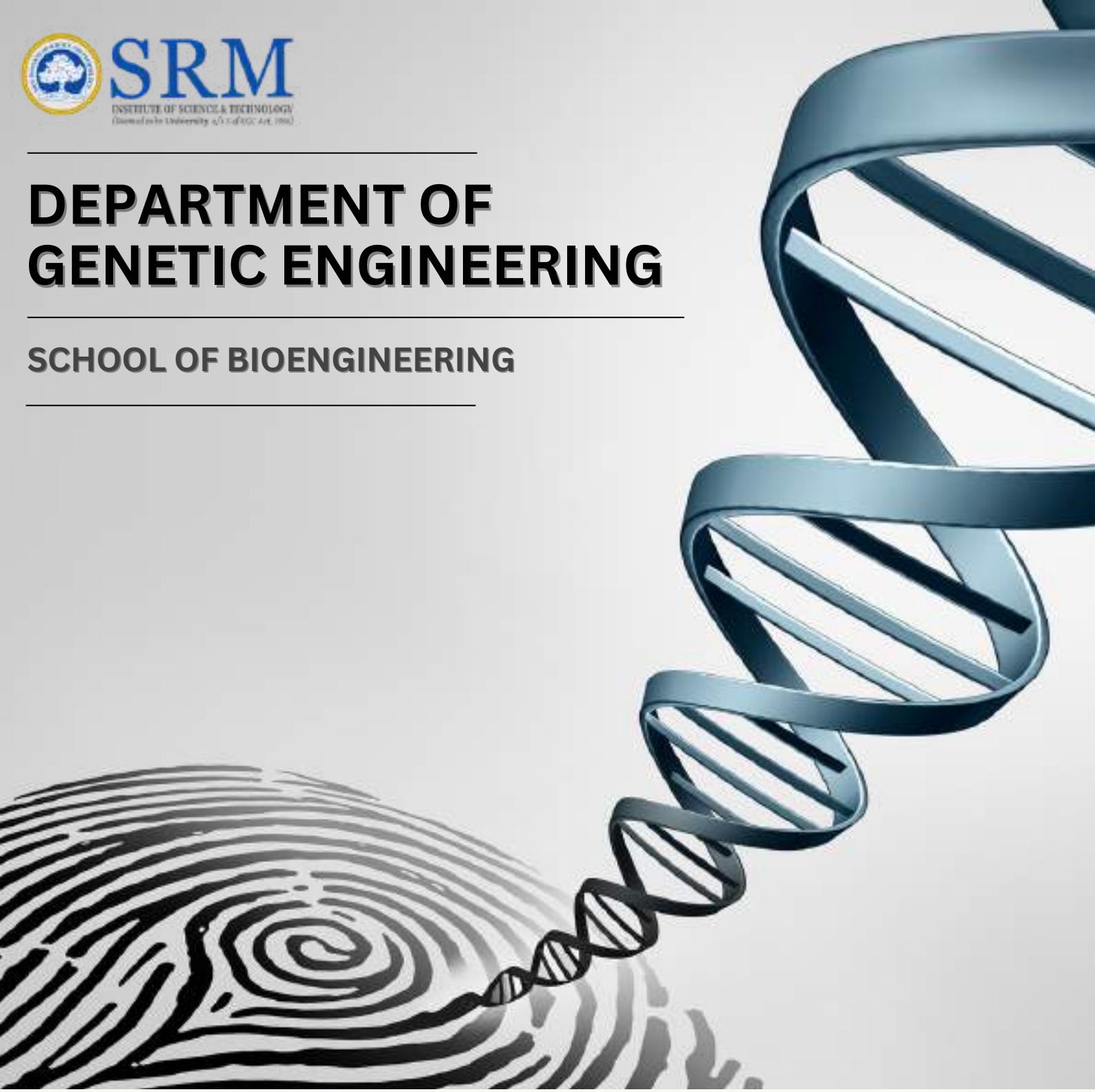
SRM
INSTITUTE OF SCIENCE & TECHNOLOGY

DEPARTMENT OF GENETIC ENGINEERING

SCHOOL OF BIOENGINEERING



THE GENETICIST

VOLUME TWO
ISSUE 2

JULY TO DECEMBER
2023

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MESSAGE FROM CHAIRPERSON

"Gratitude makes sense of our past, brings peace for today, and creates vision for tomorrow"

— Melody Beattie

I am happy that the Department of Genetic Engineering, School of Bioengineering, SRM Institute of Science and Technology has taken steps to bring out the second volume of the newsletter, "The Geneticist". The Department of Genetic Engineering is an vibrant department at SRMIST and this newsletter highlights the achievements of the undergraduate and postgraduate students, research scholars and faculty during July-December 2023. This kind of projection will encourage competitive spirit among students and faculty so that they can reach a new milestone in genetic engineering research. This will also motivate youngsters to learn new developments in biological research and come out with innovative ideas for exploration and validation. In addition, this will also make faculty and students from other disciplines to know more about the academic and research activities in the Department of Genetic Engineering and initiate multidisciplinary research. I congratulate the team responsible for bringing out the newsletter "The Geneticist" and wish this endeavor all the best.

Dr. M. Vairamani

Chairperson

School of Bioengineering

SRM Institute of Science &Technology

MESSAGE FROM HOD

> “Don't be pushed around by the fears in your mind. Be led by the dreams in your heart.”
>
> — Roy T. Bennett

We are pleased to share the second issue of the second volume THE GENETICIST. Genetic Engineering is one of the specialized fields of study that fuels high-quality research, both basic and applied, involving human, animal, plant, and microorganisms. The E-newsletter showcases the high-quality research work to improve reader access, promote interdisciplinary collaborations, and acclaim more recognition to the faculty, scholars, the department and eventually the Institute. I firmly believe that this small step forward would motivate the faculty to form alliances, collaborate cross-discipline, attract external funds, and deliver through patents and products. I would also like to take this opportunity to thank the contributors of the newsletter.

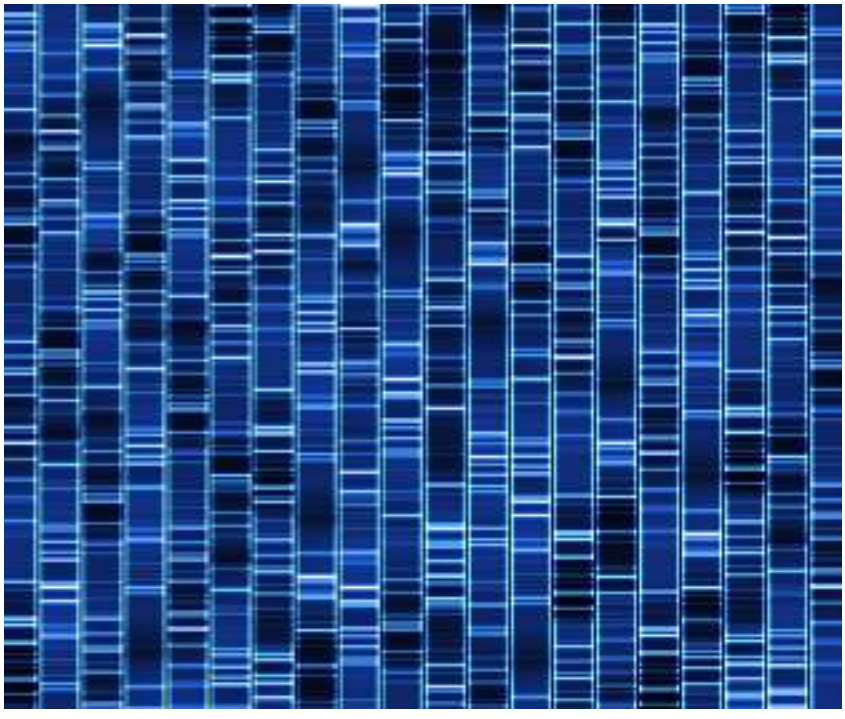
Dr. M. Ramya
Professor and Head
Department of Genetic Engineering
School of Bioengineering
SRM Institute of Science &Technology

