



VOL. 3

DEPARTMENT OF
BIOTECHNOLOGY

Magazine

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2025



CENTRAL UNIVERSITY OF TAMIL NADU

SCI-VANTAGE

GROWING BEYOND LIMITS



PROLOGUE

01

PEOPLE

03

DEPARTMENT
RESEARCH
AREAS

05

DBT CAFÉ

26

ACADEMIC
EVENTS

28

CULTURAL
EVENTS

42

STUDENTS'
ACHIEVEMENTS

50

SCHOLARS'
ACHIEVEMENTS

63

CONCLUSION

67

CONTENTS

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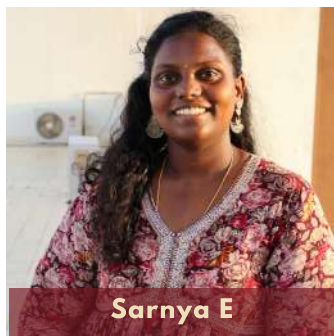
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FOREWORD BY THE VICE CHANCELLOR

Dear Students, Colleagues, and Friends,

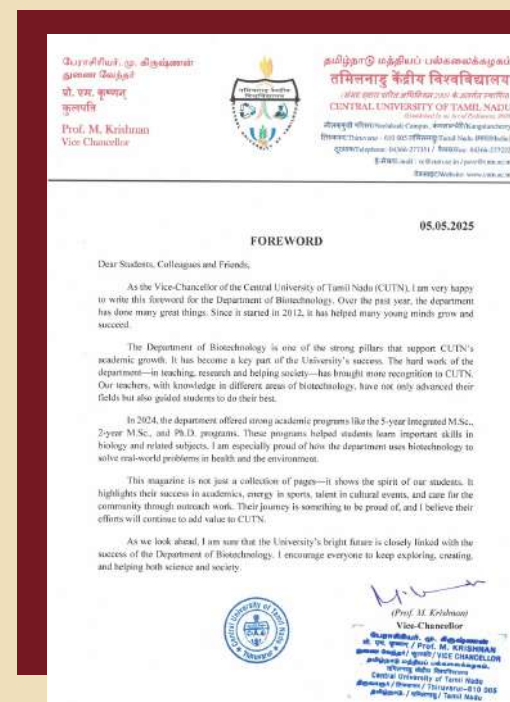
As the Vice-Chancellor of the Central University of Tamil Nadu (CUTN), I am very happy to write this foreword for the Department of Biotechnology. Over the past year, the department has done many great things. Since it started in 2012, it has helped many young minds grow and succeed.

The Department of Biotechnology is one of the strong pillars that supports CUTN's academic growth. It has become a key part of the university's success. The hard work of the department—in teaching, research, and helping society—has brought more recognition to CUTN. Our teachers, with knowledge in different areas of biotechnology, have not only advanced their fields but also guided students to do their best.

In 2024, the department offered strong academic programs like the 5-year Integrated M.Sc., 2-year M.Sc., and Ph.D. programs. These programs helped students learn important skills in biology and related subjects. I am especially proud of how the department uses biotechnology to solve real-world problems in health and environment.

This magazine is not just a collection of pages—it shows the spirit of our students. It highlights their success in academics, energy in sports, talent in cultural events, and care for the community through outreach work. Their journey is something to be proud of, and I believe their efforts will continue to add value to CUTN.

As we look ahead, I am sure that the University's bright future is closely linked with the success of the Department of Biotechnology. I encourage everyone to keep exploring, creating and helping both science and society.



FROM THE REGISTRARS' DESK

Dear Students and my friends,

With immense pleasure, I extend my warm regards and share a few words with you through this remarkable issue of Scivantage, the Department of Biotechnology's magazine. I invite you to embark on this journey about the Department's achievements and the celebration of the collective pursuit of knowledge, innovation, and academic excellence.

As you delve into the pages of this magazine, you are invited to explore the achievements, creativity, and research breakthroughs that distinguish the Department of Biotechnology. The magazine highlights the diverse initiatives undertaken by the faculty and students and reflects their shared commitment to advancing the boundaries of biotechnology.

I would also like to congratulate the contributors and editorial team for their creativity, hardwork, and vision in bringing this edition of Scivantage to life. The content within these pages will enlighten, motivate, and inspire readers across disciplines, encouraging them to pursue knowledge and innovation with renewed vigor.

“The magazine highlights the diverse initiatives undertaken by the faculty and students and reflects their shared commitment to advancing the boundaries of biotechnology.”

— REGISTRAR

PROLOGUE



The Department of Biotechnology has always been more than just labs and lectures. It's a space where ideas grow, experiments spark curiosity, and students and faculty come together to push the boundaries of science. This magazine brings together highlights of that journey—our achievements, challenges, and the passion behind our work.

Every story has a beginning, and ours is rooted in curiosity and commitment. From early research efforts to recent breakthroughs, we've come a long way. This issue celebrates the people and moments that make our department thrive—a glimpse into the heart of biotech at its best.

VISION

Enlighten the potential of Biotechnology to achieve newer heights in the multi-disciplinary education, research and entrepreneurship and instill human values and welfare via promoting innovation in biotechnology for nation-building



MISSION

- To provide an academic ambience that emphasizes creativity and critical thinking among students
- To promote multi-disciplinary education, research and creative analysis among the students across diversified areas in biotechnology
- To display leadership qualities in pedagogy and learning for better understanding of mechanistic concepts in biotechnology

PROGRAMS & STREAMS

Our department offers a wide variety of opportunities through different streams across different programs.

**Integrated M.Sc. (5 Years)
Biotechnology**

**M.Sc.
Biotechnology (DBT Supported)**

**Ph.D.
Biotechnology**

**EMPOWERING DISCOVERIES,
SHAPING THE FUTURE: WHERE
PASSION MEETS INNOVATION IN
BIOTECHNOLOGY**

PEOPLE

Teaching Staff

**HEAD,
DEPARTMENT OF
BIOTECHNOLOGY**

Dr. J. RAJESH BANU

**Environmental Biotechnology &
Bioprocessing**



**DEAN,
SCHOOL OF INTEGRATIVE
BIOLOGY**

Prof. P. RAJAGURU

**Proteomics &
Biomarker Discovery**



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and
Neuroimmunology**

**Blood
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Stress Physiology**

**Experimental
Pharmacology
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CALIVARTHAN**

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Cardiovascular
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PEOPLE

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OFFICE ATTENDANT

DEPARTMENT

Research Areas

The Department of Biotechnology at the Central University of Tamil Nadu (CUTN) stands at the forefront of scientific discovery, fostering interdisciplinary research and innovation across diverse fields. Since its inception in 2012, the department has evolved into a dynamic hub where expertise in blood and vascular biology, biofuel research, infection biology, plant physiology, plant tissue culture, cancer therapeutics, proteomics biomarkers, molecular toxicology, microbial genomics and vector biology converges to address global challenges. Our department explores Blood and Vascular Biology, unravelling the complexities of circulatory health and disease mechanisms to develop innovative therapeutic strategies.

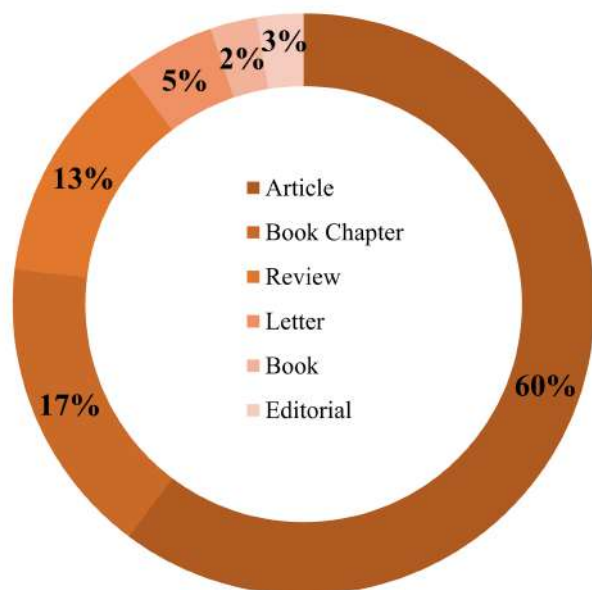
We push the boundaries of Cancer Therapeutics, identifying molecular targets and pioneering breakthrough treatments. Through Molecular Toxicology and Proteomics Biomarker Research, we decode cellular responses to toxins and uncover early disease indicators, driving advancements in precision medicine. Our research in Infection Biology, Microbial Genomics, and Vector Biology tackles emerging pathogens and disease transmission, leading to effective interventions. Beyond human health, we shape the future of agriculture and sustainable energy. Our work in Plant Physiology and Tissue Culture enhances crop resilience and productivity, while our cutting-edge Biofuel Research focuses on eco-friendly energy solutions that contribute to a sustainable future.



