



# VIT<sup>®</sup>

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



## SCHOOL OF BIO SCIENCES AND TECHNOLOGY

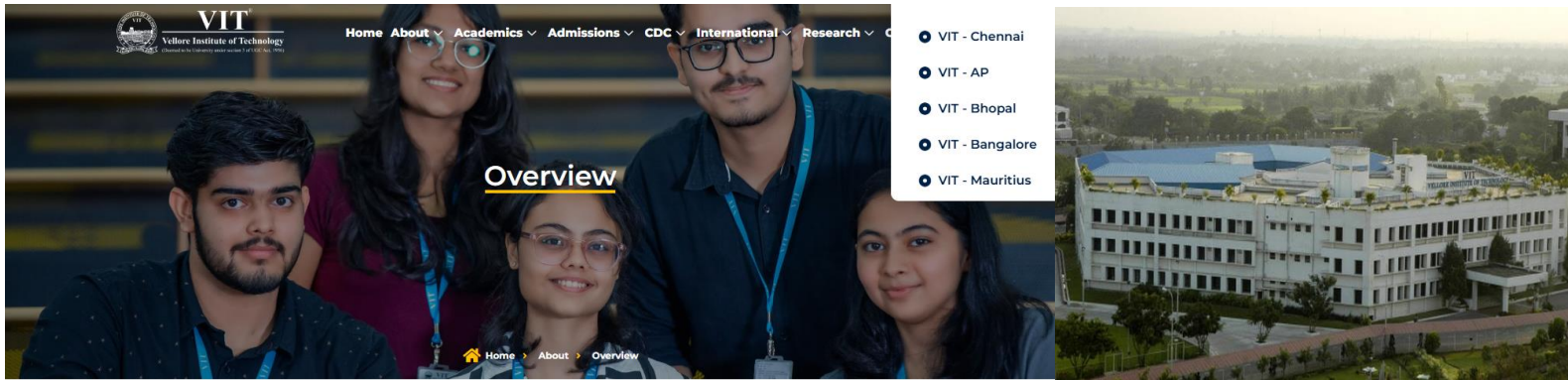


# BIOBROADCAST

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DECEMBER 2024

VIT was established with the aim of providing quality higher education on par with international standards. It persistently seeks and adopts innovative methods to improve the quality of higher education on a consistent basis. The campus has a cosmopolitan atmosphere with students from all corners of the globe. Experienced and learned teachers are strongly encouraged to nurture the students. The global standards set at VIT in the field of teaching and research spur us on in our relentless pursuit of excellence. In fact, it has become a way of life for us. The highly motivated youngsters on the campus are a constant source of pride. Our Memoranda of Understanding with various international universities are our major strength. They provide for an exchange of students and faculty and encourage joint research projects for the mutual benefit of these universities. Many of our students, who pursue their research projects in foreign universities, bring high quality to their work and esteem to India and have done us proud. With steady steps, we continue our march forward. We look forward to meeting you here at VIT.



**Dr. G. Viswanathan**

**Founder & Chancellor**

Mr. Sankar Viswanathan, Vice President

Dr. Sekar Viswanathan, Vice President

Dr. G. V. Selvam, Vice President

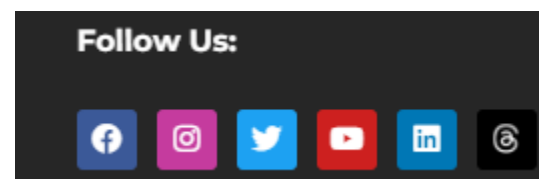
Dr. Sandhya Pentareddy, Executive Director

Ms. Kadhambari S. Viswanathan, Assistant Vice President

Dr. V. S. Kanchana Bhaaskaran, Vice Chancellor

Dr. Partha Sharathi Mallick, Pro-Vice Chancellor

Dr. T. Jayabharathi, Registrar



## OUR INSPIRATION



Honourable founder-chancellor, **Dr. G. Viswanathan** is an inspiration for the aspiring youth. Under his leadership, Vellore Institute of Technology aims to transform life through excellence in education and research. The institute focuses on providing world class education grounded in ethics and critical thinking, for improvement of life. It also facilitates an innovation ecosystem to extend knowledge and solve critical problems. VIT provides nurturing environment with happy, accountable, caring and effective workforce and students. Further, it supports active collaboration with national and international industries as well as academia for productivity and economic development. Service to the region and world through knowledge and compassion is an important mission of the university.

The core values of the VIT include student focus, strong ethics, striving for excellence, social development and respect for all.

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



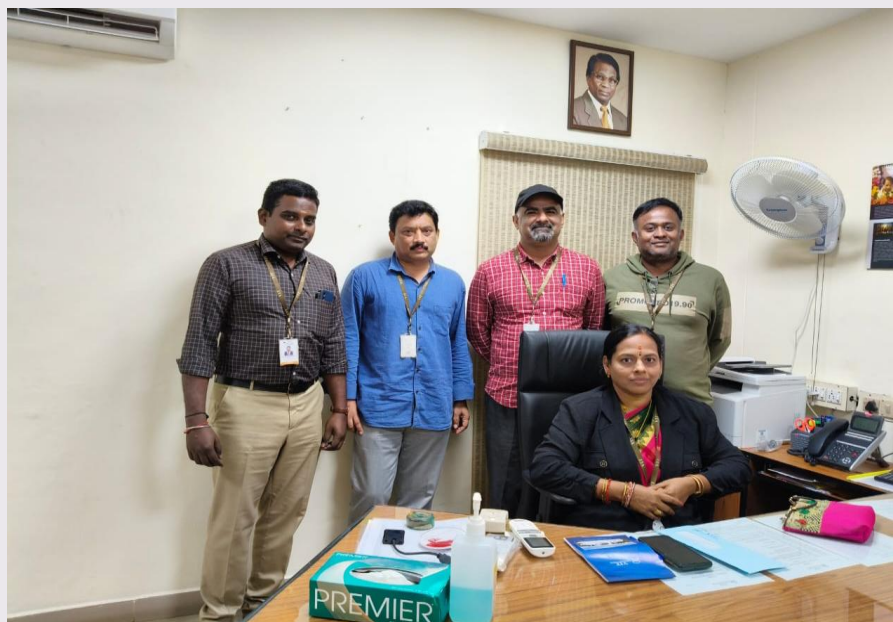
## A NEW CHAPTER FOR SBST LEADERSHIP

The School of Bio Sciences and Technology (SBST) announces an exciting transition in its leadership, effective from 1st December 2024.

