filed through Patent Mitra)	CNBT, SBST

S. No	Title	Filed Date	Inventors	Application No	School/ Center
43	Oral Antitubercular Nanoemulsion and Process of Preparation Thereof	12-02-2026	Dr. Natarajan Chandrasekaran; Dr. George Priya Doss C; Azger Dusthakeer Vijayan Nynar; Mohanraj Gopikrishnan	202611015775 (VIT & ICMR – filed through Patent Mitra)	CNBT, SBST
44	System for Light-Activated Shear-Thinning Hydrogel-Based Vascular Embolization	16-02-2026	Dr. Pragasam V; Jayaseelan R	202641016732	SBST
45	A Bioselective Three-Dimensional Scaffold and a Process for Preparation Thereof	16-02-2026	Dr. Debasish Mishra; Gutti Pavan	202641016729	SBST
46	Nanofibrous Respiratory Mask and Method of Preparation Thereof	16-02-2026	Dr. Natarajan Chandrasekaran; Dr. George Priya Doss C; Azger Dusthakeer Vijayan Nynar; Mohanraj Gopikrishnan	202641017109 (VIT & ICMR – filed through Patent Mitra)	CNBT, SBST
47	An Oral Paste Formulation for Dual-Phase Anti-Tuberculosis Drug Delivery in Secondary Oral Tuberculosis	17-02-2026	Dr. Natarajan Chandrasekaran; Dr. George Priya Doss C; Azger Dusthakeer Vijayan Nynar; Mohanraj Gopikrishnan	202611017870 (VIT & ICMR – filed through Patent Mitra)	CNBT, SBST
48	Drug Delivery System for Tuberculosis Verrucosa Cutis	19-02-2026	Dr. Natarajan Chandrasekaran; Dr. George Priya Doss C; Azger Dusthakeer Vijayan Nynar; Mohanraj Gopikrishnan	202641018981 (VIT & ICMR – filed through Patent Mitra)	CNBT, SBST
49	Clove Oil-Based Multidrug-Loaded Nanoemulsion Bioink Formulation for Three-Dimensional Bioprinted Scaffolds and a Method of Preparation Thereof	23-02-2026	Dr. Natarajan Chandrasekaran; Dr. George Priya Doss C; Azger Dusthakeer Vijayan Nynar; Mohanraj Gopikrishnan	202641021374 (VIT & ICMR – filed through Patent Mitra)	CNBT, SBST

S. No	Title	Filed Date	Inventors	Application No	School/ Center
50	Process for Sequential Extraction of Mucilage and Pectin from Banana Peels	26-02-2026	Dr. Jeevitha G C; Swetha V	2026410227 04	SBST
51	System and Method for Reducing Bitterness in <i>Moringa oleifera</i> Seed Press Cake	26-02-2026	Dr. Jeevitha G C; Dr. Dhanya V; Ajay S; Udhaya Kumar M; Saravanan R	2026410227 05	SBST
52	Chloroquine-Loaded Oil-in-Water Nanoemulsion Composition and Method for Its Preparation	26-02-2026	Dr. Natarajan Chandrasekaran; Dr. George Priya Doss C; Mohanraj Gopikrishnan; Shrushti Sachin Shah	2026410226 98	CNBT, SBST
53	A Plant-Based Nata-Like Gel Composition Prepared from Cellulose Extracted from Banana Pseudostem	27-02-2026	Dr. Jeevitha G C; Reshma Pulikkal Mural; Swetha V	2026410234 06	SBST

# PATENTS PUBLISHED

S. No	Title	Published Date	Inventors	Application No	School/Center
1	Calcium-Free Polyol-Fused Magnesium Alginate Soft Hydrogel Formulation and Process of Preparation Thereof	19-12-2025	Dr. Debasish Mishra; Gutti Pavan	202541105095	SBST
2	A Computer-Implemented Gene Network Integration System Using Graph Neural Network	19-12-2025	Dr. Rajasekaran Ramalingam; Pravallika Govada	202541117922	SBST
3	System for Preparing a Bioink Composition Containing a Methicillin–Eugenol Microemulsion	19-12-2025	Dr. Natarajan Chandrasekaran; Dr. George Priya Doss C; Mohanraj Gopikrishnan; Disha Pramanick	202541118563	CNBT, SBST
4	A Nano-Emulsion Composition for Topical Delivery of Colistin for Treatment of Chronic Suppurative Otitis Media	19-12-2025	Dr. Natarajan Chandrasekaran; Dr. George Priya Doss C; Mohanraj Gopikrishnan; Kushi Garg	202541118564	CNBT, SBST
5	Multimodal Microbial-Biochar Polymer System for Nutrient Recovery from Wastewater and Slow-Release Fertilizer Application	19-12-2025	Dr. Sangeetha Subramanian; Nithyashree J K	202541117716	SBST
6	A Method For Producing A Sphingolipid Like Biosurfactant	1/2/2026	Dr. Dhanya V, Dr. Jeevitha G.C, Alice Angel S, Asharfi Pathela, Shruti Rajendra Rangari, Sejal Shashikant Mali	202541129723	SBST
7	A Biocompatible, Tumor-Targeted, Ph-Responsive Dual-Therapeutic Nanocarrier, Herein Referred To As Tf-(Egcg–Mir-30A-5P)-L-PsIs”	1/2/2026	Dr. Abul Kalam Azad Mandal, Priya Dharshini Lc	202541129729	SBST

S. No	Title	Published Date	Inventors	Application No	School/Center
8	A Nanoemulsion-Based Mouthwash Composition and Method for Preparation Thereof	02-01-2026	Dr. Natarajan Chandrasekaran; Dr. George Priya Doss C; Mohanraj Gopikrishnan; Kakani Bhavani Satyasai Poornima	2025411297 28	CNBT, SBST
9	A Phytosome-Integrated Bioink Composition for Fabricating 3D-Printed Therapeutic Patches	02-01-2026	Dr. Natarajan Chandrasekaran; Dr. George Priya Doss C; Mohanraj Gopikrishnan	2025411316 54	CNBT, SBST
10	Method for Preparation of Transferrin-Conjugated pH-Sensitive Dual-Drug Liposomes	02-01-2026	Dr. Abul Kalam Azad Mandal; Priya Dharshini L C	2025411316 43	SBST
11	Method for Extraction and Purification of Outer Membrane Vesicles from <i>Chromobacterium violaceum</i> Biofilms	02-01-2026	Dr. E. Nalini; Venkatramanan Mahendrarajan; Huldah Pearlina Sarah Lazarus	2025411318 37	SBST
12	A Nanoemulsion-Based Composition for Pulmonary Delivery of Antimicrobial Agents	16-01-2026	Dr. Natarajan Chandrasekaran; Dr. George Priya Doss C; Mohanraj Gopikrishnan	2025411318 45	CNBT, SBST
13	Method for Degradation of Synthetic Dyes in Textile Effluent Using a Bacterial Consortium	13-02-2026	Dr. Kannabiran K; Sakthishabarish K	2026410074 94	SBST
14	A Plant-Derived Sesquiterpene-Based Method for Structural Modulation of Estrogen Receptor Alpha (ESR1)	13-02-2026	Dr. Sudandiradoss C; Manshi Kumari Gupta; Siddharth Shome	2026410074 82	SBST

S. No	Title	Published Date	Inventors	Application No	School/Center
15	A Method for Modulating GPR10 Using Small Molecule Ligands	13-02-2026	Dr. Sudandiradoss C; Manshi Kumari Gupta; Pranjali Dutta	202641007472	SBST
16	A Process for Simultaneous Extraction of Carotenoids and Pectin from Fruit Peel Biomass	13-02-2026	Dr. Jeevitha G C; Saravanan R; Arya K	202641007477	SBST
17	A Method for Preparing Dual-Drug Ethosomal Gel Formulations	13-02-2026	Dr. Natarajan Chandrasekaran; Dr. George Priya Doss C; Mohanraj Gopikrishnan; Tanya Diga	202641007478	CNBT, SBST
18	A Metal-Crosslinked Polymer Coating for Ceramic Substrates and a Method Thereof	13-02-2026	Dr. Gayathri S S; Dr. Sunita Nayak; Soumalya Mukherjee	202641008790	SBST
19	A Process For Isolation Of A Thermostable Microbial Protease Inhibitor	2/13/2026	Dr. K. V. Bhaskara Rao, Dr. Deepti Parashar, Dr. Kalichamy Alagarasu, Poonam Patil, Aparana Kumari	202641008789	SBST
20	A Molecular Modulator Of Estrogen Receptor-A And A Method For Receptor-Level Modulation Thereof	2/13/2026	Dr. Sudandiradoss C, Manshi Kumari Gupta, Samiksha Midya	202641009570	SBST
21	A Novel Darpin Molecule Targeting Human Neurotensin Receptor-1	2/13/2026	Dr. Sudandiradoss C, Manshi Kumari Gupta, Harshitha Saradhi	202641009567	SBST