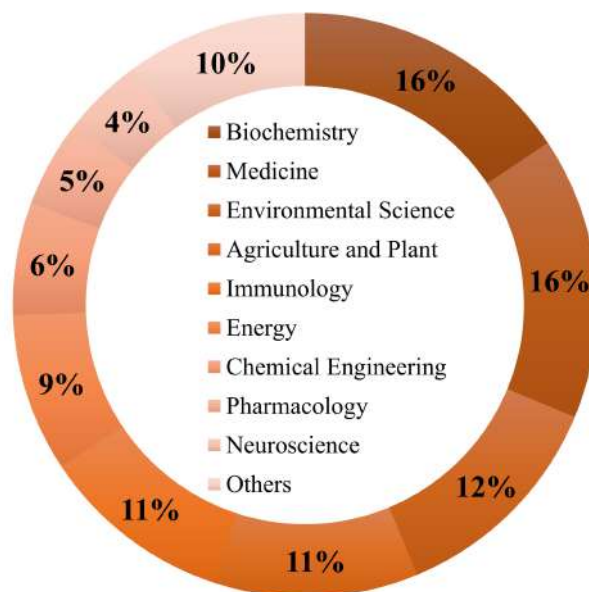
DEPARTMENT

Research Areas

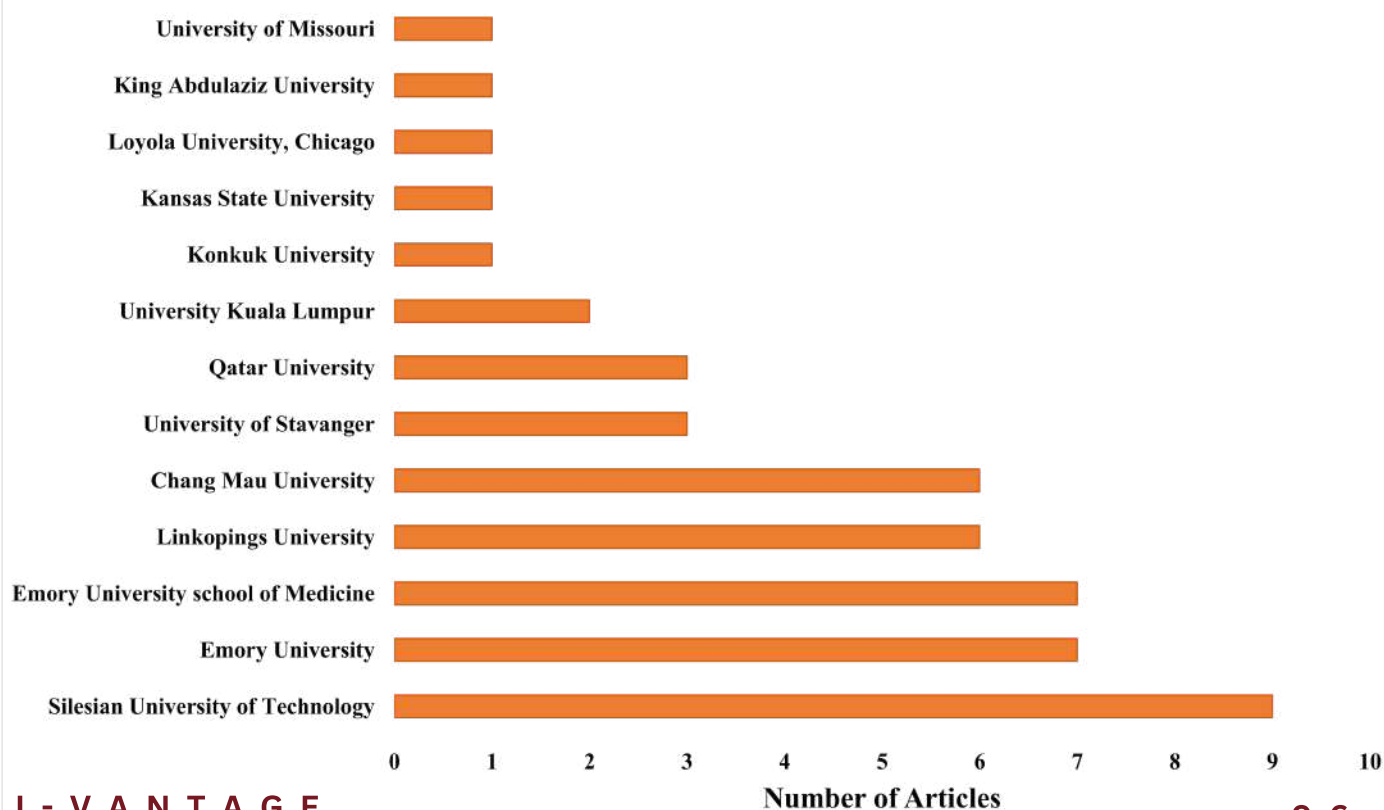
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PUBLICATIONS - RESEARCH AREA
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DEPARTMENT OF BIOTECHNOLOGY - INTERNATIONAL COLLABORATIONS
*SCOPUS 15-04-2025



DEPARTMENT

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54

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Byju, Rishaba; Sunil, Sredha; Parsanathan, Rajesh, et al. (2024) Comprehensive bioinformatic profiling of matrix metalloproteinases and their inhibitors: Expression and interaction patterns in head and neck cancer toward predictive biomarkers and personalized therapies. *Oral Oncol.*, 11, 100583. (IF: 8.6)

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Parsanathan, Rajesh; Palanichamy, Rajaguru. (2024) Environmental Endocrine Disruptors: A Silent Threat to Public Health in India. *Indian J Public Health*, 68, 466–467. (IF: 0.9)

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Radhakumar, Rajaram, Kaushik; Parsanathan, Rajesh. (2024) In Silico Analysis and Molecular Docking of Human Antimicrobial Peptides for Targeting Monkeypox Virus: Potential Therapeutic Implications of Histatin 5 Peptide. *J. Med. Chem.*, 21, 294–308. (IF: 1.9)

DEPARTMENT

Publications Book chapters 2025

MAY 2024-APRIL 2025

16



01

Ganesh PS, Naseef PN, Shankar EM. et al. (2024) *Acinetobacter baumannii* virulence factors...and inhibitors. In: ESKAPE Pathogens (Eds. Busi S & Prasad R) pp. 297-316. Springer Nature Singapore. ISBN: 978-981-99-8798-6

02

Ganesh PS, Yuwanati M, Shankar EM. et al. (2024). Antimicrobial photodynamic inactivation of oral bacteria. In: Antimicrobial Photodynamic...Applications. Eds. Busi S & Prasad R, pp. 203-218. Taylor & Francis ISBN: 978-1-032-38485-6

03

Jayalakshmi. K, Swathy Kannan, Impact of Nano-insecticides in Combination with Nanofertilizers, Nano-Insecticide Eds: Perumal Vivekanandhan, et al.. pp.241-256. ISBN978-3-031-75798-3.

04

Sathya Jeevitha. B, R. Narendar, Jayalakshmi. K, Mechanisms of Nano-insecticide Formulation Release, Nano-Insecticide. Eds: Perumal Vivekanandhan, et al.. pp.123-145. ISBN978-3-031-75798-3

05

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06

Farhat. SK, S. Binduja, Jayalakshmi. K, Human Toxicity of Nano-insecticides, Nano-Insecticide. Eds: Perumal Vivekanandhan, et al.. pp. 199-220. ISBN978-3-031-75798-3.

07

Joel Jaison, Jayalakshmi. K *, Mosquitoes Control Strategies to Reduce the Impact of Vector-borne Diseases. In. Vector Borne Diseases: Current...Public Health Perspectives, Eds: Jayalakshmi.K, pp. 1-8(8). ISBN: 978-981-5313-66-6

08

Narendar R., Jayalakshmi. K, Unraveling the Impact of Rickettsial Infections. In. Vector Borne Diseases: Current...Public Health Perspectives, Eds: Jayalakshmi. K, pp. 9-38 (30). ISBN: 978-981-5313-66-6

09

S. K. Farhat, Jayalakshmi. K*, Scrub Typhus and its Co-Infections with Vector Borne Zoonotic Diseases. In. Vector Borne Diseases: Current...Public Health Perspectives, Eds: Jayalakshmi. K, pp. 39-60 (22). ISBN: 978-981-5313-66-6

10

Binduja S., Jayalakshmi. K*, Silent Suffering: Lymphatic Filariasis in the Heart of India. In. Vector Borne Diseases: Current...Public Health Perspectives, Eds: Jayalakshmi. K, pp. 89-117 (29). ISBN: 978-981-5313-66-6.

11

Srivastava. PK, Pradhan M, Jayalakshmi. K. et al.. "Malaria ; An overview" In. Vector Borne diseases in India, Public Health Challenges, pp. 13-30, ISBN: 978-93-341-65-46-3.

DEPARTMENT

Publications Book chapters 2025

12

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14

Parijat Hazarika, Indranil. C, Sougata Ghosh, et al. (2024). Metagenomics approaches for microbiome analysis, In Developments in...Functional Metagenomics, Editor(s): Maulin P. Shah, Academic Press, pp.191-204, ISBN 9780323983723

15

Sebastian M, Bakka K, Challabathula D (2024) Metabolites and their regulation during salinity stress in plants. In. Plant Secondary Metabolites and Abiotic Stress, Eds: Ganesh C et al., pp. 299-348. Wiley, Scrivener Publishing LLC. ISBN:9781394185801

16

Latchoumycandane C and Mathur P.P. Effect of Endocrine Disruptors on Testicular Function. Yan Cheng and Fei Sun (Eds): Molecular Male Reproductive Medicine. 2025. ISBN No : 978-3-031-82989-5.

Out-REACH



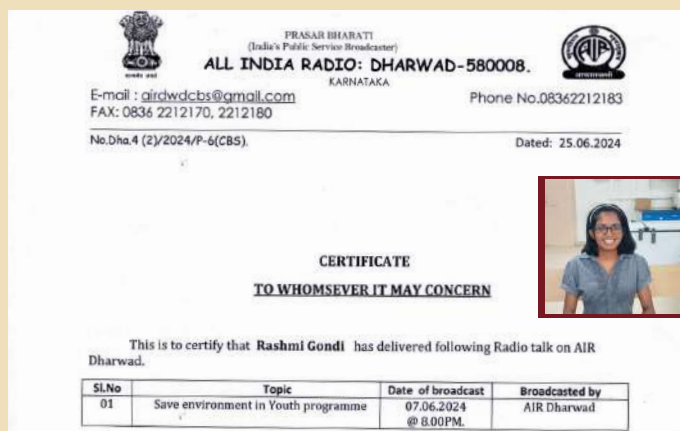
Dr. Jayalakshmi, Yoga and Menstrual Health for High School Students from Anaikuppam Village, Thiruvavur District" held under the Aegis of Unnat Bharat Abhiyan on the 19th March 2025



Creating awareness about research activities in biotechnology department to school students from the district of Kanyakumari, 09th March, 2025



Dr. J.Rajesh banu, Awareness programme for climate change and plastic usage for nursing students, Andavar college of nursing, Nagapattinam, organized by Tamil Nadu pollution control board, 29 April, 2025.



Radio talk given by Ms. Reshmi Gondi, research scholar of the department regarding awareness about environment

Out-REACH

MAY 04, 08:35 PM EDT **Medical Daily**

HEALTHY LIVING

Frequent Reuse Of Frying Oil Linked To Brain Damage, Study Suggests

Published Mar 27, 2024 2:47 AM EDT By Suneeta Sunny



The researchers noted higher levels of neurodegeneration in rats that consumed reheated oil and their offspring compared to rats on a normal diet. (PHOTO: IMAGE BY JCOMP ON FREEPRESS)

Eating food deep-fried in oil not only adds calories but also poses several health risks. Researchers have now found that frequent reuse of frying oil, a common practice in many homes and

biology's annual meeting, diets containing reheated cooking oils led to significantly increased levels of neurodegeneration compared to a standard diet.

"Deep-frying at high temperatures has been linked with several metabolic disorders but there have been no long-term investigations on the influence of deep-fried oil consumption and its detrimental effects on health. To our knowledge we are first to report long-term deep-fried oil supplementation increases neurodegeneration in the first-generation offspring," said Kathiresan Shanmugam, an associate professor from Central University of Tamil Nadu, India, who led the study.

The rats participating in the study were divided into five groups. Each group was given either standard chow alone or standard chow supplemented with 0.1 ml per day of unheated sesame oil, unheated sunflower oil, reheated sesame oil, or reheated sunflower oil for 30 days. The reheated oils were used to simulate the effects of reused frying oil.

The rats that consumed reheated sesame or sunflower oil had elevated oxidative stress and inflammation in the liver. They also had significant damage to the colon and associated changes in endotoxins and lipopolysaccharides; toxins released from certain bacteria.

The researchers noted higher levels of neurodegeneration in rats that consumed reheated oil and their offspring compared to rats on a normal diet. This is attributed to the disruption of the liver-gut-brain axis associated with the reheated oil.

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STAY & DINE

French fries and onion rings could contain chemicals that increase the risk of dementia: Scientists warn deep fat frying does more than just add pounds...

Eating onion rings and french fries could raise your risk of dementia, a new study on the harms of deep-fat frying suggests.

Researchers looked at the effect of food made using large amounts of cooking oil that's reused — which is often the case in restaurants.

They found that old oil can contain brain-damaging impurities, which ultimately end up in the food.

Find DailyMail

"That crispy snack might cost your brain."

Dr. Kathiresan Shanmugam of CUTN leads research uncovering how reused frying oil may trigger oxidative stress, gut imbalance, and early signs of neurodegeneration—even across generations.

INVITED TALKS BY Professors

Rajaguru. R., Invited talk on “Cytogenetics and Genotoxicity Methods in Environmental Exposure Studies” ICMR-National Institute for Research in Environmental Health, Bhopal, 22th April 2024.