It is our pleasure to welcome **Dr. Suneetha V.** as the new **Dean of SBST**. Dr. Suneetha brings an impressive legacy of academic and research achievements, promising to continue the school's trajectory of growth and excellence.

Additionally, we welcome **Dr. Anand A.** as the Associate Dean of SBST. Dr. Anand will work alongside the Dean to further enrich our academic, research, and industry engagement.

This leadership transition marks an exciting new phase for SBST as we continue to nurture future leaders, innovators, and thinkers in life sciences. Stay tuned for their vision and upcoming initiatives in the months ahead!



## DEAN'S MESSAGE



Dear Students, Faculty, and Staff,

Greetings from the School of Biosciences and Technology!

Welcome to the December edition of the Bio broadcast! As we step into another exciting chapter of 2025, I am thrilled to share the remarkable strides our school has made in the fields of education, research, innovations, and patents. This month, we celebrate the collaborative efforts that define our community- faculty outreach, faculty achievements, guest lectures, publications, and student achievements.

I am proud of our students and faculty, whose groundbreaking research has gained recognition. Our collaborations with global institutions and industries ensure unparalleled opportunities for innovation and learning. As we celebrate our milestones, let us remain committed to advancing knowledge and contributing to a sustainable future.

Warm regards,

**Dr. Suneetha V**

Dean, School of Bio Sciences and Technology, VIT

## FACULTY OUTREACH

- 1 Prof. Aanchal Mittal was a Session Chair at the International Conference Chemcon 2024 organized by Dept. of Chemical Engineering, NIT, Jalandhar, India on 29<sup>th</sup> December 2024
- 2 Prof. Balaji Balakrishnan delivered a talk on “Targeted gene delivery into CD117+ haematopoietic stem cells using capsid modified Adeno associated virus (AAV) vectors” at IIT Madras, Chennai, India on 15<sup>th</sup> December 2024
- 3 Prof. Gothandam K.M delivered a talk on “Gene manipulation in marine microalgae” at Sri Shakthi Institute of Engineering and Technology, Coimbatore, India on 14<sup>th</sup> December 2024
- 4 Prof. Anand A delivered a talk on “Bioinformatics approaches to understand the AMR mechanisms in ESKAPE pathogens” at NEHU, SHILLONG, India On 8<sup>th</sup> December 2024

## FACULTY ACHIEVEMENTS

### Projects

Project Title: "Microsatellite instability across various tumor types diagnostic criteria, methods of detection and bio-clinical associations"

Funding agency: DST-Indo-Russia International Bilateral Project

Amount: 1.36 crores

Principal Investigator: Dr. Trupti Patel N. SBST



## Patents

Title: Gel-Based Colorant Formulation  
(Published on 14<sup>th</sup> December 2024)

Dr. Suneetha V with Toshika Mishra and students Shamini K & Vaishali C



Title: Stable Bixin Nanoemulsion Formulation  
(Published on 3<sup>rd</sup> December 2024)

Dr. Siva R, Dr. Chandra Sekaran N & Ressin Varghese



Title: Process For The Enzymatic Bioconversion Of Chitin To Chitosan From Shrimp Shell Waste.  
(Filed on 2<sup>nd</sup> December 2024)

Dr. Suthindhiran K & Dr. Jayasri M.A with Prem Anand K



## FELICITATION OF FORMER DEANS



## INTERNATIONAL GUEST LECTURE

S. No	Date	Speaker	Address	Title	Faculty Convenor
1	21-12-2024	Dr. Hitesh Handa	Associate Professor School of Chemical, Material and Biomedical Engineering College of Engineering University of Georgia	Multifunctional Biomaterial Surface	Dr. I. Manjubala Dr. Debasish Mishra Dr. Priti Talwar
2	18-12-2024	Dr. Hitesh Handa	Associate Professor School of Chemical, Material and Biomedical Engineering College of Engineering University of Georgia	Advances in Biomedical Science	Dr. Debasish Mishra
3	17-12-2024	Prof. Vaskar Saha	Professor in Paediatric Oncology Division of Cancer Science University of Manchester United Kingdom	Taking on the Challenge	Dr. Suneetha V. Dr. Anand Anbarasu
4	17-12-2024	Dr. Ramprashanth Balasubramanian	Senior Business Consultant International@Lle- delvilaine (Rennes) France, Brittany State	Biotechnology in Space	Dr. C. Subathra Devi Dr. V. Mohanasrinivasa n