EDITOR'S DESK

Dear Readers,

We take immense pleasure in announcing the release of the second issue of the second volume of THE GENETICIST, which showcases the activities and achievements of our students and faculty in the last six months (July 2023 - December 2023)

This magazine delivers the contribution of students and faculty members towards teaching and, research. It also highlights the numerous accomplishments of the members of the department in research article publication, acquiring grants and fellowships, patenting and IPR.



We thank the Chairperson, School of Bio-engineering, HOD, staff, and students of the Department of Genetic Engineering for their contributions and support in framing this magazine.

Happy Reading!

Dr. G. Ganesan
Dr. P. Rathinasabapathi

THE TEAM BEHIND THIS EDITION

Manvi Shrimal
(B.Tech IVth year)

Shriya P
(B.Tech IVth year)

Dr. G. Ganesan

Dr. P. Rathina-sabapathi

ABOUT THE DEPARTMENT

The world has come to realize the importance of Genetic Engineering in diagnosis of genetic disease, identification of pathogenic mutations, creating genetically modified organisms and producing better varieties of crops with higher yield. The rapid scientific progress that led to the development of DNA sequencing technologies and gene editing approaches have emphasized the necessity to combine the classical field, such as, genetics with fast emerging fields, like genomics and genome editing. Genetic Engineering is the backbone of biotechnology and the opportunities for a genetic engineer in clinical and applied genetics today and in the future are boundless. Started in the year 2004, the department aims to produce genetic engineers who excel in the field of genomics and gene editing. The department has brought together state of the art laboratories and a highly experienced and dedicated team of faculty. The department takes immense care to impart knowledge in a highly interactive mode, hands-on training in advanced molecular biology techniques and cutting-edge research opportunities.

VISION AND MISSION

To emerge as a center of excellence in genetic engineering and to provide research oriented holistic learning experience that enables the graduates blossom into intellectually capable, professionally committed and socially responsible individuals who are able to conduct ethical research..

- Built-in mechanism to inculcate professional commitment, ethical values and social relevance.
- Designing continually evolving curriculum with emphasis on research oriented learning and creative thinking towards basic and applied sciences.
- Attracting faculty, students and scholars with strong desire for research and providing them with inspiring research environment to excel in thrust areas of the department.

RESEARCH LABS AND FACILITIES

The Department has various state-of-the-art equipment which enable the faculties, research scholars, M.Tech and B.Tech. students to conduct their research in various fields like cancer biology, stem cell technology, microbial genetics, developmental biology, and plant genetic engineering. These equipments are also utilized by other department scholars and academicians as part of the consultancy services offered by the Department of Genetic Engineering.

Teaching Labs

- Bio separation Lab
- Genetic Engineering Lab

Research Labs

- Scholar Lab I
- Scholar Lab II
- Common Research Facility
- Stem Cell Biology Lab

Funded Labs

- Genomics Lab
- Immuno Genetics Lab
- Membrane Protein Interaction Lab
- Molecular Genetics Lab
- Plant Virology Lab
- Sponsored Research Lab
- Zebrafish Genetics Lab
- Cancer Biology Lab
- Computational Biology Lab

LIST OF SOPHISTICATED INSTRUMENTS AVAILABLE FOR RESEARCH AND CONSULTANCY SERVICES

- Karyotyping System and Olympus Microscope - BioGen Technologies
- Fluorescence Spectrometer - Hitachi F4700
- Real Time PCR - Applied Biosystems
- Air Jacket CO2 Incubator - Nectranova
- Particle Delivery System (GeneGun) - Biorad
- Plant Growth Chamber - Sanyo
- FPLC - Bio Rad Laboratories
- Inverted Trinocular Fluorescence Microscope - Nikon ts2fl
- Vacuum Concentrator - Eppendorf
- HPLC - Waters
- Biosafety Class-II Laminar Air Flow - Esco
- Zebrafish Aquarium System - Tecniplast
- Micromanipulator - Wpi
- Nanodrop - Thermo Scientific
- Electroporator - Bio Rad Laboratories
- PCR Machines - Agilent, Eppendorf, Applied Biosystems
- Stereozoom Microsscope- Weswox STM-80
- Inverted Tissue Culture Trinocular Microscope- Magnus

RESEARCH PUBLICATIONS

JULY - DECEMBER 2023

Kudos to the students and faculties, Genetic Engineering for their dedication to innovative research and sincere efforts to publish them in highly acclaimed journals. The Department's research is summarized below Kudos to the students and faculties, Genetic Engineering for their dedication to innovative research and sincere efforts to publish them in highly acclaimed journals.

Total Publications	53
Corresponding author	45
Co-author	8
High IF	8.8
Average IF	4.89

RESEARCH PUBLICATIONS

JULY - DECEMBER 2023

01

SELVARAJ BARATHI, J GITANJALI, GANDHIMATHI RATHINASAMY, NADANA SABAPATHI, **KN ARULJOTHI**, JINTAE LEE, SABARISWARAN KANDASAMY (2023) RECENT TRENDS IN POLYCYCLIC AROMATIC HYDROCARBONS POLLUTION DISTRIBUTION AND COUNTERACTING BIO-REMEDIATION STRATEGIES. CHEMOSPHERE. IF: 8.8
DOI: 10.1016/J.CHEMOSPHERE.2023.139396

02

MASILAMANI KARTHIKEYAN, G. DEVANAND VENKATASUBBU, **PASUPATHI RATHINASABAPATHI** (2023) A LABEL-FREE CARBON DOTS-BASED FLUORESCENT APTASENSOR FOR THE DETECTION OF V. CHOLERAE O139. DIAMOND AND RELATED MATERIALS IF: 4.10
DOI: 10.1016/J.DIAMOND.2023.110173

03

E RAJALAKSHMI, ARCHANA VISHWAKARMA, ANANDKUMAR BALAKRISHNAN, **RAMYA MOHANDASS** (2023) ASSESSMENT OF THE GROWTH INHIBITION AND ANTI-BIOFILM ACTIVITY OF APTAMER (PMA2G02) AGAINST PROTEUS MIRABILIS 1429T. RESEARCH IN MICROBIOLOGY. IF: 3.73
DOI: 10.1016/J.RESMIC.2023.104105

04

YASODHA KESAVAN, LIZHA MARY LAZER, SURAJIT PATHAK, **SATISH RAMALINGAM** (2023) EXOSOMES FROM METASTATIC COLON CANCER CELLS DRIVE THE PROLIFERATION AND MIGRATION OF PRIMARY COLON CANCER THROUGH INCREASED EXPRESSION OF CANCER STEM CELL MARKERS CD133 AND DCLK1. TISSUE AND CELL. IF: 2.89
DOI: 10.1016/J.TICE.2023.102163