Rajaguru. R., Invited talk on “Air Pollution and Human Health” Refresher Course in Life Sciences, UGC - Malaviya Mission Teacher Training Centre, Bharathiar University, Coimbatore. 27th Sept 2024.

Rajaguru. R., Invited talk on “Bioassay methods to evaluate safety of industrial effluents”, DST-SERB sponsored Workshop on Recalcitrant Pollutants... Toxicity Assessment, Anna University, BIT Campus, Trichy. 9th Jan 2025.

Shankar. EM., Invited talk on “Biofilm as an immune evasion strategy by bacteria”, Natl. Conf. on Combating Antimicrobial...Biofilm Inhibition Strategies, Dept. of Microbiology SIMTS, Chennai, 27th-28th Feb 2025.

Shankar. EM., Invited talk on “Microbes and mankind – The burden of infectious diseases”, Int. Conf. on Emerging and Re-emerging Infectious Disease, CSIR-SERC Campus, Taramani, Chennai, 17th-18th Feb 2025.

Shankar. EM., Invited talk on “Mediators of pyroptosis in HIV-TB associated immune reconstitution disease”, HRDC Refresher Course in Life Sciences, Madurai Kamaraj University, Madurai, 17th Dec 2024.

Shankar. EM., Invited talk on “Human pegivirus-1 infection – Implications for immunotherapeutic against HIV disease?” Int. Conf. on Drug Design, and Discovery, Tagore Medical College, Chennai. 29th-30th Aug 2024.

Rajesh Banu. J., Invited talk on “Climate change and occurrence in cyclone management” at AICTE sponsored FDP on Resilient infrastructure for cyclone prone Areas, Dept. of Civil Engg., SSM Institute of Engg., and Tech., Dindigul, 06th Feb, 2025.

Rajesh Banu. J., Invited talk on “Biorefinery of waste biomass” at DST SERB sponsored Natl. Seminar on Circular Chemistry- A Road Map to Sustainability, Dept. of Chem., CHRIST (Deemed to be University), Bengaluru, 14th - 15th Oct 2024.

Rajesh Banu. J., Plenary lecture on “Macroalgal biorefinery” at Int. Conf. on Innovations in Invasive Aquatic Weed...Sustainable Development, Dept. of Env. Studies, Visva-Bharathi University, West Bengal, 16th May, 2024.

Kathiresan. S., Invited talk on “High Value Poly Unsaturated Fatty Acids (HVPUFAs) – Its Production Possibilities in Oilseed Plants” UGC-Sponsored Refresher Course in Biological Science, Bharathidasan University, Tiruchirappalli, 22th Jan 2025.

Kathiresan. S., Invited talk on “Microalgal Genes and ...through Pathway Engg. Strategies”, Seminar on Trends in Algal Research, Madurai Kamaraj University, Madurai, 3rd Oct 2024.

Kathiresan. S., Invited talk on “Exploration of Microalgal Genes for the Genetic Improvement in Crop Plants”, Workshop on Plant Genome Engineering, Dept. of Horticulture, CUTN, Thiruvavur, 07th Nov 2024.

Jayalakshmi K., Invited talk on “*L. deliense* is the major mite species...from Thiruvavur district of Tamil Nadu”, 5th Int. Conf. on Recent trends in...Biotechnology, Maharishi Markandeshwar University, Haryana, 12th Dec 2024.

Jayalakshmi K., Invited talk on “Overview of chordates with reference to Evolution of horses”, Indo Japan symposium, Dept. of Zoology, Central University of Punjab and the Dept. of Paediatrics, AIIMS, Bathinda, Punjab, 2nd Dec 2024.

Jayalakshmi K., Invited talk on “Scrub typhus incidence in Thiruvavur”, State level seminar on innovations and emerging trends in vector associated parasitic diseases –Zika, Dengue and Scrub typhus”, PG and Research Dept. of Zoology, Poompuhar College, Melaiyur, Tamil Nadu, 9th Oct 2024.

Jayalakshmi K., Invited talk on “ Identification of serotypes of *Orientia tsutsugamushi* from infected scrub typhus patients of Thiruvavur District of Tamil Nadu, AIIMS, Madurai, 19th October 2024.

INVITED TALKS

BY *Professors*

Jayalakshmi K., Invited talk on “Personal Hygiene and Self-care for Disease Prevention” organized by the NCC and NSS in association with Center for Happiness, Dept. of Physical Education and Sports, Dept. of EPH and Dept. of Psychology, CUTN, 25th Sept 2024.

M. Kannan., Invited talk on “Molecular mechanisms in the pathogenesis of ITP” at Dept. of Pharmacology and Pathology, Loyola University Medical Center, Stritch School of Medicine, Chicago, USA, 2nd Dec 2024.

M. Kannan., Invited talk on “Molecular aspects of Immune Thrombocytopenia” at the Natl. Hematology Update, Dept. of Hematology, AIIMS, New Delhi, 2nd Feb 2025.

Indranil C., Invited talk on “Impact of food based antimicrobial peptides ...*in silico* approaches”, 65th Annual Int. Conf. of the Association of Microbiologists of India, Guru Jambheshwar University, Hisar, Haryana, 14th -17th Nov. 2024.

Indranil C., Invited talk on “In silico Identification of Bioactive Treasure...aggravated Oral Cancer”, Int. Conf. on Integrative Oncology and Systems Medicine: Emerging Trends and Therapeutic Potential, Sridev Suman Uttarakhand University, Uttarakhand, 20nd-21st Feb, 2025.

Indranil C., Invited talk on “Microbial Allies...Therapeutics”, National Conf. on Tackling Tomorrow’s Threats: Emerging Infectious Diseases, Drug Development, and Global Health Innovations." at Paavai Engineering College, Namakkal, 21st-22nd March, 2025.

Dinakar. C., Invited talk on “Physiological and molecular insights on multifarious roles of alternative oxidase” in Int. Conf. on Developments in Plant Biology and Biotechnology, University of Hyderabad, 29th-31st Jan 2025.

Dinakar. C., Invited talk on “Activation of redox dissipation pathways...halotolerant PGPB” 18th Int. Phytotechnology Conf., University of Calicut, Kerala, 22nd-24th Oct 2024.

Dinakar. C., Invited talk on “Protection of Photosynthesis ... in *L. esculentum* and *O. sativa* plants upon inoculation with halotolerant PGPB”. Natl. Conf. on The Beneficial Microbes ... Challenges” Bharathiar University, Coimbatore. 30th July, 2024.

Latchoumycandane. C., Invited talk on "Alcoholic Liver Injury: How Does Renal Injury Connect to Mortality?" Int. Conf. on Exploring New Insights...and Advancements in Life Science, SMVEC, Puducherry 10th-11th Sept, 2024.

Poornachander. G., Invited talk on “Flavonoid: Their promising role in Cancer therapy” in Workshop on Animal Cell culture. Raja bahadur Venkata Rama Reddy Women's college, Hyderabad, Telangana,. 25 and 26th Sept 2024.

Poornachander. G., Invited talk on “Synergistic Natural Drug Combinations in Targeted Breast Cancer Therapy” Natl. seminar on AI in higher education and Research, Dept. of Micro. and Comp. science, Govt. Degree College, Telangana, 3rd and 4th Jan 2025.

Parsanathan. R., Invited talk on “Epigenetic Mechanisms...and Insulin Resistance Management” 12th Annual Conf. of Endocrine Society of Tamil Nadu & Puducherry (ESTN), Suganya Convention Centre, Puducherry, 14th-16th June 2024.

Parsanathan. R., Invited talk on “Rationalizing the Use of Indian Medicinal Plants...In Vitro Studies” Int. Conf. on “Phytopharmaceuticals – An Emerging...Health Care STET Women’s College, Mannargudi, 25th-26th Sept 2024.

Parsanathan. R., Invited talk on “Transforming Therapeutics: Proteolysis-Targeting Chimeras as a Vanguard Against Antimicrobial Resistance” Int. conf. on “Transforming Health ...Solutions (THM: IICSABS’24)” Holy Cross College, Trichy, 10th-12th Dec 2024.

Parsanathan. R., Invited talk on “Glutathione and Vitamin D: Molecular Mechanisms of a Two-Way Interaction” HRD Scheme Training Programme under the Dept. of Health Research, MGM Advanced Research Institute, Puducherry, 24th-29th Mar 2025.

RESEARCH PROJECTS

S.NO	NAME/ROLE	SPONSORING AGENCY	TITLE OF THE PROJECT	DURATION	AMOUNT SANCTIONED (RS.)
01	Dr. Indranil C PI		Evaluation of Antibiofilm ... and their Inflammatory Potentials in Oral Epithelial Cells	Mar 2023-2026	20,00,000
02	Dr. Kathiresan S PI		Influence OF ----- Genes on Omega3/6 Fatty Acid---A Genetic Engineering Approach	June 2023-2026	43,74,000
03	Dr. Rajesh Banu J PI		A novel bioconversion of VFA concomitant synthesis of biopolymer-based NP	Oct 2023-2026	42,00,000
04	Dr. Jayalakshmi K PI		Prevalence of substance abuse in University/College students in four metropolitan cities of India.	Oct 2023-2025	8,05,300
05	Dr. Dinakar C PI		Elucidating the dynamics of photosynthesis for crop improvement in the scenario of climate change	Nov 2023-2026	48, 41,782
06	Dr. Jayalakshmi K Co-PI		Quality of Life, Determinants and PerceivedThree Southern States of India	Jan 2024-2026	11,00,000
07	Dr. Dinakar C Co-PI		Reverse genetics approach for functionalin <i>Saccharomyces cerevisiae</i> .	Feb 2024-2026	44,78,315

CONSULTANCY PROJECTS

08	Dr. Jayalakshmi K	Ajay Biotech, Pune	Mosquito vaporizer testing in Dengue vectors	Mar 2025-2026	50,000
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OUTBOUND ACADEMIC *Visit*



Dr. MEGANATHAN KANAN

Peering into Platelets: On December 2, 2024, Dr. M. Kannan electrified the halls of Loyola University Chicago, USA with a deep dive into the molecular maze of Immune Thrombocytopenia, turning complex science into clinical clarity. He was also invited for a talk at the 66th American Society of Hematology, conducted on 7th-10th December 2024 at San Diego, USA and the 32nd Congress of the International Society on Thrombosis and Haemostasis, 22nd-26th June, 2024. Bangkok, Thailand.

