

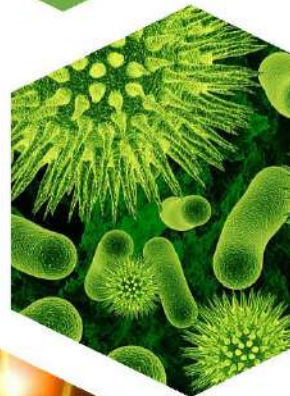


Central University of Tamil Nadu
Thiruvavur 610005

SCI-VANTAGE

Issue No.01 (2022-23)

Department of Biotechnology



TEAM



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III Year IMSc



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III Year IMSc

Neha G
III Year IMSc



Harshitha Nainar
III Year IMSc

Karunya V
III Year IMSc



Joel Jaison
V Year IMSc

Narmadhaa S
Research Scholar



Rajeev Kr Bhaskar
Research Scholar

AR Mohammed Anshad
Research Scholar



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From the Dean's Desk



It gives me immense pleasure to announce the launch of Sci-VANTAGE, the first edition of annual magazine published by the Department of Biotechnology, School of Life Sciences, Central University of Tamil Nadu, Thiruvavur, India.

The advancement of science is reliant on the successful amalgamation of innovative ideas and will to implement the same. Sci-VANTAGE offers a unique platform to display the distinctive ideas and expertise of faculty members, research scholars and students of the Department of Biotechnology. The onus is on students and researchers, who I trust, should evolve ownership and commitment to walk science into the new age for access by the common man; especially, during the post-delta pandemic era when the necessity for scientific advancements and innovations are largely being advocated by the global disease surveillance systems.

As the Dean of the School of Life Sciences, I hope this magazine will reignite and rejuvenate the passion of the biotech student community, and let them enjoy the adventure alongside their routine subject spells at the University. I appreciate the entire editorial team, especially Dr. Banu for their breathtaking efforts in bringing out a magazine showcasing our potentials, our credibility and achievements, and hope the tradition continues to inspire our student stalwarts. I also sincerely appreciate the Head, Faculty members, scholars and students for the immense support extended to the editorial team for transitioning this dream magazine into reality.

Prof. E. M. Shankar, PhD, FRC Path (UK)
Dean, School of Life Sciences
Central University of Tamil Nadu

From the HoD's Desk



Welcome to have a look at the accomplishments and activities of the Department of Biotechnology through the publication of pioneer edition of SCI-VANTAGE. I'm quite pleased to inform you of how far our department has come with so many significant events happening this year and such amazing accomplishments. The faculty members have taken numerous steps to disseminate knowledge by setting up conferences and training sessions. To stay up with the most recent advancements in science and technology, our department has organized several expert talks. The department has a professional and moral obligation to reserve these ideas and pave a strong foundation for our students, to motivate and guide them to ensure they are ready to achieve success in their life. Many of the students in our department will undoubtedly leave a lasting impression on the nation and worldwide in the field of biotechnology in the coming years, making us proud. Our department is made up of these fundamental components: diligent students, vibrant faculties with knowledge in a variety of scientific fields, and a very positive workplace environment. The accomplishments of the students and staff have also been highlighted, which will inspire the other pupils to meet the benchmark for greatness. I appreciate all the editorial staff behind this task and believe the tradition started by publishing this magazine will continue and inspire the generation of students to come. I also offers my sincere appreciation to all the faculty members, students and scholars for their immense support towards the editorial staff for making this magazine a success.

Prof. P Rajaguru
Head of the Department,
Department of Biotechnology,
Central University of Tamil Nadu

PROLOGUE

Department of Biotechnology was established in 2012 as the Department of Life Sciences and is designated as DBT recently. Highly committed faculty members ornament to the overall success of the department. DBT is one of the most vibrant in terms of competition for admission among its aspirants.



The department boasts of its facilities, faculty ratio, internationally-trained faculty members with vast teaching experience, high-impact publications, and extra-mural research grants. Various national and international funding agencies and cutting-edge infrastructure enrich the glory of our department. DBT is the first department in CUTN supported by DST-FIST. Recently the department is recognized by DBT-GoI and supported to start MSc. Biotechnology program.

VISION AND MISSION

The foresight of the department is to enlighten the potential of biotechnology to achieve newer heights in multi-disciplinary education, research, and entrepreneurship, and instill human values and welfare via promoting innovations in biotechnology for nation-building. The intention of DBT is to provide a platform for the various interdisciplinary, research-oriented advanced higher education in biotechnology for translating the standards of personal and societal living. The department was established to broadcast knowledge in biotechnology through research and creative analysis, innovative teaching, and learning.

PROGRAMMES OFFERED

Program	Stream
Integrated M.Sc. (5 Years)	Life Science (2012-2021)
	Biotechnology (Started in 2022)
M.Sc.	Biotechnology (DBT, Supported) Started in 2023
Ph.D.	Life Science (2014-2021)
	Biotechnology (Started in 2022)

PEOPLE

Teaching Staffs



Prof. P. RAJAGURU

PROFESSOR & HEAD

Proteomics and Biomarker Discovery



Prof. E.M. SHANKAR

PROFESSOR

Infection and Inflammation



Dr. J. RAJESH BANU

ASSOCIATE PROFESSOR

Environmental Biotechnology and Bioprocessing



Dr. S. KATHIRESAN

ASSOCIATE PROFESSOR

Plant Genomics and Metabolic Engineering



Dr. JAYALAKSHMI KRISHNAN

ASSISTANT PROFESSOR

Vector Biology and Neuroimmunology



Dr. MEGANATHAN KANNAN

ASSISTANT PROFESSOR

Blood and Vascular Biology



Dr. INDRANIL CHATTOPADHYAY

ASSISTANT PROFESSOR

Cell and Cancer Biology



Dr. DINANKAR CHALLABATHULA

ASSISTANT PROFESSOR

Plant Biology and Stress Physiology



Dr. LATCHOUMYCANDANAE CALIVARTHAN

ASSISTANT PROFESSOR

Experimental Pharmacology and Endocrinology



Dr. POORNACHANDAR GUGULOTHU

ASSISTANT PROFESSOR

Cancer Therapeutics and Bioprocessing



Dr. RAJESH PARSANATHAN

DBT-Ramalingaswami faculty fellow

Cardiovascular Biology and Epigenetics

NON-TEACHING STAFFS

	Mr. K. NEHRU M.Sc., M.Phil., B.Ed., DMLT. LABORATORY ASSISTANT	
	Mrs. J. LATHA B.Sc., DMLT, ANM. LABORATORY ATTENDANT	
	Mr. MURUGANANTHAM OFFICE ATTENDANT	
	Mr. MANIKAM OFFICE ATTENDANT	
RESEARCH ASSOCIATE/ PDF		
	Dr. SUVAITHENAMUDHAN PDF, ICMR	Mentor: Prof. E.M. SHANKAR
	Dr. M. ANANDHRAJ N-PDF, SERB-DST	Mentor: Dr. S. KATHIRESAN
	Mrs. RAJALAKSHMI ICMR, RA	Mentor: Dr. JAYALAKSHMI KRISHNAN
	Dr. ZARIN TAJ ICMR, RA	Mentor: Dr. INDRANIL CHATTOPADHYAY