S. No	Title	Published Date	Inventors	Application No	School/Center
22	Computer-Implemented Method for Molecular Interaction Analysis of GPR10 Using $\alpha$ -Phellandrene	13-02-2026	Dr. Sudandiradoss C; Manshi Kumari Gupta; Siddharth Shome	202641009568	SBST
23	A Computer-Implemented Method for Molecular Interaction Analysis of Estrogen Receptor Alpha	13-02-2026	Dr. Sudandiradoss C; Manshi Kumari Gupta; Pranjali Dutta	202641009569	SBST
24	A Structure-Guided System and Method for Selective Catalytic-Cleft Modulation of GSK3B	13-02-2026	Dr. Sudandiradoss C; Deborah Vincent	202641009559	SBST
25	Computer-Implemented Method for Designing Angiotensin II Type-1 Receptor Antagonistic Flavonoid Derivatives	13-02-2026	Dr. Sudandiradoss C; Poobana Dharmalingam	202641009562	SBST
26	A Microneedle Patch with Plant-Derived Exosomes for Targeted Triple-Negative Breast Cancer Therapy and Method Thereof	13-02-2026	Dr. Devi Rajeswari; Manosi Banerjee	202641010552	SBST
27	Synergistic Triple-Oil Nanoemulsion for Treating OXA-Type Carbapenem-Resistant <i>Acinetobacter baumannii</i> Infections	13-02-2026	Dr. Natarajan Chandrasekaran; Dr. George Priya Doss C; Mohanraj Gopikrishnan	202641010429	CNBT, SBST
28	Ciprofloxacin-Gentamicin Loaded Betel Leaf Oil Nanoemulsion for Inhalable Pulmonary Drug Delivery	13-02-2026	Dr. Natarajan Chandrasekaran; Dr. George Priya Doss C; Mohanraj Gopikrishnan	202641010419	CNBT, SBST

S. No	Title	Published Date	Inventors	Application No	School/Center
29	Dual-Action Tetracycline–Lemongrass Nanoemulsion Spray for Topical Antimicrobial Treatment	13-02-2026	Dr. Natarajan Chandrasekaran; Dr. George Priya Doss C; Mohanraj Gopikrishnan	2026410104 28	CNBT, SBST
30	Nanocomposite Hydrogel Bead Encapsulating <i>Lactobacillus fermentum</i> for Antibiotic-Associated Diarrhea Management	13-02-2026	Dr. Natarajan Chandrasekaran; Dr. Amitava Mukherjee; Dr. George Priya Doss C; Mohanraj Gopikrishnan; Geetha G; Ananthaselvam A	2026410104 69	CNBT, SBST
31	Electrohydrodynamic Polymeric Nanofiber Matrix with Methicillin-Loaded Eugenol Microemulsion for Wound Treatment	13-02-2026	Dr. Natarajan Chandrasekaran; Dr. George Priya Doss C; Mohanraj Gopikrishnan; Disha Pramanick	2026410104 62	CNBT, SBST
32	Anti-Tubercular Drug-Loaded Eugenol Nanoemulsion Bioink for Three-Dimensional Bioprinted Scaffolds	13-02-2026	Dr. Natarajan Chandrasekaran; Dr. George Priya Doss C; Mohanraj Gopikrishnan; Lakshmipriya S	2026410104 37	CNBT, SBST
33	Nanofibrous Wound Dressing with Triple-Oil Nanoemulsion for Antimicrobial Treatment	13-02-2026	Dr. Natarajan Chandrasekaran; Dr. George Priya Doss C; Mohanraj Gopikrishnan	2026410104 70	CNBT, SBST
34	Triple-Oil Nanoemulsion-Infused Bioink for Three-Dimensional Bioprinting of Antimicrobial Wound Scaffolds	13-02-2026	Dr. Natarajan Chandrasekaran; Dr. George Priya Doss C; Mohanraj Gopikrishnan	2026410104 53	CNBT, SBST
35	Electrospun Nanofibrous Wound Dressing Comprising Levofloxacin-Loaded Neem Oil Nanoemulsion	13-02-2026	Dr. Natarajan Chandrasekaran; Dr. George Priya Doss C; Mohanraj Gopikrishnan; Disha Pramanick	2026410104 26	CNBT, SBST

S. No	Title	Published Date	Inventors	Application No	School/Center
36	Levofloxacin-Loaded Neem Nanoemulsion Bioink for Three-Dimensional Bioprinted Antimicrobial Scaffolds	13-02-2026	Dr. Natarajan Chandrasekaran; Dr. George Priya Doss C; Mohanraj Gopikrishnan; Disha Pramanick	202641010440	CNBT, SBST
37	Ethosome-Integrated Vancomycin Nanofiber Patch for Treating Resistant <i>Staphylococcus aureus</i> in Diabetic Wound Infections	13-02-2026	Dr. Natarajan Chandrasekaran; Dr. George Priya Doss C; Mohanraj Gopikrishnan; Disha Pramanick	202641010457	CNBT, SBST
38	Dual-Antibiotic Nanoemulsion Comprising Clove Bud and Lemongrass Oils for Treating Resistant Bacterial Infections	13-02-2026	Dr. Natarajan Chandrasekaran; Dr. George Priya Doss C; Mohanraj Gopikrishnan	202641010464	CNBT, SBST
39	Colistin–Stearic Acid Lipid-Drug Conjugate Hydrogel for Topical Antimicrobial Wound Treatment	13-02-2026	Dr. Natarajan Chandrasekaran; Dr. George Priya Doss C; Mohanraj Gopikrishnan	202641010441	CNBT, SBST
40	Ciprofloxacin and Gentamicin-Loaded Clove Bud Nanoemulsion for Treatment of Drug-Resistant <i>Klebsiella pneumoniae</i> Pneumonia	13-02-2026	Dr. Natarajan Chandrasekaran; Dr. George Priya Doss C; Mohanraj Gopikrishnan	202641010443	CNBT, SBST
41	Triple Nanoemulsion Spray Comprising Clove Bud, Lemongrass, and Garlic Oils for Oral Antimicrobial Applications	13-02-2026	Dr. Natarajan Chandrasekaran; Dr. George Priya Doss C; Mohanraj Gopikrishnan	202641010463	CNBT, SBST
42	Multi-Cartridge 3D Bioprinted Scaffold with Antimicrobial Nanoemulsions for Diabetic Wound Treatment	13-02-2026	Dr. Natarajan Chandrasekaran; Dr. George Priya Doss C; Mohanraj Gopikrishnan; Disha Pramanick	202641010444	CNBT, SBST

S. No	Title	Published Date	Inventors	Application No	School/Center
43	PAMAM Dendrimer-Conjugated Antibiotic-Vitamin Electrospun Nanofiber Gauze for Wound Healing	13-02-2026	Dr. Natarajan Chandrasekaran; Dr. George Priya Doss C; Mohanraj Gopikrishnan; Disha Pramanick	202641010468	CNBT, SBST
44	Meropenem Trihydrate-Loaded Lemongrass-Clove Bud Nanodroplet System for Treating Typhoid Fever	13-02-2026	Dr. Natarajan Chandrasekaran; Dr. George Priya Doss C; Mohanraj Gopikrishnan	202641010465	CNBT, SBST
45	<i>Cinnamomum verum</i> Oil-Based Nanoemulsion Co-Loaded with Colistin and Meropenem for Treating Multidrug-Resistant <i>Acinetobacter baumannii</i>	13-02-2026	Dr. Natarajan Chandrasekaran; Dr. George Priya Doss C; Mohanraj Gopikrishnan	202641010436	CNBT, SBST
46	A Bio-Nano Hybrid Immobilized Matrix for Textile Dye Remediation and Process for Synthesizing the Same	13-02-2026	Dr. K. V. Bhaskara Rao; Priyanka Mary Sebastian	202641009538	SBST
47	System for Light-Activated Shear-Thinning Hydrogel-Based Vascular Embolization	20-02-2026	Dr. Pragasam V; Jayaseelan R	202641016732	SBST
48	A Bioselective Three-Dimensional Scaffold and a Process for Preparation Thereof	20-02-2026	Dr. Debasish Mishra; Gutti Pavan	202641016729	SBST

S. No	Title	Grant ed Date	Inventors	Patent No.	School/ Center
1	Formulation of Polycaprolactone (PCL) Microsphere Encapsulated with Low Molecular Weight and Highly Hydrophilic Model Drug (H <sub>2</sub> O <sub>2</sub> ) by Modified Double Emulsion Solvent Evaporation Method	25-02-2026	Dr. Sunita Nayak; Debarchan Panda	581649	SBST



# FACULTY DEVELOPMENT PROGRAM (FDP)

S.No	Lecture Title	Faculty coordinator (S)	Resource person	Organisation	Date
1	Outcome-Based Education: Defining Course Outcomes and Mapping to program Outcomes	<b>Dr. Arnold Emerson I, Dr. Shanthi V</b>	Prof. V. Thanikaiselvan	SENSE, VIT Vellore	1/27/2026
2	Course File Preparation for Accreditation Purposes	<b>Dr. Venkat Kumar S, Dr. Shanthi V</b>	Dr. Peri Kameswara Kameswara n	Asso. Prof. G-II, SAS, VIT, Vellore	2/5/2026
3	Cancer Therapeutics, Prognosis and Diagnosis: Baics to Clinics	<b>Dr. Janaki Ramaiah M</b>	Dr. Thundil Karuppa Raj R Dr. Peri Kameswara Kameswara n	Professor G-II, SBST, VIT-Vellore	3/5/2026

