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MESSAGE FROM CHAIRPERSON



Dr. M. Vairamani, Chairperson, School of Bioengineering SRM Institute of Science &Technology

I am happy that the Department of Genetic Engineering, School of Bioengineering, SRM Institute of Science and Technology has taken steps to bring out a newsletter, "The Geneticist" at a regular interval. 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. 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 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 of Genetic research activities the Department in Engineering and initiate multidisciplinary research.

I congratulate the team responsible for bringing out the newsletter "The Geneticist" and wish this endeavor all the best.

MESSAGE FROM HOD



Dr. M. Ramya, HOD, School of Bioengineering SRM Institute of Science & Technology

We are pleased to share the second issue of e newsletter THE GENETICIST, 2022. 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.

I wish our readers the very best in all their endeavours!

EDITOR'S DESK

Dear Readers

We take immense pleasure in announcing the release of second issue of E-newsletter THE GENETICIST, 2022, that showcases the activities and achievements of our students and faculty in the last six months (January 2022- June 2022)

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

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

Happy Reading!

Dr. G. Ganesan and Dr. Sitaram HariharDepartment of Genetic Engineering

SRM IST

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



VISION

To emerge as a centre 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.



MISSION

- 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 research.
- 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 & 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.

List of Research Laboratories

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

NEW EQUIPMENT (2022)

Stereozoom Microscope (Weswox STM-80)



The Department has procured three simple stereozoom microscopes. These microscopes will be extremely helpful for observing embryonic and larval stages of *Drosophila* and zebrafish development. These microscopes will also be helpful for dissecting imaginal discs from fly larvae

Inverted Tissue Culture Trinocular Microscope (Magnus)



The Department has procured one inverted brightfield phase contrast microscope. The microscope will be used for visualizing cells or organisms at the bottom of flasks or plates.

RESEARCH PUBLICATIONS (2022)

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

Total Paper	37
Corresponding author	11
Co-author	26
High IF	10.5
Average Impact Factor	3.8

- 1. Rajagopal, T., Seshachalam, A., Jothi, A., Rathnam, K. K., Talluri, S., Venkatabalasubranian, Sivaramakrishnan., & Dunna, N. R. (2022) Analysis of pathogenic variants in BRCA1 and BRCA2 genes using next-generation sequencing in women with triple negative breast cancer from South India. Molecular Biology Reports. DOI: 10.1007/s11033-022-07129-2. IF: 2.316
- Rajagopal, T., Seshachalam, A., Rathnam, K. K., Talluri, S., Venkatabalasubramanian, Sivaramakrishnan., & Dunna, N. R. (2022). Homologous recombination DNA repair gene RAD51, XRCC2 & XRCC3 polymorphisms and breast cancer risk in South Indian women. Plos One, e0259761. DOI: 10.1371/journal.pone.0259761 IF: 3.24.

- 3. Ramesh Vinayagam, Yash Patnaik, P. Brijesh, Deepa Prabhu, Melisha Quadras, Shraddha Pai, Manoj Kumar Narasimhan, K. Kaviyarasu, Thivaharan Varadavenkatesan, Raja Selvarai (2020).Superparamagnetic hematite spheroids synthesis, characterization, and catalytic activity, Chemosphere, 294(1), 133730. DOI: 10.1016/j.chemosphere.2022.133730. IF: 7.086
- 4. Rajagopal M, Senthilnathan R, Shetty S, **Devi A**, Ravishankar Ram M, Samiappan S, Jayaraj R (2022). Conceptual interpretation and clinical applicability of a systematic review and meta-analysis about prognostic value of apolipoproteins in COVID-19 patients. DOI: 10.1016/j.tmaid.2021.102248. IF: 6.211.
- 5. Ramachandran Balaji, Selvarasu Maheshwaran, Shen-MingChen, Elayappan Tamilalagan, Narendhar Chandrasekar, **Selvarajan Ethiraj**, Melvin S.Samuel (2022). Fabricating BiOI nanostructures armed catalytic strips for selective electrochemical and SERS detection of pesticide in polluted water, Environmental Pollution, 296 (1), 118754. DOI: 10.1016/j.envpol.2021.118754. IF: 8.071.
- 6. Gokul Sudhakaran, Pandurangan Prathap, Ajay Guru, Ravi Rajesh, Sruthy Sathish, Thirumurthy Madhavan, Mariadhas Valan Arasu, Naif Abdullah Al-Dhabi, Ki Choon Choi, Pushparathinam Gopinath.Jesu Arockiarai (2022).Anti-inflammatory role demonstrated both in vitro and in vivo models using non-steroidal tetranortriterpenoid, Nimbin (N1) and its analogues (N2 and N3) that alleviate the domestication of alternative medicine, Cell Biology International. https://doi.org/10.1002/cbin.11769. IF: 3.612