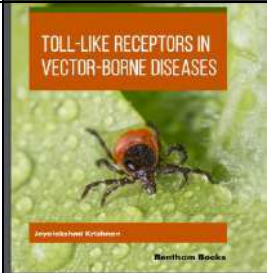
Sponsored Research Projects/Consultancy

S.No	Title of the project	Funding Agency	Amount Rs.	Name of the faculty
1	Evaluation of Antibiofilm Efficacy and Mechanism of Action of Biosurfactants against Oral Biofilm formation by <i>Porphyromonas gingivalis</i> and <i>Fusobacterium nucleatum</i> and their Inflammatory Potentials in Oral Epithelial Cells	ICMR 	20 Lakh	Dr. Indranil Chattopadhyay 01.03.2023 to 28.02.2026
2	Development of Innovative Integrated Approaches for Sustainable Biohydrogen Production Using Predominant Macroalgal Species in Qatari Environment	QNRF 	6 Crores/ 86 Lakh to CUTN	Dr. J. Rajesh Banu 28.04.2023 to 27-04-2025
3	Influence of <i>Δ6Des</i> and <i>Δ6Elo</i> Genes on Omega3/6 Fatty Acid Biosynthesis in Groundnut – A Genetic Engineering Approach	DST-SERB 	43.74 Lakh	Dr. S. Kathiresan 27-06-2023 to 26-06-2026
4	Engineering Fatty Acid Pathway Genes in <i>Kluyveromyces marxianus</i> Yeast to Synthesize the Long Chain Polyunsaturated Fatty Acids (Mentor)	DST-SERB 	20.25 Lakh	Dr. S. Kathiresan 05-01-2023 to 04-01-2025
Total grant - Rupees 1,69,99,000 (Rupees One crore sixty-nine lakhs and ninety-nine thousand only)				

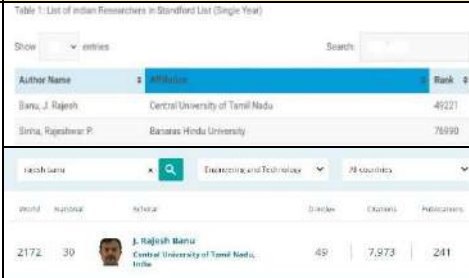
PATENT

S.No	Title of the Patent	Awarding Agency	Status	Name of the faculty
1	A system and method for treatment of landfill leachate		Granted	Dr. J. Rajesh Banu

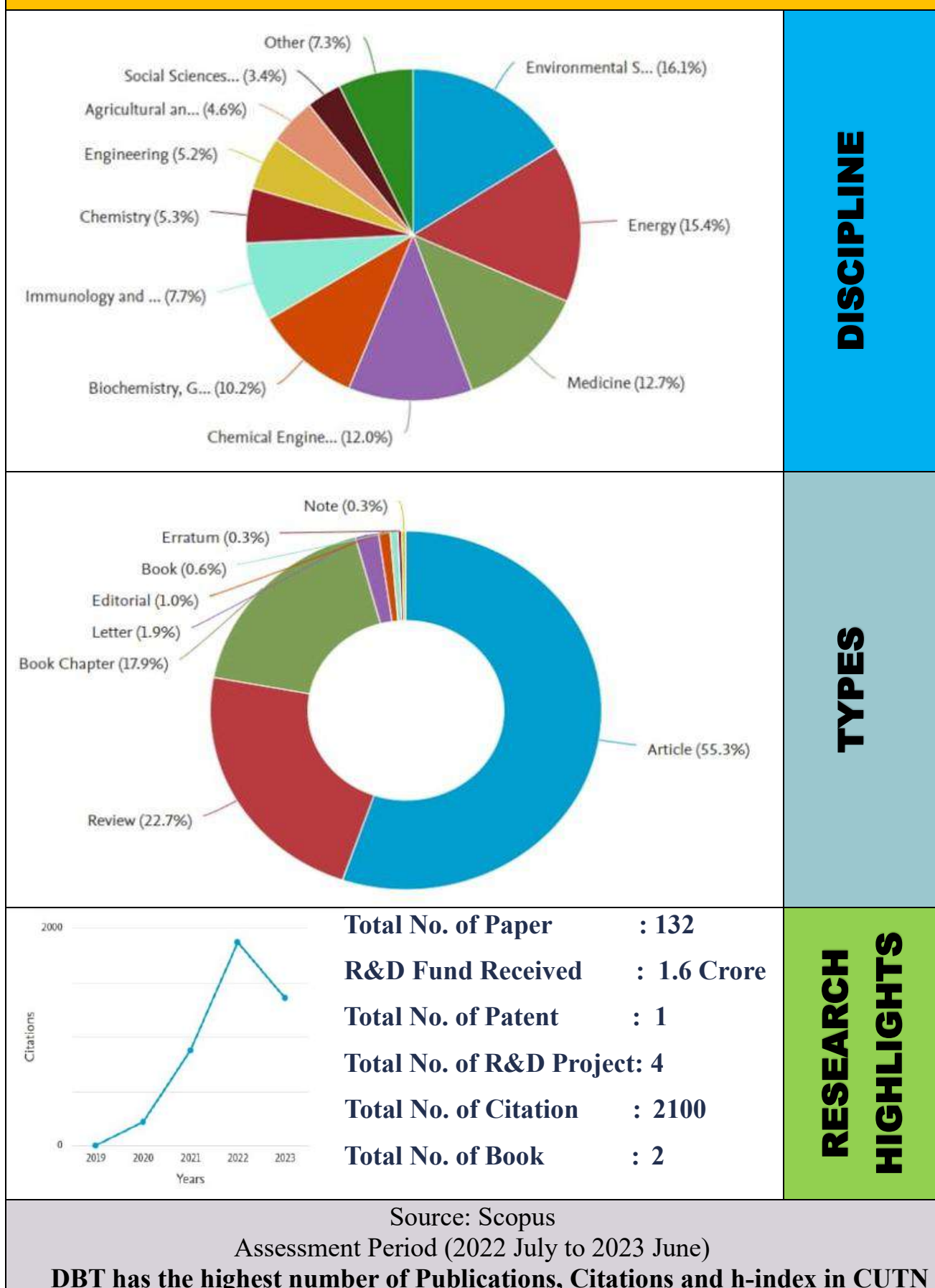
BOOK

S.No.	Title of the Book	Publisher	ISBN	Name of the faculty
1	Hazardous waste Management		9781803552187	Dr. J. Rajesh Banu
2	Toll-Like Receptors in Vector-Borne Diseases		9789815124545	Dr. Jayalakshmi Krishnan