## LIST OF PUBLICATIONS- DECEMBER 2024

1. Dar M.S., Rosaiah P., Bhagyalakshmi J., Ahirwar S., Khan A., Tamizhselvi R., Reddy V.R.M., Palaniappan A., Sahu N.K. (2024). Graphene quantum dots as nanotherapeutic agents for triple-negative breast cancer: Insights from 3D tumor models. *Coordination Chemistry Reviews*, 523 (1). (20.3 IF)
2. Bhargava, V., Sishu, N. K., Mohanty, C., Hadkar, V. M., Sharmila, A., Nanda, B., & Selvaraj, C. I. (2024). Exploring Moringa concanensis nimmo mediated Bio-preparation of Ag doped MgO nanoparticles for biological activity and chromium (VI) remediation. *Chemical Engineering Journal*, 502, 157386. (13.2 IF)
3. Perumal N., Gopalakrishnan P., Burkovetskaya M., Doss D., Dukkupati S.S., Kanchan R.K., Mahapatra S. (2024). Nuclear factor I/B: Duality in action in cancer Pathophysiology. *Cancer Letters*, 609, 217349. (9.1 IF)
4. Chakraborty S., Banerjee M., Jayaraman G., Rajeswari V D. (2024). Evaluation of the health impacts and deregulation of signaling pathways in humans induced by microplastics. *Chemosphere*, 369, 143881. (8.1 IF)
5. Gomathinayagam S., Kanagalingam S., Chandrasekaran S., Krishnan T., Kodiveri Muthukaliannan G. (2024). Millennial-scale microbiome analysis reveals ancient antimicrobial resistance conserved despite modern selection pressures. *Environmental Microbiome*, 19(1), 110. (6.2 IF)
6. Srinivas S., Sekar M., Thirumurugan K., Senthil Kumar A. (2024). Hemozoin anchored MWCNTs for mediated reduction of hydrogen peroxide and real-time intracellular oxidative stress monitoring in colon cancer cells. *Journal of Materials Chemistry B*, 3. (6.1 IF)
7. Adhish, M., & Manjubala, I. (2024). Integrative in-silico and in-vitro analysis of taurine and vitamin B12 in modulating PPAR $\gamma$  and Wnt signaling in hyperhomocysteinemia-induced osteoporosis. *Biology Direct*, 19(1), 141. (5.7 IF)
8. Kumar A., Dixit S., Srinivasan K., M D., Vincent P.M.D.R. Personalized cancer vaccine design using AI-powered technologies. *Frontiers in Immunology*, 15, 1357217. (5.7 IF)
9. Hadkar V.M., Selvaraj C.I. (2024). Characterization and investigation the potential therapeutic effects of phyto-assisted CuO and Zn-doped CuO nanoparticles from *Calophyllum apetalum* (Willd.) leaf extract. *Journal of Drug Delivery Science and Technology*. 104, 106530. (4.5 IF)
10. Sharmila, A., Darshan, A. R., Hadkar, V. M., Sishu, N. K., & Selvaraj, C. I. (2025). Green fabrication of *Hildegardia populifolia* (Roxb.) derived MgO nanoparticles

- exhibiting potential antioxidant, antibacterial, and photocatalytic properties. *Inorganic Chemistry Communications*, 172, 113730. **(4.4 IF)**
11. Ramasamy S.S., Adhigaman K., Nandakumar V., Sundarasamy A., Jagadeesan S., Saravanakumar M., Malecki J.G., Easwaran N., Thangaraj S. (2024). In-Silico exploration: Unraveling the anti-cancer potential of 8-Nitroquinoline hydrazides. *Journal of Molecular Structure*. 104, 106530. **(4 IF)**
  12. Vijaya Kumaran A., Sharmila A., Manoj Hadkar V., Kumar Sishu N., Mohanty C., Roopan S.M., Immanuel Selvaraj C. (2024). Sustainable production of ZnO/MgO nanocomposite for effective photocatalytic degradation of Rhodamine B and their other properties. *Materials Science and Engineering: B* **(3.9 IF)**
  13. Sur S., Sathiavelu M. (2024). Functional profiling of the rhizospheric *Exiguobacterium* sp. for dimethoate degradation, PGPR activity, biofilm development, and ecotoxicological risk. *Scientific Reports*, 14, 29361. **(3.8 IF)**
  14. Malik, A., Khan, J. M., Sen, P., Alamri, A., Karan, R., & Emerson I, A. (2024). Coomassie Brilliant Blue Induces Coiled-Coil Aggregation in Lysozyme at pH 7.4 by Hydrophobic and Electrostatic Forces. *ACS omega*. **(3.7 IF)**
  15. Krishnan D., Rameshpathy M. (2024). A renewable natural resource for ferulic acid; An efficient precursor in biotechnological production of vanillin and strategies to enhance the yield of bio-vanillin from ferulic acid – Review. *Process Biochemistry*. **(3.7 IF)**
  16. Iswareya Lakshimi V., Kavitha M. (2024). Cold-active lipase from *Psychrobacter alimentarius* ILMKVIT and its application in selective enrichment of -3 polyunsaturated fatty acids in flax seed oil. *Bioprocess and Biosystems Engineering*. **(3.5 IF)**
  17. Torgal S., Subramani G., Manian R. (2024). Comprehensive insights into chitosan hydrogels: from crosslinking and characterization to immunomodulation, microbiome interactions and biomedical uses. *Biomass Conversion and Biorefinery*. **(3.5 IF)**
  18. Kaushik V., Kataria R. (2024). Non-conventional strategies for pretreatment of lignocellulosic biomass for production of value-added products: a sustainable and circular economy approach. *Biomass Conversion and Biorefinery*. **(3.5 IF)**
  19. Aseef A., Venkatkumar S. (2024). Staggering cytotoxic effects of manganese oxide nanoparticles from *Bacillus thuringiensis*. *Microbial Pathogenesis*. 198, 107184. **(3.3 IF)**