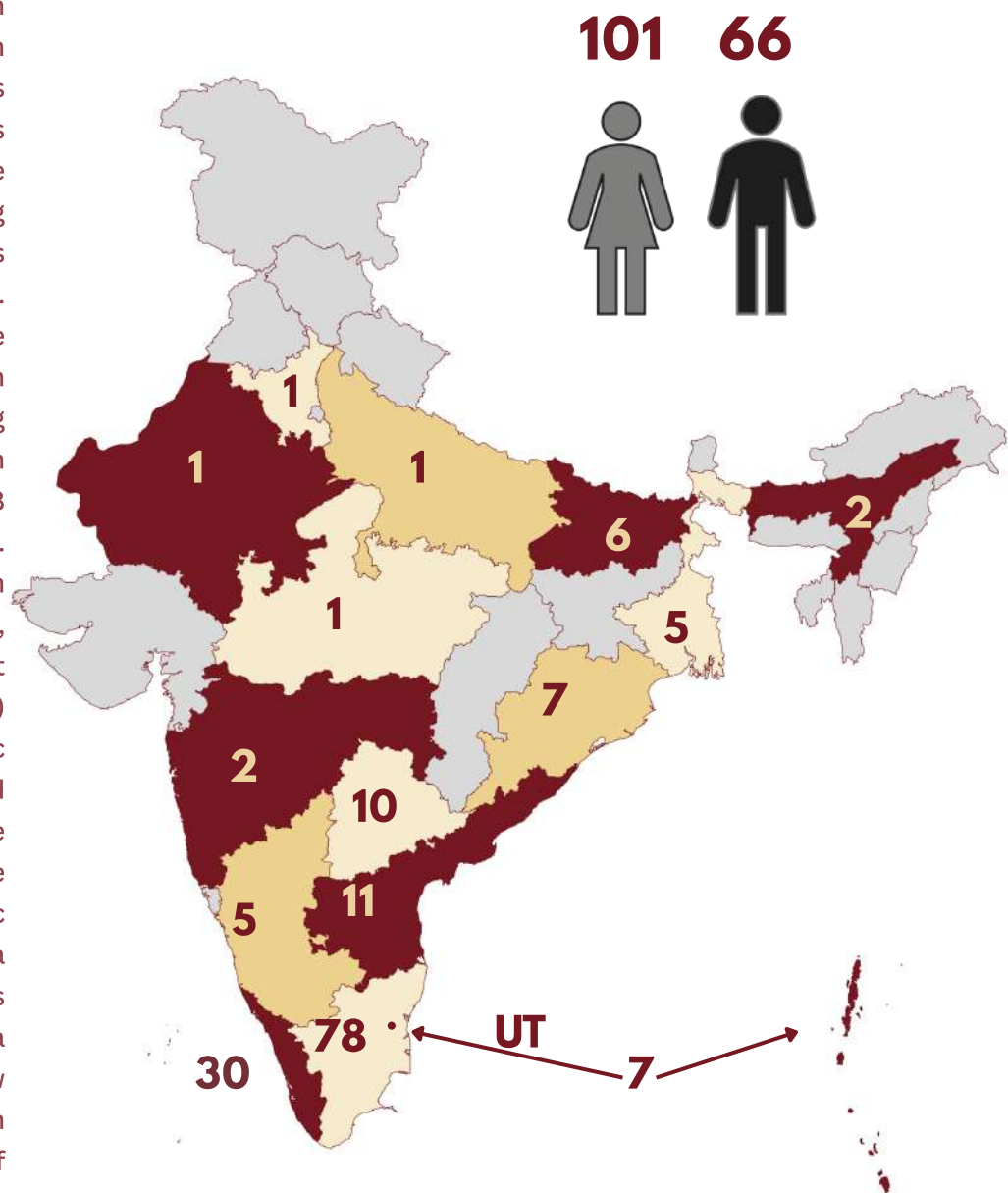
FELLOWSHIP

S.NO	NAME	SPONSORING AGENCY	NAME OF THE FELLOWSHIP	DURATION	AMOUNT SANCTIONED (RS.)
01	 Dr. Raja Lakshmi, M.Sc., M.Phil., Ph.D		Research Associate	Jan 2023-2026	22,96,800
02	 Dr. Zarin Taj, M.Sc., Ph.D.		Research Associate	Jan 2023-2026	22,17,600
03	 Dr. Preethi, M.E., Ph.D		Research Associate	Feb 2024-2026	15,28,000

STUDENT Diversity

At the Central University of Tamil Nadu, the Department of Biotechnology brings together students from all over India, creating an exceptionally diverse academic setting. The current batch includes 167 students enrolled across different programs, such as Integrated M.Sc., M.Sc. Biotechnology, and Ph.D. Notably, girl students show a strong interest in the field, making up the majority with 101 out of the 167 students. This encouraging gender ratio highlights the department's inclusive environment and the growing enthusiasm among female students to pursue careers in biotechnology. The department attracts a diverse range of students and research scholars, with a strong representation from nearby southern states—Tamil Nadu leading with 78 and Kerala following with 30. Additionally, students from Telangana (10), Andhra Pradesh (11), Karnataka (5), Maharashtra (2), West Bengal (5), and Union Territories (7) contribute to the academic environment, reflecting its broad reach. What stands out is not just the geographic diversity, but also the department's inclusive academic culture, which draws learners from a wide range of backgrounds. This diversity of backgrounds supports a collaborative environment where new ideas thrive, grounded in both academic learning and the richness of cultural exchange.

Program	Students
Integrated M.Sc.	109
M.Sc.	37
Research Scholars	21
Total number of Students	167



DBT

Family

I.M.Sc. BIOTECHNOLOGY



1st Year

I.M.Sc. BIOTECHNOLOGY



2nd Year

I.M.Sc. BIOTECHNOLOGY



3rd Year

I.M.Sc. LIFE SCIENCES



4th Year

I.M.Sc. LIFE SCIENCES



5th Year

RESEARCH SCHOLARS



DBT

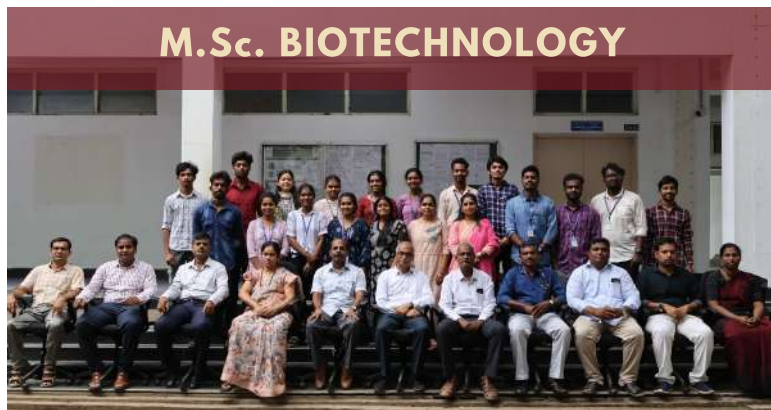
Family

M.Sc. BIOTECHNOLOGY



1st Year

M.Sc. BIOTECHNOLOGY



2nd Year

Staff





The STUDENT SENATE

EVERY ACCOMPLISHMENT STARTS WITH DECISION TO TRY

The Student Senate serves as the primary representative body for students, advocating for their academic and extracurricular interests. It ensures effective communication and constructive feedback on institutional policies.

The Senate has been actively promoting student unity, facilitating communication, and encouraging participation through various initiatives such as department festivals, guest lecturers, and addressing student issues.

Through these efforts, the Senate strengthens student representation, supports a balanced academic-social experience, and drives impactful change, significantly enhancing overall development across the university.

Leadership is not about titles; it's about impact. Meet the change makers of our Department."



PRESIDENT

Thrisha Lakshmi
(5th year, I MSc Life sciences)



VICE PRESIDENT

Bijoy K P
(2nd year, MSc Biotechnology)



SECRETARY

Santhosh Kumar V
(4th year, I MSc Life sciences)



TREASURER

Arthika Vimal
(3rd year, I MSc Biotechnology)



JOINT SECRETARY

Shivakumar
(2nd year, I MSc Biotechnology)

During this academic year, Teachers' day, Freshers' day, Pongal celebration 2025, National science day celebration 2025, and Farewell day were successfully funded and organized by the Student Senate

CRESIMENTO' 24

25TH APRIL 2024

The preceding edition of the annual academic magazine of the Department of Biotechnology was officially released on April 25, 2024, by our esteemed Vice Chancellor at the Kailash Satyarthi Block Auditorium. This edition was a reflection of the dedication and innovation of our students, research scholars, and faculty, featuring a diverse collection of articles covering groundbreaking research and emerging trends in biotechnology. Contributions from alumni and students provided valuable and insightful perspectives, enriching the magazine's content. Additionally, it highlighted the significant achievements of our department, including pioneering research milestones, student-led initiatives, and faculty contributions.

Our department unveiled its official video on the same day, offering a visual narrative of our academic excellence, research endeavors, and vibrant student community. The video captured the essence of our department, showcasing state-of-the-art laboratories, cutting-edge research projects, and the collaborative spirit that drives innovation. It served as an inspiration to prospective students and collaborators while also instilling a sense of pride among faculty and alumni. The launch of both the magazine and the video was a testament to our department's commitment to research, dedication to knowledge dissemination, and its continuous pursuit of excellence.

SCI-VANTAGE
MAGAZINE DEPARTMENT OF BIOTECHNOLOGY

2024 VOL.2

CENTRAL UNIVERSITY
OF TAMIL NADU



MAGAZINE



DEPARTMENTAL VIDEO



DBT Café

DBT Café is the jewel of the Department of Biotechnology. It is a lecture series designed with the aim to provide an esteem platform flourished with opportunities to share and improve each other with knowledge. The main accomplishment of the DBT Café is its capability to integrate all ranks of the scientific community from student to professors only with respect to their knowledge. In the academic year (2023-24) itself the DBT Café program has shown its capability to culture a professional environment for learning.

DR. MANSI MALIK

Date: 29.09.2024

Topic: Clinical Surveillance of Vector-Borne Diseases: A Molecular Approach



DR. MUTHURAJ SANGU

Date: 30.09.2024

Topic: Imaging Tools: Diagnostic Perspectives in Parasitic Diseases



DR. JAYARAMAN THARMALINGAM

Date: 07.10.2024

Topic: Immuno-basis of Neurocysticercosis: An Indian Patient's Perspective



PROF. MICHAEL GROMIHA

Date: 18.10.2024

Topic: Bioinformatics Approaches for Understanding Mutational Effects on Protein Structure and Function: Implications for Diseases





**PROF. SHIZUYO
SUTO**

Date: 22.10.2024

Topic: Radiation hormesis -
Low dose radiation



**DR. AMIT KUMAR
BAJHAIYA**

Date: 11.02.2025

Topic: Bioengineering and Metabolite
Production: The Saga of Algal
Industries



PROF. N. SAKTHIVEL

Date: 21.02.2025

Topic: Bioactive Molecules,
Bionanomaterials and Research
Ethics



DR. KAVYA BAKKA

Date: 06.03.2025

Topic: Comprehensive overview of
CRISPR-Cas mediated genome editing

**DR. ANAND SETTY
BALAKRISHNAN**

Date: 25.03.2025

Topic: Phage Screening identified anti-genic
allergens potentially responsible for human
filarial Tropical Pulmonary Eosinophilia



**DR. AMUTHA
SANTHANAM**

Date: 25.03.2025

Topic: Functionalized
Biogenic Metal
Nanoparticles for
Biomedical
Applications



**DR. RAJENDIRAN
VENUGOPAL**

Date: 24.04.2025

Topic: Medicinal Inorganic Chemistry:
Copper (II) and Ruthenium (II) Complexes
as Potential Anticancer Agents



DR. SRIVIGNESH

Date: 09.04.2025

Topic: Genetic Improvements in
Agriculture





ON

One Day
Seminar

BIOMEDICAL SCIENCES

Speakers

**DR. BALACHANDER VELLINGIRI**

ASSOCIATE PROFESSOR
DEPARTMENT OF ZOOLOGY,
SCHOOL OF BASIC SCIENCES
CENTRAL UNIVERSITY OF PUNJAB.