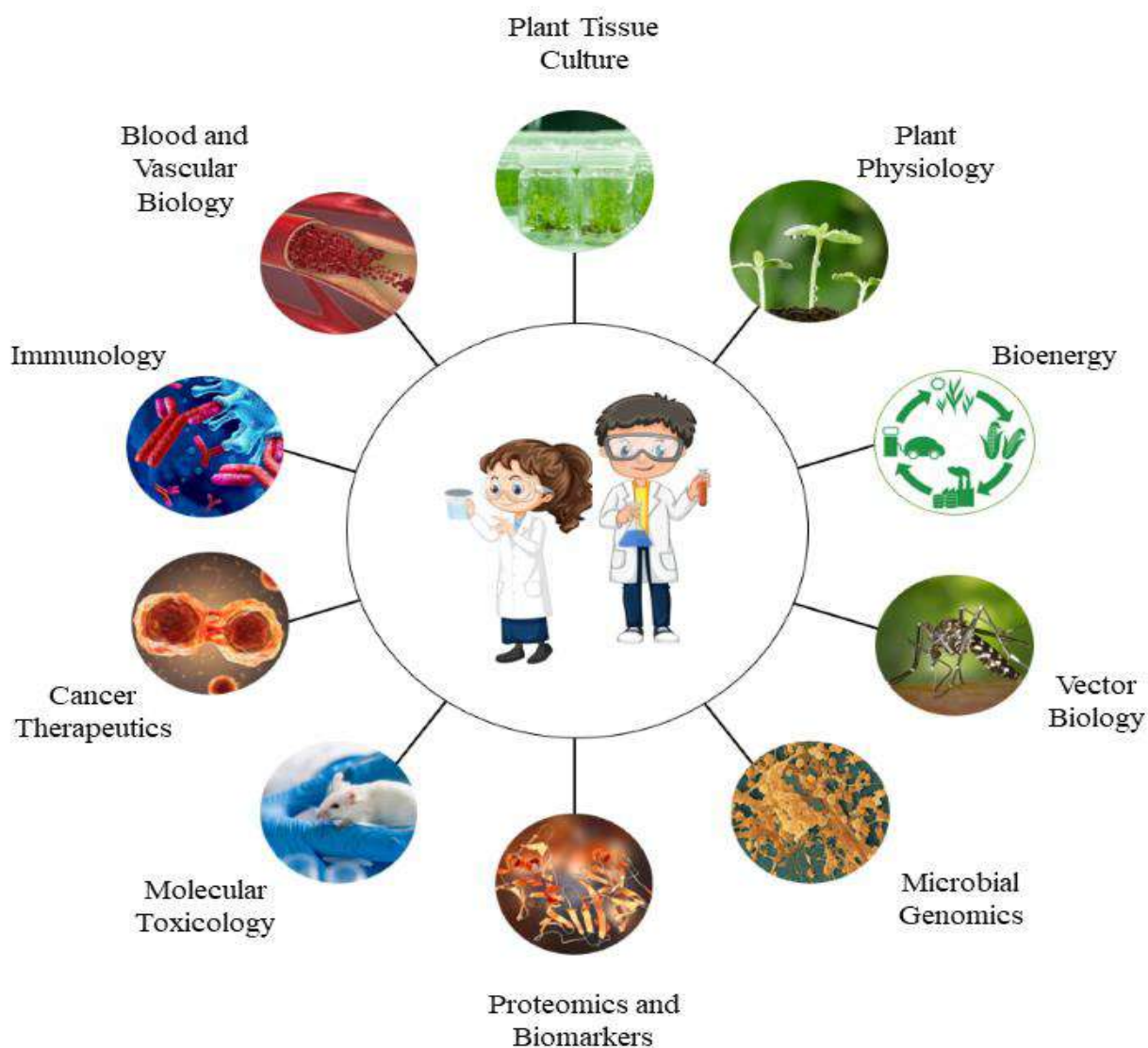
AWARDS

S.No.	Name of the Award	Photo	Name of the faculty
1	Top 2% Scientist -Stanford Independent Researcher - Scopus Best Scientist in the Field of Engineering and Tech.-Research.com		Dr. J.Rajesh Banu
2	Out Standing Research Scientist Award by Antiviral Research Society, India, December, 1, 2022.		Prof. E.M. Shankar
3	Best Oral Presentation (Faculty) Award in 7 th Annual International Conference INSCR, Nov. 8-11, 2022.		Dr. Indranil Chattopadhyay

PUBLICATIONS



THRUST AREAS OF RESEARCH IN THE DEPARTMENT OF BIOTECHNOLOGY



Research is the major thrust of our department, with diversified domains such as Plant Tissue Culture, Plant Physiology, Bioenergy, Vector Biology, Microbial Genomics, Proteomics and Biomarker Discovery, Molecular Toxicology, Cancer therapeutics, Immunology, and Blood and Vascular Biology. DST-FIST and DBT have given financial support to the department. Furthermore, various funding agencies such as ICMR, SERB, and DST have financially supported our faculty members through extramural research grants with a total outlay of 1.6 Crores during the academic year (2022-2023). There are six research laboratories, three academic laboratories, and a well-equipped central instrumental facility available in the department.

INSTRUMENTATION FACILITIES



Flow Cytometer FACSCanto 2



BACTEC Blood Culture System



Bioplex luminex Protein Array



Droplet Digital PCR



Gradient PCR



CO₂ Incubator



Class 2 Biosafety Cabinet



Ultra Centrifuge



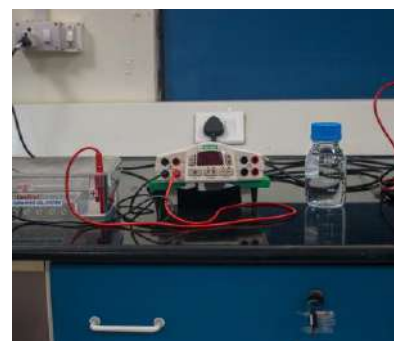
Multimode Detector



Nano Drop



HPLC



Electroporation Unit



Inverted fluorescence microscope



Spectroscopic Zoom Microscope



Cell Culture Facility



Shaking Incubator



Bacteriological Incubator



Laminar Flow Chamber



COD Digestor



Ultra Sonicator



Cold Room



-80°C Deep Freezer



Refrigerated Micro centrifuge



TOC Analyser



Large Volume Centrifuge



Real Time PCR



Milli Q Water System

EVENTS (2022-2023)

NATIONAL LEVEL SEMINAR ON BIOTECHNOLOGY AND ITS APPLICATIONS IN SCIENCE AND TECHNOLOGY



**Dr. Jayalakshmi
Krishnan
(CONVENOR)**



**Dr Poornachandar
Gugulothu
(CONVENOR)**

The Department of Biotechnology, School of Life Sciences, Central University of Tamil Nadu (CUTN), Thiruvarur, Tamil Nadu, organized a two-day National Seminar during September 29th and 30th, 2022. **Prof. P. Rajaguru**, HoD of Biotechnology, welcomed the gathering and briefed the importance and various applications of biotechnology in daily life. Prof. P. Rajaguru and Prof. E.M. Shankar offered felicitations and appreciated the initiative made by the Department of Biotechnology. **The Seminar was presided by Honourable Vice Chancellor, Prof. M Krishnan.** He appreciated the efforts taken by the faculty members to implement the Department of Biotechnology in the university.