20. Krishnamoorthy, H. R., & Karuppasamy, R. (2024). Deciphering the prognostic landscape of triple-negative breast cancer: A focus on immune-related hub genes and therapeutic implications. *Biotechnology and Applied Biochemistry*. (3.2 IF)
21. Gupta N., Arunachalam S. (2024). Assessment of human health risks posed by toxic heavy metals in Tilapia fish (*Oreochromis mossambicus*) from the Cauvery River, India. *Frontiers in Public Health*. 12, 1402421. (3 IF)
22. Bharathy N., Parthasarathi T. (2024). Characterization of Nanosilica Based Biodynamic Manure BD501. *BioNanoScience* (3 IF)
23. Antibacterial, antibiofilm efficacy and molecular docking approach of *Sida acuta* Burm. f.: a compendious analysis of GC MS profiling, and pharmacokinetics perusal. *Discover Applied Sciences* (3 IF)
24. Hussain M.S., Sharma S., Kumari A., Kamran A., Bahl G., Bisht A.S., Sultana A., Ashique S., Ramalingam P.S., Arumugam S. (2024). Role of long non-coding RNAs in neurofibromatosis and Schwannomatosis: pathogenesis and therapeutic potential. *Epigenomics*. (3 IF)
25. Muthukumar J., Ekambaram N., Jose Gnanaleela A.J., Chandrasekaran R., Michael G.P., Savarimuthu I., Aasaithambi K. (2024). Larvicidal Activity of Niosomal Formulations Loaded with Citrus limon (L.) Osbeck Essential Oil Against Vector Mosquitoes. *BioNanoScience*. (3 IF)
26. Balaji V., Mahalingam G. (2024). Antibacterial, antibiofilm efficacy and molecular docking approach of *Sida acuta* Burm. f.: a compendious analysis of GC MS profiling, and pharmacokinetics perusal. *Discover Applied Sciences* 7 (44). (2.8 IF)
27. Sekar S., Srikanth S., Mukherjee A.G., Gopalakrishnan A.V., Wanjari U.R., Vellingiri B., Renu K., Madhyastha H. (2024). Biogenesis and functional implications of extracellular vesicles in cancer metastasis. *Clinical and Translational Oncology*. (2.8 IF)
28. Anand S., Patel T.N. (2024). Integrating the metabolic and molecular circuits in diabetes, obesity and cancer: a comprehensive review. *Discover Oncology* (2.8 IF)
29. Mukherjee A.G., V G A. (2024). Sex hormone-binding globulin and its critical role in prostate cancer: A comprehensive review. *Journal of Steroid Biochemistry and Molecular Biology*. (2.7 IF)
30. Chatterjee D., Sivashanmugam K. (2024). Computational approach towards repurposing of FDA approved drug molecules: strategy to combat antibiotic resistance conferred by *Pseudomonas aeruginosa*. *Journal of Biomolecular Structure and Dynamics*. (2.7 IF)

31. Sishu N.K., Karunakaran M.K.R., Hadkar V.M., Mohanty C., Sharmila A., Selvaraj C.I., Babu N.G. (2024). Phyto-mediated synthesis of SnO<sub>2</sub> nanoparticles using *Croton malabaricus* Bedd. for its antioxidant, antibacterial, hemocompatibility properties and photocatalytic activity. *New Journal of Chemistry*, 49(2). (2.7 IF)
32. Sumathi K., Manian R. (2024). Petroleum-Contaminated Soil Isolates: A Comparative Study of Naphthalene Biodegradation Kinetics and Metabolic Pathways. *International Journal of Environmental Research*, 19(1). (2.6 IF)
33. Rajamani R.P., Khora S.S. (2024). Studies on in vitro antioxidant potentials and characterization of -carrageenan based biodegradable film from red algae, *Hypnea valentiae* (Turner) Montagne, 1841. *Journal of Food Science and Technology*. (2.6 IF)
34. Sharma N., Vuppu S. (2024). Unveiling Biodeteriogen VITSN 3 and VITSN 10 from Dewas and Ranipet Leather Effluent Valorisation: 16S rRNA Sequencing, Optimization, Immobilization, and Docking Studies. *Waste and Biomass Valorization*. (2.6 IF)
35. Brahadeeswaran S., Chitluri K.K., George L., Manickam V., Emerson I.A., Tamizhselvi R. (2024). Scopoletin: A Validated Protector against Cerulein-induced Acute Pancreatitis & Associated Lung Injury by Regulating PPAR- A Multidimensional Approach. *Molecular Biotechnology*. (2.4 IF)
36. Razi K., Suresh P., Mahapatra P.P., Al Murad M., Venkat A., Notaguchi M., Bae D.W., Prakash M.A.S., Muneer S. (2024). Exploring the role of grafting in abiotic stress management: Contemporary insights and automation trends. *Plant Direct*. (2.4 IF)
37. Koujalagi T., Ruhel R. (2024). Mitigating Health Risks Through Environmental Tracking of *Pseudomonas aeruginosa*. *Current Microbiology*. (2.3 IF)
38. Bhattacharya B., Bhattacharya S., Khatun S., Bhaktham N.A., Maneesha M., Subathra Devi C. (2024). Wasp Venom: Future Breakthrough in Production of Antimicrobial Peptides. *Protein Journal*. (1.9 IF)
39. Renu K., Gopalakrishnan A.V., Madhyastha H. (2024) Is periodontitis triggering an inflammatory response in the liver, and does this reaction entail oxidative stress? *Odontology* (1.9 IF)
40. Srivastava R., Ahmad F., Mishra B.N., Mathkor D.M., Singh V., Haque S. Terrein: isolation, chemical synthesis, bioactivity and future prospects of a potential therapeutic fungal metabolite. *Natural Product Research*. (1.9 IF)

41. Vijiyakumar N., Prince S.E. (2024). A comprehensive review of cadmium-induced toxicity, signalling pathways, and potential mitigation strategies. *Toxicology and Environmental Health Sciences*. **(1.6 IF)**
42. Karamarathodi N., Manjusha Binukumar S., Das S., Sundararajan S., Karunakaran K., Muniyan R. (2024). Computational screening, docking and simulation analysis of phytochemicals from *Senna auriculata* against multiple targets of *Mycobacterium tuberculosis*. *Indian Journal of Biochemistry and Biophysics*. **(1.5 IF)**
43. Balaji S., Anbarasu S., Ramaiah S., Anbarasu A. (2024). Targeting IKZF1 via HDAC1: Combating Acute Myeloid Leukemia. *Integrative Biology*. **(1.5 IF)**
44. Sundarasamy A., Kumarasamy C.P., Ramasamy S.S., Muthukaliannan G.K., Thangaraj S. (2024). Phytochemical Investigations and Glucosidase Inhibitory Activity of *Adenanthera Pavonina* Seeds. *Journal of Herbs Spices and Medicinal Plants*. **(1.2 IF)**
45. Ramakrishnegowda A., Suresh S., Elumalai R., Ravi H., Ramanathan G. (2024). Association of AT1R (A1166C) gene polymorphisms and hypertension: A study in south Indian population and meta-analysis. *Journal of Renal Injury Prevention*. **(0.2 IF)**
46. Payas S., Azad M.A.K. (2024). Theaflavins loaded niosomes: characterization and in vivo biodistribution in Wistar albino rats. *Research Journal of Biotechnology*. **(0.2 IF)**