05

MANIVANNAN KARTHIKEYAN, BABURAJ BASKAR, VEERAPANDIYAN KANDASAM, **USHA BALASUNDARAM** (2023) GLUTATHIONE ELICITS ENHANCED BIOSYNTHESIS OF BONDUCELLIN, A HOMOISOFLAVONOID, IN CAESALPINIA BONDUCELLA LEAF CALLUS. PLANT CELL, TISSUE AND ORGAN CULTURE. IF: 3.11
DOI: 10.1007/S11240-023-02551-1

06

GOR, R., GHARIB, A., BALAJI, PD., MADHAVAN, T., **RAMALINGAM,S.** (2023) INDUCING CYTOTOXICITY IN COLON CANCER CELLS AND SUPPRESSING CANCER STEM CELLS BY DOLASETRON AND KETOPROFEN THROUGH INHIBITION OF RNA BINDING PROTEIN PUM1. TOXICS. IF: 4.472
DOI: 10.3390/TOXICS11080669

07

RANINDITA MENON, VETRISELVI, MARCUS SAMUEL, **REX ARUNRAJ** (2023) PROPERTIES AND APPLICATIONS OF ALPHA-GALACTOSIDASE IN AGRICULTURAL WASTE PROCESSING AND SECONDARY AGRICULTURAL PROCESS INDUSTRIES. JOURNAL OF SCIENCE OF FOOD AND AGRICULTURE. IF: 3.64
DOI: 10.1002/JSFA.12911

RESEARCH PUBLICATIONS

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08 J. ASHWINI JOHN, **ETHIRAJ SELVARAJAN** (2023) GENOMIC ANALYSIS OF LIGNOCELLULOLYTIC ENZYME PRODUCING NOVEL STREPTOMYCES SP.MS2A FOR THE BIOETHANOL APPLICATIONS. INTERNATIONAL JOURNAL OF BIOLOGICAL MACROMOLECULES. IF: 8.20
DOI: 10.1016/J.IJBIOMAC.2023.126138

09 SHAHJAHAN A, SRUTHI S, KUMARAN K, **KN ARULJOTHI** (2023) THE CYTOTOXIC AND ANTI-TUMOR POTENTIAL OF METHANOLIC EXTRACTS OF INDIAN MARINE ISOLATES IN HCT116 COLORECTAL CANCER CELLS. ANTI-CANCER AGENTS IN MEDICINAL CHEMISTRY. IF: 2.51
DOI: 10.2174/1871520623666230810094755

10 ALGHADEER, A., HANSON-DRURY, S., PATNI, A. P., EHNES, D. D., ZHAO, Y. T., LI, Z., PHAL, A., VINCENT, T., LIM, Y. C., O'DAY, D., SPURRELL, C. H., GOGATE, A. A., ZHANG, H., **DEVI, A**., WANG, Y., STARITA, L., DOHERTY, D., GLASS, I. A., SHENDURE, J., FREEDMAN, B. S., RUOHOLA-BAKER, H. (2023) SINGLE-CELL CENSUS OF HUMAN TOOTH DEVELOPMENT ENABLES GENERATION OF HUMAN ENAMEL. DEVELOPMENTAL CELL. IF: 13.42
DOI: 10.1016/J.DEVCEL.2023.07.013

11 ARCHANA VISHWAKARMA, YOGESAN MEGANATHAN, **MOHANDASS RAMYA** (2023) APTAMER-BASED ASSAY FOR RAPID DETECTION, SURVEILLANCE, AND SCREENING OF PATHOGENIC LEPTOSPIRA IN WATER SAMPLES. SCIENTIFIC REPORTS. IF: 4.60
DOI: 10.1038/S41598-023-40120-W

12 SINGH, RASHMI, MELVIN S. SAMUEL, MADHUMITA RAVIKUMAR, **SELVARAJAN ETHIRAJ**, VENKATESAN SAVUNTHARI KIRANKUMAR, MOHANRAJ KUMAR, R. ARULVEL, SAGADEVAN SURESH (2023) PROCESSING OF CARBON-BASED NANOMATERIALS FOR THE REMOVAL OF POLLUTANTS FROM WATER/WASTEWATER APPLICATION. WATER. IF: 3.53
DOI: 10.3390/W15163003

13 RUDRA AWDHESH KUMAR MISHRA, GOTHANDAM KODIVERI MUTHUKALIANNAN, **PASUPATHI RATHINASABAPATHI** (2023) EFFECTS OF FLAVONOIDS AND ANTIBIOTICS COMBINATION ON PREFORMED BIOFILMS AND SMALL RNA OF STAPHYLOCOCCUS AUREUS. INDIAN JOURNAL OF MICROBIOLOGY. IF: 1.6
DOI: 10.1007/S12088-023-01086-5

14 RUCHI BHOLE, DELICIA GONSALVES, GOKULAKRISHNAN MURUGESAN, **MANOJ KUMAR NARASIMHAN**, N. R. SRINIVASAN, NIYAM DAVE, THIVAHARAN VARADAVENKATESAN, RAMESH VINAYAGAM, MUTHUSAMY GOVARTHANAN, RAJA SELVARAJ (2023) SUPERPARAMAGNETIC SPHERICAL MAGNETITE NANOPARTICLES: SYNTHESIS, CHARACTERIZATION AND CATALYTIC POTENTIAL. APPLIED NANOSCIENCE. IF: 3.67
DOI: 10.1007/S13204-022-02532-4

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15 NANDHANA GANAPATHY SALINI, RIKHIA MAJUMDAR, SHAHJAHAN AHAMAD AND **SHOBANA SUGUMAR** (2023) IN SILICO IDENTIFICATION OF CADMIUM BINDING PROTEIN AND ITS SECRETED METALLOPROTEINS IN STENOTROPHOMONAS MALTOPHILIA. CURRENT CHEMICAL BIOLOGY. IF: 0.90
DOI: 10.2174/2212796817666230911094043

16 SRUTHY SATHISH, PANNEER DEVARAJU, ANGELINE JULIUS, HONGLAE SOHN, **THIRUMURTHY MADHAVAN** (2023) IDENTIFICATION OF SELECTIVE INHIBITORS FOR JANUS KINASE 1: AN INTEGRATED DRUG REPURPOSING STRATEGY FOR BREAST CANCER. CHEMICAL PAPERS. IF: 2.146
DOI: 10.1007/S11696-023-03070-1

17 RASHMI SINGH, MELVIN S. SAMUEL, MADHUMITA RAVIKUMAR, **SELVARAJAN ETHIRAJ**, V.S. KIRANKUMAR, MOHANRAJ KUMAR, R. ARULVEL, SAGADEVAN SURESH (2023) A NOVEL APPROACH TO ENVIRONMENTAL POLLUTION MANAGEMENT/REMEDIATION TECHNIQUES USING DERIVED ADVANCED MATERIALS. CHEMOSPHERE. IF: 8.8
DOI: 10.1016/J.CHEMOSPHERE.2023.140311