Guests and Invitees:

- The Chief Guest, **Prof. S. Karutha Pandian** (Retd), from Alagappa University
- **Dr. Anand Prem Rajan**, Senior Associate Professor from VIT
- **Dr. Danie Kingsley**, Associate Professor from VIT

Overall, 80 Research papers were presented, and 200 participants from various institutions attended the conference

DBT CAFFe

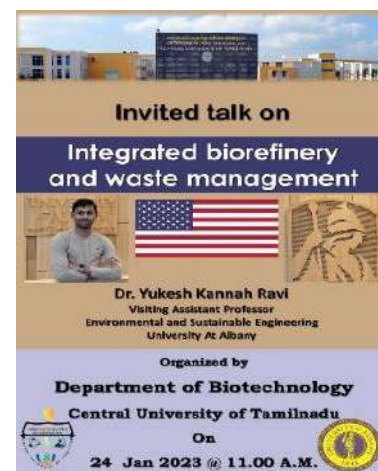
24th January 2023,

Invited talk on

"Integrated Biorefinery and Waste Management"

By **Dr. Yukesh Kannah Ravi** (Visiting Asst. Professor)

Environmental & Sustainable Engineering University at Albany



6th February 2023,

Invited talk on

"Targeting MR1/MAIT cell axis as an immune evasion tactic"

By **Prof. Dr. Mansour Haeyfas** (Schulich school of and Dentistry, London)



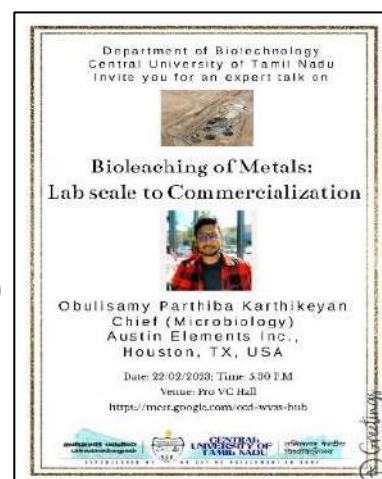
22nd February 2023

Invited talk on

"Bioleaching of metals: Lab scale to commercialization"

By **Dr. O. Parthiba Karthikeyan**, Chief (Microbiology)

Austin Elents Inc., Houston, TX, USA.



10th March 2023

Invited talk on

"Influenza Virus Infection from Swine to Human"

By **Dr. Elisa Crisci** DVM PhD (Asst. professor)

North Carolina State University, USA.

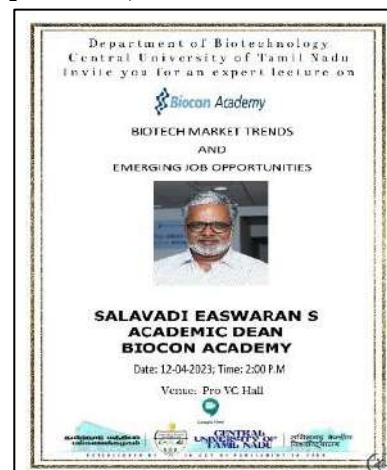


12th April 2023

Invited talk on

"Biotech Market Trends and Emerging Job Opportunities"

By **Dr. Salavadi Easwaran. S** (Academic Dean-Biocon)



OUTREACH

EVENT- SWACHHATA PAKHWADA



The plantation event organized by the Department of Biotechnology at the Central University of Tamil Nadu mainly focused to promote environmental sustainability and awareness among students, faculty, and staff. The move provided an opportunity for the students to actively contribute to the greening of the campus while instigating a sense of responsibility towards nature. One of the main motives of the event was to add on aesthetic value to the campus through the addition of green spaces.



The preparation phase involved selection of the area in front of the department, cleaning the selected premises, and identifying appropriate plant saplings to be planted. The plant species were chosen to suit the local climate and environmental conditions. The students of the second year and third years actively participated in the cleaning processes on 15-09-2022 and 16-09-2022 while the department provided the essential gardening tools. The plantation of the saplings was done in the presence of our **Honorable Vice-Chancellor**. The students were assigned the responsibility of maintaining the saplings that they planted. Both students and staff of the Department of Biotechnology maintain the plants.



RADIANT RIPPLES (POND)

The Department of Biotechnology at the Central University of Tamil Nadu undertook a significant project to establish an aquaculture pond within its premises. The pond was named as "**Radiant Ripples**," where water life forms, including fish, are being maintained. **The main motive behind constructing Radiant Ripples is the environment-friendly management of high TDS Reverse Osmosis plant reject.**



The RO processing leaves behind a high TDS (Total Dissolved Solids) water. This high TDS water cannot be directly released into the ground or groundwater, which may affect its quality and make them unsuitable for use. Thus, the water produced after the RO was decided to be discharged into an artificially created water body with a naturally available clay liner that prevents subsoil percolation and contaminating the groundwater.



This led to the concept behind the construction of Radiant Ripples. The pond was built in front of the department, designed to meet specific aquaculture requirements, such as depth, surface area, and water flow. Construction activities included excavating water inlet/outlet systems and installing aeration and filtration equipment. On the farewell day for our seniors, many fishes were introduced into the pond to promote aqua life. Monitoring water quality parameters, fish health, and growth performance is being conducted periodically to ensure the aquatic organisms' well-being and sustainability.

STUDENT'S SENATE

"When led by a lion, an army of sheep becomes magnificent, and our department is proud of having a magnificent senate."

Education is much more than pen, paper, and books. Every day of university life is about learning. Learning doesn't comprise only academics. A few things have to be practically learned. One such very important thing is leadership. Great leaders don't make followers; they make more leaders. The Department of Biotechnology took one such initiative by creating a student council in the name of the student senate. This being the very first time, members of the senate were elected by the professors, in the upcoming years, student elections will elect the senate members. The senate comprises five positions.