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2. Lee, S.; Yoo, S.; Kanagavel, K.; Shebanova, A.; Miserez, A.; Hwang, D. S. (2026). Suckerin colloids and hydrogels with low immunogenicity as resorbable and hemostatic tissue adhesives for wound healing. *Small* (IF: 12.1)
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4. Sharma, Y.; Shankar, V. (2026). Polysaccharide synergy of alginate/kappa carrageenan with microalgal system for sustainable heavy metal remediation. *International Journal of Biological Macromolecules* (IF: 8.5)
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6. Sivagami, K.; Gundlapalli, M.; Sunantha, S.; Gupta, A. S.; Lodha, R.; Bose, S.; Modestra, J. A.; Naik, S. P.; Kamble, S. S.; Basha, S.; Mohanakrishna, G. (2026). Opportunities and challenges in utilizing carbon dioxide for value-added product generation via microbial electrosynthesis. *Journal of Environmental Chemical Engineering* (IF: 7.2)
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46. John, P.; Sudandiradoss, C. (2026). Neurogenic locus notch homolog protein 1 (NOTCH1) SNP informatics coupled with intrinsically disordered regions and post-translational modifications reveals complex structural crosstalk in lung adenocarcinoma (LUAD). *Frontiers in Bioinformatics* (IF: 3.9)
47. Valathoor, M. N.; Venugopal, S.; Rajan, A. P. (2026). Subtractive genomics approach to uncover novel drug targets in *Salmonella typhimurium* and computational screening of food-based polyphenols as inhibitors. *Frontiers in Bioinformatics* (IF: 3.9)
48. Venkatesan, U.; Rajiniraja, R. (2026). Therapeutic potential of *Acalypha indica* L. leaf fractions against foodborne pathogens: An in vitro and in silico study. *Scientific Reports* (IF: 3.9)
49. Mishra, S.; Kumar, S. B.; Kumari, A.; Bhaskara Rao, K. V. (2026). Computational insights into a protease inhibitor from *Streptomyces globosus* VITSMAB-2: Molecular docking and dynamics simulations against SARS-CoV-2 main protease. *Scientific Reports* (IF: 3.9)
50. Dhanya, R. R.; Aathira, P. A.; Ashtamy Krishna, K.; Ganesh, S. K.; Nair, S. R.; Mohanasrinivasan, V.; Subathra Devi, C. (2026). Degradation of textile dyes using *Biancaea sappan* extract-coated zinc nanoparticles. *Scientific Reports* (IF: 3.9)

51. Bodhe, I.; Velvizhi, V. (2026). Sustainable CO<sub>2</sub> valorization for PHB production towards a circular economy: Metagenomic insights on enriched indigenous microbial cultures. *Scientific Reports* (IF: 3.9)
52. Bala Kumar, S.; Mishra, S.; Das, A.; Nag, S.; Naidu, R. (2026). Gut microbial metabolites targeting JUN in renal cell carcinoma via IL-17 signaling pathway: A network pharmacology approach. *Molecular Diversity* (IF: 3.8)
53. Haque, S.; Sufyan, M.; Mathkor, D. M.; Wahid, M.; Mandal, R. K.; Ahmad, F. (2026). Adversarial validation of causal identifiability assumptions in model-based inference of diseases from multi-level omics and clinical data. *Journal of King Saud University – Science* (IF: 3.6)
54. Babu, A. S.; Rao, K. V. B. (2026). Investigation of the antimycobacterial potential and toxicity evaluation of a proteinaceous compound from *Streptomyces cinglanensis* VITABSS23 against *Mycobacterium tuberculosis* strains. *Tropical Medicine and Health* (IF: 3.5)
55. Joseph, S.; Samuel, C.; Janakiraman, K.; Augustine, J.; Abraham, J.; Krishnamurthy, K.; Sasikumar, S. (2026). Diopside/sodium-substituted hydroxyapatite composite for hard tissue engineering: Preparation, characterization, in vitro biomineralisation, mechanical stability, degradation behaviour, and biological assessment. *Journal of the Indian Chemical Society* (IF: 3.5)
56. Maneesha, M.; Subathra Devi, C. (2026). Statistical optimization of fermentation conditions for enhanced production of nattokinase from *Bacillus subtilis* MM26. *BMC Biotechnology* (IF: 3.4)
57. Javali, P. S.; Kavitha, K. (2026). Artificial intelligence-driven multi-omics framework identifies COL6A3 as a diagnostic biomarker and a putative gene target modulated by embelin in colorectal cancer. *Frontiers in Oncology* (IF: 3.3)
58. Premnath, V.; Shanthi, S. (2026). Polypharmacological exploration of *Petroselinum crispum* for antifibrotic therapeutics: From herb to hepatoprotection. *Applied Biochemistry and Biotechnology* (IF: 3.3)
59. Kothandam, S.; Alex, R. A.; Abraham, J.; Waren, S.; Magesvaran, M. K.; Krishnamurthy, K.; Swamiappan, S. (2026). Dual-functional akermanite from waste biomass: Combining mechanical strength and biocompatibility for bone repair. *Silicon* (IF: 3.3)

60. Selvakumar, S.; P. A.; Dharshini, L. C. P.; Mandal, A. K. A. (2026). Formulating an Al-BTC metal–organic gel for efficient delivery of L-theanine in cancer therapy. *BioNanoScience* (IF: 3.2)
61. Mondal, J.; Dasgupta, T.; Kumar, C. K.; Nandagopal, P. B.; Mal, S.; Paul, S.; Aishwarya, S.; Pandya, C.; Arnold Emerson, I. A.; Manickam, V.; Sivaramakrishna, A. (2026). Integrated in silico and in vitro study of copper nanocatalyzed carbonyl-functionalized triazoles inducing S-phase cell cycle arrest and apoptosis in MCF-7 cells. *ChemistryOpen* (IF: 3.1)
62. Kunhilintakath, A. J. (2026). Optimization of anthocyanin extraction from mango peel wastes using ultrasound- and microwave-assisted natural deep eutectic solvents. *Frontiers in Sustainable Food Systems* (IF: 3.1)
63. Samala, T. R.; Patil, K. S.; John, E. T.; Eerapagula, R.; Mahato, A. K.; Sen, P. (2026). 6-O-acetyldaidzein and frangulin B from *Halodule uninervis* as novel  $\alpha$ -amylase inhibitors: A molecular dynamics perspective. *Computational Biology and Chemistry* (IF: 3.1)
64. Bithia, R.; George Priya Doss, C. (2026). Dynamic consequences of threonine mutations in the CaLM motif of RET/GFR $\alpha$ 1/GDNF ternary complex. *Journal of Molecular Graphics and Modelling* (IF: 3.0)
65. Dutta, P.; Middy, S.; Shome, S.; Gupta, M. K.; Dharmalingam, P.; Sudandiradoss, C. (2026). Emerging roles of artificial intelligence/machine learning (AI/ML) towards new understandings in molecular crosstalk between circRNA–CUL3–TKI to resensitize chemoresistant cancers. *Molecular and Cellular Probes* (IF: 3.0)
66. Munieswaran, G.; Manickam, V. (2026). Discovery of small molecule inhibitors against polo-like kinase 1 targeting breast cancer. *Anti-Cancer Agents in Medicinal Chemistry* (IF: 3.0)

# JOURNAL PUBLICATIONS

## (REVIEW ARTICLE)

1. Dutta Gupta, O.; Chakraborty, I.; Pal, K. (2026). A structural overview of G-protein-coupled receptors in neurological disorders. *Acta Pharmacologica Sinica* (IF: 8.4)
2. Parthiban, N.; Thiagarajan, K. (2026). Biodegradation of phthalate esters by microalgae: A comprehensive review. *Science of the Total Environment* (IF: 8.0)
3. Eshak, D.; Arumugam, M. (2026). Nanomaterials: An overview of current trends and future prospects in neurological disorder treatment. *Journal of Translational Medicine* (IF: 7.5)
4. Ramalingam, P. S.; Afzal, M.; Babu, M. A.; M. M., R.; Sahoo, S.; Pandey, S. N.; Ali, H.; Hussain, M. S.; Gupta, G.; Mekala, J. R.; Arumugam, S. (2026). Targeting cancer via macrophage-derived exosomal miRNAs: Implications for tumor progression and resistance. *Frontiers in Immunology* (IF: 5.9)
5. Roy, O.; Kumari, S.; Adiga, S. K.; Joshi, M. B.; Kumar, A.; Ganesh, G.; Kannan, N.; Kalthur, G. (2026). Functional changes in the fallopian tube: Environmental factors, lifestyle, pathological conditions, and pharmacological agents. *Cells* (IF: 5.2)
6. Mundhe, A. K.; Reena Rajkumari, R. (2026). Overcoming antifungal resistance in *Candida albicans* via RNA interference: A therapeutic perspective. *Frontiers in Cellular and Infection Microbiology* (IF: 4.8)
7. Ramalingam, P. S.; Afzal, M.; Babu, M. A.; Rekha, M. M.; Sahoo, S.; Pandey, S. N.; Goyal, K.; Hussain, M. S.; Gupta, G.; Balakrishnan, P.; Arumugam, S. (2026). CXCR4-targeted therapy in lung cancer: Plerixafor as a promising antimetastatic agent. *Frontiers in Pharmacology* (IF: 4.8)
8. Nishanth, D. S.; Sinha, U.; Verma, T.; Kalidass, B.; Thirumuruganandham, S. P.; Gothandam, G. (2026). Molecular mechanisms and therapeutic potential of degran-mediated proteostasis regulation in neurodegenerative diseases. *Cellular and Molecular Neurobiology* (IF: 4.8)