# STUDENTS ACHIEVEMENTS

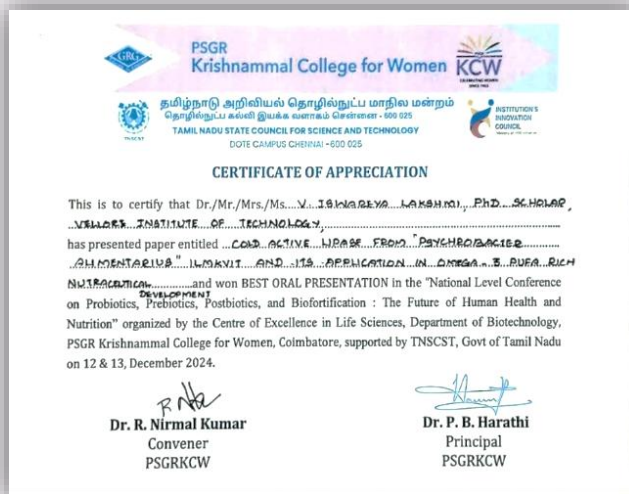
Congratulations to **Prof. Suneetha V (Dean-SBST)** and her scholar **Ms Sathvika K** (Reg No. 21PHD0182) for winning the Best Paper Award (Special mention) at the “ASTRA Conference” organized by Bannari Amman Institute of Technology, Sathyamangalam, Erode on 19th and 20th December 2024



Congratulations to **Dr. Sowbiya Muneer** and her PhD Scholar **Ms. Preethika Suresh** (Reg No. 23PDD0010) have received the Young Researcher Award on the occasion of the 8th International Conference on Recent Trends in Advancement Agriculture, Horticulture and Livestock organized by Shri Guru Rai University, Dehradun (ICAR accredited), and the Society of Agriculture and Biological Sciences Research.



Congratulations to **Prof. M. Kavitha** and her scholar **Ms. V. Iswareya Lakshimi** (Reg No. 24PHD0261) for their achievement in receiving the best oral presentation award at the "National Level Conference on Probiotics, Postbiotics, and Biofortification: The Future of Human Health and Nutrition", Centre of Excellence in Life Sciences, PSGR Krishnammal College for Women, Coimbatore, supported by TNSCST, Govt of Tamil Nadu on 12th and 13th December 2024.



Congratulations to **Prof. Devi Rajeswari V** and his scholar **Abbas Alam Choudhury** (Reg No. 20PHD0603) for receiving Best Poster Award in the event—Young Scientist Conclave, at the India International Science Festival (IISF) 2024, held at IIT Guwahati.



**Manasa R L** (Reg No.16PHI0005), a PhD scholar, won the Best Poster award at the DAE-BRNS international conference on Recent Developments in Biofilm and Biofouling Control (BBC-2024) held at BARC, Kalpakkam on 12<sup>th</sup> to 14<sup>th</sup> December 2024.



VIT Vellore students won a **Silver Medal in the International Genetically Engineered Machine (iGEM) 2024** Grand Jamboree held at **Paris, France**.



## SBST- A MOVE TO CONSULTANCY

### GLIMPSES OF CONSULTANY PROJECTS

Sl. No	Faculty Name	Project Title	Funding Agency
1	Dr. S. Karhtikeyan	Technical Solutions for developing cost effective astaxanthin production.	Astamin Biotech, india
2	Dr. S. Karhtikeyan	Technical solutions for textile effluent treatment using biotechnological applications.	Eminent Textile Mills Private Ltd, India
3	Dr. S. Karhtikeyan	Scale up of microbes for liquid biofertilizers.	OmniActive Health Technologies, India
4	Dr. S. Karhtikeyan	Scale up of microbes for liquid biofertilizers	OmniActive Health Technologies, India
5	Dr. S. Karhtikeyan	Development of bio fertilizers and feed additives for poultry.	V K Palappa Nadar Poultry Farms Pvt Ltd , India
6	Dr. S. Karhtikeyan	Rapid Identification of microbial food spoilage by image processing and Neural Networks.	Euro Exim Bank, UK
7	Dr. T. B. Sridharan	SEM Sample Preparation Analysis and Data Interpretation	MIT Chennai DKM College Muthurangam Arts and Science College Rajalakshmi Engg College SCSVMV University Annamalai University Sri Bharathi Womens College, India
8	Dr. T. B. Sridharan	SEM Sample Preparation Analysis and Data Interpretation	university of kerala Thiruvallunvar university SCSVMV university CMFRI SKP ENGG Coll Pondicherry university Annamalai university Md Saleem Inst of Engg Muthurangam Govt Arts College Eminent Textile Mills, India
9	Dr. T. B. Sridharan	SEM Sample Preparation Analysis and Data Interpretation	university of kerala Thiruvallunvar university SCSVMV university CMFRI SKP ENGG Coll Pondicherry university , India
10	Dr. T. B. Sridharan	SEM Sample Preparation, Analysis and Data Interpretation	SIX different institutes individuals please refer attachment, India
11	Dr. Devi Rajeswari	Herbal-Nano based Bio application studies	Xcellogen Biotech India Pvt Ltd, India