President: Ms. PRATHYUSHA

Vice president: Mr. VENKATESWARAN M

Treasurer: Ms. RISHABA BYJU

Secretary: Ms. SOCHANPHY KEISHING

Joint secretary: Mr. SABARI P R S

As the representative of the students, the senate will actively participate in various departmental activities, including organizing various academic and outreach programs and events.

RYZENTRONZ AND SCIENCE DAY



Dr. Dinakar Challabathula
(Co-ordinator)



University life can give us much more than a degree, one such thing is pleasant memories from great days. One such day was March 7, 2023, when National Science Day and RYZENTRONZ 2023 were rejoiced by the student of the Department of Biotechnology. The celebrations were based on the theme "THE LABORATORY," an innovation hub. The event began with a welcome address by the HoD and a presentation from the keynote speaker, **Dr. E.M. Shankar**, Professor, Department of Biotechnology, CUTN.



There were various events like trivia quizzes, Bioconnexions in the forenoon session, which the students highly enjoyed. The afternoon session was for embracing the first years. This included fun games like extraneous answers and Dum charades. This was adjoined with an extraordinary show cast of cultural talents by students.

There was a fresher's corner where all first years were called on to the dice and were given memorable gifts by their beloved seniors. Winners of various games and events were felicitated with prizes. The session successfully ended with photographs and joy. There is a saying, "**Working together is a success,**" and this event was highly rejoiced because of the students' immense efforts and professors' kind support. All the moments of these events were cherished and created lifelong memories.



ALSTROEMERIA

Our Biotechnology Department 4th year (2019 batch) students have conducted a heart-warming farewell function to our final year students and research scholars on April 20, 2023, in the department. It was an event filled with joy, bittersweet emotions, and cherished memories that all will treasure. Colourful balloons, streamers, and personalized banners adorned the walls, creating an atmosphere of excitement and nostalgia.

The evening commenced with our department HoD's opening speech, acknowledging the graduating students' accomplishments and expressing pride in their journey. Following our HoD speech, all the final-year students were given a tree sapling as a memorable gift from our professors. The highlight of the evening slideshow presentation captured the memorable moments of final-year students' journey in our department. Followed by a Fish release ceremony, "Radiant Ripple".

The auditorium reverberated with applause as singers, dancers; musicians took the stage, captivating the audience with their creativity and passion. Our fourth-year students have arranged an amazing dinner, which was so served to all who attended the function. The farewell program concluded with a heartfelt exchange of wishes and goodbyes. The event was a testament to the strong bonds and lifelong friendships formed within the college community.



PONGAL CELEBRATION

This year 2023, our department of biotechnology had our first-ever Pongal celebration, which was held at DBT ground floor along with all our staff and students. The ground floor was decorated with Kolam and sugarcane according to the rituals. Firstly, each batch of students was given a pot respectively and eagerly prepared Pongal.

The event began with the boiling of sweet Pongal to connote prosperity. After all that extreme teamwork behind fibrewoods continuously, the milk eventually boiled down the pot, followed by saying "Pongal O Pongal" by the students. We all started preparing the Pongal as a competition between each year whose Pongal will taste better. It was all fun with all students cheering themselves.



Pongal and fun games went hand in hand. Various fun games like uriyadi, musical chairs, tug of war, etc entertained students. The fun game was more interesting. We tricked everyone in uriyadi by shouting in the wrong direction, falling on each other in a tug of war, laughing at each other, and falling in the musical chair. The event concluded with the distribution of prizes to the winners of the fun game. It really didn't matter we really had fun and winded up with a photo snap of students of DBT with professors and HoD.

FIELD VISIT

As a part of the Environmental Biotechnology course on 03-02-2023, 4th year I.M.Sc. students visited a wastewater treatment plant, where they learned how wastewater is getting treated biologically. They were also exposed to sludge management practices adopted in wastewater treatment plants.



TEACHERS' DAY CELEBRATION



The research scholars organized a modest gathering with the professors of the Department of Biotechnology as part of the celebrations for Teachers' Day on 5th September 2022. We are privileged to have such committed, enthusiastic, and highly qualified educators in our department, and we are glad that we can call you, our mentors.

AWARDS AND ACHIEVEMENTS

GATE Qualifiers 2023



VENKATESWARAN
AIR 84



ASHWIN RAJEEV



PRATHYUSHA



RENJITH VS



KARISHMA



ANUSREE



KAVYA VINIL



SURYANARAYANA



GAYATHRI



ABHIJITH



BHAVANI PRASAD



HARIKRISHNAN



SHREDHA



RASHMI GONDI



AKSHAYA



JANANI



GAYATHRI S

FELLOWSHIP - INSA



I200620

Nishok G P

Department of Environmental
Studies, Panjab University,
Chandigarh



I200613

Janavath Satish

Naik

Department of Environmental
Studies, Panjab University,
Chandigarh



I200602

Ahtesham Hanifi

DBT-CDFD, Hyderabad



I200624

Sahil Raman Tanti

DBT-School of Engineering
and Applied Sciences, Bennet
University, Greater Noida



I200605

Sochanphy Keishing

CSIR- Institute of Genomics
and Integrated Biology,
New Delhi



I190613

Keerthana M

Department of Biosciences
and Bioengineering, IIT,
Guwahati

AWARDS



C-Certificate (NCC)

SIDDHARTH S

SANTIMIREDDYGARI GAYATHRI

SAHIL RAMAN TANTI

J SATISH NAIK



Neha G

First prize in 'JAM' on Eco club, CUTN



Chinni Babu, Renjith VS, Ajay

IUT, Badminton



**Venkateswaran M, Rishaba Byju,
Sredha S Sunil**

First Place in Nerdnia Science Quiz, CUTN



**Janavath Sathish Naik, Saranya E
Ajay Krishna**

Second prize in quiz competition on 74th
Republic Day



Mudavath Shiva

NCC- Army Attachment Training Camp, TSC-IGC
Intra-university Tournament (1600m First Prize)



Sudharsh S

PCR- Workshop, SERB funded,
NIFTEM

INTERNSHIPS



I200628

Siddharth

Dept. of Microbiology, School of Life Sciences, Pondicherry University, Pondicherry



I200616

Balashankar P

Jawaharlal Nehru Tropical Botanical Garden and Research Institute, Palode, Coimbatore



I200632

Nandana R

Horticulture Department, Tamil Nadu Agriculture University, Coimbatore



I200606

Thrisha Lakshmi RT

DRDO –BU, Bharathiyar University, Coimbatore



I200605

Celin Jeniffer Simon

DRDO –BU, Bharathiyar University, Coimbatore



I200615

Kirthana A

Dept. of Bioinformatics, University of Pondicherry, Pondicherry



I200611

Gayatree Dash

Dept. of Botany, Panjab University, Chandigarh



I190627

Thejal Ann Liz

School of Biology, IISER Trivandrum, Kerala



I190608

Gayathri Menon

Division of Tissue Culture, Sree Chitra Tirunal Institute for Medical Science, Trivandrum, Kerala