**DR. N. ARUL**

ASSISTANT PROFESSOR
DEPARTMENT OF ZOOLOGY
BHARATHIAR UNIVERSITY
TAMIL NADU

**PROF. JOHN AEDRENDAL**

SOUTHERN UNIVERSITY OF
DENMARK

**One-Day Lecture Series on Biomedical Sciences
Organized by the Department of
Biotechnology, CUTN – 15.10.2024**

The Department of Biotechnology, CUTN, hosted a one-day lecture series on “Biomedical Sciences and its Applications in Healthcare” on October 15, 2024. The event began with an inaugural address by the Head of the Department, followed by a lecture from Dr. Balachander Vellingiri, sparking insightful discussions with students.

Post-lunch, Dr. N. Arul from Bharathiar University delivered a talk on “Animal Models: Key Tools for Biomedical Discovery,” highlighting their importance in medical research. The session concluded with an engaging interaction with Prof. John Aedrendal from Southern University of Denmark, who shared valuable insights on research and job opportunities in Denmark.

The event inspired students and provided a platform for meaningful academic exchange.





One Day Seminar

ON

On 28th October 2024, the Department of Biotechnology at the Central University of Tamil Nadu hosted a one-day seminar on "Innovations of Biotechnology for Sustainability." The event was a vibrant gathering of experts, faculty, and students, all excited to explore biotechnology's role in a sustainable future. The seminar featured engaging sessions by Prof. K. Dharmalingam on microbial dark matter, Prof. S. Karutha Pandian on proteomics, Prof. S. Mathavan on genomics using zebrafish, and Dr. P. Sundaresan on ocular disease genetics. The day began with welcome addresses by dignitaries including Vice-Chancellor Prof. M. Krishnan and Dean Prof. P. Rajaguru. Participants enjoyed an enriching academic experience punctuated by lively discussions and warm hospitality. The event created a platform for knowledge-sharing and inspiration, especially for young researchers and students. It concluded with a touching memento presentation and a vote of thanks, leaving attendees energized and motivated by the power of biotechnology to address real-world challenges. The seminar was a memorable celebration of scientific innovation and collaboration.

INNOVATIONS OF BIOTECHNOLOGY FOR SUSTAINABILITY

Speakers



PROF. K. DHARMALINGAM

**DIRECTOR
ARAVIND MEDICAL
RESEARCH FOUNDATION**



PROF. S. KARUTHA PANDIAN

**HONORARY VISITING
PROFESSOR
DEPT. OF BIOTECHNOLOGY,
ALAGAPPA UNIVERSITY**



PROF. S. MATHAVAN

**CHIEF SCIENTIST, SENIOR
PROFESSOR & HEAD
ONGC GENETICS &
MOLECULAR BIOLOGY LAB**



DR. P. SUNDARESAN

**SENIOR SCIENTIST ARAVIND
MEDICAL RESEARCH
FOUNDATION**

Respected Chief Guests

PROF. K. DHARMALINGAM
DIRECTOR
ARAVIND MEDICAL
RESEARCH FOUNDATION

PROF. S. KARUTHA PANDIAN
HONORARY VISITING
PROFESSOR
RESEARCH DEPT. OF
BIOTECHNOLOGY,
ALAGAPPA UNIVERSITY

PROF. S. MATHAVAN
CHIEF SCIENTIST, SENIOR
PROFESSOR & HEAD
ONGC GENETICS &
MOLECULAR BIOLOGY LAB

DR. P. SUNDARESAN
SENIOR SCIENTIST
ARAVIND MEDICAL
RESEARCH FOUNDATION

ONE DAY SEMINAR

INNOVATIONS OF BIOTECHNOLOGY FOR SUSTAINABILITY

**28th
OCTOBER 2024**
10.00 AM - 5.00 PM

ALL ARE CORDIALLY INVITED

ORGANIZED BY
DEPARTMENT OF BIOTECHNOLOGY
SCHOOL OF INTEGRATIVE BIOLOGY



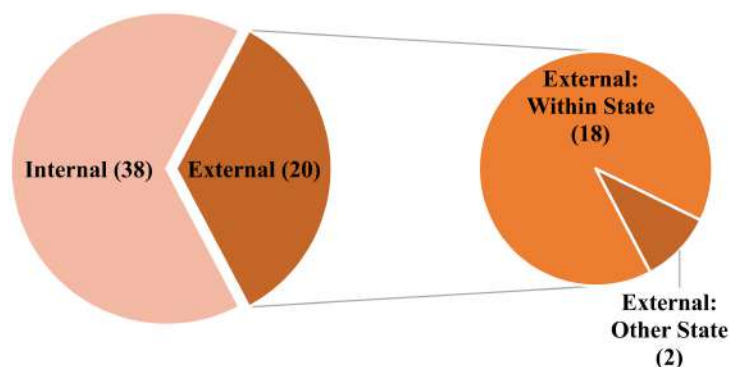


HANDS-ON TRAINING ON ADVANCED TECHNIQUES IN BIOTECHNOLOGY

The Department of Biotechnology, Central University of Tamil Nadu, successfully organized a One-Week Hands-on Training Workshop on Advanced Techniques in Biotechnology from January 6 to January 11, 2025. The workshop, which aimed to equip students and young researchers with practical exposure to cutting-edge biotechnological methods, had a total of 58 participants – 38 from CUTN and 20 from other institutions, including 2 students from neighboring states.

Participants engaged in a wide range of experiments, including PCR amplification, flow cytometry, biofilm quantification, and network pharmacology. The program also featured insightful sessions on plant transformation, microbial analysis, and nanoparticle synthesis. The workshop fostered skill development in experimental design, data analysis, and real-world applications, offering an enriching platform for budding scientists to build confidence and expertise in modern biotechnology.

Students Participation:



WORKSHOP



NATIONAL Symposium ON

BIOTECHNOLOGY AT THE CROSSROADS OF INTERDISCIPLINARY SCIENCES

On March 17th and 18th, 2025, the Department of Biotechnology at the Central University of Tamil Nadu (CUTN) hosted a National Symposium titled "Biotechnology at the Crossroads of Interdisciplinary Sciences." The event commenced with the arrival of the Hon'ble Vice Chancellor, Prof. M. Krishnan, who formally inaugurated the symposium and delivered an inspiring address highlighting the transformative potential of biotechnology in today's world.

The symposium featured eminent speakers including Prof. M. Radhakrishnan, Prof. Prakash M. Halami, Prof. Kumar Somasundaram, Dr. S.L. Hoti, Prof. Ram Rajasekharan, and Dr. Debasree Dutta. Over two days, the sessions explored advanced topics such as RNA-mediated p53 inactivation, DISCo, thermogenic foods, disease vector control, lasso peptides in probiotics, and the bioprospecting of Actinobacteria—underscoring biotechnology's expanding role in environmental sciences, agriculture, and human health.

Topics

- Bioprospecting of Actinobacteria for under-studied habitats: opportunities and challenges
- Lasso peptide producing probiotic *Bacillus licheniformis* for food security and safety
- RNA-mediated p53 inactivation
- DISCo-A new state of pluripotency in the developmental continuum
- Obesity and thermogenic foods
- Control of disease vectors - biotechnological armoury for waging a war

17th March & 18th March 2025

Organized by
Department of Biotechnology (DST-FIST sponsored & DBT funded)
School of Integrative Biology

Central University of Tamil Nadu

Patron
Prof. M. Krishnan
Vice-Chancellor
Central University of Tamil Nadu

Co-Patron
Prof. R. Thirumurugan
Registrar
Central University of Tamil Nadu

Speakers



DR. M. RADHAKRISHNAN

PROFESSOR, CENTRE FOR DRUG DISCOVERY AND DEVELOPMENT, SATHYABAMA INSTITUTE OF SCIENCE AND TECHNOLOGY



DR. DEBASREE DUTTA

RAJIV GANDHI CENTRE FOR BIOTECHNOLOGY, THIRUVANANTHAPURAM, KERALA



DR. PRAKASH M. HALAMI

CHIEF SCIENTIST & PROFESSOR-ACSIR, CSIR- CENTRAL FOOD TECHNOLOGICAL RESEARCH INSTITUTE, MYSORE, INDIA



PROF. RAM RAJASEKHARAN

DEPARTMENT MICROBIOLOGY SCHOOL OF LIFE SCIENCES CENTRAL UNIVERSITY OF TAMIL NADU, THIRUVARUR



KUMAR SOMASUNDARAM

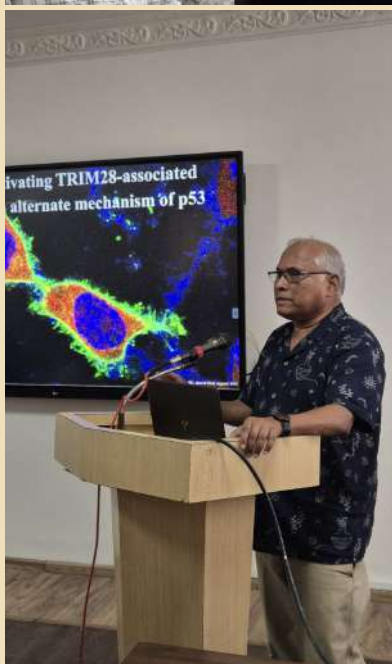
PROFESSOR AT THE DEPARTMENT OF MICROBIOLOGY CELL BIOLOGY, INDIAN INSTITUTE OF SCIENCE, BANGALORE, INDIA



DR. S.L. HOTI

CMR-EMERITUS SCIENTIST, ICMR- VECTOR CONTROL RESEARCH CENTRE, IPUDUCHERRY, INDIA.

NATIONAL Symposium





NATIONAL SCIENCE DAY *Celebration* 2025

26TH TO 28TH FEBRUARY 2025



The National Science Day, organized by the Department of Biotechnology, was a **three-day** event that featured a series of innovative talks from renowned scientists, as well as engaging games and competitions for students across various departments.



NATIONAL SCIENCE DAY Celebration _____ 2025



26.02.2025

1st Day

On February 26th, the event featured two talks:

Dr. Gopinath Viswanathan, Senior Research Associate at Duke University School of Medicine, discussed coding macrophage and neutrophil dynamics during mycobacterial infection.

Dr. B. Syed Ibrahim, Associate Professor at Pondicherry University, discussed characterization and structural studies of MICOS using in silico and in vitro approaches. Both presentations provided valuable insights into the topic.



27.02.2025

2nd Day

On February 27th, two informative talks were held:

Prof. Yogalakshmi K.N. from Central University of Punjab delivered a talk on Biorefineries: A Path to Resource Recovery from Waste.

Mr. Jithin C. Mohan from Beckman Coulter Life Science India Pvt. Ltd., Bangalore gave an educational Seminar on Flow Cytometer.

The presentations were followed by an interactive quiz session to test students' understanding of the material.



28.02.2025

3rd Day

The final day of the National Science Day celebrations took place on February 28th. The day began with a webinar hosted by Mr. Saurav Kumar Srivastava, focusing on the topic: 3D Bioprinting Applications and Career Prospects.

FOLLOWED BY

EVENT-X

SCI-WHIZ QUIZ

TREASURE HUNT

CONCLUSION

EVENT-X

01

The webinar concluded with the "EVENT-X" event, where student teams presented on a specific topic. Judges, Dr. Meganathan Kannan and Dr. Poornachandar Gugulothu, evaluated each team's presentation and determined the best one based on their assessments.

SCI-WHIZ
QUIZ

02

The second event, "SCI-WHIZ QUIZ," was a lively quiz competition featuring students from various departments. The quiz was intellectually stimulating and interactive, allowing participants to test their expertise and engage in friendly competition, focusing on general knowledge.