18 ARCHANA RAJAVEL, VISWANATHAN VENKATARAMAN, JAYSEELAN MURUGAIYAN, VAIRAMANI MARIAPPAN, **RAJA NATESAN SELLA** (2023) IDENTIFICATION OF EXTRACELLULAR VESICLES DERIVED FROM PLASMA USING MALDI-TOF MS: INFLUENCE OF OPERATING CONDITIONS. JOURNAL OF APPLIED BIOTECHNOLOGY REPORTS. IF: 1.16.
DOI: 10.30491/JABR.2023.380590.1595

19 SAMRUTI KUMAR, RAJIB DHAR, LOKESH BABU SIRKALI SURESH KUMAR, GAURESH GURUDAS SHIVJI, RAMA JAYARAJ, **ARIKKETH DEVI** (2023) THERANOSTIC SIGNATURE OF TUMOR-DERIVED EXOSOMES IN CANCER. MEDICAL ONCOLOGY. IF: 3.4
DOI: 10.1007/S12032-023-02176-6

20 GNANAPRAKASH JEYARAJ, **SWAPNA GEETANJALI A** (2023) INFECTIVITY ANALYSIS OF CHILLI LEAF CURL AHMEDABAD VIRUS AND ITS ASSOCIATED TOMATO LEAF CURL BANGLADESH BETASATELLITE COMPLEX IN CHILI. PHYSIOLOGICAL AND MOLECULAR PLANT PATHOLOGY. IF: 2.66
DOI: 10.1016/J.PMPP.2023.102167

21 SURESH VINEESH, RAJU BALAJI, TANUJA, **MADASAMY PARANI** (2023) THE COMPLETE CHLOROPLAST GENOME OF OCIMUM AMERICANUM LINNAEUS 1755 AND PHYLOGENETIC ANALYSIS AMONG THE LAMIACEAE FAMILY. PHYSIOLOGICAL AND MOLECULAR PLANT PATHOLOGY. IF: 0.56
DOI: 10.1080/23802359.2023.2264545

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22 PANICKER, S., CHENGIZKHAN, G., GOR, R., RAMACHANDRAN, I., **RAMALINGAM S** (2023) EXPLORING THE RELATIONSHIP BETWEEN FUSION GENES AND MICRORNAS IN CANCER. CELLS. IF: 6.0
DOI: 10.3390/CELLS12202467

23 MELVIN S SAMUEL, ASHWINI JOHN. J, MADHUMITA RAVIKUMAR, PANKAJ RAIZADA, NUR IZYAN WAN AZELEE, **ETHIRAJ SELVARAJAN**, RANGABHASHIYAM SELVASEMBIAN (2023) RECENT PROGRESS ON THE REMEDIATION OF DYES IN WASTEWATER USING CELLULOSE-BASED ADSORBENTS. INDUSTRIAL CROPS AND PRODUCTS. IF: 6.449
DOI: 10.1016/J.INDCROP.2023.117590

24 RAY SHARMISHTHA, TANUJA TANUJA, RAJU BALAJI, **MADASAMY PARANI** (2023) THE COMPLETE CHLOROPLAST GENOME OF PHYLA NODIFLORA (LINNAEUS) GREENE (1899) FROM THE VERBENACEAE FAMILY AND ITS PHYLOGENETIC ANALYSIS. MITOCHONDRIAL DNA PART B. IF: 0.56
DOI: 10.1080/23802359.2023.2266877

25 **KIRANKUMAR SANTHAKUMAR** (2023) NEUROENDOCRINE REGULATION OF REPRODUCTION IN FISH – MINI REVIEW. AQUACULTURE AND FISHERIES. IF: 6.7
DOI: 10.1016/J.AAF.2023.09.001

26 CALMLY M. KOSHY, **SHOBANA SUGUMAR** (2023) ISOLATION, CHARACTERIZATION, AND GENOME ANALYSIS OF NOVEL BACTERIOPHAGE – STENOTROPHOMONAS PHAGE CM1. MICROBIAL PATHOGENESIS. IF: 3.98
DOI: 10.1016/J.MICPATH.2023.106403

27 MOHAN GUNDLURU, SANTHISUDHA SARVA, SUMITHRA POREDDY, POOJITHA B, ASHWINI JOHN, **SELVARAJAN ETHIRAJ**, SURESH REDDY CIRANDUR (2023) DESIGN, SYNTHESIS, ANTIBACTERIAL EVALUATION, AND MOLECULAR DOCKING STUDIES OF DIETHYL((SUBSTITUTED PHENYL)((4-(N-(5-METHYL-4,5-DIHYDROISOXAZOL-3-YL)SULFAMOYL)PHENYL)
AMINO)METHYL)PHOSPHONATES. SYNTHETIC COMMUNICATIONS. IF: 3.98
DOI: 10.1016/J.BIOORG.2017.12.017

28 SRIRAMULU INDHUKUMAR KIRANKUMAR, RAJU BALAJI, TANUJA, **MADASAMY PARANI** (2023) THE COMPLETE CHLOROPLAST GENOME OF OCIMUM BASILICUM L. VAR. BASILICUM (LAMIACEAE) AND ITS PHYLOGENETIC ANALYSIS. MITOCHONDRIAL DNA PART B. IF: 0.56
DOI: 10.1080/23802359.2023.2275835

29 THASMA LOGANATH BABU VASANTH KANTH, ARCHI RAHA, R M VIJAY MURALI, NATESAN YUVATHA, KASINATHAN KUMARAN, RANGASAMY KIRUBAKARAN, **KN ARULJOTHI** (2023) REPURPOSING OF CLINICALLY PROVEN BIOACTIVE COMPOUNDS FOR TARGETED TREATMENT OF ALZHEIMER'S DISEASE USING MOLECULAR DOCKING APPROACH. IN SILICO PHARMACOLOGY. IF: 4.3
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30 ASHA ABRAHAM, **HABEEB SHAIK MOHIDEEN**, R. KAYALVIZHI (2023) A TABULAR VARIATIONAL AUTO ENCODER-BASED HYBRID MODEL FOR IMBALANCED DATA CLASSIFICATION WITH FEATURE SELECTION. IEEE ACCESS. IF: 3.9
DOI: 10.1109/ACCESS.2023.3329139

31 RAMYA RAMADOSS, SRUTHY SATHISH, HONGLAE SOHN, **THIRUMURTHY MADHAVAN** (2023) POTENCY OF ANTI-FIBROTIC HERBS ON FIBROGENESIS: A THEORETICAL EVALUATION. PHYTOMEDICINE PLUS. IF: 2.46
DOI: 10.1016/J.PHYPLU.2023.100496

32 RUPESH KUMAR, **THIRUMURTHY MADHAVAN**, KALAIARASAN PONNUSAMY, HONGLAE SOHN, SHAZIA HAIDER (2023) COMPUTATIONAL STUDY OF THE MOTOR NEURON PROTEIN KIF5A TO IDENTIFY NSSNPS, BIOACTIVE COMPOUNDS, AND ITS KEY REGULATORS. FRONTIERS IN GENETICS. IF: 4.772
DOI: 10.3389/FGENE.2023.1282234

33 K KUMARAN AND **KN ARULJOTHI** (2023) COMMENT ON: "PLASMA CELL-FREE DNA IS A POTENTIAL BIOMARKER FOR DIAGNOSIS OF CALCIFIC AORTIC VALVE DISEASE". CARDIOLOGY. IF: 1.79
DOI: 10.1159/000534743