- 7. P. Velusamy, C.H.Su, P. Ramasamy, V. Arun, N. Rajnish, S. Murugesan, R. Pachiappan, B. Vaseeharan, Senthil Kumar, Subash. C.B.Gopinath (2022) Volatile Organic Compounds as potential biomarkers for non invasive disease detectionby nanosensors- a comprehensive review. Critical Reviews in Analytical Chemistry. DOI. https://doi.org/10.1080/10408347.2022.2043145.. IF: 6.657.
- 8. R.Muneeswari, **S.Iyappan**, K.V. Swathi, R. Vinu, K. Ramani, G. Sekaran.(2022) Biocatalytic lipoprotein bioamphiphile induced treatment of recalcitrant hydrocarbons in petroleum refinery oil sludge through transposon technology. Journal of Hazardous Materials. DOI: 10.1016/j.jhazmat.2022.128520. IF:10.588.
- **9.** Kalyani Bindu Karunakaran, Anand Thiagaraj and **Kirankumar Santhakumar** (2022).Novel insights on acetylcholinesterase inhibition by Convolvulus pluricaulis, scopolamine and their combination in zebrafish. Natural Products and Bioprospecting. DOI: 10.1007/s13659-022-00332-5. IF:4.9
- 10. Prajitha K Rajan, Nageswara Rao Dunna, and **Sivaramakrishnan Venkatabalasubramanian** (2022). A comprehensive overview on the anti-inflammatory, antitumor, and ferroptosis functions of bromelain: an emerging cysteine protease. Expert opinion on Biological Therapy. DOI: 10.1080/14712598.2022.2042250. IF: 4.388.
- 11. Alexander PinkySteffi, Ramachandran Balaji, Narendhar Chandrasekar, Natarajan Prakash, Thangavel Pichaiappa Rajesh, Selvarajan Ethiraj, Melvin S.Samuel, Srikanth Vuppala (2022), High-performance anti-corrosive coatings based on rGO-SiO2-TiO2 ternary heterojunction nanocomposites for superior protection for mild steel specimens. DOI: 10.1016/j.diamond.2022.108968 Diamond and Related Materials. IF:3.315

- 12. Selvarasu Maheshwaran, Vengudusamy Renganathan, Shen-MingChen, Ramachandran Balaji, C.R.Kao, Narendhar Chandrasekar, **Selvarajan Ethiraj**, Melvin S.Samuel, Muthusamy Govarthanan (2022), Hydrothermally constructed AgWO4-rGO nanocomposites as an electrode enhancer for ultrasensitive electrochemical detection of hazardous herbicide crisquat,. Chemosphere. DOI: 10.1016/j.chemosphere.2022.134434. IF:7.086.
- 13. Hannah P Priyanka, **A Thiyagaraj**, G Krithika, RS Nair, W Hopper, S ThyagaRajan, (2022), 17β-Estradiol Concentration and Direct β2-Adrenoceptor Inhibition Determine Estrogen-Mediated Reversal of Adrenergic Immunosuppression, Annals of Neurosciences. DOI: 10.1177/09727531211070541. IF: 1.64.
- 14. Shruthi Chalil Sureshan , **Habeeb Shaik Mohideen** , **Mohandass Ramya (2022)**, Differential expression profiling of Oxycarenus laetus Kirby (Hemiptera: Lygaeidae) upon exposure to gossypol. Molecular Biology Reports. DOI: 10.1007/s11033-022-07322-3. IF: 2.316.
- 15. Melvin S. Samuel ,Madhumita Ravikumar,Ashwini John J, Ethiraj Selvarajan, Himanshu Patel, P. Sharath Chander, J. Soundarya, Srikanth Vuppala, Ramachandran Balaji, Narendhar Chandrasekar (2022) A Review on Green Synthesis of Nanoparticles and Their Diverse Biomedical and Environmental Applications, Catalysts, 12:5(459). DOI:10.3390/catal12050459. IF:4.146.
- 16. Sakshi Seth, Pasuapthi Rathinasabapathi (2022), A Short Review on Detection of Antibiotics in Milk UsingNanomaterial-Based Biosensor, Food Analytical methods,. DOI:10.1007/s12161-022-02291-6. IF:3.36.