I190602

Adithya K

Department of Genomic Science, Central University of Kerala, Kasaragod, Kerala



I190617

S. Pavithra

Directorate of Public Health and Preventive Medicine, Chennai



I190612

Kalintha Chinni Babu

Department of Biochemistry, Osmania University, Hyderabad, Telangana



I190615

Luhaa M I

Dept. of Biotechnology, Central University of Tamil Nadu, Thiruvarur, Tamilnadu



I190617

Rinsha P V

Dept. of Biotechnology, Central University of Tamil Nadu, Thiruvarur, Tamilnadu



I190610

Janani K

Directorate of Public Health
and Preventive Medicine,
Chennai, Tamilnadu



I190607

D Bhavani Prasad

Dept. of Biotechnology,
Central University of Tamil
Nadu, Thiruvavur, Tamilnadu



I190615

Srinithi A

Directorate of Public Health
and Preventive Medicine,
Chennai, Tamilnadu



I190609

Harikrishna K

Dept. of Biotechnology,
Central University of Tamil
Nadu, Thiruvavur, Tamilnadu



I190619

K Pravalika

Dept. of Microbiology, MGM
Institute, Warangal, Telangana



I210630

Sudharsh S

Dept. of Biotechnology,
Central University of Tamil
Nadu, Thiruvavur, Tamilnadu



I210618

Preetha R

Dept. of Biotechnology,
Central University of Tamil
Nadu, Thiruvavur, Tamilnadu



I190627

Lavanya V

Dept. of Biotechnology,
Central University of Tamil
Nadu, Thiruvavur, Tamilnadu



I210616

Neha G

Dept. of Biotechnology,
Central University of Tamil
Nadu, Thiruvavur, Tamilnadu



Harshitha Nainar

Dept. of Biotechnology,
Central University of Tamil
Nadu, Thiruvavur, Tamilnadu



I210610

Karunya V

Dept. of Biotechnology,
Central University of Tamil
Nadu, Thiruvavur, Tamilnadu

PUBLICATION-IMSc CONFERENCE



Renjith V S, Usama Razakh V P, GokhulChandar T K, Gayathri S, and Kathiresan S. (2023). "Effects of Different Combinations of Plant Growth Regulators on Callus Induction in Soybean (*Glycine max*).\" (ICEBB-2023) Manonmaniam Sundaranar University, Tirunelveli, Tamilnadu. March 9-10.



Kavya Vinil Kaladan, Rajesh Parsanathan. (2023). presented a **Poster** entitled "Molecular Docking and Dynamics Simulation revealed the Potential Inhibitory Activity of Pimozide against Kynurenine metabolism targeting the Kynurenine 3-monooxygenase" at the 4th International Conference on Genome Biology (ICGB-4) and 54th Annual Aqua-Terr Day. February 28 and March 1.



Rinsha. P.V Rabia B, Rajesh Banu. J. (2023) "Synergistic Effect of Surfactant on Disperser Energy and liquefaction potential of macroalgae (*Ulva intestinalis*) for biofuel production." Presented an **oral presentation** on climate change conference (UGC Stride), CUTN. July 20-21.



Vijetha, Geethu K, Rajesh Banu. J. (2022). "Amelioration in biogas production from waste-activated sludge through surfactant-coupled mechanical disintegration." Presented an **oral presentation** on climate change conference (UGC Stride), CUTN. July 20-21.

RESEARCH PAPERS



Datta, M., **Rajeev, A.,** & Chattopadhyay, I. (2023). Application of antimicrobial peptides as next-generation therapeutics in the biomedical world, Biotechnology, and Genetic Engineering 1–39, Advanced online publication April 10, IF 4.2.



Rinsha. P.V Rabia B, Dinesh Kumar. M, Rashmi Gondi, Kavitha S, Meganathan Kannan, Gopalakrishnan Kumar, Siham Y. Rajesh Banu. J. (2023). Synergistic Effect of Surfactant on Disperser Energy and liquefaction potential of macroalgae (*Ulva intestinalis*) for biofuel production. Fermentation. Vol. 9(1); 55, Jan 09, IF 3.7.



Vijetha, Geethu K, Rashmi Gondi, Preethi M, Kavitha S, Gopalakrishnan Kumar Poornachandar Gugulothu and Rajesh Banu. J. (2023). Amelioration in biogas production from waste-activated sludge through surfactant-coupled mechanical disintegration. Fermentation. Vol. 9 (57). Jan 09, IF 3.7.



Swathi, S.B., Rashmi. G, Godvin. S, Godwin, and Rajesh Banu. J. (2022) Microalgae Biomass and Lipids as Feedstock for Biofuels: Sustainable Biotechnology Strategies. Sustainability, 14, (22). Nov 14, IF 3.9.



M. Tamil Mani Subi, (2022). Association of VEGF and p53 Polymorphisms and Spiral Artery Remodelling in Recurrent Pregnancy Loss: A Systematic Review and Meta-Analysis.” Journal of Thrombosis and Hemostasis, 122(3):363-376, March; IF 16.04.

Placement/ Higher Studies (2023 Passed out)

S. No	Name of the student	Photo of the student	Place of Work
1	Ms. Kavya Vinil		Project Associate- RUSA, Madurai Kamaraj University, Tamilnadu
2	Ms. Akshya		Researcher, SRM University, Andhra Pradesh
3	Mr. Liston Fdo.		CSIR-JRF
4	Mr. Ganapathy Subramanian		Project Associate, CSIR NIIST, Thiruvananthapuram, Kerala
5	Mr. Ashwin Rajeev		M.Tech. Biological Engineering Indian Institute of Technology, Gandhinagar, Gujarat
6	Mr. Desavath Chinna Naik		Biology Teacher, Akshaya Academy, CBSE Senior Secondary School Oddanchatram, Tamilnadu
7	Ms. Pooja Radhakrishnan		Indexer-Straive Pvt. Ltd. Chennai, Tamilnadu

RESEARCH SCHOLAR'S ACHIEVEMENTS

Sl. No	Photo of the student	Name of the student	Name of the Award
1		Sathya Jeevitha	Savitribai Jyotirao Phule Fellowship for Single Girl Child, 2022
2		Gayathri S Project Associate	Best Poster Award at ICEEB, MS University on 09 th & 10 th March 2023
3		Dr. Jaisheela Vimali	Post-Doctoral Fellow Dept. Microbiology and Immunology, Medical University of South Carolina, Charleston, USA
4		Sonal Sangwan	1. UGC-NET Environ. Science 2. Best Poster Award
5		Chitrali Laha Roy	ICMR SRF Fellowship
6		A R Mohammed Anshad	CSIR-UGC NET- NFOBC
7		Narmadhaa S	CSIR-UGC JRF