34 HEMALATHA MANIVANNAN, ANIKESH KRISHNAMURTHY, RAHUL MACHERLLA, SIVA CHIDAMBARAM, SARAVANAN PANDIARAJ, MUTHUMAREESWARAN MUTHURAMAMOORTHY, **SELVARAJAN ETHIRAJ**, G. MOHAN KUMAR (2023) ENHANCING THE SILICA-MAGNETIC CATALYST-ASSISTED BIOETHANOL PRODUCTION FROM BIOWASTE VIA ULTRASONICS. CLEAN TECHNOLOGIES AND ENVIRONMENTAL POLICY. IF: 4.3
DOI: 10.1007/S10098-023-02638-5

35 PRASANNA, JENISHA, **RATHINASABAPATHI**, **REX ARUNRAJ** (2023) EXPLORING THE IMPACT OF 1-DEOXYNOJIRIMYCIN ON ALPHAGALACTOSIDASE ACTIVITY AND CHICKPEA SEED GERMINATION THROUGH IN VITRO EXPERIMENTS AND MOLECULAR DOCKING ANALYSIS. JOURNAL OF SEED SCIENCE. IF: 1.11
DOI: 10.1590/2317-1545V45273706

36 RASHMI SINGH, MELVIN S. SAMUEL, MADHUMITA RAVIKUMAR, **SELVARAJAN ETHIRAJ**, MOHANRAJ KUMAR (2023) GRAPHENE MATERIALS IN POLLUTION TRACE DETECTION AND ENVIRONMENTAL IMPROVEMENT. ENVIRONMENTAL RESEARCH. IF: 8.43
DOI: 10.1016/J.ENVRES.2023.117830

RESEARCH PUBLICATIONS

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37 VARADHARAJAN BHOOMA, SOPHIE LORRAINE VASSOU, ILANGO KALIAPPAN, **MADASAMY PARANI** (2023) IDENTIFICATION OF ADULTERATION IN THE MARKET SAMPLES OF SAFFRON USING MORPHOLOGY, HPLC, HPTLC, AND DNA BARCODING METHODS. GENOME. IF: 2.17
DOI: 10.1139/GEN-2022-0059

38 RAMESH VINAYAGAM, VASUNDRA NAGENDRAN, LOUELLA CONCEPTA GOVEAS, **MANOJ KUMAR NARASIMHAN**, THIVAHARAN VARADAVENKATESAN, NARENDHAR CHANDRASEKAR, RAJA SELVARAJ (2023) STRUCTURAL CHARACTERIZATION OF MARINE MACROALGAE DERIVED SILVER NANOPARTICLES AND THEIR COLORIMETRIC SENSING OF HYDROGEN PEROXIDE. MATERIALS CHEMISTRY AND PHYSICS. IF: 4.60
DOI: 10.1016/J.MATCHEMPHYS.2023.128787

39 PRADEEPTI GANESH, VANISHREE SURESH, **MANOJ KUMAR NARASIMHAN**, SARVESH SABARATHINAM (2023) A NARRATIVE REVIEW ON NARINGIN AND NARINGENIN AS A POSSIBLE BIOENHANCER IN VARIOUS DRUG-DELIVERY FORMULATIONS. THERAPEUTIC DELIVERY. IF: 3.08
DOI: 10.4155/TDE-2023-0086

40 GNANAPRAKASH JEYARAJ, VINOTH ALPHONSE, P. JAYANTHI, NEHA ANGELIN F, **SWAPNA GEETANJALI A**, **GANESAN GOVINDAN** (2023) HARNESSING THE POTENTIAL OF CRISPR/CAS SYSTEM FOR ENHANCING VIRUS RESISTANCE IN PLANTS: TARGETS, STRATEGIES, AND CHALLENGES. PHYSIOLOGICAL AND MOLECULAR PLANT PATHOLOGY. IF: 2.66
DOI: 10.1016/J.PMPP.2023.102202

41 **MEGALA JAYARAMAN**, DIVEYAA SIVAKUMAR (2023) CHILDHOOD HEART TUMORS: DETECTION, DIAGNOSIS, AND TREATMENTS. CURRENT CANCER THERAPY REVIEWS. IF: 0.54
DOI: 10.2174/0115733947272587231115074506

42 K. HARSHA PRABHA, MAHALAKSHMI NANNAN, **SIVARAMAKRISHNAN VENKATABALASUBRAMANIAN** (2023) PREPARATION OF ZINC OXIDE-CARBOXYMETHYL CELLULOSE BLENDED WITH CYCLOPHOSPHAMIDE FOR TARGETED DRUG DELIVERY TO LUNG ADENOCARCINOMA CELLS. JOURNAL OF APPLIED BIOLOGY AND BIOTECHNOLOGY. IF: 1.06
DOI: 10.7324/JABB.2023.145826

43 JULIE REBECCA JOSEPH MATHARI, **HABEEB SHAIK MOHIDEEN** (2023) COTTON (GOSSYPIUM SPP.) PEST MANAGEMENT IN THE ERA OF NEXT-GENERATION SEQUENCING: A REVIEW. JOURNAL OF APPLIED BIOLOGY AND BIOTECHNOLOGY. IF: 1.06
DOI: 10.7324/JABB.2023.149697

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44 KRISHNAMOORTHY PRIYA, AYSIKA DAS, **MOHANDASS RAMYA** (2023) DEVELOPMENT OF REAL-TIME POLYMERASE SPIRAL REACTION ASSAY FOR RAPID AND VISUAL DETECTION OF TREPONEMA PALLIDUM. JOURNAL OF APPLIED BIOLOGY AND BIOTECHNOLOGY. IF: 1.06
DOI: 10.7324/JABB.2023.145559

45 ARCHANA VISHWAKARMA, PUNITH CHOWDARY, **MOHANDASS RAMYA** (2023) RAPID AND VISUAL DETECTION OF LEPTOSPIRA INTERROGANS USING POLYMERASE SPIRAL REACTION ASSAY. JOURNAL OF APPLIED BIOLOGY AND BIOTECHNOLOGY. IF: 1.06
DOI: 10.7324/JABB.2023.144426

46 SUGANTHI M, ABIRAMI G, JAYANTHI M, ASHOK KUMAR K, DEEPAN S, **SENTHILKUMAR P** (2023) ISOLATION AND CLONING OF THE PSEUDOMONAS FLUORESCENS CHITINASE GENE – AN ECOFRIENDLY APPROACH FOR ITS USE AS A SPECIFIC BIOPESTICIDE. JOURNAL OF APPLIED BIOLOGY AND BIOTECHNOLOGY. IF: 1.06
DOI: 10.7324/JABB.2023.144437

47 ASHOKKUMAR RAMAKRISHNAN YADAV, VAISHNAVI ASHOKKUMAR, SUGANTHI MUTHUSAMY, **SENTHILKUMAR PALANISAMY** (2023) ROLE OF DREB GENES IN THE REGULATION OF SALT STRESS-MEDIATED DEFENSE RESPONSES IN PLANTS. JOURNAL OF APPLIED BIOLOGY AND BIOTECHNOLOGY. IF: 1.06
DOI: 10.7324/JABB.2023.144143