- 17. Thilaga Thirugnanam, Sayooj Madhusoodanan **Kirankumar** (2022)

 Quercetin rescues MPP+ induced Parkinsonian-like locomotor impairment in zebrafish larvae, Journal of Applied Biology & Biotechnology, 10(3).

 DOI: 10.7324/JABB.2022.100314. IF:0.9
- 18. Sathya Babu, Santhosh Kumar Nagarajan, Sruthy Sathish, Vir Singh Negi, Honglae Sohn and **Thirumurthy Madhavan** (2022), Identification of Potent and Selective JAK1 Lead Compounds Through Ligand-Based Drug Design Approaches, Frontiers in Pharmacology. DOI: 10.3389/fphar.2022.837369. IF:5.5
- 19. Veena Ramesh, Seema A. Kulkarni, Palaniyandi Velusamy, Velmurugan Devadasan, Panneer Devaraju, Kandathil Narayanan Rajnish, **Thirumurthy Madhavan**, Periasamy Anbu, Palaniappan Ramasamy, Rajamanikandan Sundarraj (2022) Current Update of Phytotherapeutic Agents in the Treatment of COVID-19: In-Silico Based Virtual Screening Approach for the Development of Antiviral Drug, frontiers in bioscience-landmark. DOI: 10.31083/j.fbl2704123 IF:4.009.
- Sivasankari R, Usha B (2022) Reshaping the Gut Microbiota Through Lifestyle Interventions in Women with PCOS: A Review, Indian journal of microbiology, 1-13. DOI: https://doi.org/10.1007/s12088-022-01019-8 IF:2.46
- 21. Marena Tauger, April Hile, Krishnan Sreenivas, Eva Mei Shouse, Jishnu Bhatt, Tina Lai, **Ramya Mohandass**, Leena Tripathi, Aaron J Ogden, Wayne R Curtis(2022), CO2 supplementation eliminates sugar-rich media requirement for plant propagation using a simple inexpensive temporary immersion photobioreactor, Plant Cell, Tissue and Organ Culture (PCTOC). DOI: https://doi.org/10.1007/s11240-021-02210-3. IF 2.711.

- 22. Saranya Chandrasekar, **Purushothaman Natarajan**, Priyank Hanuman Mhatre, Mahesh Mahajan, Sundararaj Nivitha, Venkatasalam E Palanisamy, Umesh K Reddy, Palanisamy Sundararaj(2022) RNA-Seq of Cyst Nematode Infestation of Potato (Solanum tuberosum L.): A Comparative Transcriptome Analysis of Resistant and Susceptible Cultivars, Plants, 11:8(1008), DOI: 10.3390/plants11081008. IF:3.935.
- 23. Ramesh vinayagam, Gaurav Sharma, Gokulakrishnan Murugesan, Shraddha Pai, Devansh Gupta, **Manojkumar Narasimhan**, K. Kaviyarasu, Thivaharan Varadavenkatesan, Raja Selvaraj (2022), Rapid Photocatalytic degradation of 2,4- Dichlorophenoxy acetic acid by Zno nanoparticles Synthesized using the leaf extract of Muntingia calabura, Journal of Molecular Structure, 1263,1(133127). DOI: https://doi.org/10.1016/j.molstruc.2022.133127. IF:3.935.
- 24. Deepa Kale, Santhanam rekha, Sigamani vinoth, Ravi Ramalingam, Madasamy Parani (2022). Case—Control Genotyping of the c.788C>T Variant of Transforming Growth Factor-Beta 1 Gene in Otosclerosis in the South Indian Population, The Journal of International Advanced Otology, DOI: 10.5152/iao.2022.21170. IF 1.017.
- 25. Vignesh Nagarajan, Jeevitha Chitra Madhesh, Manikandan Athilinga Perumal Perumal, **Megala Jayaraman**, (2020) Comparative proteomic analysis reveals novel biomarkers for gastric cancer in South Indian tamil population, Combinatorial chemistry and high throughput screening, DOI: 10.2174/1386207324666210603120320. IF: 1.339.
- 26. Seethalakshmi Sakthivel, **Habeeb Shaik Mohideen**, Saharuddin Bin Mohamad (2022) Identification and characterization of conserved miRNAs from Gossypium hirsutum, Ecological Genetics and Genomics. DOI: https://doi.org/10.1016/j.egg.2022.100125. IF:1.9