9. Illanad, G. H.; Rithvik, A.; Rasool, M. (2026). Fibroblast growth factor 2 in the hotbed of rheumatoid arthritis pathogenesis. *Immunopharmacology* (IF: 4.7)
10. Gopinath, P.; Swaroop B, S. S.; Ganesh, G.; Rayala, S. K. (2026). Sugars to signals: Emerging roles of PAK1 in rewiring glucose metabolism in cancers. *Expert Opinion on Therapeutic Targets* (IF: 4.4)
11. Kiruba, B.; R. R. R. S. R.; Vino, V.; Lulu, S. S. (2026). Implications of single-cell RNA sequencing in cervical cancer: Unravelling the molecular landscape. *ACS Omega* (IF: 4.3)
12. Thanuskodi Rajakumar, A.; Gothandam, G. (2026). Tuned by time: The role of circadian rhythms in metabolic energy sensing and chronotherapy. *Annals of Medicine* (IF: 4.3)
13. Shil, R.; Pattapulavar, V.; Ramanujam, S.; Subburaj, S.; Godwin Christopher, J. G. (2026). Synthetic biology strategies for activating cryptic BGCs in *Streptomyces*: Engineering native and synthetic promoters for antibiotic discovery. *ACS Omega* (IF: 4.3)
14. Ramalingam, P. S.; Rejili, M.; Haouala, F.; Hussain, M. S.; Khan, Y.; Maqbool, M.; Mekala, J. R.; Arumugam, S. (2026). The epitranscriptome meets non-coding RNA: m6A-mediated regulation in oncogenesis and therapy. *Frontiers in Cell and Developmental Biology* (IF: 4.3)
15. Mondal, S.; Gurumoorthy, A. V. P.; Moorthy, I. G. (2026). Sustainable production of biodiesel from non-edible kernel-derived feedstocks: A comprehensive review of production processes, properties, and optimization. *Results in Chemistry* (IF: 4.2)
16. Mazumder, I.; Rehman, M.; Deshmukh, F.; Shah, S.; Singh, A.; Ramaiah, S.; George, E. A.; Anbarasu, A. (2026). A review on novel strategies to combat multidrug resistance in pathogenic bacteria exploiting synergy between essential oils and antibiotics. *World Journal of Microbiology and Biotechnology* (IF: 4.2)
17. Kalaiselvan, K.; Pillai, A.; Anand, A.; Pillai, A.; Mathimani, T. (2026). Maximizing sustainable bioethanol production from food waste: Progress in diverse pretreatment methods and integration of artificial intelligence. *Sustainable Energy and Fuels* (IF: 4.1)

18. Humera Farheen, V.; Abdullah, M.; Ganesh Moorthy, I. (2026). Lignocellulosic bioethanol production: A review on pretreatment strategies, biofuel separation, and artificial intelligence/machine learning-based sustainable optimization. *Current Research in Biotechnology* (IF: 4.0)
19. Monisha, M.; Gopalakrishnan, M.; Thirumoorthy, T.; Janjaroen, D.; Sunantha, S. (2026). An overview of emerging per- and polyfluoroalkyl substances (PFAS): Environmental occurrence, health effects, treatment approaches, and sustainable alternatives. *Journal of Vinyl and Additive Technology* (IF: 3.6)
20. Yadav, C.; Singh, B.; Saxena, A.; Paswan, K.; Singh, A.; Mishra, A. (2026). Nanogenerators: Principles, materials, and applications in energy harvesting. *Energy Technology* (IF: 3.6)
21. Biswas, R.; Roy, A.; Kayal, T.; Basu, S.; Ghosh, S.; Ramaiah, S.; Anbarasu, A. (2026). Waning immunity and the future of booster vaccination strategies in global vaccine programs post-COVID-19. *Human Vaccines & Immunotherapeutics* (IF: 3.5)
22. Pal, S.; Jayaseelan, A.; Karanam Rathankumar, A. K.; Kumar, P.; Vishnu, D. (2026). Zirconium nanomaterials for wastewater treatment: Augmenting antimicrobial effectiveness and optimization through artificial intelligence integration. *International Journal of Environmental Research* (IF: 3.5)
23. Mondal, O.; Kiruba, B.; Sudhakaran, S. I.; Vino, V. (2026). Navigating tumour microenvironment in endometrial carcinoma: A comprehensive review integrating immunohistochemistry, single-cell RNA sequencing, and spatial transcriptomics. *Frontiers in Oncology* (IF: 3.3)
24. S.; P. K., S. (2026). Sleepyhead, deadly awakening: The dynamics of metastatic organotropism, tumor dormancy, and therapeutic implications. *Frontiers in Oncology* (IF: 3.3)
25. Veluchamy, C.; Nallakaruppan, N.; Nachiappan, K.; Sekaran, M.; Vartak, R. B.; Zambare, R. B.; Panneerselvam, S.; Rajasekaran, R.; Sharma, A.; Thiagarajan, K. (2026). Marine microbial bioprospecting and bioactive bioproducts: Seven decades of discovery and contemporary perspectives. *Frontiers in Marine Science* (IF: 3.0)
26. Shyam, M.; Kaushal, N.; Yadav, M.; Srirangan, P.; Prince, S. E. (2026). Transforming epilepsy care: A comprehensive review of technological innovations, artificial intelligence advancements, and precision tools for enhanced seizure management and patient outcomes. *Scientifica* (IF: 3.1)
27. Subramani, T.; Vuppu, S. (2026). Targeting super bugs: metal complexes as emerging anti-microbial and anti-biofilm agents. *Archives of Microbiology* (IF: 2.6)

# STUDENT ACHIEVEMENTS EXCELLENCE IN GATE EXAM (BTech Students)

*Heartfelt congratulations to all GATE rank holders*



**Utkarsh Singh**  
**22BBT0024**

**AIR 5**



**Aditi Jain**  
**22BBT0099**

**AIR 22**



**Vishnu Prakash S**  
**22BBT0231**

**AIR 23**



**Kartikeya Singh**  
**23BBT0146**

**AIR 30**



**Susanna Daniels**  
22BBT0032  
**AIR 51**



**Divyanshi Gupta**  
22BBT0050  
**AIR 77**



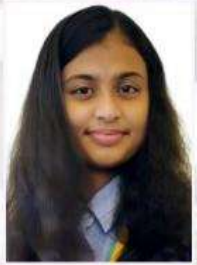
**Asmit Bhattacharya**  
23BBT0034  
**AIR 97**



**Jigyasa Verma**  
22BBT0048  
**AIR 149**



**Suchitra S**  
22BBT0259  
**AIR 172**



**Shreya Madayi**  
23BBT0112  
**AIR 311**



**Atharva Prashant Purohit**  
22BBT0025  
**AIR 327**



**Aanavi Patel**  
23BBT0017  
**AIR 456**



**Meghana Alagi**  
22BBT0248  
**AIR 496**



**U Nidhish**  
23BBT0172  
**AIR 496**



**Dibyanshu Lahiri**  
23BBT0073  
**AIR 521**



**Chitrita Nag**  
22BBT0181  
**AIR 592**



**Dharshini Sridhar**  
23BBT0082  
**AIR 734**



**Vivek Adhikary**  
22BBT0042  
**AIR 809**



**Krut Doshi**  
22BBT0134  
**AIR 832**



**Adeeba Samreen**  
22BBT0063  
**AIR 970**



**SAONISHA**  
22BBT0079  
**AIR 1211**



**Bala**  
Murali V M  
22BBT0088  
**AIR 1312**



**Aditya Gupta**  
23BBT0008  
**AIR 1639**



**Harish**  
Sathyanandan  
23BBT0090  
**AIR 1934**



**Itisha Choudhury**  
23BBT0096  
**AIR 2350**

# EXCELLENCE IN GATE EXAM (MTech Students)

*Heartfelt congratulations to all GATE rank holders*



**Devika Pradeep**  
24MBT0043

**AIR 18**



**Samuel Mugin J**  
24MBT0036

**AIR 643**



**Glaudia Tejal D**  
24MBT0002

**AIR 1026**



**Reeves David**  
24MBT0041

**AIR 1450**



**Rishikesav L S**  
25MBT0002

**AIR 1450**



**Soham Roy**  
25MBT0007

**AIR 2006**



**Sahasrakshi.S**  
25MBT0005

**AIR 2754**



**Soumya**  
24MBT0045

**AIR 2880**



**Paripoorani R**  
25MBT0042

**AIR 4189**



**Abarna Geethanjali K S**  
25MBT0022

**AIR 5624**

# STUDENT'S ACHIEVEMENTS

**SBST undergraduate students** have demonstrated exceptional research excellence through high-quality journal and conference publications, along with patents filed and published, reflecting their commitment to innovation and impactful research.



**Urv Sinha**  
(21BBT0223)



**D S Nishanth**  
(21MSI0083)



**Subhash P T**  
(21BBT0341)



**Srineevas Sriram**  
(21BBT0365)



**Chandresh  
Palanichamy**  
(21BBT0385)



**Aeushree Nitin  
Tatu**  
(22BBT0203)



**Sathmayi Sridhar**  
(22BBT0204)

# STUDENT'S ACHIEVEMENTS

**Team Biosyn** secured **Third Prize** at the ECO Champion Hackathon, presented by the Telangana State Pollution Control Board (TGPCB), at ELAN & NVISION 2026, the prestigious techno-cultural festival of IIT Hyderabad, held from 9th to 11th January 2026.



**Harini Iyyappan – 24BBT0197**  
**Vijay Krushnaa N B –24BBT0186**  
**J Haneesha – 24BBT0216**

# STUDENT'S ACHIEVEMENTS

SBST student team from the **Integrated M.Sc. Biotechnology (2nd Year)** participated in the **7th International Conference on Genome Biology (ICGB-7)** and the **57th Annual Aqua-Terr Day** held on 27th and 28th February 2026 at the School of Biological Sciences, Madurai Kamaraj University, Madurai.

The team presented a poster titled **“Microplastics in Brain and Human Health”** and was awarded **First Place** in the poster competition.