48 PEARL EVANGELINE, DIVYASRI, AKSHAYA C, SRUTHI SEKAR, KIRUBAKARAN R, **KN ARULJOTHI** (2023) METHODICAL AND IMMUNOLOGICAL INSIGHTS OF PRIME COVID-19 VACCINES. CORONA VIRUSES. IF: 1.3
DOI: 10.2174/0126667975275824231213112949

49 SHAMBHAVI JHA, VASANTH KANTH TL, K KUMARAN, GOPINATH K, **KN ARULJOTHI** (2023) LONG NON-CODING RNAS (LNCRNAS) IN HEART FAILURE: A COMPREHENSIVE REVIEW. NON CODING RNA. IF: 4.20
DOI: 10.3390/NCRNA10010003

50 NARESH NARAYANAN PRABAKARAN, **SELVARAJAN ETHIRAJ**, NAGESWARA RAO DUNNA & **SIVARAMAKRISHNAN VENKATABALASUBRAMANIAN** (2023) BLENDING, CHARACTERIZATION, AND EXPERIMENTAL ANALYSIS OF ZNO-CARBOXY METHYL CELLULOSE-METHYL GALLIC ACID NANOCOMPOSITES AGAINST LUNG CANCER CELLS. EMERGENT MATERIALS. IF: 4.04
DOI: 10.1007/S42247-023-00614-9

RESEARCH PUBLICATIONS

JULY - DECEMBER 2023

51 SOLAIPRIYA SOLAIRAJA, **HABEEB SHAIK MOHIDEEN**, **SIVARAMAKRISHNAN VENKATABALSUBRAMANIAN** (2023) COMPUTATIONAL IDENTIFICATION AND VALIDATION OF NON-SYNONYMOUS SNPS IN PROGESTERONE RECEPTOR MEMBRANE COMPLEX 1 LINKED TO LUNG CANCER. INTERNATIONAL JOURNAL OF EXPERIMENTAL RESEARCH AND REVIEW. IF: 1.13
DOI: 10.52756/IJERR.2023.V36.006

52 YASODHA KESAVAN, SHEIK MOHIDEEN SAHABUDEEN, **SATISH RAMALINGAM** (2023) EXOSOMES DERIVED FROM METASTATIC COLON CANCER CELLS INDUCED ONCOGENIC TRANSFORMATION AND MIGRATORY POTENTIAL OF IMMORTALIZED HUMAN CELLS. INTERNATIONAL JOURNAL OF EXPERIMENTAL RESEARCH AND REVIEW. IF: 1.13
DOI: 10.52756/IJERR.2023.V36.003

53 ARCHIT GUPTA, CHANDRASEKAR RAMAN, **HABEEB SHAIK MOHIDEEN** (2023) COREGULATORY MECHANISM AND INTERACTOME NETWORK OF MIRNA, LNCRNA, AND MRNA INVOLVED IN HUMAN DISEASES. JOURNAL OF APPLIED PHARMACEUTICAL SCIENCES. IF: 1.47
DOI: 10.7324/JAPS.2023.175392

RESEARCH GRANTS (ACTIVE)

Investigator	Title of the Project	Funding agency	Amount (lakhs)
Dr. K. Rajinish (PI) Dr. Thirumurthy (Co-PI)	From data-driven Novel Enzyme Discovery towards Enzyme Combinations for Plastic Degradation	Indo-Sweden Joint call - Circular Economy, Ministry of Earth Sciences (MoES)	150
Dr.M.Ramya (PI) Dr.Rathinasabapathi (Co-PI)	Development of Point of care Apta-sensor for Early and Rapid Detection of Leptospirosis	ICMR	32.6
Dr.M.Ramya (PI) Dr. N. Ashwin Kumar (Co-PI) Dr. K. V. Leela (Co-PI)	IoT Based device for Rapid STI Detection of T.pallidum, C. trachomatis and N. gonnrrhoeae	ICMR	98
Dr.M. Parani	EDII-I-I Innovation Voucher Programme	Micha Life Sciences	2.5
Dr. D. Rex Arun Raj	Field evaluation of water use efficient growth promoting bacteria-plant associations for increased biomass	State Forest Research Institute/Biozone Research Technologies	8.7

SRM EXCELLENCE GRANT

Investigator	Title of the Project	Amount (lakhs)
Dr. P. Senthilkumar	Identification of miRNAs expressed upon UV stress and its role on photosynthesis in orzya sativa a.	2.5
Dr. S Shobana	Phage and antibiotic combination for treating polymicrobial UTI infections ", submitted under Selective Excellence Research Initiative	3.0
Dr. E. Selvarajan	Microbial diversity analysis and screening for novel xylanase from the marine sediments	1.75

STUDENTS SCHOLARSHIP/ FELLOWSHIP

In 2023, thirteen students from the Department of Genetic Engineering received Scholarship/Fellowship.

Full Time (PhD)	69
Part time (PhD)	3
JRF	3
SRF	1
DST INSPIRE Fellow	1
UGC Fellow	1

STUDENTS SCHOLARSHIP/ FELLOWSHIP

GATE Scholars doing PhD: 12

Name of the Scholar	GATE	Guide	Year
Mr. Gor ravi manishkumar	GATE	Dr.R.Satish	2019
Mr. Prasanna Venkatesh	GATE	Dr. Rexarunraj	2021
Mr. Shinde Nikhil Dhanaji	GATE	Dr.Raja	2019
Ms. Saranya E	GATE	Dr.M.Ramya	2019
Ms. Amirtha Varshini M	GATE	Dr.A.Devi	2021
Ms. Anusha M	GATE	Dr.M.Parani	2019
Mr. Ganaprakash J	GATE	Dr. Swapna geetanjali	2020
Ms. Safana Farveen	GATE	Dr. KN. Rajnish	2022
Mr. Kumaran K	GATE	Dr. N. Aruljothi	2022
Mr. Chandan Kumar Yadav	GATE	Dr. Satish	2022
Mr. Karthikeyan	GATE	Dr. Usha	2023
Mr. Namrata	GATE	Dr. S.K.M Habeeb	2023

DST Inspire Fellowship

AnanthaKrishna Tantry M S
Mentor: Dr. S. Kirankumar

Savitribai Jyotirao Phule Fellowship for Single Girl Child (SJSGC) - UGC

Sree Kathyayani
Mentor: Dr. J. Megala

PhD COMPLETION DETAILS
July - DECEMBER 2023

NAME	PROJECT TITLE	COMPLETION DATE
Ms. Lizha Mary L RA1713010011013 Guide - Dr. R. Satish	Effects of chitosan-folate-hesperetinanti doublecortin-like kinase 1 nanoparticles on colon cancer and cancer stem cells in vitro	November 20, 2023
Mr. K. Ravichandiran RA1713013011001 Guide - Dr. M. Parani	Identification of the genes related to the biosynthesis of major secondary metabolites and seed oil through transcriptome sequencing of the fruit tissues of bitter gourd (Momordica charantia L.)	November 23, 2023

CONFERENCES & SCIENTIFIC ACTIVITIES OF RESEARCH SCHOLARS AND M. TECH STUDENTS

Department of Genetic Engineering promotes students and faculties to attend conferences and workshop to update their knowledge in R&D. In 2023, M.Tech students and Research Scholars have participated in several conference and workshops conducted by different institution