- 27. Gauresh G Shivji, Rajib Dhar, **Arikketh Devi** (2022), Role of exosomes and its emerging therapeutic applications in the pathophysiology of non-infectious diseases. Biomarkers, DOI: 10.1080/1354750X.2022.2067233 IF: 2.658.
- 28. Rethinavelu Gayathri, Vishwakarma Archana and **Mohandass Ramya** (2022) Molecular Diagnostic Methods for the Detection of Leptospirosis, Journal of Pure and Applied Microbiology. DOI https://doi.org/10.22207/JPAM.16.2.24 IF:1.05
- 29. Calmly M. Koshy, Deva Asirvatham, Rikhia Majumdar and **Shobana Sugumar** (2022) In silico Structural and Functional Characterization of a Hypothetical Protein from Stenotrophomonas maltophilia SRM01, Journal of Pure and Applied Microbiology.

 DOI:https://doi.org/10.1177/11779322211011140. IF:1.05
- 30. Rajib Dhar, Saurav Mallik & **Arikketh Devi** (2022) Exosomal microRNAs (exoMIRs): micromolecules with macro impact in oral cancer, 3 Biotech, DOI: 10.1007/s13205-022-03217-z IF: 2.893.
- 31. Lazer L, Kesavan Y, Gor R, Ramachandran I, Pathak S, Narayan S, Anbalagan M, and **Ramalingam S**.(2022), Targeting colon cancer stem cells using novel Doublecortin like kinase 1 antibody functionalized Folic acid conjugated hesperetin encapsulated chitosan nanoparticles.Colloids Surf B Biointerfaces. DOI: 10.1016/j.colsurfb.2022.112612 IF: 5.268
- 32. Krishnamoorthy Priya, Pasupathi Rathinasabapathi, Rex Arunraj, Dhanasekaran Sugapriya & **Mohandass Ramya** (2022) Development of multiplex HRM-based loop-mediated isothermal amplification method for specific and sensitive detection of Treponema pallidum. Archives of Microbiology. DOI: 10.1007/s00203-022-02973-z IF:2.5

- 33. Sridevi D.V., RameshVadivel, Suresh Perumal, Sundaravadivel E, Sivaramakrishnan V (2022) A facile synthesis of Mn-doped ZnSe nanoparticles for an enhanced photocatalytic activity and biological applications. Ceramics International, DOI: https://doi.org/10.1016/j.ceramint.2022.06.050IF: 4.2
- 34. Balaji R, **Parani M** (2022) DNA Barcoding of the Market Samples of Single-Drug Herbal Powders Reveals Adulteration with Taxonomically Unrelated Plant Species.Diversity, DOI https://doi.org/10.3390/d14060495 IF: 3.029
- 35. Seethalakshmi Sakthivel, Habeeb Shaik Mohideen, Chandrasekar Saharuddin and Bin Mohamad (2022)Potential Raman. Acetylcholinesterase Inhibitor Acting on the Pesticide Resistant and Pests, Susceptible Cotton ACS Omega, DOI: 10.1021/acsomega.1c07359 IF: 3.5.
- 36. MSA Tantry, VS Harini and **Kirankumar Santhakumar** (2022) Simple and high-throughput rheotaxis behavioral assay for zebrafish larva. Zebrafish, DOI: 10.1089/zeb.2021.0087 IF: 2.229
- 37. Havisha Dinesh and **Megala Jayaraman** (2022) Role of microRNAs in the progression and metastasis of gastric cancer, Journal of Applied Biology and Biotechnology DOI: 10.7324/JABB.2022.100401

RESEARCH GRANTS AND FELLOWSHIP

Research and innovation are essential hallmarks for any educational institution. The Department of Genetic engineering has placed much emphasis on creating infrastructure and facilities for advanced research in diverse areas. Our department encourages the faculty to apply and receive grants from various funding agencies both India and abroad to achieve this goal. Several laboratories have been established with sophisticated instruments to facilitate research on par with international standards by the faculty, students, and research scholars. Apart from the external grant, SRM IST also has provided seed money under SRM selective excellence grant to select research proposals.