AWARDS

Ph.D. Awarded/Submitted



Dr. Jaisheela Vimali I

Title: Quality of Immune Responses in Chronic Viral Infections - A Cross- Sectional Investigation (**Ph.D. Awarded**)



Akhil Mohanan

Title: Deciphering the Importance of Trehalose during Dehydration in Selected Resurrection and Non-Resurrection Plants (**Thesis Submitted**)



Samarjit Maharana

Title: A Molecular Approach to Cell Death Mechanisms in Platelets (**Thesis Submitted**)



Rajalakshmi Anbalagan

Title: Temporal and Spatial Monitoring of *Aedes (Stegomyia) aegypti* (Linnaeus, 1762) and *Aedes (Stegomyia) albopictus* (Skuse, 1895) and their Insecticide Resistance Status in three Different Districts of Tamil Nadu, India (**Thesis Submitted**)

PUBLICATION

Conference Poster Presentations



Chitrali Laha Roy, (2023) "Possible role of platelets in minimizing the bleeding in patients with severe Haemophilia B" Excellent Poster presentation and significant contribution in the success of the BBIF 2023 "International Biobanking Symposium" held at the Institute of Liver and Biliary Sciences, New Delhi, Feb 23-24.

Chitrali Laha Roy, (2022) "Role of activated platelets in compensation of bleeding severity in Haemophilia A" International Conference ISTH 2022 an online poster presentation at International Society on Thrombosis and Homeostasis, London (UK), July 09-13.



Irene Mary Praveen, (2023) "Platelet Activating Factor Receptor Antagonist ameliorates MPTP-induced motor dysfunction in mice". An International Conference on Molecular Medicine and Therapeutics (ICMT 2023), at the Annamalai University Chidambaram Tamilnadu India, Jan 07-09.



I.K. Nidhin (2023) "Soil microbiome response to heavy metal contamination in an uncultivable paddy field." An online poster presentation for 4th International Conference on Genome Biology (ICGB-4), Conducted by Madurai Kamraj University, Madurai Tamilnadu, India March 1.



Jaisheela Vimali I (2022) "Plasma Correlates of Viral Control Involves Cytokine Signatures in Chronic HBV and HIV Infections." 62nd Annual International Conference of the Association of Microbiologists of India (AMI) organized by the University of Mysore, Karnataka, India, Sep 21-23.

Jaisheela Vimali I (2022) "Immune Cell Profiling in Chronic Infections Reveals the Role of Multiple Immune Dysregulation Biomarkers". 49th Annual Conference of Indian Immunology Society (Immunocon-2022), at PGIMER Chandigarh, India, Nov 23-26



Manjari Datta, (2022) "Application of CRISPR-Cas9 system to eradicate multi-drug resistant oral biofilm" an international conference on Antimicrobial Resistance & Microbiome under Changing Climate (AMRMIC 2022), Pondicherry University.



Marykutty Sebastian (2022) "Identification characterization and comparative gene expression of dehydrin genes during salinity stress in selected Brassicaceae Species" International Conference on Physiological and molecular Mechanism of abiotic stress tolerance in plants, at University of Calicut, Kerala India, Oct 26-28.



Rajalakshmi Anbalagan (2023) "Distribution of mosquito vectors and the insecticide resistance status of dengue vector at three different districts of Tamil Nadu" the 15th Conference on Vectors and Vector Borne Diseases at Goa University, Goa India, Feb 15 - 17.



Sonal Sangwan (2022) "Halotolerant PGPR *Staphylococcus sciuri* ET101 activates the redox pathways during salinity strength" International Conference on Physiological and molecular Mechanism of abiotic stress tolerance in plants, at University of Calicut, Kerala India. 26-28 Oct 20.



Ramavath Vasanthrao (2022) "Present Scenario of transmission of antibiotic resistance superbugs from the environment to human Society." International Conference on Antimicrobial Resistance & Microbiome under a Changing Climate" conducted by Pondicherry University, Oct 10-12.

Ramavath Vasanthrao (2023) "Comparative Metagenomic analysis of the hospital's soil and Garden soil to address the impact of clinical environment on the native soil microbiota. An International Conference on Genome Biology conducted by Madurai Kamaraj University, Feb 28& March 1.



Dr. S. Suvaithenamudhan (2022) 62nd Annual International Conference of Association of Microbiologists of India (AMI) participated and delivered a poster presentation on the topic "Molecular Dynamics Simulations of novel potential inhibitors targeting the efflux protein of Multidrug-Resistant *Acinetobacter baumannii*". Conducted by the University of Mysore on Sep 21-23.

Oral Presentations



Meenu Maniradharan (2023) "In Vitro and lactational exposure to bisphenol an alter the testicular cancer cells" an International Conference on Molecular Medicine and Therapeutics, Conducted by Annamalai University, Chidambaram Tamilnadu, Jan 07-09.



Narmadhaa Sivagurunathan (2023) "In silico analysis of phytochemicals of *Ginkgo biloba* as potential inhibitors of inflammasomes involved in neurodegenerative diseases" International Conference on Molecular Medicine and Therapeutics, Conducted by Annamalai University, Chidambaram Tamilnadu, Jan 07-09.



Rajalakshmi Anbalagan (2023) "Monitoring of Insecticide Resistance and Exploring the Presence of Virus in Field Populations of *Culex gelidus*, at Thiruvarur District of Tamil Nadu, India" XIV Annual Conference of ISMOCD at Trivandrum, May 19th-21st.



Rajeev Kumar Bhasker, (2023) "Enhancement of biomethane production from seaweed by physiochemical pre-treatment" GEOVISTA 2023, the Department of Geography, Central University of Tamil, Thiruvarur Tamilnadu, India. July 05-06.



Rashmi Gondi, (2023) "Pretreatment of waste-activated sludge using ultrasonication coupled with oxidant at acidic pH" GEOVISTA 2023, the Department of Geography, Central University of Tamil, Thiruvavur Tamilnadu, India. July 05-06.



S.K. Farhat (2023) "Study on the prevalence of scrub typhus in Thiruvavur district of Tamilnadu, India" 15th Conference on Vectors and vector-borne diseases at Goa University, Goa, India, Feb 15-17.

S.K. Farhat (2022) "Prevalence of scrub types in Thiruvavur district of Tamilnadu, India" Climate change conference, organized by UGC- Scheme for Trans-disciplinary Research for India's Developing Economy, Central University of Tamilnadu, Thiruvavur, July 20-21.