12	Dr. Devi Rajeswari	Green synthesis of nano particles and applications.	Xcellogen Biotech India PVT LTD, INDIA
13	Dr. C. Shanthi	Collagen characterization	GATES GROUP life sciences division, India
14	Dr. A. Sivakumar	Drug abuse testing service at VIT.	VIT Vellore, India
15	Dr. A. Sivakumar	Blood Serum Analysis for Alcohol Detection.	VIT Vellore, India
16	Dr. R. Siva	Optimizing the extraction molecular characterization bio-activities of chlorella growth factor.	E I D Parry India Limited, India
17	Dr. R. Siva	Optimizing the extraction molecular characterization bio-activities of chlorella growth factor.	EID Parry India Limited, INDIA
18	Dr. Suneetha V	Scientific and Technical Consultancy.	Eureka Forbes, India
19	Dr. Suneetha V	AC AND AIR PURIFIERS MICROBIAL QUALITY ANALYSED	Eureka Forbes, India
20	Dr. Suneetha V	Viral and Actinomycetes assay in Air conditioning missions and air purifiers.	EUREKA FORBES, India
21	Dr. Suneetha V	scientific and Technical consultancy	Eurekaforbes, india
22	Dr. Suneetha V	Quality assesment and certification of water and air samples	Aquaguard and aeroguard
23	Dr. A. Mohanapriya	Metabolic Engineering of Corynebacterium glutamicum for hyper production of Citric acid	Wisecorner Laboratories Pvt Ltd, India
24	Dr. Subathradevi	Gene editing of the virulent gene from E.coli using CRISPR system	Salem Microbes Pvt Ltd, India
25	Dr. Subathradevi	Screening the neuraminidase inhibition activity of polyherbal formulations	Siddha Central research institute CCRS ministry of Ayush, India
26	Dr. Subathradevi	Screening the neuraminidasa inhibition activity of polyherbal formulations.	Central Council for Research in Siddha CCRS, India
27	Dr. K. M. Gothandam	Evaluation of caotenoids, antioxidant enzymes , antioxidant compounds protein and photosynthetic pigments in stress-treated grape leaves	United Arab Emirates , United Arab Emirates
28	Dr. C. Ramalingam	Oleogels for prototypes melting at 37c with a good sensory chocolates (project Elixir)	ITC, India
29	Dr. Jayanthi Abraham	ETP treatment by phycoremediation-microbes	SOLISTAA Pharmaceuticals, India
30	Dr. Jayanthi Abraham	Consultancy on microbial Analysis	Ultramarine Pigments ltd, INDIA



31	Dr. Pragasam	Extraction and characterization of sulphated polysaccharide and Ca spiulan from sprulina.	EID Parry India Limited, INDIA
32	Dr. V. Pragasam	Extraction and characterization of sulphated polysaccharide and Ca spiulan from sprulina.	E I D Parry India Limited, India
33	Dr. V. Pragasam	Stress management device	Kramsky Stamping and Molding India Pvt Ltd, India
34	Dr. Mohanasrinivasan	Development of bacteriocin for the food industry application.	Salem Microbes Private Limited , India
35	Dr. V. Mohanasrinivasan	Study on bioactive compounds and therapeutic potential of Begenia and Quercus incana extracts for medicininal formulation.	BIRAC SRISTI, INDIA
36	Dr. V. Mohanasrinivasan	Technical solutions for improving animal health using biothechnological applications.	Vetbiotics Animal Healthcare Pvt Ltd, INDIA
37	Dr. V. Shanthi	Cost for running molecular dynamics simulation.	Sathyabama Institute of Science and Technology, INDIA
38	Dr. George Priya Doss	Chemical Characterization Of Plant Extracts.	AYUSH, India
39	Dr. George Priya Doss	Development Of Antimicrobial Stewardship KPI	The Hilda Lazarus Core Research Chair Christian Medical College and Hospital, India
40	Dr. George Priya Doss	Drug Resistance Identification	CMC VELLORE, India
41	Dr. K. Suthindhiran	Consultancy Project for Kupa Environmental Solutions.	The Kupa Environmental Solutions Pvt Ltd, India
42	Dr. Manjubala	APR Applied Pharma Research s.a.,	APR Growing Innovation, Switzerland
43	Dr. T. N. Patel	Molecular Cytogeneticist and Biologist	Supratech Micropath, India
44	Dr. Jabez Osborne	Inhibition of EHP in Marine Ecosystem	Aarpy Bio Solution, India
45	Dr. Jabez Osborne	Disinfection of factory and godown with pre and post treatment	otto clothing pvt ltd, India
46	Dr. Jabez Osborne	Fabrication of collagen patch	Healthium Medtech Ltd, India
47	Dr. Jabez Osborne	Application of various formulation for the restriction of microbial growth	Otto clothing Pvt Ltd, India
48	Dr. Jabez Osborne	Inhibition of microbes in textile fabric	otto clothing pvt ltd, India
49	Dr. Jabez Osborne	Inhibition of Microbial growth in textile fabrics	otto clothing pvt ltd, India
50	Dr. Jabez Osborne	Antimicrobial activity of Essential Oil	TUORRA, India
51	Dr. Jabez Osborne	Studies on microbial community dynamics during pilot/field scale bioremediation explosives	DRDO CARS, India

52	Dr. Jabez Osborne	Eradication of Microbes causing damage in textile garments	Otto clothing Pvt Ltd, India
53	Dr. Jabez Osborne	Antimicrobial activity of the effective molecules against pathogens	Manushyaa Blossom Private Limited, India
54	Dr. Jabez Osborne	Consultancy P A Footwear	Ms P A Footwear P Ltd, INDIA
55	Dr. Anbalagan	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
56	Dr. M. Anbalagan	Understanding molecular mechanism of anticancer activity mediated by compound A & B.	Phyto Specialities Pvt Ltd, India
57	Dr. M. Anbalagan	Evaluation of anti-cancer activity for compound A and B	Phyto Specialities Pvt Ltd, India
58	Dr. R. Sudhakaran	Risk assessment of microplastics in the environmental samples.	Practical Environmental Technologies, India
59	Dr. Sudhakaran	Confirmation of Anti-WSSV activity of potential bioactive molecules towards commercialisation process	Kyntox Biotech India Pvt LTD, India
60	Dr. Sudhakaran	Studies on Antiviral and antibacterial activities of Novel Combinations.	KYNTOX BIOTECH INDIA PVT LTD, India
61	Dr. Sudhakaran	Preventive and prophylactic Efficacy of Commercial probiotics in Tilapia Fishes Experimentally Infected with Vibrio parahaemolyticus.	Organic Biotech pvt ltd, India
62	Dr. N. Ramesh	Determination of the Minimum Inhibitory Concentration (MIC) of Test Compounds Against Clinical Isolates of Streptococcus Pyogens	Vyome Therapeutic Ltd, India
63	Dr. N. Ramesh	Determination of the Minimum Inhibitory Concentration (MIC) of Test Compounds Against Clinical Isolates of Methicillin Sensitive & Resistance Staphylococcus aureus.	Vyome BioSciences, India
64	Dr. Jeevitha	Characterisation of fat developed using oil structuring technology	Fattastic Technologies Pvt Ltd, Singapore
65	Dr. Sankar Ganesh	Preparation of semichemicals-based formulation for pigs	MAGAPOR S L, Spain