TREASURE
HUNT

03

The TREASURE HUNT was a thrilling competition where students divided into teams solved riddles across the university. The event tested their intellect and teamwork, highlighting their problem-solving skills, collaboration, and quick thinking under pressure. The atmosphere was charged with excitement and adrenaline.

CONCLUSION

04

The National Science Day event was a success, providing a platform for students to learn, interact, and showcase their talents. It met its objectives of increasing scientific awareness and fostering collaboration among students. The Department of Biotechnology honored guest speakers, volunteers, and participants, expressing gratitude to all. The event was supported by Prof. J. Rajesh Banu, Head of the Department, and Prof. P. Rajaguru, Dean of the School of Integrative Biology. Special thanks are given to Dr. Dinakar Challabathula and the STUDENT SENATE for their pivotal role in the event's success.

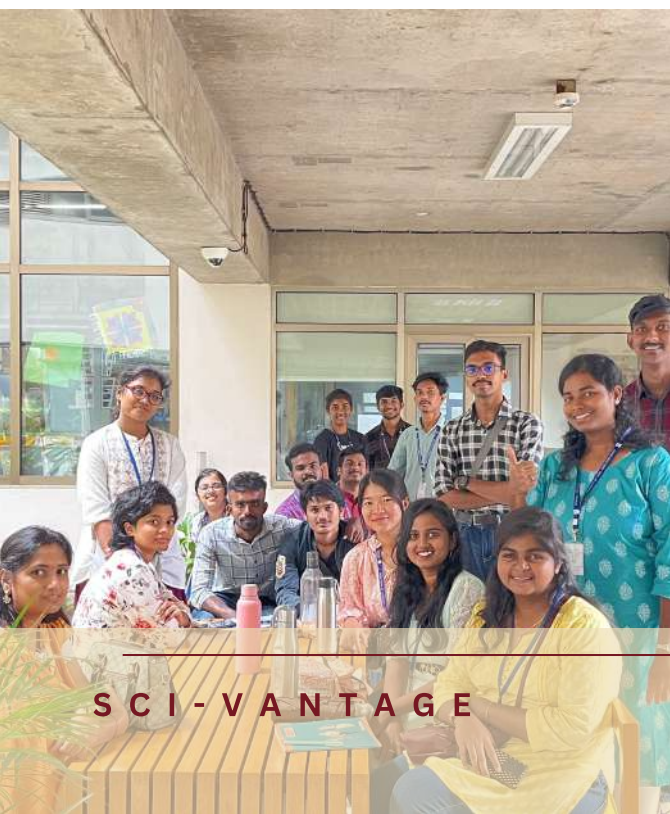


NATIONAL SCIENCE DAY *Celebration* _____ 2025



INDUSTRIAL Visit 2024

(IV)



The industrial visit was organized to provide students with practical exposure to scientific institutions and enhance their understanding of research and technology. Students from IM.Sc. 5th year and M.Sc. Biotechnology 2nd year were benefitted from this industrial visit. The visit took place over four days from October 7th to 10th, 2024, covering multiple destinations such as the National Centre for Biological Sciences (NCBS), the Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), and the Lal Bagh Botanical Garden. The students had a smooth journey from CUTN to Hosur, where they had dinner and continued their journey.

On the second day, the students visited NCBS, JNCASR, and Lal Bagh Botanical Garden, where they learned about advanced biological research, innovative laboratory techniques, and ongoing research projects. The students then had an educational and recreational activity at the Lal Bagh Botanical Garden, where they appreciated biodiversity, ecological conservation, and botanical research. The students returned to CUTN at 7:00 AM, marking the end of an enriching industrial visit that provided both academic and practical exposure.

Conclusion

The industrial visit was a highly informative experience, allowing students to gain real-world exposure to research institutions, technological advancements, and scientific explorations. It served as a bridge between theoretical knowledge and practical applications, reinforcing key scientific concepts and fostering a deeper interest in research and innovation. Overall, the visit proved to be an invaluable learning opportunity for all participants.

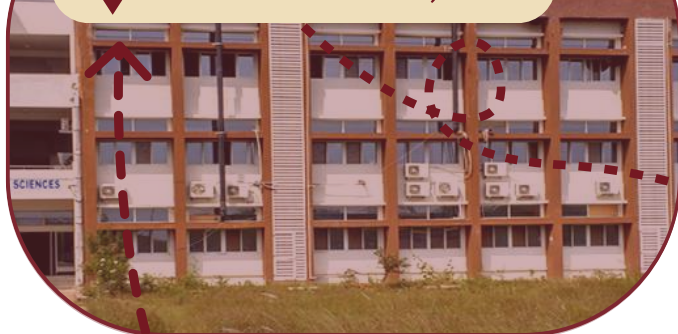


ROADMAP

OF IV



**DEPARTMENT OF
BIOTECHNOLOGY, CUTN**



**NATIONAL CENTRE FOR
BIOLOGICAL SCIENCES (NCBS)**



**LALBAGH BOTANICAL
GARDEN**



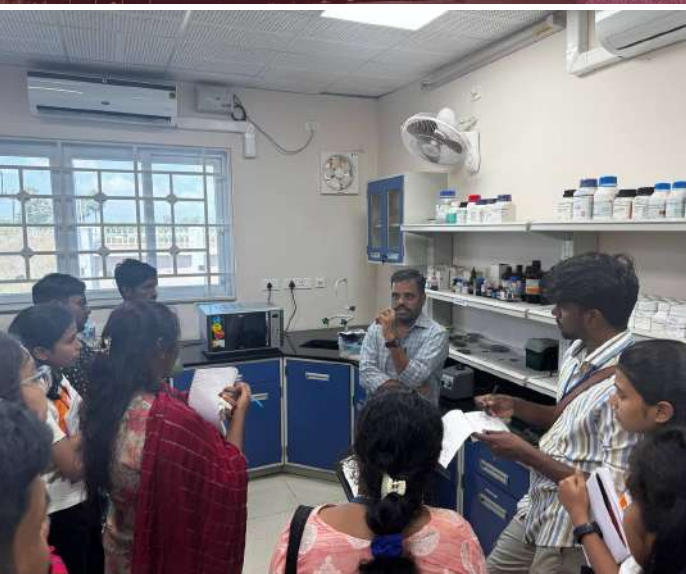
जवाहरलाल नेहरू उन्नत वैज्ञानिक अनुसंधान केंद्र
विज्ञान एवं प्रौद्योगिकी
एवं विज्ञानिक अनुसंधान केंद्र
Jawaharlal Nehru Centre for Advanced Scientific Research
An Institution Dedicated to the Advancement of Science and Technology, New Delhi



**JAWAHARLAL NEHRU CENTRE FOR
ADVANCED SCIENTIFIC RESEARCH**



INDUSTRIAL Visit 2025



A one-day field trip was conducted for IM.Sc. 2nd, 4th, and M.Sc. Biotechnology 1st Years under the guidance of Assistant Professors Dr. Jayalakshmi Krishan and Dr. Poornachandar Gugulothu. The trip began at Central University of Tamil Nadu and ended at RGCA, Sirkali. The visit began with an introduction to infrastructures, projects, lab facilities, and the history of RGCA. The group then moved to the Central Aquaculture Pathology Laboratory (CAPL), where they learned about PCR, centrifuge, and molecular pathology analysis. They then learned about water quality analysis for samples from agriculture farms and hatcheries from Senior Field Officer Krishnakanth Varadaraju. From CAPL, they moved to the Central Aquaculture Genetics Laboratory (CAGL), where they learned about Automatic DNA Extractor, Electrophoresis system, species identification with genetic markers, and Chromatography technique. The group then visited the Seabass Hatchery, where they learned about seabass seed development, Rotifer production, algae, larva rearing, and recirculation of the aquaculture system.



ROADMAP

OF INDUSTRIAL VISIT

1



**DEPARTMENT OF BIOTECHNOLOGY,
CUTN, THIRUVARUR**

2



**RAJIV GANDHI CENTRE FOR
AQUACULTURE (RGCA), SIRKAZHI**

3



**ASIAN SEABASS HATCHERY
PROJECT-RGCA, SIRKAZHI**

CULTURAL *Events*

TEACHERS' DAY

FRESHERS' DAY

PONGAL

ALSTROMERIA

TEACHERS' DAY *Celebration*

The Department of Biotechnology celebrated Teacher's Day on September 5, 2024. The day commenced with an inspiring message from Prof. P. Rajaguru, whose words resonated deeply with the students. He reminded them that the greatest achievement a teacher could witness is the success of their students, urging them to "fly high" and pursue their dreams with unwavering determination. This powerful message set the tone for the day. To add a touch of soulful melody to the celebrations, Prof. E M Shankar graced the gathering with a beautiful song. His performance was met with heartfelt applause, showcasing the multifaceted talents within the department.



The program then took a playful turn with a lively round of dumb charades, where professors enthusiastically participated. The fun games that followed further amplified the spirit, creating an environment of shared joy and relaxation. No celebration is complete without a sweet treat, and the cake-cutting ceremony provided a delightful moment for everyone to come together.

A small token of love from the students were presented to each faculty expressing our gratitude to the teacher's dedication. The day culminated in a beautiful photo session, capturing the smiles and cherished memories of the occasion. It was, indeed, a wonderful day, etched into the memories of all who participated, a cherished core memory.

FRESHERS' Day 2025

5TH OCTOBER 2024



FRESHERS' NIGHT 2025: A SYMPHONY OF NEW BEGINNINGS AND UNBREAKABLE BONDS

Freshers' Night 2025 was a dazzling evening hosted by the dynamic second-year students of the Department of Biotechnology. The event began with a warm welcome from the Head of the Department and the Dean. The spotlight then turned to the first-years, who introduced themselves with enthusiasm, setting the stage for friendship, fun, and a fantastic academic adventure ahead!



FRESHERS' Day 2025



FRESHERS' Day

Freshers at a university were warmly welcomed with a warm atmosphere and a sense of belonging. The students, dressed in elegance, aimed to make the night unforgettable, with a welcoming speech and faculty members offering encouragement. The new batch showcased their talent with soulful singing, electrifying dance performances, and stand-up acts. The evening was filled with endearing moments, such as spontaneous duets, impromptu dance battles, and friendly rivalries in quiz rounds.

The Freshers' Challenge was a unique activity that tested juniors' creativity, courage, and ability to embrace the unexpected. As the DJ night faded, the realization that this was more than just a party was felt. It was the beginning of a story that would unfold over the years, involving friendships, breakthroughs in research, festivals, and standing by each other through challenges and triumphs. The second-years had done more than host a party; they had passed the torch, ensuring that freshers found a home beyond their department.

FRESHERS OF THE Year



PONGAL Celebration 2025

27TH JANUARY 2025



A CELEBRATION OF TRADITION, SCIENCE, AND TOGETHERNESS

The Department of Biotechnology experienced a unique energy during the Pongal festival, a celebration of tradition, joy, and gratitude. The festival attracted all five batches of Integrated MSc, MSc Biotechnology, and PhD scholars, dressed in vibrant traditional attire. Professors and office staff joined in, transforming the department courtyard into a vibrant canvas of colors, flavors, and festivity.

PONGAL Celebration 2025



PONGAL Celebration 2025

The Pongal festival celebrated tradition with a unique scientific twist, featuring different varieties of rice, including nutrient-rich black and antioxidant-packed red rice. The festival celebrated biodiversity and the genetic heritage of agricultural history. Rangoli, a blend of art and competition, were created by teams, showcasing the energy of photosynthesis and DNA helixes. Participants had to earn colors for their rangoli through small games, adding a playful twist. Traditional games like rope-pulling and Uri Adithal brought togetherness and camaraderie, allowing participants to share laughter and rivalry.