GRANTS AND FELLOWSHIPS-2022 EXTERNAL

Investigator	Title of the Project	Funding Agency	Amount (lakhs)
Dr. Kirankumar (Coordinator & PI) & Dr.Satish (PI)	Developing cancer models using CRISPR-Cas9 technique in zebrafish	DBT	94.42 (175.00)
Dr.Satish (PI) & Dr.N.Selvamurugan (Co- PI)	RNA Binding Protein Pumilio- 1 In Colon Cancer Progression and Metastasis	DST SERB	53.00 (61.92)
Dr.Kirankumar (PI)	A zebrafish model for VHL and hypoxia signaling in tumorigenesis	DST SERB	39.16 (46.00)
Dr. M. Parani	EDII-I-I Innovation Voucher Programme	Entrepreneurship Development and Innovation Institute, Chennai - Micha Life Sciences	2.50
Dr.M.Ramya (PI) Dr.Rathinasabapathi (Co PI)	Development of Point of care Apta-sensor for Early and Rapid Detection of Leptospirosis	ICMR	(17.5) 32.6
Dr.Sitaram Harihar (PI) & Dr.Kirankumar (CoPI)	A Proof-of-Principle Study for Metastasis Suppressor Gene Induced Tumor Dormancy in Triple-Negative Breast Cancer	ICMR	37.65
Dr. Habeeb SKM (PI)	Genomic profiling of Covid-19 variants, Virtual Screening and Molecular Dynamics Simulation of Known Therapeutic Peptides Against Covid-19 for Peptide Re- purposing	SATU 2022	
Dr.S.Shobana	Structure-based identification and optimization of selective JAK inhibitors as a potential candidates for treating alopecia	SATU 2022	

GRANTS AND FELLOWSHIPS (2022)- INTERNAL

SRM Selective Excellence Grant				
Dr. P Senthilkumar	Identification of miRNAs expressed upon UV stress and its role on photosynthesis in Oryza sativa L	SRM Selective Excellence Grant	2.50 Lacs	

STUDENT GRANTS AND FELLOWSHIPS-2022

Fellowships				
Ms. Lizha Mary (ICMR RA) Mentor (Dr. Satish) Fellowship	Targeting Cancer Stem Cells for Colon Cancer Treatment	ICMR	3.14	
Mr. Ananthakrishna Tantry (Inspire Fellow) Mentor (Dr. Kirankumar)	Role of Tubb5 in Zebrafish Brain Development	DST INSPIRE	4.80	

PATENT

Our department has various research facilities which makes faculty members to work on innovative projects and hold patent for their ideas.

Name of inventors: Samuel, Melvin S; Khandge, Rahul Sampat; Chandrasekar, Narendhar; Balaji, Ramachandran and **Selvarajan Ethiraj**

Title: "Removal of environmental contaminants of emerging concern using metal-organic framework composite",

Patent: Australian Patent.

Patent number: 2021103241; Granted on: 27/04/2022



DOCTORATE DEGREES AWARDED

Department of Genetic Engineering offers doctoral research programme leading to the award of Ph.D. degree and aims at developing individuals into distinguished researchers and entrepreneurs. The department strongly focus on promoting inter-disciplinary research and motivating PhD scholars in various fields. In 2022, two research scholars have been awarded doctorate from the Department of Genetic Engineering.

S.NO	Ph.D STUDENTS GRADUATED
1.	Name of the Student: Adil Lateef
	Research supervisor: Dr. N. Purushothaman
	Title of the thesis: Transcriptomic and metabolomic analysis to characterize the pathways of medicinal importance from <i>solanum</i> trilobatum L.
	Date of PhD viva: 10:01:2022
2.	Name of the Student: Ms. Shruthi Sureshan
	Research supervisor: Dr. S. K. M. Habeeb
	Title of the thesis: A Transcriptomics and Amplicon-Based Metagenomics Approach to Study the Effect of Gossypol on the Gene Expression Profile and Gut Microbiota of Oxycarenus laetus (Hemiptera: Lygaeidae).
	Date of PhD viva: 02:03:2022

S.NO	PRE-Ph.D TALK
1.	Name of the Student: Selvaraj M
	Research supervisor: Dr. S. Kirankumar
	Title: Development of Strategies for Enhanced CRISPR-CAS9 Targeted Mutagenesis in Zebrafish Date of pre-PhD: 14.03.2022
2.	Name of the Student: Sravya G
	Research supervisor: Dr. A. Swapna Geetanjali
	Title: Molecular characterization of Begomovirus occurring in chilli and its associated weeds.
	Date of pre-PhD: 27.06.202

STUDENTS SCHOLARSHIP / FELLOWSHIP

In 2022, **thirteen** students from the Department of Genetic Engineering received Scholarship/Fellowship.