## State-of-Art Testing and Characterization Facilities

We offer access to cutting-edge equipment and facilities to support both research and industrial needs. We have 40 research laboratories and 16 teaching labs, including an animal house and histopathology lab.



## Special Upskilling topics for industry

- Advanced techniques in biotechnology
- Antimicrobial resistance
- Drug design and development
- Biochemical & Analytical Instrumentation
- Medical Biological Computing
- Scanning Electron Microscopy (SEM)
- High throughput screening
- Agri & Environmental Biotechnology
- Aquaculture Biotechnology
- Gene therapy and nano therapy
- Bioprocess and downstream processing
- Microbial Biotechnology
- Bioremediation
- Cancer biology

## Important labs

- Agriculture and Environmental Biotechnology
- Bio Materials
- Biochemical & Analytical Instrumentation
- Bioprocess & Downstream
- Marine Biotechnology & Bioproducts
- Nano Bioengineering
- Vector Production
- Computational Drug Design
- Protein Engineering
- Plant Biotechnology
- High Throughput Screening
- Instrumental and Food Analysis
- Medical Biotechnology
- Cell & Molecular Biology
- Microbial Biotechnology
- Tissue culture
- Bio-inspired Design
- Science, Innovation, and Society Research



## 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

## 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.
5. 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- E I D 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 Actinomycetes 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- Fattastic 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- Xcellogon Biotech India Pvt Ltd, India
22. Development of bacteriocin for the food industry application- Salem Microbes Private Limited, India
25. Chemical Characterization Of Plant Extracts- AYUSH, India
24. Research personnel and technical information exchange- Next Big innovation Lab, India

## FUTURE PROJECTS

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

Trust us to bring your vision to life.





# FORTH COMING EVENTS



## GENOTOXICITY TESTING FOR ENVIRONMENTAL MONITORING AND HUMAN HEALTH (VAC2002)



09<sup>th</sup> February 2025 to 16<sup>th</sup> February 2025

Jointly Organized by  
Dept. of Biomedical Sciences,  
School of Bio-Sciences and Technology, VIT Vellore  
and

Instituto de Investigaciones Biológicas Clemente Estable (IIBCE), Uruguay

Beneficiaries:  
UG / PG/ Research

### ABOUT VIT:

Vellore Institute of Technology was founded in 1984 as Vellore Engineering College by the Founder and Chancellor Dr. G. Viswanathan. University status was conferred in 2001 by MHRD Govt. of India in recognition of its excellence in academics, research and extracurricular initiatives. Ranking & Accreditation Vellore Institute of Technology (VIT) has emerged as one of the best institutes in India and is aspiring to become a global leader. Quality in teaching-learning, research and innovation makes VIT unique. Engineering and Technology subject areas of VIT are the 212<sup>th</sup> best in the World and the 9<sup>th</sup> best in India, and Ten subjects of VIT are within the top 500 in the world (as per QS World University Rankings by Subject 2024) The 8<sup>th</sup> best University, the 11<sup>th</sup> best research institution and the 11<sup>th</sup> best engineering institution in India (NIRF Ranking, Govt. of India 2023) Ranked among the top 601-800 universities of the world (THE World University Ranking 2024) NAAC Accreditation with A++ grade (3.66 out of 4) The 163<sup>rd</sup>-best Institution in Asia (QS - Asia University Rankings 2024)

### ABOUT SBST:

The School of Bio Sciences and Technology consists of four departments namely Biotechnology, Integrative Biology, Bio-Sciences and Bio-Medical Sciences headed by well-trained professors. The school offers an undergraduate (B.Tech. Biotechnology) and six Postgraduate (M.Sc. and M. Tech.) programme. It also offers Integrated Ph.D. and Ph.D. programme. The priority of the SBST is developing entrepreneurship skills and mentoring students to become future scientists for the improvement of humanity. Our efforts are strengthened by collaboration with national, international Universities and multinational companies. Consultancy research and commercialization of products at the University are undertaken as a part of the program. The school houses excellent infrastructure and well-trained faculty members which makes SBST one among the top ten Bio School in the country.

### ABOUT THE DEPARTMENT OF BIO-MEDICAL SCIENCES:

The Department of Bio-Medical Sciences under The School of Bio-Sciences and Technology commits to the Academia and research. It offers 2 Postgraduate courses namely M.Sc. Applied Microbiology and M.Sc. Biomedical Genetics. The course of Biomedical Genetics aides the students with the basic understanding and trailing till the present day advancements in the field. It adds on the skillset for Clinical and laboratories needed in this field. It fosters strong collaborations with national and international institutions, multinational companies, and visiting scientists, enhancing interactions between academia and the biotech industry. The two-year M.Sc. in Biomedical Genetics provides a comprehensive understanding of disease genetics and develops clinical and laboratory skills. Students can choose a specialization in Genetic Counselling, which includes clinical rotations in hospitals

Chairperson

**Dr. Suneetha V**  
Dean, SBST

Convenor

**Dr. Radha Saraswathy**  
Professor HAG,  
Dept. of Biomedical Sciences, SBST

### RESOURCE PERSONS:

- **Dr. Wilner Martínez-López, MD, PhD**  
Epigenetics and Genomics Instability  
Laboratory, Instituto de Investigaciones  
Biológicas Clemente Estable, Montevideo –  
Uruguay
- **Dr. Radha Saraswathy,**  
Dept of Biomedical Sciences,  
SBST, VIT

**DATE:** 09 February 2025 to 16 February 2025

**VENUE:** 120TT, Biomedical Genetics Research Laboratory

**REGISTRATION FEE DETAILS:** Rs.500/- (Inclusive of GST)

### COURSE OBJECTIVES:

- To relate the importance of genotoxicity and Epigenetic toxicity to environmental monitoring and human health.
- An opportunity to obtain extensive, basic theoretical knowledge and insights in this field.
- To interpret the action of mutagenic substances and carcinogens with long-term irreparable consequences.
- To illustrate the fundamental and advanced techniques for genotoxic testing and assessment.