MORE THAN A FESTIVAL , A CELEBRATION OF LIFE

Pongal is a celebration that honors farmers, the earth, and the delicate balance between nature and science. Our students view it as a reflection of their studies, reflecting the genetics, biochemistry, and biology of crops. It is a memory etched into their hearts, reminding them of their community, united by tradition, knowledge, and the joy of Pongal.

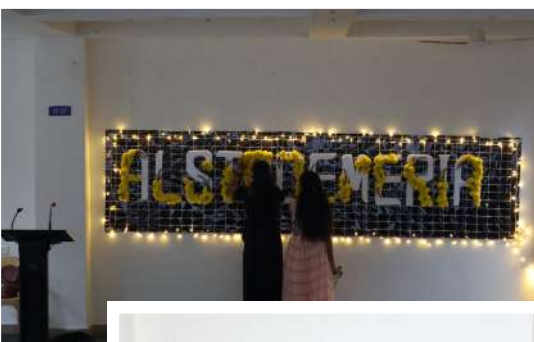
A MOMENT OF TRIUMPH: THE GRAND FINALE

As the day wound down, the much-awaited prize announcement added a final layer of thrill. With hearts pounding and eyes gleaming, the participants awaited the results. And then, the declaration , 4th Integrated MSc Life Sciences emerged as the overall winners! Cheers and applause erupted, but what stood out the most was the shared joy. Every batch, every participant, every professor, and the office staff celebrated not just the winners but the spirit of Pongal itself.



ALSTROEMERIA *Farewell* 2025

4TH APRIL 2025



**A Farewell to Remember –
Celebrating the I.M.Sc., Life
Sciences Batch of 2020-2025 & MSc
Biotechnology Batch of 2023-2025**



As the final pages turn on this unforgettable chapter, we pause to celebrate the journey of two incredible batches—IMSc Life Sciences 2020-25 and M.Sc. Biotechnology, 2023-25. And what better name for this farewell than “ALSTROEMERIA”—a flower symbolising friendship, resilience, and lasting bonds.

ALSTROEMERIA 2025



FAREWELL *Day*

Alstroemeria: Farewell Day was a heartfelt tribute organized by the penultimate year students to honor and celebrate the incredible journey of the final year students. The event began with a grand welcome, setting the tone for an evening full of warmth, nostalgia, and joy.

The stage was beautifully adorned with photographs capturing treasured memories of the seniors' time in the department and university, adding a personal and emotional touch to the ambiance.

Enthralling dance performances, lively games, and a vibrant photo session filled the evening with joy, while the final years joined in spontaneous dancing, making it a true celebration of togetherness.

A special framed photograph featuring all the students was presented as a memento, evoking tears and gratitude. With refreshing welcome drinks and a delightful farewell feast, the event was a perfect blend of fun and emotion, leaving everyone with hearts full and memories to cherish forever.

FINAL

Year STUDENTS



*A*STUDENTS' Achievements

EXAM QUALIFIERS

PUBLICATIONS

CONFERENCES

WORKSHOPS

**NCC AND SPORTS
AWARDS**

ACADEMIC AWARDS

INTERNSHIPS

PLACEMENTS

DBT STUDENTS

GATE

Qualifiers 2024

34



Anish Kiran
BT



Athul kiran
LS



Aami Shajan
LS



Arithasri G U
LS



Anitha
Lakshmi S BT



Anku kumar
BT



Aman
Shrivastava BT



Mohammad
Abbas LS



Atchaya M
LS



Balakrishnan
SM BT



Balasanker P
EY



Bhavana M A
LS



Changathi
Sireesha LS



Chinni babu
LS



Dheeraj
Kumar J G BT



Ganesh
baskey BT



Harshitha
Nainar LS



Indu M
BT



Janani K
LS

GATE

Qualifiers 2024



Karthika C R

LS



Lavanya V

BT



Kirthana A

LS



Nandana R

LS



Neha G

LS



Nandhini

BT



Nikesh R

BT



Raashika K

BT

Sochanphy
KeishingLS,
BT

Siyana Fathima

EY



Siddharth S

BT



Sujitha K

LS



Sudharsh S

LS



Shanmathi

LS



Sibasis Hentalia

LS

JAM *Qualifiers* 2024

09



**Anitha
Lakshmi S**



Anku Kumar



**Aman
Srivastava**



**Balakrishnan
SM**



Manjula Devi



**Mohamed
Rizwan**



Nikesh R



Sayanee Nag



Sibasis Hentalia

JGEEBHS *Qualifiers* 2024

02



R Nandana



Sayanee Nag

UGC-NET Qualifiers 2024

03



Arithasri G U
Ph.D.



Devika A S
Ph.D.



Kirthana A
Ph.D.

CSIR-NET Qualifiers 2024

04



Vibisha V
JRF



Nandana R
AP



Devika AS
Ph.D.



**Sochanphy
Keishing** Ph.D.

NPTEL Certificates 2024

03



**Balija
Keerthana**



Preetha R



**Priyadharshini
M**



Sudharsh S



Contents lists available at ScienceDirect

Process Safety and Environmental Protection

journal homepage: www.journals.elsevier.com/process-safety-and-environmental-protection



Microwave facilitated bacterial liquefaction of sago biomass for efficient biomethane production: Energy and cost assessment

Sudharsh S^a, Preethi^a, Rashmi Gondi^a, Insuvai S^b, Chitrani Laha Roy^a, Yukesh Kannah R^c, Gunasekaran M^d, Pugalenthi V^b, Meganathan Kannan^a, Rajesh Banu J^{a,b}

Fuel 301 (2022) 133433



Contents lists available at ScienceDirect

Fuel

journal homepage: www.elsevier.com/locate/fuel

Full Length Article

Effect of surfactant on microwave pretreatment of sago waste for cost effective biomethane production

P.V. Rishu^a, S. Kavitha^b, Yukesh Kannah Ravi^c, S. Kathiresan^a, J. Rajesh Banu^{a,b}

^a Department of Biotechnology, Central University of Tamil Nadu, Neddiakudi, Thiruvorur, 610005, Tamil Nadu, India
^b Department of Biotechnology, Karapagam Academy of Higher Education, Gattimale, Tamil Nadu 641021, India
^c Centre for Organic and Nano Hybrid Bioreactors, Silesian University of Technology, Konarskiego 22B, 44-100 Gliwice, Poland



RESEARCH ARTICLE

In Silico Analysis and Molecular Docking of Human Antimicrobial Peptides for Targeting Monkeypox Virus: Potential Therapeutic Implications of Histatin 5 Peptide

Deeksha Sarojini Devi Radhakumar^{1,*}, Sundar Thiagarajan^{2,*}, Kaushik Rajaram² and Rajesh Parsanathan^{1,*}

ACS APPLIED
BIO MATERIALS

www.acsapply.org

Article

Targeting Lysozyme-Linked Amyloidosis through Piperine-Functionalized Gold Nanoparticles

Anubhuti Bhatia^a, Nishant Mishra^a, Kailash Prasad Prajapati^a, Venkat Ramanan Srinivasan, Sindhuji Roy, Ridhhee Bonda, Shikha Mittal, Priyadharshini M. Sabitri Dasi, Om Prakash Mahato, Aditya Acharya, Masihuzzaman Ansari, Karunakar Kar^a and Bibin Gnanadhasan Anand^a

Ghose et al.
Egyptian Journal of Medical Human Genetics
<https://doi.org/10.1186/s43042-023-00715-6>

Egyptian Journal of Medical
Human Genetics

RESEARCH

Open Access

The Impact of Hydrogen Sulfide Regulatory Gene Alterations on Head and neck squamous cell carcinoma prognosis and tumor microenvironment

Mohamed Rizwan Ghose¹, Santhakumar Egambaram¹, Arunkumar Ramachandran² and Rajesh Parsanathan^{1,*}



Contents lists available at ScienceDirect

Fuel

journal homepage: www.elsevier.com/locate/fuel

Full Length Article

Calcium hypochlorite assisted energetically efficient sonic hydrolysis of waste activated sludge for cost effective biogas production

Akshaya K^a, S. Kavitha^b, Yukesh Kannah Ravi^c, P. Rajaguru^a, J. Rajesh Banu^{a,b}

Peptide Science

WILEY
Peptide Science

ARTICLE

In Silico Optimization of a *Streptomyces* sp. Antimicrobial Peptide Against Oncobacteria in Oral Squamous Cell Carcinoma

Zarin Taj¹, Vannamathi Marisamy¹, Indranil Chattopadhyay²



Contents lists available at ScienceDirect

Oral Oncology Reports

journal homepage: www.journals.elsevier.com/oral-oncology-reports

Original Research Article

Dysregulation of glucose-6-phosphate dehydrogenase in head and neck squamous cell carcinoma: Pathways, mutations, and therapeutic opportunities

Santhakumar Egambaram¹, Mohamed Rizwan Ghose¹, Anishkiran Balasundar¹, Rajesh Parsanathan^{1,*}



Contents lists available at ScienceDirect

Oral Oncology Reports

journal homepage: www.journals.elsevier.com/oral-oncology-reports

Original Research Article

Comprehensive bioinformatic profiling of matrix metalloproteinases and their inhibitors: Expression and interaction patterns in head and neck cancer toward predictive biomarkers and personalized therapies

Rishaba Byju¹, Sredha Sunil¹, Sabari Sadhasivan¹, Rajesh Parsanathan^{1,*}



Contents lists available at ScienceDirect

Biocatalysis and Agricultural Biotechnology

journal homepage: www.elsevier.com/locate/bab

In silico and *In vitro* approach to assessing the antimicrobial efficiency of novel AMP variants derived from *Lactobacillus* sp. against ESKAPE pathogens

Zarin Taj¹, Aiswarya Sudheer¹, Vibisha Vivekananthan¹, Indranil Chattopadhyay²

Department of Biotechnology, School of Life Sciences, Central University of Tamil Nadu, Thiruvorur, 610 005, India
Biomass Conversion and Biorefinery
<https://doi.org/10.1007/s13399-025-06638-x>

ORIGINAL ARTICLE

Biogas production from chicken feathers via pretreatment with keratinolytic protease secreting bacteria

Palaniyandi Ravanan¹, Kalyan Kumar Gurrall¹, Preethi M.², Chitrani Laha Roy², Thejal Ann Liz², Subramaniyan Divya¹, Meganathan Kannan², J. Rajesh Banu^{2,*}

Conference Participation



Jeshwanth Raj I

9th Annual Cell and Gene Therapy Symposium , CMC Vellore 1st-3rd Aug 2024



Santhakumar E

- 9th Annual Cell and Gene Therapy Symposium , CMC Vellore 1st-3rd Aug 2024.
- Conference on structural biology and Drug discovery (CSBDD-2024) 8th-10th Oct 2024



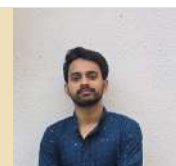
Sudharsh

SYMBIOT'24, an International Conference, Department of Biotechnology, Manipal Institute of Technology. Manipal, Karnataka, 3rd-5th July 2024



Mohamed Rizwan

Conference on Structural Biology and Drug Discovery (CSBDD - 2024), Department of Biotechnology, School of Bioengineering, SRMIST, Chennai. 8th-10th Oct 2024