GATE Scholars:

Sl. No	Name of the Scholar
1	Gor Ravi Manishkumar
2	Prasanna Vengatesh
3	Shinde Nikhil Dhanaji
4	Saranya.E
5	Yogesan. M
6	Amirtha Varshini.M
7	Anusha. M
8	Ganaprakash. J
9	Safana Farveen
10	Kumaran K

DST Inspire fellowship:

Sl. N	o Na	ame of the Scholar
1	An	nanthaKrishna Tantry. M S

AICTE Fellowship:

Sl. No	Name of the Scholar
1	AnanthaKrishna Tantry M S
2	Gunjankumari Patel
3	Aakash A

CONSULTANCY

The Department of Genetic Engineering was established in the year 2006 at SRM Institute of Science and Technology (SRM IST) with the objective of providing excellence in research facilities in frontier areas of genetic engineering. The centre houses state-of-the-art infrastructure that caters to the needs of UG, PG, and Ph.D students. The faculty of the department are specialized in various areas of cutting-edge research both basic and applied also carries out fundamental and cutting-edge translational research to benefit the society. The below mentioned lab infrastructure is currently available at the Department of Genetic Engineering and caters to the needs of UG, PG and Ph.D. students.

Laboratories

Genetic Engineering Lab

Molecular Genetics Lab

Genomics Lab

Stem Cell Biology Lab

Genome Analysis Lab

Bioseparation Lab

Genetics Lab

Common Research Facility

The Department of Genetic Engineering also promotes research and consultancy services in the areas of human genetics, animal sciences, plant sciences and microbial sciences.

Category 1 and Category 2 consultancy:

- 1. Dr. V. Sivaramakrishnan has generated Rs 295/- towards the services offered for the usage of the Fluorescence Microscope.
- 2. Dr. N. Manoj Kumar has generated Rs. 2600/- towards the services offered for the usage of Lyophilizer
- 3. Dr. B. Usha has generated Rs. 5000/- towards the services offered for completion of a consultancy project with Bioanaltek Pvt Ltd, located at Bangalore Bioinnovation Center, IBAB Campus, Bengaluru, Karnataka.
- 4. Dr. Raja Natesan has generated Rs. 3717/- towards the services offered for the usage of Fluorescence Spectrometer.
- 5. Dr. Devi has generated Rs. 590/- towards the services offered for the usage of Fluorescence Microscope.

A total revenue of Rs. 12,202 was generated by the Department of Genetic Engineering, SRM IST for the period from January to June 2022 through consultancy.

CONFERENCES & WORKSHOPS PARTICIPATIONS

Department of Genetic Engineering promotes students and faculties to attend conferences and workshop to update their knowledge in R&D. In 2022, M.Tech students and Research Scholars have participated in several conference and workshops conducted by different institution.

Conference/workshop attended by PhD scholars

Student Name	Registration #	Conference attended	Organizin g institute	Date	Presentation title
Krishnaveni S	RA1913010011012	41st IACR International Cancer Conference	Amity University	3/5/2022	Interactome analysis reveals potential mechanisms of ITIH5-mediated metastasis suppression in pancreatic ductal adenocarcinoma
Sreeshma B	RA1813010011014	41st IACR International Cancer Conference: An International Symposium on: Cancer & Stem Cells	Amity University	3/4/2022	Comprehending the role of Jumonji AT Rich Interacting Domain2 in Oral Squamous Cell Carcinoma
Jayanti P	RA1813010011006	VIROCON 2021	All India Institute of Medical Sciences, Bibinagar	3/26/2022	Screening of multiple begomoviruses causing Chilli leaf curl disease in ten major chilli growing areas of Tamil Nadu

CONFERENCES & WORKSHOPS PARTICIPATIONS

Conference/workshop attended by M. Tech students

Student Name	Registration #	Conference attended	Organizing institute	Date
Bhaswan Indu Jana	RA211202401000 2	Virtual Symposium on Stem Cell Research And Regenerative Medicine		03/02/2022
P. Devadharshini	RA211202401000 9	Medical Coding: Application and job prospects in the global market	Amity Institute of Biotechnology, Amity University Rajasthan	02/22/2022
E. Rajalakshmi	RA211202401002 4	Hands on training on NGS Data Analysis	TNAU, Coimbatore	21/02/2022- 25/02/2022
. J. L. Evangeline	RA211202401002 5	Hands on training on NGS Data Analysis	TNAU, Coimbatore	21/02/2022- 25/02/2022
Prayukta Jitendra Padelkar	RA211202401001 3	Training & Internship Program in "Advanced Proteomics"	Association With Antaragniin Kanpur	03/31/2022