**Ajay G (24MSI0205)**  
**Blesse Shinee E (24MSI0209)**  
**Haripriya T (24MSI0206)**  
**Preethika N (24MSI0176)**  
**Muhammad Talha K S (24MSI0202)**

# STUDENT'S ACHIEVEMENTS



# VIT<sup>®</sup>

Vellore Institute of Technology  
(Deemed to be University under section 3 of UGC Act, 1956)

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# CONGRATULATIONS



## Parnika Prakash (24BBT0242)

for achievement at

## Crooked Lines Literary Fest

held at

## Shiv Nadar University (SNU), Delhi

 SW\_VIT

 STUDENT'S WELFARE

 SW\_VIT

# STUDENT'S ACHIEVEMENTS

 **VIT**  
Vellore Institute of Technology  
(Deemed to be University under section 3 of U.G. Act, 1956)

OFFICE OF STUDENTS' WELFARE

# Congratulations!



**Team Epigen**  
ON WINNING FIRST PLACE IN  
**BioBuzz**  
IIT MADRAS  
**SHAASTRA 2026**

 SW\_VIT  SW\_VIT  STUDENT'S WELFARE

**Sharanya Pal – 22MSI0160**  
**A. Chetana Aasritha – 22MSI0159**  
**Tanisha Rakshit – 22MSI0180**

# RESEARCH SCHOLAR ACHIEVEMENTS

SI No.	Name of the Scholar and Guide	Recognition	
1	<b>Ms Chandni Krishnan (22PHD0545)</b> <b>Guide: Dr. Rohit. R</b>	Second prize in poster presentation at 3rd International Conference (Recent Trends in Structural Bioinformatics and Computer Aided Drug Design) held at Alagappa University, Tamil Nadu	
2	<b>Ms. Aditi Roy (23PHD0141)</b> <b>Guide: Dr. Anand A</b>	Best Oral Presentation Award, along with a cash prize, for presenting the research titled "Identification of Berberine Analogues as Promising Escherichia coli FtsZ Inhibitors Through Machine Learning, Molecular Docking, and Molecular Dynamics Approaches" at the 3rd International Conference cum Workshop on "Recent Trends in Structural Bioinformatics and Computer-Aided Drug Design (ICSBCADD'25)	
3	<b>Mr. Akshay Kisan Mundhe (20PhD0167)</b> <b>Guide: Dr.B.Reena Rajkumari</b>	American Chemical Society (ACS) Best Poster Award at the International Conference on Chemical Biology (ICCB 2026).	
4	<b>Ms. E M Dharshini</b> <b>Guide: Dr. Nalini E</b>	First Prize in Oral Presentation at the International Conference on Microbiological Research for Health and Well-being (ICMRHW-2026). The conference was organized by the Department of Microbiology, Periyar University, Salem, in collaboration with the Microbiologists Society India (Dharashiv, Maharashtra) and Manipal University College Malaysia, Bukit Baru, Melaka	



# RESEARCH SCHOLAR ACHIEVEMENTS

Sl No.	Name of the Scholar and Guide	Recognition	
5	<b>Mr. Kavin Raja. M (23PHD0518)</b> <b>Guide: Dr. C.Subathra Devi</b>	Best Presenter Award at NIT Trichy x SHODH – Convergence 2026: Two-day Zonal Conference on Emerging Multi-disciplinary Research Trends and Advanced Methodologies for Viksit Bharat 2047, held at NIT Trichy	
6	<b>Ms. Divya Shree S (22PHD0537)</b> <b>Guide: Dr. Aravind Ramanathan</b>	Bio-Forum Association Best Oral Presentation Award (First Prize) at the National Conference on Recent Trends in Biological Sciences.  The conference was organized by the Department of Biotechnology, The Madura College, Madurai-11, Tamil Nadu, India	
7	<b>Mr. Samson Prince H (23PHD0351) and the Project Staff Mr. K. Vishnu (23160)</b> <b>Guide: Dr. Deepankumar K</b>	Best oral presentation award, and received cash prize of Rs.3000 at the Workshop and Hands-On Training in Extracellular Vesicles EV-Based Liquid Biopsy: Isolation and Multi-Modal Characterisation (Nano-Flow Cytometry) with Digital PCR held from 05-07 March, 2026, at the Apollo Hospitals Educational and Research Foundation (AHERF), Jubilee Hills, Hyderabad Organized by AHERF and Indian Extracellular Vesicles Society (IEVS) supported by Thermo Fisher Scientific.	
8	<b>Mr. Pavan Gutti (20PHD0720)</b> <b>Guide: Dr. Debasish Mishra</b>	Best oral presentation award, among two hundred competitors, and received 'sponsored research award' cash prize (Rs.2500) in the recently held International conference on BIOENGINEERING 2026, in SRMIST, Chennai	



# COMPLETED DOCTORATES

*Our heartfelt congratulations to the scholars who have given their final viva-voce presentations this semester. We wish you the best in your future endeavors.*

Sl. No.	Name	Supervisor
1	Ms. Sohini Chakraborty	Dr. Satarupa Banerjee
2	Mr. Premanand A	Dr. Reena Rajkumari B
3	Mr. Rudra Mishra A	Dr. Gothandam K.M
4	Ms. Deepasree K	Dr. Sudha Ramaiah
5	Mr. Mohanraj G	Dr. George Priya Doss C
6	Ms. Ajitha A	Dr. Ramanathan K
7	Ms. B.S.Utkal Laxmi Pani	Dr. Chandra Sekaran N
8	Ms. Jill Elza Mathew Elizabeth	Dr. Siva R
9	Ms. Vinodhini V	Dr. Krishnamoorthi C
10	Ms. M Rajeshwari	Dr. Manjubala I
11	Ms. Menaka Priya B	Dr. Devi Rajeswari V
12	Mr. Suraj Singh	Dr. Dhanasingh Immanuel
13	Ms. Divyapriya K	Dr. Jayaprakash N.S
14	Ms. Raveena Ann Alex	Dr. Jayanthi A
15	Mr. Prashanth S Javali	Dr. Kavitha Thirumurugan
16	Mr. Kumar Gautam Singh	Dr. Anbalagan M
17	Ms. Nikita Gupta	Dr. Sathiavelu A
18	Mr. Soupam Das	Dr. Amitava Mukherjee
19	Ms. Kavya P	Dr. Gayathri M

# RESEARCH AND DEVELOPMENTAL SERIES (RDS)

S. No	Title	Speaker	Address	Organizer	Date
1	Towards solving the riddle of <i>Echis carinatus</i> venom induced local tissue destruction, role of NETs	Dr. K.Kemparaju, PhD., FNASc.,	Senior Prof, Dept. of studies in Biochemistry, University of Mysore, Mysore – 570 006, India	Dr. K. M. Gothandam	13 <sup>th</sup> Feb, 2026
2	The impact of immunological research on modern medicine	Dr. Shiv Pillai., MD., Ph. D.,	Prof, Medicine, Massachusetts General Hospital and Harvard Medical School, Boston, MA, USA	Dr. P.K. Suresh	17 <sup>th</sup> Feb. 2026
3	SMART learning framework for Researchers: From RQ to IPR	Dr. K. Muruga Poopathi Raja	Central University, Kerala	Dr. Anand Prem Rajan, Dr. Godwin Christopher	20 <sup>th</sup> Mar, 2026

# ALUMNI GUEST LECTURES

S.No	Guest Lecture Title	Faculty coordinator(S)	Resource person	Organisation	Date
1	"Role of NGS in studying Genes, Genomes and Diseases"	Dr. Ramanathan K Dr. Shanthi V	Dr. Priyanka Ramesh	Postdoctoral Research Assistant, Bindley Bioscience Centre, Purdue University, West Lafayette, Indianapolis, USA	1/21/2026
2	"Innovations in Improving Bioavailability of Nutraceuticals"	Dr.M.A Jayasri Dr. K. Suthindhiran	Mr. Balaguru R	Business Development Head Biotex 346 Dhalavaipuram, Virudhunagar.	3/10/2026

# EXPERT GUEST LECTURES

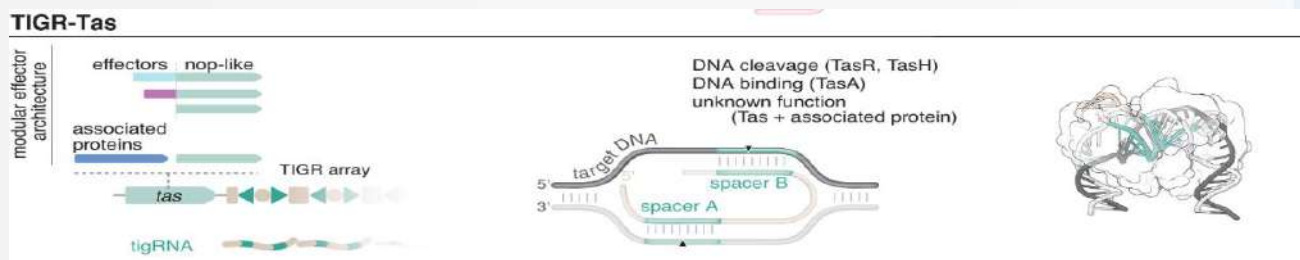
S.No	Guest Lecture Title	Faculty coordinator(S)	Resource person	Organisation	Date
1	<b>Research Publishing: Strategy &amp; Success</b>	Dr. B. Ravishankar Dr. Vipin Singh Prof. S. Jegadeesan	Dr. Salini Devi Rajendran	Taylor's Culinary Institute, Taylor's University, Malaysia	2/18/2026
	<b>Research Blueprint: Concepts and Applications</b>		Dr. Kaushalya Wijayasekara	Department of Biosystems Technology, University of Ruhuna , Sri Lanka	
2	<b>The Critical Importance of Research Ethics and Dual Impact of Artificial Intelligence in Academic Publications</b>	Dr. John Thomas Prof. Krishna Rao Eswar N	Dr. Sukhwinder K. Bhullar	Senior Research Scientist Institute of Cardiovascular Sciences St. Boniface Hospital Albrechtsen Research Centre Dept. of Physiology & Pathophysiology University of Manitoba, Winnipeg, Canada	3/20/2026