Balasanker P

International Conference on Emerging and Re-emerging Infectious Diseases iICER-ID 2025, IDSI and University of Madras, 17th-18th Feb 2025



Janavath Sathish Naik

International Conference on Emerging and Re-emerging Infectious Diseases iICER-ID 2025, IDSI and University of Madras, 17th-18th Feb 2025



Renifa Angelina C

International conference of emerging and re-emerging infectious diseases, Infectious Disease Society of India, Chennai, 17th-18th Feb 2025



Sourabh Bhujpal

International conference of emerging and re-emerging infectious diseases, Infectious Disease Society of India, Chennai, 17th-18th Feb 2025



Raashika K

2nd International Conference on Translational Research in Biomedical Sciences, Sathyabama Institute of Science and Technology, Chennai 19th-21st Feb 2025

Conference Participation



Sahil Raman Tanti

2nd International Conference on Translational Research in Biomedical Sciences, Sathyabama Institute of Science and Technology, Chennai 19th-21st Feb 2025



Sochanphy Keishing

2nd International Conference on Translational Research in Biomedical Sciences, Sathyabama Institute of Science and Technology, Chennai 19th-21st Feb 2025



Indu M

6th International Conference on Genome Biology (ICGB-6): Cell - Organism - Environment & 56th Aqua-Terr Annual Day. 28th Feb-1st Mar 2025



Balija Keerthana

Proteomics for life: The intra and inter play if proteins in plants and microbes, School of Life Sciences, CUTN and IARI- Rice Breeding and Genetics Research Centre, Tamil Nadu, 18th Mar 2025



Pragati

From resources to renewable : Engineering a sustainable future, Anna University, Chennai, 2nd Apr 2025



Sneha P

- Recent computing trends for bioinformatics and biotechnology, 3rd April 2025.
- Biocloud Organization at Vignan's Foundation for Science, Technology and Research, Vadlamudi, Andhra Pradesh.



Devika AS

New horizons in plant sciences, University of Kerala, 8th-10th Apr 2025



Dheeraj Kumar JG

New horizons in plant sciences, University of Kerala, 8th-10th Apr 2025

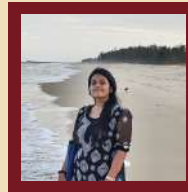
Awards



**Renifa
Angelina C**



ICER-ID 25 Best poster award



Pragati S



Paper presentation 3rd prize



Sudharsh S Best Oral presentation



Saranya E



National science day -
Elocution 2nd prize

Sochanphy Keishing

Oral presentation
3rd prize



Sahil Raman Tanti

Oral presentation
1st prize



Raashika K

Oral presentation
1st prize



Sports/ NCC

Varun M

- 1st place (Gold) 50M Butterfly
 - 1st place (Gold) 200M freestyle
- Chief minister' trophy District level swimming meet- Thiruvapur



Kethavath Shiva

Cricket DPS trophy winners



Mohamed Rizwan

All India Thal Sainik Camp,
NCC



Internship



Neha G

INSA-2025, Centre for DNA
Fingerprinting and Diagnostics
- CDFD, Hyderabad, Telangana

Abhishek S Nair

INSA-2025, Rajiv Gandhi Centre
for Biotechnology, Kerala



Rohith Kumar Nishad

INSA-2025, CSIR-Institute of
Genomics and Integrative Biology,
New Delhi



Workshops Attended



Sahil Raman Tanti

Workshop on Next Generation Sequence (NGS) Data Analysis and its Applications in Livestock Research", National Institute of Animal Biotechnology, Hyderabad, 24th May 2024



Sudharsh S

- *In Silico* Antiviral Therapeutics and Metabolomics" MIT, Manipal, 5th July 2024
- Bioprocesses for Biodegradable Biopolymer Production (GIAN Course) IIT Indore, 10th-14th Feb 2025



Sourabh Bhujpal

- Workshop of Vaccine Technology - Remark skill education with FCC IIT Hyderabad, 8th July to 18th Aug 2024
- One-month international workshop on Genome informatics by Decode Life – 6th edition – 6 Jan to 5 Feb 2024



Jeshwanth Raj I

Data Analysis using SPSS, 12-14 Aug, 2025, STATMATH Data Analytics Club, Department of Statistics and Applied Mathematics, CUTN, 12th-14th Aug 2024



Neha G

SURGE, Molbio Workshop IISER Pune, 21st - 27th Dec 2024



Abhishek S Nair

- Modelling and Simulations of Biological Processes, IIT Madras, 11th-12th Jan 2025
- Bioprocesses for Biodegradable Biopolymer Production (GIAN Course), IIT Indore, 10th-14th Feb 2025



Indu M

Integrative approaches to Understand Protein Structures, Dynamics and Interactions, Hyderabad, 17th-21st Feb 2025



Fathima Nasheedha

Viral Diagnostics, Viral Research and Diagnostic Laboratory Govt Medical College, Thiruvapur, 27th-29th Mar 2025



Siddharth S

Viral Diagnostics, Viral Research and Diagnostic Laboratory Govt Medical College, Thiruvapur, 27th-29th Mar 2025

Placement/ Higher Studies



Arithasri GU

Seekers Educational institution, Tiruchirappalli, Tamil Nadu- Biology Faculty



Nishok GP

Seekers Educational institution, Tiruchirappalli, Tamil Nadu- Biology Faculty



Sahil Raman Tanti

Azim Premji Foundation, Bangalore, Karnataka, India - Associate resource person



Siddharth S

Azim Premji Foundation, Bangalore, Karnataka, India - Associate resource person



Sujitha K

Mahathma school of excellence - Post graduate teacher



Vedasmiritha TS

Junior Research Fellow at RGCB ,Thiruvananthapuram, Kerala



Tejal Ann Liz

Junior Research Fellow - Gujarat Biotechnology University, Gujarat



Rishaba Byju

Project Assistant - Immunopathology Lab, VIT, Vellore



Joel Jaison

PhD - The Azrieli Faculty of Medicine, Bar-ilan University, Israel

Placement/ Higher Studies

**Vannamathi M**

Junior Research Fellow- Madras Veterinary college , Chennai

**Pavithra S**

PhD - IIT-Madras under HTRA Scheme, Chennai

**Gayathri Menon**

Junior Research Fellow- Manipal School of Life Sciences , Manipal Karnataka

**Hari Krishna**

PhD - IIT Madras, Chennai

**Sredha S Sunil**

PhD - Cognitive Neuroscience Lab, BITS Pilani, Goa

*A***SCHOLARS'** *Achievements*

CONFERENCES

AWARDS

PHD AWARDED

Conference Participation



S K Farhat

- “The Epidemiology of Scrub typhus in the delta district of Thiruvavur”, S K Farhat, Jayalakshmi K., National Technical Symposium in Biotechnology for Sustainable Solution, University College of Engineering BIT Campus, Anna University, Trichy, Tamil Nadu, 26th-27th Sep 2024.
- “Targeting the 56 kDa OMP gene of Orientia tsutsugamushi from scrub typhus patients of Thiruvavur: An effective strategy for disease control and prevention”, S K Farhat, Jayalakshmi K., 3rd International Conference on Emerging challenges in the Prevention and Control of Vector-Borne Diseases, CIMSER, DOAZ&BT, Loyola College, and AHCF New Delhi, 9th-10th Dec 2024.



Sathya Jeevitha B

- “Integrated Surveillance of Rodent-Borne Vectors of Scrub Typhus in Thiruvavur: Implications for Public Health and Sustainable Disease Management”, Sathya Jeevitha B, Dr Jayalakshmi K., National Technical Symposium on BIORITZ 2K24, DBT, University College of Engineering, BIT Campus, Anna University, Trichy 26th-27th Sep 2024
- “Entomological and Rodent Surveillance with Molecular Detection of Orientia tsutsugamushi in Scrub Typhus Transmission in Thiruvavur”, Sathya Jeevitha B, Dr Jayalakshmi K., National Symposium on Environment, Health and Disease; Ecogenetics and Toxicogenomics, PG and Research, Zoology, V.O. Chidambaram College, Thoothukudi, TN 3rd-4th Oct 2025



Rajeev Kumar Bhaskar

“Synergistic Impact of Potassium Persulfate on the Efficiency of MW mediated Cell Lysis of Macroalgal Biomass for Bioenergy Generation” Rajeev Kumar Bhaskar and Prof. J. Rajesh Banu, ICBE-2025, OCAS, Alagappa University Karaikudi, TN, 21st-22nd Jan 2025



Rashmi Gondi

- “Microwave-assisted bacterial disintegration of Chlorella sorokiniana for enhanced biohydrogen yield”, Rashmi Gondi, Prof. J. Rajesh Banu, ICBE-2025, OCAS, Alagappa University Karaikudi, TN, 21st-22nd Jan 2025
- “Effect of ultrasonic combined oxalic acid pretreatment on Gracilaria salicornia” Rashmi Gondi, Prof. J. Rajesh Banu, 7th International Conference on BEST 2025, Arunai Engineering College, Tiruvannamalai, 29th-31st Jan 2025

Conference Participation



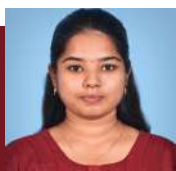
Rethinapraga K

“Biorefinery - a novel process for Valorization of High concentrated organic biomass”, Rethinapraga K., Prof. J. Rajesh Banu, International Conference on BEST 2025, Arunai Engineering college, Thiruvannamalai, Tamil Nadu, India, 29th-31st Jan 2025



A R Mohammed Anshad

“Alteration of tryptophan-derived indole-3-acetic acid-glucuronide and vitamin B-derived pyridoxic acid metabolites in clinical dengue infection Prospects for mass spectrometry in dengue pathogenesis and diagnosis”, A R Mohammed Anshad, Siyana Fathima, Prof EM Shankar, ICER-ID 2025, IDSI and University of Madras, 17th-18th Feb 2025



Atchaya M

“A study on the kinetics of Hybridoma with and without serum in growth media”, Atchaya M, ICER-ID 2025, IDSI and University of Madras, 17th-18th Feb 2025



Kartheeswaran D

“Influence of Plant Hormones on Callus Induction in groundnut for Agrobacterium-mediated Genetic Transformation” Kartheeswaran D, Kathiresan S, International Conference on APHISA-2025, VOC Agricultural College and Research Institute (TNAU), Thoothukudi TN, 14th-16th Feb 2025



Saranya B

“Direct and indirect organogenesis in soybean for efficient shoot induction using balance level of auxin and cytokinin”, Saranya B, Kartheeswaran D, Kathiresan S, International Conference on an APHISA 2025 held at TNAU, Thirunelveli, 14th-16th Feb 2025

Awards



Rashmi Gondi

Best Oral Presentation Award (3rd Place), 7th International Conference on BEST 2025



Sathya Jeevitha B

- Best Oral Presentation Award (1st Place), National Technical Symposium on BIORITZ 2K24
- Best Oral Presentation Award (1st Place), National Symposium on Environment, Health and Disease



PHD Awarded



Meenu Maniradhan

Understanding the Molecular Mechanism of Bisphenol A-Induced Testicular Dysfunction and the Protective Role of Selenium

Supervisor: Latchoumycandane Calivarathan

EPILOGUE



Thank you for journeying with us through the pages of innovation, inspiration, and discovery. Your time, interest, and support mean the world to us. As we continue to grow and explore new frontiers in biotechnology, we hope to keep sharing our story with you. Until next time—stay curious, stay inspired.

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