Name	Register No	Awards	Event	Date
Ms. Bavya C	RC2113010011021		Recent Innavotions in health and Biological Sciences, PSG college, Coimbatore.	14.07.2023-15.07.2023

CONFERENCES & SCIENTIFIC ACTIVITIES OF RESEARCH SCHOLARS AND M. TECH STUDENTS

Name	Register No	Awards	Event	Date
Ms. Prathiba V	RA2113010011018		International Conference on Current Technologies and Opportunities in Bioscience	August 9-10, 2023
Ms. Lakshmi	RA2113010011032		International Conference on Bioresource technology for bioenergy Bioproduct & Bioenvironmental Sustainability	August 9-10, 2023
Ms. Yashoda K	RA1913010011038	Best presentation	International conference on Recent Innavotions in Biotechnology, Sathyabama	September 21-23, 2023
Mr. Ravi Gor Manishkumar	RC2113011011002	Best presentation	International conference on Recent Innavotions in Biotechnology, Sathyabama	September 21-23, 2023
Ms. Calmly M Koshy	RC2113013011025		International conference on Bacteriophage Research and antimicrobial resistence	September 28-30, 2023
Ms. Ashwini John	RC2113013011015		International conference in CSIR-NIIST	November 27-30, 2023
Ms. Jenisha J	RC2113010011017	Best poster presentation	International conference on Trends in Biological Science Impetus on Human Health, SRM Arts and Science	October 22-23, 2023
Ms. Jeyanthi	RA1813010011006	Best poster presentation	ICAR - National Research Centre for Banana	December 1-3, 2023

CONFERENCE / WORKSHOP / WEBINAR ATTENDED BY THE FACULTY

Faculty Name	Event Type	Event Name	Date
Dr. Shobana	Workshop	Workshop on Fermentation Technology for life sciences Faculties	August, 2023
Dr. Anand T	Workshop	Workshop on Fermentation Technology for life sciences Faculties	August, 2023
Dr. Satish Dr. Raja Dr. Anand T Dr. Sivaramakrishnan	Conference	International Conference on Molecular Medicine, Reproduction and Endocrinology	September, 2023
Dr. Shobana	Conference	International conference on Bacteriophage Research and antimicrobial resistance	September, 2023
Dr. E. Selvarajan	Conference	International conference NHBT 2023	November, 2023

EXAMINER/ DC MEMBER/ OTHERS

Name of Faculty	Title of FDP/ Conference	Date	Conducted by
Dr. Shobana S	Examiner-Comprehensive viva Sathyabama University.	13.09.2023	Sathyabama University
Dr M. Thirumurthy	DC meeting at St.Peter's Engineering college.	07.09.2023	St.Peter's Engineering college
Dr. Satish R	Invited lecture at the International Conference on Molecular Medicine, Reproduction	12.09.2023 - 15.09.2023	SRMIST
Dr. Satish R	Question paper selection member for Vels University Semester Exam.	22.09.2023	Vels University
Dr. Parani M	Synopsis meeting at CLRI, Chennai	22.09.2023	CLRI
Dr. Satish R	Research Advisory Committee member for a PhD scholar's DC meeting.	21.11.2023	VISTAS
Dr. Megala J	Research advisory committee member or a PhD scholar's DC meeting	22.11.2023	VISTAS

STUDENT ABROAD PROGRAM

Semester Abroad Program (SAP) is one such program where SRMIST is recognized across the globe by providing its student's unique international exposure and global opportunities to enhance their skills by working with eminent professors of the universities and accelerate their personal and career growth in India and Overseas. Also, it provides an opportunity to work in cross-cultural and multi-national environment. We are proud to say that about 303 students have availed SAP from our department and this would not be possible without our faculty members, who made their effort in making the collaborations successful. We believe that SAP will add a new dimension to our student's research interests and develop expertise in various techniques which in turn will empower them with self-confidence and to become independent researchers.

B.Tech SAPIANS 2023

Sid Dsa

Anna Mathew Lawrence

Nithin Karthic Balaji

Sreyank Tirunagiri

Annesha Dutta

STUDENT ABROAD PROGRAM

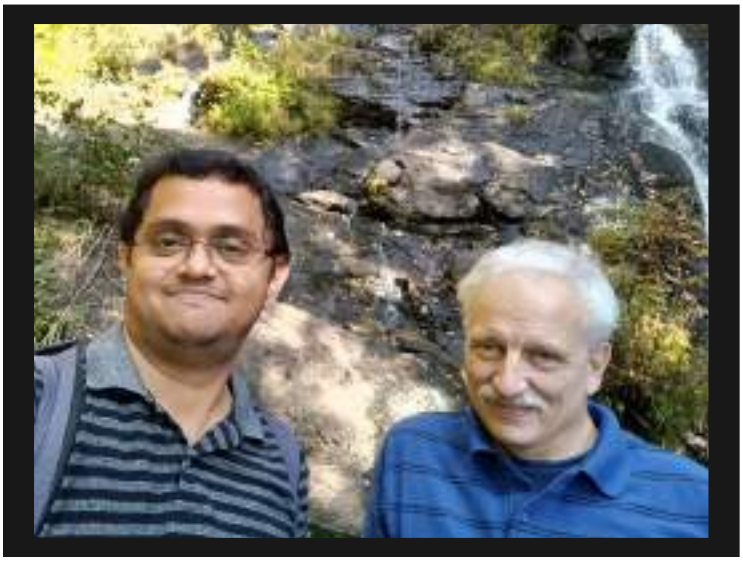
B.Tech SAPIANS 2023

Name	Degree	Year	Institution	Country
Anna Mathew Lawrence	B.Tech	2023	Harvard Medical Center	USA
Annesha Dutta	B.Tech	2023	Harvard Medical Center	USA
Nithin Karthic Balaji	B.Tech	2023	Harvard Medical Center	USA
Sid Dsa	B.Tech	2023	Harvard Medical Center	USA
Sreyank Tirunagiri	B.Tech	2023	Harvard Medical Center	USA

FACULTY ABROAD PROGRAM

Dr. P. Rathinasabapathi

Host Institute: University of Georgia, Georgia, USA



College of Engineering
School of Chemical, Materials and Biomedical Engineering
UNIVERSITY OF GEORGIA

In the realm of biomanufacturing, the utilization of anaerobic fermentation to produce economically valuable products has emerged as a promising frontier in life science. Dr. Rathinasabapathi found himself immersed in the research activities at Prof. Mark A. Eitman's Lab, situated at the University of Georgia, Georgia, USA. Their approach involved the strategic application of genetic engineering to manipulate the metabolic pathways of anaerobes, specifically targeting the enhancement of C-6 carbon molecules. These molecules serve as crucial precursors to produce Jet Aviation fuel. By synergizing genetic engineering with biochemical processes, they aim to test genetically modified strains in the realm of biofuel applications.

PROFESSIONAL MEMBERSHIPS

The faculty of Genetic Engineering department have registered the membership in different professional body as lifetime member/Annual member.