PROFESSIONAL MEMBERSHIPS

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

S.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)	
2.	Habeeb. S. K. M		
3.	Thirumurthy M		
4.	Raja N S	Cariota of Dialogical Chamista (Lalia)	
5.	Anand T	Society of Biological Chemists (India)	
6.	Rajnish N		
7.	Satish		
8.	Rex Arunraj	Society of Plant Biochemistry and Biotechnology	
9.	Aruljothi N	European Association for Cancer Research	
10.	Raja N S	Indian Association of Cancer Research	
11.	Rathinasabapathi The Institution of Engineers (India) - life time member		Life Member
12.	Manoj Kumar	Tamilnadu Pharmacy Council (India)	
13.	Rathinasabapathi	The Indian society of human genetics - Life time member	
14.	Sitaram Harihar	Indian Association of Cancer Research	
15.	Anand T	International Association of engineers and computer scientist	
16.	Swapna Geetanjali A	Indian Phytopathological Society	
17.	Usha B	The PCOS Society	
18.	Devi.A	The Indian Society of Human Genetics	
19.	Selvarajan E	Indian Soceity for Technical Eduction	
20.	Selvarajan E	The Biotech Research Soceity of India	
21.	Iyappan	The Indian Society of Human Genetics	

22.	M. Parani	Society for Plant Biochemistry and Biotechnology (Life Member, No. L397)	Life Member
23.		Society of Biological Chemists (India)	
24.		Indian Society for DNA Fingerprinting & other DNA Technologies (Life Member, L364)	
25.		Indian Society of Human Genetics (Life Member, No. L/1634/2012)	
26.		Indian Science Congress Association (Life Member, No. L31142)	
27.		Microbiology Society of India	
28.	M. Ramya	Indian Science Congress Association (Life Member, No. L31142)	
29.	Anand T		
30.	Aruljothi N		
31.	Devi A Ganesan G Habeeb SKM Iyappan S Kirankumar S Manojkumar N		
32.			
33.			
34.			
35.			
36.			
37.	Megala J		
38.	Purushothaman N	aja N S Indian Science Congress Association	Annual Member
39.	Raja N S		
40.	Rajnish KN		
41.	Rathinasabapathi P		
42.	Rexarunraj D		
43.	Satish R		
44.	Selvarajan.E	jan.E	
45.	Senthilkumar P		
46.	Shobana S		
47.	Sitaram Harihar		
48.	Sivaramakrishnan V		
49.	Swapna Geetanjali A		
50.	Thirumurthy M		
51.	Usha B		

SEMESTER ABROAD PROGRAM (SAP)

Semester Abroad Program (SAP) is one such program where SRMIST is recognized across the globe by providing its student's a 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, M.Tech students and Research Scholar were allowed to take-up a few courses/ a Major project in reputed foreign universities for ONE/TWO semester(s) with stipend.

SAPIANS 2022



Akilan R (M.Tech) - Kansas State University, USA (18,000 USD/Year)



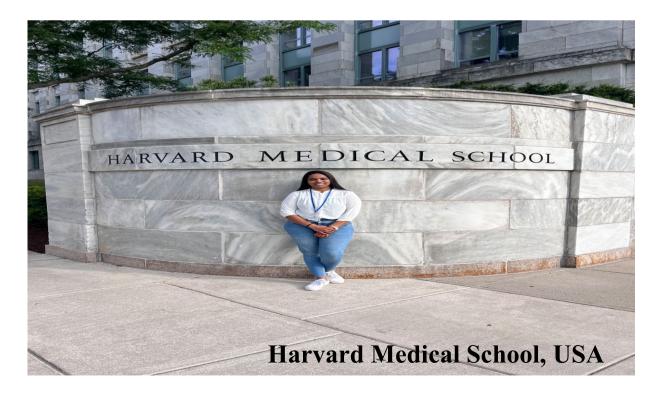
Archit Gupta (M.Tech) -Purdue University, USA

B.Tech, M.Tech students and Research Scholar were allowed to take-up a few courses/ a Major project in reputed foreign universities for ONE/TWO semester(s) with stipend.