# GUEST LECTURES

S.No	Guest Lecture Title	Faculty coordinator(S)	Resource person	Organisation	Date
1	<b>"Role of NGS in studying Genes, Genomes and Diseases"</b>	Dr. Ramanathan K Dr. Shanthi V	Dr. Priyanka Ramesh	Postdoctoral Research Assistant, Bindley Bioscience Centre, Purdue University, West Lafayette, Indianapolis, USA	1/21/2026
2	<b>"The Truth about International Applications: Debunking Myths with Real Applicant Data"</b>	Dr. M. Ramesh Pathy Dr. S. Venkat Kumar	Anurag Srivastava	Research Scientist at UMCG, Groningen The Netherlands	2/10/2026
3	<b>"Innovations in Improving Bioavailability of Nutraceuticals"</b>	Dr.M.A Jayasr Dr. K. Suthindhiran	Mr. Balaguru R	Business Development Head Biotex 346 Dhalavaipuram, Virudhunagar.	3/10/2026
4	<b>"Technology Transfer and Scale-Up Challenges in Insulin and Biosimilar Products"</b>	Dr. P.K. Suresh	Dr. Raviraj Shetty	General Manager- Insulin DS Operations, Biocon Biologicals Limited, Bangalore	3/11/2026

# STUDENTS' CORNER

## Beyond CRISPR: The hidden language of genome editing, TIGR-Tas



Tandem Interspaced Guide RNA associated systems (TIGR-Tas) represent a significant evolution in genome engineering, competing with established CRISPR Cas technologies. Discovered by researchers at the Broad Institute and MIT, TIGR-Tas utilizes Tas proteins to cleave DNA and TIGR arrays to encode guide RNAs, employing a dual spacer mechanism to produce approximately 36 nucleotide guide RNAs (tigRNAs) that target both strands of DNA simultaneously. This contrasts with CRISPR's single guide RNA system, enhancing specificity in targeting. One of the standout features of the TIGR-Tas system is its lack of a protospacer adjacent motif (PAM), which broadens its potential targeting capacity beyond the limitations found in CRISPR. Moreover, variants such as TasR induce double stranded DNA breaks with precisely defined 8 nucleotide overhangs, resulting in more controllable editing outcomes. The smaller size of TIGR-Tas proteins compared to Cas9 facilitates their delivery via lipid nanoparticles or viral vectors, overcoming a significant barrier in gene therapy.

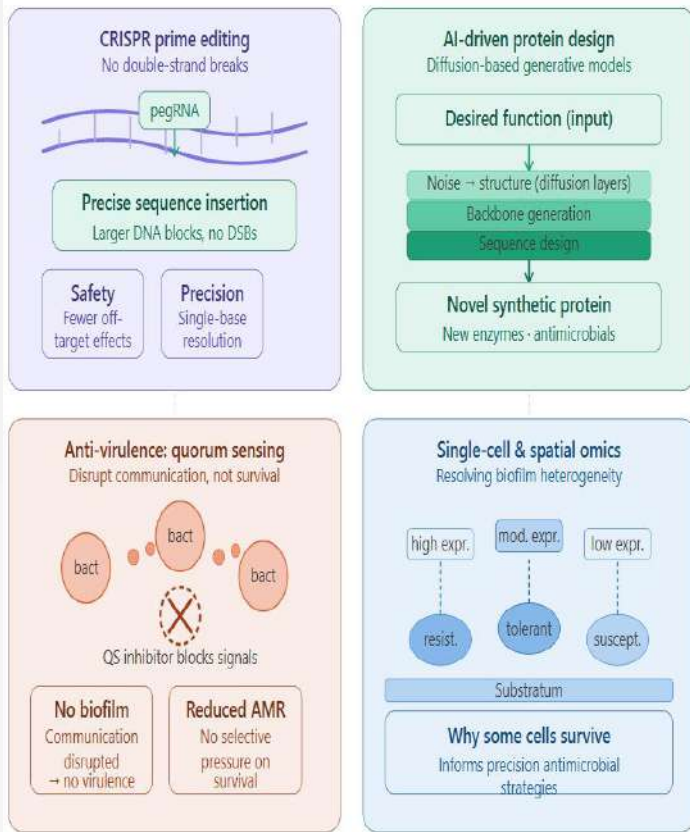
Additionally, the modularity of TIGR-Tas allows for reconfiguration of its functional domains nuclease, binding, and regulatory elements enhancing the flexibility of genome engineering applications. TIGR-Tas also raises intriguing evolutionary inquiries regarding RNA guided systems, resembling RNA guided transposases and box C/D small nucleolar ribonucleoproteins (snoRNPs), indicating a potentially rich evolutionary lineage within RNA guided genome modification as alternative routes to CRISPR based immunity.

Currently, despite its promise, TIGR-Tas is primarily being tested in cellular and preclinical models, facing challenges such as RNA delivery stability and efficiency. However, its innovative features PAM independence, minimal size, and capability to target dual DNA strands position it as a potential frontrunner for next generation gene therapies. TIGR-Tas marks a shift in the paradigm of genome editing, prompting exploration into a wider array of RNA guided systems with unique functionalities, suggesting that while CRISPR may have initiated the era of programmable biology, TIGR-Tas could extend this narrative into a domain where genomes are meticulously engineered with tools stemming from an extensive evolutionary background.

**Source- <https://sqonline.ucsd.edu/2025/11/tigr-tas-the-next-leap-of-gene-editing/>**

**-Nachiket Nagda (22BBT0131)**

# Recent Advances In Biotechnology: What Excites Me The Most



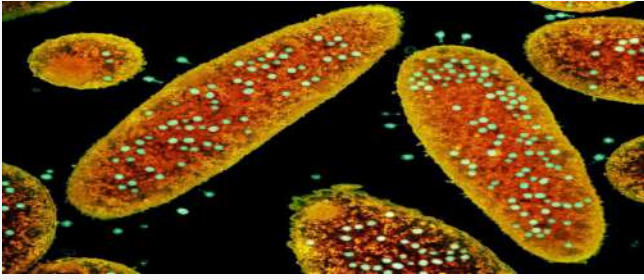
Recent developments in biotechnology reflect a clear shift from conventional genetic manipulation to precise and programmable biological engineering. What I find most exciting is how rapidly these innovations are transitioning from research concepts to real-world applications. One of the most notable advancements in CRISPR technologies is particularly prime editing and CRISPR-associated transposases. Recent studies from 2023-2024 have demonstrated the ability to insert larger DNA sequences at specific genomic locations without causing double-stranded breaks. This significantly reduces unintended mutations and enhances the safety of gene editing. For me, this represents a major step toward reliable gene therapies for complex diseases.

Another breakthrough area is AI-driven protein design, especially with tools like diffusion-based models. Unlike earlier approaches that only predict protein structures, these systems can now design entirely new proteins with desired functions. Recent papers have shown the creation of synthetic enzymes capable of catalysing novel reactions. I find this particularly fascinating because it removes the limitation of relying only on natural biomolecules and opens possibilities for designing targeted antimicrobial agents.

In microbiology, there is a growing focus on anti-virulence strategies, particularly quorum-sensing inhibition. Instead of killing bacteria, recent research highlights methods to disrupt their communication systems, thereby preventing the formation of biofilm and pathogenicity. This approach reduces selective pressure for resistance development. As someone working on biofilm-associated infections, this concept strongly resonates with me, as it represents a smarter and more sustainable way to combat antimicrobial resistance. Additionally, progress in single-cell and spatial omics technologies is transforming our understanding of microbial communities. These techniques allow us to study heterogeneity within biofilms, revealing why certain cells survive treatments while others do not. This insight is crucial for designing more effective antimicrobial strategies.

**-Tarunkarthick S (25MBT0046)**

## Bacteria's Hidden Arsenal: AI Uncovers a Vast Library of Antiviral Proteins



**Escherichia coli produce a diverse array of proteins to help protect them against bacteriophages (green). Credit: M. Maeder/Dept of Microbiology, Biozentrum/SPL**

Scientists have believed for decades that they had a reasonable grasp of how bacteria defend themselves against viral invaders. That understanding has now been dramatically upended. Two independent research teams, publishing simultaneously in *Science* in April 2026, have used machine learning to reveal that the bacterial immune system is far larger and more complex than anyone had imagined — and that what was previously known may represent only a small fraction of the full picture.

The two teams mined genomic data from bacteria to build databases containing hundreds of thousands of antiviral defence proteins, findings that could inspire a new generation of powerful biotechnologies. *nature*

The precedent for such optimism is strong. Previous discoveries of antiviral immune systems in bacteria include CRISPR–Cas9 and restriction enzymes — both of which researchers repurposed into transformative molecular tools for genetic engineering. *nature* Scientists hope this new trove of proteins could yield similarly revolutionary applications.

The scale of what was found is striking. One team, led by microbiologist Aude Bernheim at the Pasteur Institute in Paris, trained deep-learning models on protein and genomic data to predict antiviral systems across bacterial genomes. Their analysis estimated that, on average, 1.5% of genes in a bacterial genome correspond to proteins involved in antiviral immunity — three times more than previous estimates — and that more than 85% of the predicted protein families had not previously been associated with immunity. *nature* Laboratory experiments on *E. coli* and *Streptomyces albus* confirmed 12 entirely new antiphage systems.

The second team, led by Michael Laub at MIT, developed a tool called DefensePredictor. It predicts bacterial immune proteins based on gene and protein data from 17,000 bacterial genomes and, when tested on 69 diverse strains of *E. coli*, identified 624 proteins as defence-related, more than 100 of which were previously unknown — with 42 confirmed in lab experiments. *nature*

Both teams arrived at the same conclusion: scientists have been vastly underestimating the diversity of bacterial immune systems. As Laub put it, the research brings to light just how many systems remain to be characterised. For biochemists and bioengineers alike, the findings open a remarkable new frontier — one that could yield the next generation of molecular tools with applications spanning medicine, agriculture, and beyond.