Sr.no	Name of the faculty	Name of the professional body in which membership was obtained	Annual /Life Membership
1	V. Sivaramakrishnan	Indian society of chemists and biologists (India)	Life Member
2	Habeeb. S. K. M	Society of Biological Chemists (India)	Life Member
3	Thirumurthy M	Society of Biological Chemists (India)	Life Member
4	Raja N S	Society of Biological Chemists (India)	Life Member
5	Anand T	Society of Biological Chemists (India)	Life Member
6	Rajnish N	Society of Biological Chemists (India)	Life Member
7	Satish	Society of Biological Chemists (India)	Life Member
8	Rex Arunraj	Society of Plant Biochemistry and Biotechnology	Life Member
9	Aruljothi N	European Association for Cancer Research	Life Member
10	Raja N S	Indian Association of Cancer Research	Life Member
11	Rathinasabapathi	The Institution of Engineers (India) - life time member	Life Member
12	Manoj Kumar	Tamilnadu Pharmacy Council (India)	Life Member
13	Rathinasabapathi	The Indian society of human genetics	Life Member
14	Ganesan G	Society for Plant Biochemistry and Biotechnology (SPBB)	Life Member

PROFESSIONAL MEMBERSHIPS

Sr.no	Name of the faculty	Name of the professional body in which membership was obtained	Annual /Life Membership
15	Anand T	International Association of engineers and computer scientist	Life Member
16	Swapna Geetanjali A	Indian Phytopathological Society	Life Member
17	Usha B	The PCOS Society	Life Member
18	Devi.A	The Indian Society of Human Genetics	Life Member
19	Selvarajan E	Indian Soceity for Technical Eduction	Life Member
20	Selvarajan E	The Biotech Research Soceity of India	Life Member
21	Iyappan	The Indian Society of Human Genetics	Life Member
22	M. Parani	Society for Plant Biochemistry and Biotechnology (Life Member, No. L397)	Life Member
23	M. Parani	Society of Biological Chemists (India)	Life Member
24	M. Parani	Indian Society for DNA Fingerprinting & other DNA Technologies (Life Member, L364)	Life Member
25	M. Parani	Indian Society of Human Genetics (Life Member, No. L/1634/2012)	Life Member
26	M. Parani	Indian Science Congress Association	Life Member
27	M. Ramya	Microbiology Society of India	Life Member
28	M. Ramya	Indian Science Congress Association	Life Member

EVENTS PAGE

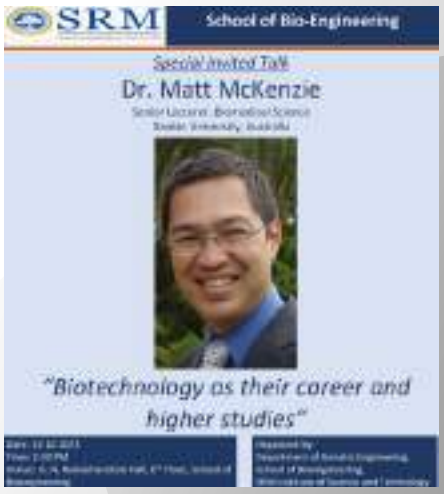
Department of Genetic Engineering conducted a Five-Day Faculty Development Program on "Virus detection, Characterization and Sequencing Analysis" from 7th - 11th August 2023, at the Plant Virology Lab.

Department of Genetic Engineering in association with Directorate of Alumni Affairs (DAA) organized a Mentoring Session on “RESEARCH AS A CAREER” by Dr. Sushmitha Raja on 17th August 2023 at 2.00 PM at GN Ramachandran Hall, School of Bioengineering.

Genetic Engineering Association organized a talk session by Mitacs Summer Internship Awardee Sana Riaz on 19th September 2023, where she shared her invaluable experiences and insights gained during the internship.

Dr. Megala organized a Hands-on Workshop which was conducted by our alumni, Dr. Sudheesh Prabhudas on “Variant Analysis Using Genome Analysis Toolkit”, on the 22nd September 2023.

Department of Genetic Engineering conducted a special invited talk on "Biotechnology as their career and higher studies" by Dr. Matt McKenzie, Deakin University, Australia, on 13th October, 2023.



Dr. Shobana organized a special invited lecture on 13th October 2023 delivered by Dr.Tarjan Kaliaperumal, Staff Scientist, Kemin Industries South Asia Pvt Ltd., on “Cellular Agriculture Fermenting of food”.

EVENTS PAGE

Department of Genetic Engineering hosted a talk on "Entrepreneurship Awareness Session & Funding Schemes" by Satyamurthy, General Manager, DEI on 17th October 2023.

Two alumni from our department, Dr. Shruti Iyer and Dr. Ayantika Sen, were invited to deliver an online talk session on their research. It was held on 20th October 2023.

Dr. Satish Ramalingam organized a special talk session delivered by Dr. Joy Scaria on "Mining Microbiome as an Alternative for Antibiotics, held on 30th October 2023.

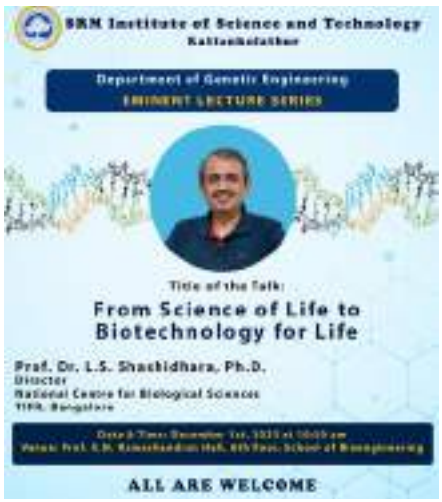
Our department UHV2 B. Tech. II year students were a part of an awareness program on "Genetic and communicable diseases" and other urgent issues on 27th October 2023, at the government school near Singaperumal Koil, Chengalpattu initiated by Dr. B. Usha, NSS coordinator.

On 31st October 2023, Genetic Engineering Association organized a Breast Cancer Awareness Program in the village of Thenmelpakkam to commemorate the Breast Cancer Awareness Month by informing rural people about breast cancer, diagnosis and treatment.

EVENTS PAGE

Dr. Megala organized a workshop on Cytogenetics Techniques in Diagnostics on 24th November 2023 to impart hands-on training to the students.

As part of the Eminent Lecture Series, Dr. L S Shashidhara was invited to give a talk session on "From Science of Life to Biotechnology of Life", on 1st December 2023.



The Genetic Engineering Dept. conducted Faculty Development Program on Gene Cloning from 4th - 8th December 2023.

Dr. Rajnish KN organized a 2-day Training Program on Production and Purification of Recombinant Proteins on 5th and 6th December 2023.

Dr. Rex Arun Raj and Dr. S. Iyappan organized a 5-day FDP Program on Gene Cloning from 5th and 6th December 2023.

DAA conducted the Alumni Day hosting our valued alumni on 23rd December 2023.

INDUSTRIAL VISIT

Second Year B. Tech Genetic Engineering students visited Bengaluru and Coorg for their Industrial Visit. The industrial visit was planned for three days 5, 6 and 7th of October 2023. There were 99 students in the second year accompanied by the faculty members Dr. Usha, Dr. N. Arul Jothi, and Dr. Ganesan.

They visited the industry of INDO AMERICAN HYBRID SEEDS (IAHS) in Bengaluru

And the second industry was G SE7EN Coffee N Spices in Coorg, where they examined various processes involved in coffee production.

FACULTY MEMBERS

THANK YOU

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 Blog