### COURSE OUTCOMES:

- Have competence in the practical skills in handling basic laboratory processes for analysis and genotoxicity testing.
- Understand various aspects of environmental monitoring techniques.
- Design/develop an idea for identifying the cause or solution for protecting Human health.

### THEMES/TOPICS:

1. Genotoxicity and Epigenetic toxicity
2. Human health
3. Genotoxicity biomarkers
4. Epidemiological studies
5. Recommendations and implementation

Total course duration: 30 hours

### LIST OF CHALLENGING EXPERIMENTS:

- EXPT 1 Comet assay in human peripheral blood mononuclear cells
- EXPT 2 Comet assay in human cell lines
- EXPT 3 Cytokinesis block micronucleus assay in human peripheral blood mononuclear cells
- EXPT 4 Lymphocyte culture for chromosomal aberrations
- EXPT 5 Sister chromatid exchanges
- EXPT 6 Determining cell survival with different dyes
- EXPT 7 Cytokinesis block micronucleus assay in exfoliated buccal cells
- EXPT 8  $\gamma$ H2AX immunofluorescence staining

Course Material will be provided to all. Students with 75% attendance and 50% Marks in the evaluation will receive the certificate.

## LIMITED SEATS ONLY

FIRST COME FIRST SERVE BASIS

### Target Audience:

The Faculty Entrepreneurship Development Programme on Biofertilizers and Biopesticides is aimed at faculty members and budding entrepreneurs in the sector of biopesticides and biofertilizers to promote sustainable agriculture.

**Registration Fee: FREE**

**Last date of Registration: 15 FEBRUARY 2025**

Registration includes participation in all sessions, industry visits, participation certificate

Working lunch and refreshments will be provided to all registered participants

Register at

<https://events.vit.ac.in/>

Registration queries:

Dr. R. Siva  
Professor  
School of Bio Sciences and Technology  
Mobile: 9443448905  
Email: rsiva@vit.ac.in

### Chief Patron

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

### Patrons

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**Dr. Sandhya Pentareddy, Executive Director**  
**Ms. Kadhambari S. Viswanathan, Assistant Vice President**

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**Dr. Partha Sharathi Mallick, Pro-Vice Chancellor**  
**Dr. T. Jayabharathi, Registrar**

### Chair

**Dr. V. Suneetha, Dean, SBST**

### Co-Chair

**Dr. Anand Anbarasu, Associate Dean, SBST**

### Organizing Secretaries

**Dr. R. Siva, Professor, VIT**  
**Dr. B. Senthilkumar, Scientific Officer, TNSCST**

### Coordinators

**Dr. C. Rajasekaran, Professor**  
**Dr. Vino S, Professor**



**VIT<sup>®</sup>**  
Vellore Institute of Technology  
(Approved by the Ministry of Education, Government of India)



## SCHOOL OF BIO SCIENCES AND TECHNOLOGY

### Faculty Entrepreneurship Development Programme on Biofertilizers and Biopesticides

24 February 2025  
to  
8 March 2025

Sponsored

by

**Ministry of Science and Technology**  
**Department of Science and Technology (DST)**

(Innovation and Entrepreneurship Division)

Govt. of India



Organised by

**THE TAMILNADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY**



VIT-A Place to learn; A Chance to grow



## STUDENTS CORNER

**As a PR and student of SBST, planning to organise first event of 2025 from all students “Health and Hygiene” awareness as a motto of Swachh Bharat mission.**

**--Chetana (22MSI0159) and Sanhitha (21MSI0132)**

### *Human metapneumovirus (hMPV): Recent outbreak*

**hMPV** was first discovered in 2001 by scientists from the Netherlands in a group of children where tests for other known respiratory viruses were negative.

But it was probably around long before that. Testing of samples from the 1950s demonstrated antibodies against this virus, suggesting infections have been common for at least several decades. Studies since have found hMPV in almost all regions in the world.

Australian data prior to the COVID pandemic found hMPV to be the third most common virus detected in adults and children with respiratory infections. In adults, the two most common were influenza and RSV (respiratory syncytial virus), while in children they were RSV and parainfluenza.

Like influenza, hMPV is a more significant illness for younger and older people.

Studies suggest most children are exposed early in life, with the majority of children by age five having antibodies indicating prior infection. In general, this reduces the severity of subsequent infections for older children and adults.

**Source-** *sciencealert.com*

**-Toshika Mishra (21PHD0218), ICMR Project Research Scientist-I**

# **PROGRAMMES OFFERED**

## **School of Bio Sciences and Technology**

### **Undergraduate Program**

**B.Tech Biotechnology**

### **Post Graduate Program**

**M.Sc. Biotechnology,  
M.Sc. Biomedical Genetics  
M.Sc. Applied Microbiology  
M.Tech Biotechnology,  
Integrated M.Sc Biotechnology  
(5 year)  
Integrated M.Sc. Food Science  
and Technology  
(5 year)**

### **Research Program**

**Doctor of Philosophy (Ph.D)  
Integrated PhD**

*The science of today is the technology of tomorrow.*

**Edward Teller**



Thank  
you...

To: \_\_\_\_\_

From: \_\_\_\_\_