**Source- Miryam Naddaf, 'Treasure trove' of antiviral proteins could inspire powerful molecular tools. *Nature* 652, 554 (2026)**

**-Toshika Mishra (21PHD0218)**

# SOME GLIMPSES OF SBST

EMP ID	FACULTY NAME	DESIGNATION	ACHIEVEMENTS	DETAILS
10357	Dr. KARTHIKEYAN S	Professor and Dy. Director CDC	Service	24 years 3 Months
10357	Dr. KARTHIKEYAN S	Professor and Dy. Director CDC	Industry Consultancy Projects	3166401
10791	Dr. SIVA R	Professor Higher Academic Grade	International Visit	More than 10 countries
10832	Dr. SUNEETHA V	Professor Higher Academic Grade & Dean SBST	Awards @ > 55	RED CROSS, DST, FICCI, ICMR, Govt. of India
10832	Dr. SUNEETHA V	Professor Higher Academic Grade & Dean SBST	Patents	13
11468	Dr. ANAND A	Professor Higher Academic Grade & Associate Dean SBST	Fund Generated	>5 crores
12175	Dr. GEORGE PRIYA DOSS	Professor	Publications	346
12175	Dr. GEORGE PRIYA DOSS	Professor	Citations	6,656 Citations by 5,098 documents
12175	Dr. GEORGE PRIYA DOSS	Professor	h- index	41
12365	Dr. PRITI TALWAR	Professor	Most cited paper	1683- Autophagy

## STUDENT NOTABLE ACHIEVEMENT

Reg. No	Alumni Name	ACHIEVEMENTS
06BBT090	Ms. Kadhambari S Viswanathan	"Limca Book of Records"
08BBT166	Mr. Rachit Raj	Indian Administrative Service Govt. of India with more distinguished awards - UPSC 3 <sup>rd</sup> Rank Holder
08BBT178	Mr. Rajveer Meena	Guinness World Record
11BBT0081	Mr. Vidur Sabharwal	secured All India Rank (AIR)-1 in GATE EXAMINATION 2015 (Biotechnology).
12BBT0104	L t . S h u b h a n g i Swaroop	First female pilot of the Indian Navy. She is a pilot of Maritime reconnaissance aircraft in Indian Navy

## STAFF

EMP ID	STAFF NAME	ACHIEVEMENTS
10123	Mrs. Santhi Veerasamy	>27 years of service
12176	Mrs. K. Mythili	Proficient in multiple languages

EMP ID	FACULTY NAME	DESIGNATION	ACHIEVEMENTS	DETAILS
10357	Dr. KARTHIKEYAN S	Professor and Director Alumni Affairs	Industry Consultancy Projects	>50 lakhs
10515	Dr. KANNABIRAN K	Professor Higher Academic Grade	Guided more Ph.D Scholars and awarded	>18
10712	Dr. SUDHA RAMAIAH	Professor	Sports and games	Participated and Won Prizes > 15 years
10791	Dr. SIVA R	Professor Higher Academic Grade	International Visit	More than 12 countries
10832	Dr. SUNEETHA V	Professor Higher Academic Grade & Dean SBST	UG Publications	>72
10832	Dr. SUNEETHA V	Professor Higher Academic Grade & Dean SBST	Abroad University Visited @ >25	Nanyang Technological University (NTU), National University of Singapore (NUS), , and Singapore Management University (SMU), Tribhuvan University, Kathmandu University, Pokhara University, University of Oxford, University of Cambridge, Imperial College London, UCL (University College London), the University of Edinburgh, and King's College London, University of Florida, Boston University, Florida State College of Jacksonville, University of North Florida, Santa Fe College, University of Chicago, University of Illinois, Illinois State University, Illinois Wesleyan University, DePaul University, North Western University and Bradley University etc.
10832	Dr. SUNEETHA V	Professor Higher Academic Grade & Dean SBST	Patents	19
11264	Dr. GOTHANDAM K.M	Professor Higher Academic Grade	Guest Lectures and training programs or workshops Organized	>50
11468	Dr. ANAND A	Professor Higher Academic Grade & Associate Dean SBST	Research	More Collaborations with top Institutes
11993	Dr. RASOOL M	Professor Higher Academic Grade	Administrative Roles Experience at VIT	>6
12175	Dr. GEORGE PRIYA DOSS	Professor	Fund Generated	Above 6 crores
12175	Dr. George Priya Doss C	Professor	High Citation	1431
12175	Dr. GEORGE PRIYA DOSS	Professor	Publications	353
12175	Dr. GEORGE PRIYA DOSS	Professor	Citations	7,059 Citations by 5,098 documents
12175	Dr. GEORGE PRIYA DOSS	Professor	h- index	42
12365	Dr. PRITI TALWAR	Professor	Most cited paper	1806-Autophagy
13290	SUDHAKARAN R	Asso. Prof Sr.	2025 more collaboration and MOU for research	Japan 79

### STUDENT NOTABLE ACHIEVEMENT

Reg. No	Alumni Name	ACHIEVEMENTS
06BBT090	Ms. Kadhambari S Viswanathan	"Limca Book of Records"
08BBT166	Mr. Rachit Raj	Indian Administrative Service Govt. of India with more distinguished awards - UPSC 3 <sup>rd</sup> Rank Holder
08BBT178	Mr. Rajveer Meena	Guinness World Record
11BBT0081	Mr. Vidur Sabharwal	Secured All India Rank (AIR)-1 in GATE EXAMINATION 2015 (Biotechnology).
12BBT0104	Lt. Shubhangi Swaroop	First female pilot of the Indian Navy. She is a pilot of Maritime reconnaissance aircraft in Indian Navy

### STAFF

EMP ID	STAFF NAME	ACHIEVEMENTS
10123	M r s . S a n t h i Veerasamy	>28 years of service
12176	Mrs. K. Mythili	Sports and games (won >20 prizes ) VIT Tournaments
80225	Mrs. Lathapriya R	Voluntary Service Rendered at Darshini and Thaa Karangal by VIT from 19 <sup>th</sup> to 26 <sup>th</sup> May 2025 for Basic Computers for Visually Challenged.

### FACULTY TOTAL SCOPUS PUBLICATIONS MORE THAN 150 WITH VIT AFFILIATION

Sl. No	ERP NO	FACULTY NAME	DESIGNATION	Faculty Total Scopus Publications
1	10832	Dr. Suneetha V	Professor Higher Academic Grade & Dean, SBST	165
2	11468	Dr. Anand A	Professor Higher Academic Grade & Associate Dean, SBST	161
3	10613	Dr. Ramanathan K	Professor Higher Academic Grade	156
4	10678	Dr. Bhaskara Rao K.V	Professor Higher Academic Grade	155
5	10791	Dr. Siva R	Professor Higher Academic Grade	181
6	11264	Dr. Gothandam K.M	Professor Higher Academic Grade	163
7	11477	Dr. Jayanthi A	Professor Higher Academic Grade	177
8	10712	Dr. Sudha Ramaiah	Professor Grade 2 & HoD	153
9	12175	Dr. George Priya Doss C	Professor Grade 1	362
10	12611	Dr. Abilash V.G	Associate Professor Sr.	211

# SPONSORED PROJECTS



## SBST- A MOVE TO CONSULTANCY GLIMPSES OF CONSULTANCY PROJECTS



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- Bioremediation
- Cancer Biology
- Cell & Molecular Biology
- Cell Culture
- Central Cell Culture
- Central Instrumentation
- Centre Instrumentation
- Computational Biology
- Environmental Biotechnology
- Fermentation
- Gene Cloning
- Gene Therapy
- High Throughput Screening
- Immunopathology
- Instrumental and Food Analysis
- Marine Biotechnology & Bioproducts
- Medical Biological Computing
- Medical Biotechnology



- Medical Informatics
- Microbial Biotechnology
- Microbial Molecular Biology
- Microbiology
- Molecular Biology
- Molecular Endocrinology
- Nano Bioengineering
- Nano therapy
- Plant Biotechnology
- Protein Chemistry
- Protein Engineering
- Renal Research
- Scanning Electron Microscope
- Structural Biology
- Systems Biology
- Tissue Culture
- Vector Production