Research Papers



Akhil Mohanan

Mohanan, A., Gandhi, S., Al Ain A, N., & Challabathula, D. (2023). Intracellular trehalose modulates oxidative responses and dehydrin gene expression in *Arabidopsis thaliana* (L.) Heynh during dehydration. Brazilian Journal of Botany, 46(2), 255–267 March 27, IF 1.36.



Chirali Laha Roy

Maharana, S., **Roy, C. L.,** Kishor, K., Ranjan, R., Ahmad, F., Mahapatra, M., Saxena, R., & Kannan, M. (2023). Depolarized Mitochondrial Membrane Potential and Elevated Calcium in Platelets of Sickle Cell Disease. Indian Journal of Hematology and Blood Transfusion, March 4, IF 0.915.



Jaisheela Vimali I

Vimali, J., Yong, Y. K., Murugesan, A., Ashwin, R., Balakrishnan, P., Raju, S., Velu, V., Larsson, M., & Shankar, E. M. (2022). Surrogate Biomarkers of Disease Progression in Human Pegivirus Seropositive Human Immunodeficiency Virus-Infected Individuals. Viral immunology, 36(1), P-55–62; Nov 10 IF 2.2.

Vimali, J., Yong, Y. K., Murugesan, A., Vishnupriya, K., Ashwin, R., Daniel, E. A., Balakrishnan, P., Raju, S., Rosmawati, M., Velu, V., Larsson, M., & Shankar, E. M. (2022). Plasma interleukin-7 correlation with human immunodeficiency virus RNA and CD4+ T cell counts, and interleukin-5 with circulating hepatitis B virus DNA may have implications in viral control. Frontiers in medicine, Nov 03; IF 3.9.



Manjari Datta

Datta, M., Rajeev, A., & Chattopadhyay, I. (2023). Application of antimicrobial peptides as next-generation therapeutics in the biomedical world, Biotechnology, and genetic engineering 1–39, Advanced online publication April 10, IF 4.2.



Meenu Maniradhan

Maniradhan, M., & Calivarathan, L. (2022). Bisphenol A-Induced Endocrine Dysfunction and its Associated Metabolic Disorders. Endocrine, metabolic & immune disorders drug targets, 23(4), 515–529, Dec. 13, IF 1.973.

**Narmadhaa Sivagurunathan**

Sivagurunathan, N., Gnanasekaran, P., & Calivarathan, L. (2023). Mitochondrial Toxicant-Induced Neuronal Apoptosis in Parkinson's Disease: What We Know so Far. Degenerative Neurological and Neuromuscular Diseases. Issue 13, p 1-13, Jan 26.

Sivagurunathan, N., & Calivarathan, L. (2023). SARS-CoV-2 Infection to Premature Neuronal Aging and Neurodegenerative Diseases: Is there any connection with Hypoxia? CNS & neurological disorders drug targets, Advanced online publication, April 18, IF 2.77.

**Rajalakshmi Anbalagan**

Krishnan, J., Farhat, S. K., & **Anbalagan, R.** (2022). Hypoxia and Cigarette Smoke-A Combined Threat to the Brain: Role of Toll-like Receptor 4 in Neuroinflammatory Changes. Journal of Communicable Diseases, 54(3), 67-74, Sep 30 IF 0.27.

**Rashmi Gondi**

Gondi, R., Ravi, Y. K., Kavitha, S., Al-Qaradawi, S. Y., Challabathula, D., Kumar, G., & Banu, J. R. (2023). Cost-effective bio-methanation via oxalic acid coupled sonication pretreatment of *Gracilaria salicornia*. Biomass and Bioenergy, 175, 106876. June 23, IF 5.7.

Kavitha, S., **Gondi, R.,** Kannah, R. Y., Kumar, G., & Banu, J. R. (2022). A review on current advances in the energy and cost-effective pretreatments of algal biomass: Enhancement in liquefaction and biofuel recovery. Bioresource technology, 128383. Nov 26, IF 11.4.

Babu, S. S., **Gondi, R.,** Vincent, G. S., John Samuel, G. C., & Jeyakumar, R. B. (2022). Microalgae Biomass and Lipids as Feedstock for Biofuels: Sustainable Biotechnology Strategies. Sustainability, 14(22), 15070. Nov 14, IF 3.8.

Gondi, R., Kavitha, S., Kannah, R. Y., Kumar, G., & Banu, J. R. (2022). Wastewater-based microalgae valorization for biofuel and value-added products recovery. Sustainable Energy Technologies and Assessments, 53, 102443. June 30, IF 7.6.

**S.K. Farhat**

Krishnan, J., **Farhat, S. K.,** & Anbalagan, R. (2022). Hypoxia and Cigarette Smoke-A Combined Threat to the Brain: Role of Toll-like Receptor 4 in Neuroinflammatory Changes. Journal of Communicable Diseases, 67-74, Sep 30 IF 0.27.

Farhat, S. K., Srivastava, P. K., Baskar, P., & Krishnan, J. (2023). Inflammatory cytokines in scrub typhus and COVID-19. Indian Journal of Public Health, 67(1), 184, Jan-March, IF 2.2.

**Samarjeet Maharana**

Maharana, S., Roy, C. L., Kishor, K., Ranjan, R., Ahmad, F., Mahapatra, M., Saxena, R., & Kannan, M. (2023). Depolarized Mitochondrial Membrane Potential and Elevated Calcium in Platelets of Sickle Cell Disease. Indian Journal of Hematology and Blood Transfusion, March 4, IF 0.915.

Book Chapters



Aiswarya Sudheer CK

CK, A. S., & Chattopadhyay, I. (2022). Endophytic bacteria for drug discovery and bioremediation of heavy metals. In Endophytic Association: What, Why and How. Edited by Mauline P. Shah and Deepanwita Deka, Published by Academic Press. (pp. 159-181) 01 Nov.



I.K. Nidhin

Nidhin, I. K., & Chattopadhyay, I. (2022). Emerging technologies in environmental microbiology. Environmental Microbiology: Emerging Technologies, pg. 33 Sep 06.



Meenu Maniradharan

Latchoumycandane Calivarathan, Pranitha Janardhanan, **Meenu Maniradharan**, Premendu Prakash Mathur (2022). Environmental Contaminants and Male Reproductive Health – Past, Present, and Future. In Environment studies and Climate change; 1st Edition Edit by R. C. Sobti. Published in CRC Press, pg. 12.



Narmadhaa Sivagurunathan

Sivagurunathan, N., Calivarathan, L. (2023). Age-Related Neurodegenerative Diseases. In: Pathak, S., Banerjee, A., Duttaroy, A.K. (eds) Evidence-based Functional Foods for Prevention of Age-related Diseases. Springer, Singapore



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Editorial Team