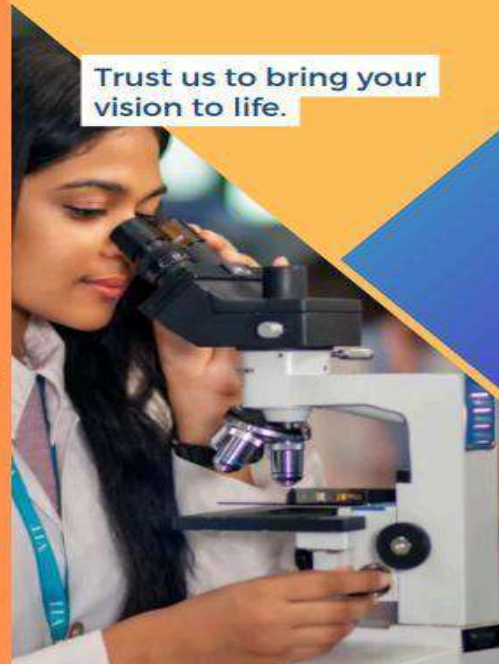
## COMPLETED PROJECTS

1. Gene editing of the virulent gene from E.coli using CRISPR system- Salem Microbes Pvt Ltd, India
2. Studies on Antiviral and antibacterial activities of Novel Combinations- KYNTOX BIOTECH INDIA PVT LTD, India.
3. Oleogels for prototypes melting at 37°C with a good sensory chocolates (project Elixir)- ITC, India
4. Optimizing the extraction molecular characterization bio-activities of chlorella growth factor- ETD Parry India Limited, India
5. AC and Air Purifiers Microbial Quality Analyzed- Eureka Forbes, India
6. Scientific and Technical Consultancy- Eureka Forbes, India
7. Consultancy P A Footwear- Ms P A Footwear Pvt. Ltd, INDIA
8. Viral and Actinomyces assay in Air conditioning missions and air purifiers- EUREKA FORBES, India
9. Scale up of microbes for liquid biofertilizers- OmniActive Health Technologies, India
10. APR Applied Pharma Research s.a.- APR Growing Innovation, Switzerland
11. Preventive and prophylactic Efficacy of Commercial probiotics in Tilapia Fishes Experimentally Infected with Vibrio parahaemolyticus- Organic Biotech Pvt. Ltd, India
12. Disinfection of factory and godown with pre and post treatment- otto clothing Pvt Ltd, India
13. Fabrication of collagen patch- Healthium Medtech Ltd, India
14. Confirmation of Anti-WSSV activity of potential bioactive molecules towards commercialisation process- Kyntox Biotech India Pvt LTD, India
15. ETP treatment by phycoremediation-microbes- SOLISTAA Pharmaceuticals, India
16. Metabolic Engineering of Corynebacterium glutamicum for hyper production of Citric acid- Wisecorner Laboratories Pvt Ltd, India
17. Characterisation of fat developed using oil structuring technology- Fantastic Technologies Pvt Ltd, Singapore
18. Effect of phyto compound (PHY-XXI) on Nucleolin levels in TAXOL and Cis-Platin resistant HeLa, MCF-7 and MDA-MB231 cell lines- Phyto Specialities Pvt Ltd, India
19. Development of Bioceramic 3D scaffolds by extrusion-based printing technique using Cellink BIOX system- Altam Technologies Pvt Ltd, India
20. Antimicrobial activity of the effective molecules against pathogens- ManushyaBlossom Private Limited, India
21. Herbal-Nano based Bio application studies- Xcellogen Biotech India Pvt Ltd, India
22. Development of bacteriocin for the food industry application- Salem Microbes Private Limited, India
23. Chemical Characterization Of Plant Extracts- AYUSH, India
24. Research personnel and technical information exchange- Next Big innovation Lab, India

## FUTURE PROJECTS

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2. Flower waste management strategies
3. Bioplastic production
4. Soil microbiome optimization
5. Sustainable development of biofuels
6. Healthcare and personalized medicines

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## ONGOING PROJECTS

1. Evaluation of carotenoids, antioxidant enzyme, antioxidant compounds protein and photosynthetic pigments in stress-treated grape leaves- United Arab Emirates, United Arab Emirates
2. Inhibition of EHP in Marine Ecosystem- Aarpy Bio Solution, India
3. Gene editing of the virulent gene from E.coli using CRISPR system- Salem Microbes Pvt Ltd, India
4. Disinfection of factory and godown with pre and post treatment- Otto clothing Pvt Ltd, India
5. Fabrication of collagen patch- Healthium Medtech Ltd, India
6. Application of various formulation for the restriction of microbial growth- Otto clothing Pvt Ltd, India
7. Confirmation of Anti-WSSV activity of potential bioactive molecules towards commercialisation process- Kyntox Biotech India Pvt LTD, India
8. Inhibition of microbes in textile fabric- Otto clothing Pvt Ltd, India
9. Preparation of semichemicals-based formulation for pigs-MAGAPOR S L, Spain
10. Inhibition of Microbial growth in textile fabrics- Otto clothing Pvt Ltd, India
11. ETP treatment by phycoremediation-microbes- SOLISTAA Pharmaceuticals, India



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**Founder and Chancellor**

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**Dr. Suneetha V. Dean SBST**

 91 416 220 2661 / 2662 / 2663

 dean.sbst@vit.ac.in

 School of Bio Sciences and Technology  
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# SIGNIFICANT EVENTS (January - March 2026)



# Foreign Faculty Visits



11:09 AM India  
MONDAY, 09 FEB LONGITUDE 79.1575° E 79°9'26"E  
LATITUDE 12.9692° N 12°58'8"N



11:16 AM India  
MONDAY, 09 FEB LONGITUDE 79.1575° E 79°9'27"E  
LATITUDE 12.9691° N 12°58'8"N



11:46 AM India  
WEDNESDAY, 25 MAR LONGITUDE 79.1560° E 79°9'21"E  
LATITUDE 12.9690° N 12°58'8"N



11:10 AM India  
MONDAY, 09 FEB LONGITUDE 79.1575° E 79°9'27"E  
LATITUDE 12.9691° N 12°58'8"N





Hexagon, VIT University, Vellore, Tamil Nadu 632014, India  
06 January 2026 15:20:47  
Lat: 12.969162, Long: 79.157494  
Author: Dr. K. SUTHINDHIRAN



Hexagon, VIT University, Vellore, Tamil Nadu 632014, India  
06 January 2026 15:17:48  
Lat: 12.969162, Long: 79.157494  
Author: Dr. K. SUTHINDHIRAN

## Interactions with Prof. Pramod Tandon



Hexagon, VIT University, Vellore, Tamil Nadu 632014, India  
06 January 2026 15:21:31  
Lat: 12.969162, Long: 79.157494  
Author: Dr. K. SUTHINDHIRAN



Hexagon, VIT University, Vellore, Tamil Nadu 632014, India  
06 January 2026 15:18:57  
Lat: 12.969162, Long: 79.157494  
Author: Dr. K. SUTHINDHIRAN

## Ugadi Celebrations







Vellore, Tamil Nadu, India 🇮🇳  
Hexagon, Vit University, Vellore, Tamil Nadu  
632014, India  
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Tuesday, 07/04/2026 04:57 PM GMT +05:30

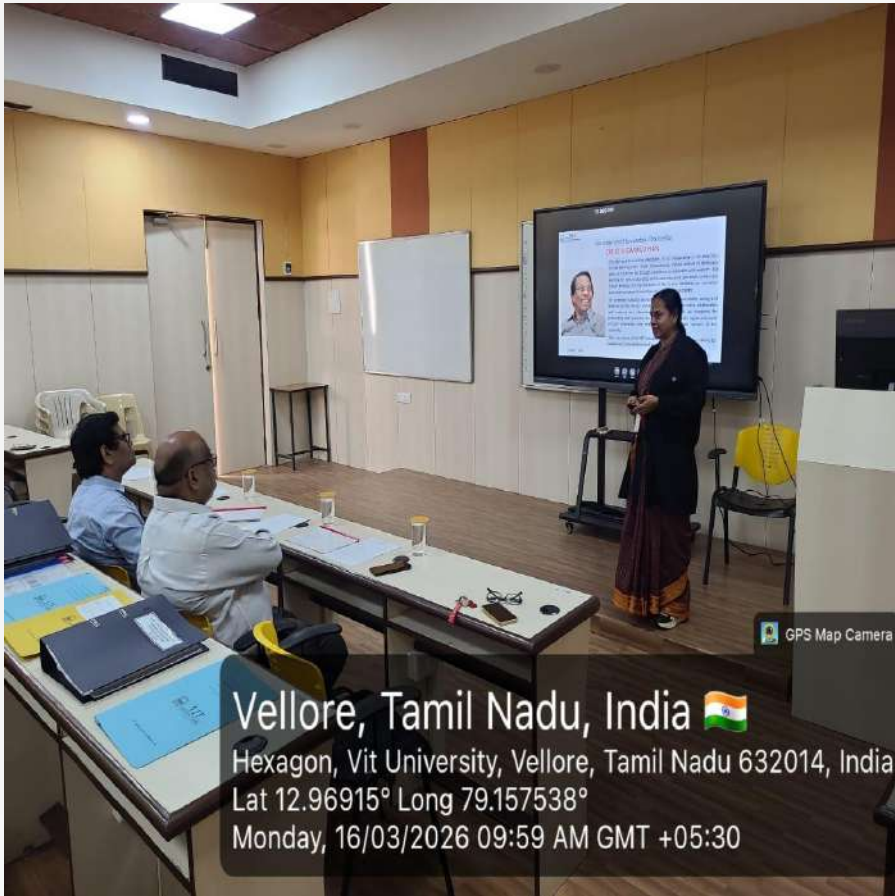


Vellore, Tamil Nadu, India 🇮🇳  
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Nadu 632014, India  
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Tuesday, 07/04/2026 04:54 PM GMT +05:30



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Hexagon, Vit University, Vellore, Tamil Nadu  
632014, India  
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Tuesday, 07/04/2026 04:53 PM GMT +05:30





Vellore, Tamil Nadu, India 


Hexagon, Vit University, Vellore, Tamil Nadu 632014, India

Lat 12.96915° Long 79.157538°

Monday, 16/03/2026 09:59 AM GMT +05:30

GPS Map Camera



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Hexagon, Vit University, Vellore, Tamil Nadu

632014, India

Lat 12.969142° Long 79.157517°

Monday, 16/03/2026 10:29 AM GMT +05:30

GPS Map Camera



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**Postgraduate Program**

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M.Sc. Biomedical Genetics

M.Sc. Applied Microbiology

M. Tech. Biotechnology

M.Sc. Biotechnology

(Integrated 5yrs)

M.Sc. Food Science &

Tech. (Integrated 5 yrs)

Doctor of Philosophy (Ph.D.)

**Research Program**

Integrated PhD

Deep-Tech PhD

*“Ideas do not always come in a flash but by diligent trial-and-error experiments that take time and thought.”*

*- Charles K. Kao*

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