SAPIANS 2022



Kevina S (M.Tech) - Harvard Medical School



Abna A (M. Tech)- Harvard Medical School

AWARDS/HONORS/RECOGNITION

- Mr. Archit Gupta (RA2012024010002) working under the guidance of Dr. S. K. M. Habeeb won first prize for "Identification Of Mirna-Lncrna-Mrna Inter-Relationship In Human Lung Adenocarcinoma" at the SRM Bioconclave - International Edition 2022
- Mrs. Krishnaveni (RA1913010011012) research scholar working under the guidance of Dr. Sitaram, won second prize for "Interactome analysis reveals potential mechanisms of ITIH5-mediated metastasis suppression in pancreatic ductal adenocarcinoma" at the SRM Bioconclave International Edition 2022
- Dr. R. Satish was appointed as the BOS member for the Department of Pharmacology, University of Madras on 4.02.2022)
- Dr. Habeeb. SKM was appointed as the BOS member for the Department of Biochemistry, D. G. Vaishanava College, Chennai on 30-05-2022
- Dr.Rex Arunraj worked as consultant for Advanced Institute For Wildlife Conservation at Vandalur, Chennai
- Dr. Usha B worked as consultant for Bioanaltek Bangalore, Karnataka,
 India for a Consultancy Project

WORKSHOP/FDP/ONLINE COURSE ATTENDED BY THE FACULTY MEMBERS

- .Dr. R. Satish, Dr. Sitaram Harihar, Dr. E. Selvarajan, and Dr. G. Ganesan attended a Faculty Refresher and Assimilation Programme-SRM Institute of Science and Technology
- Dr.J.Megala completed an online course on "Anatomy: Cardiovascular, Respiratory and Urinary Systems", conducted by University of Michigan (4 weeks), COURSERA
- Dr. Rex Arunraj, attended a workshop on "Hands on training on NGS analysis" conducted by TNAU, Coimbatore (Feb 21-25, 2022)
- Dr. B. Usha, attended a workshop on "Hands on training on NGS analysis" conducted by TNAU, Coimbatore (Feb 21-25, 2022)
- Dr. Devi Completed a eight week online course "Nanotechnology: A
 Maker's Course" from Coursera, offered by Duke University, North
 Carolina State University.
- Dr.M.Thirumurthy attended a six day FDP on Machine Learning for all, in offline mode conducted at SRM IST, from 5/16/2022.
- Dr. Rathinasabapathi, Dr. Sivaramakrishnan, and Dr. T Anand attended a professional development program on Virtual Reality Development using Vizard in offline mode at SRMIST from from 23.04.2022 to 09.05.2022
- Dr. E. Selvarajan attended a 10 day analytics course conducted by Turnip Innovation Pvt. Ltd (7.06.2022-16.06.2022)
- Prof. Parani, Dr. A. Devi, Dr. S. Kirankumar, Dr. J. Megala, Dr. B.Usha attended a FDP on "Holistic Development and Outcome Based Education in the light of NEP-2020" conducted by University of Engineering and Management, Jaipur (13.06.22-19.06.2022)

EVENTS ORGANIZED BY THE FACULTY MEMBERS

SRM Bioconclave - International Edition 2022 an online international conference was organized from 19/01/2022 to 21/01/2022 by Dr. N. S Raja as the convenor and Dr. S. K. M. Habeeb., Dr. V. Sivaramarakrishnan, D. T. Anand and Dr. E. Selvarajan partnering with Biological Research Society of India. The event was attended by faculty, students from SRMIST and other Institutes across India.

SRM BIOCONCLAVE International Edition 2022

Socializing biological innovations

SRM Bioconclave-International Edition 2022 invites papers

Full Papers / Abstracts: Submissions are invited for the SRM
Bioconclave International Edition 2022, SRM IST, India, on 19th - 21th
January 2022 through online mode. It is an exceptional platform for
researchers, academics, students, innovators, scientists, and industry
practitioners to discuss current research shaping a new world society.
This conference will be an excellent platform to share research and
innovations where constructive feedback and engagement with
domain experts are expected. Many topics of the multi-disciplinary
nature related to translating the advancement of biological
innovations to societal benefits are to be discussed in the Conclave. We
encourage submissions of cross-disciplinary nature cutting across
many disciplines/subject areas. We encourage submissions that
present novel ideas, works-in-progress, or any concepts that you think
can benefit from experts' input. Students and emerging researchers
are encouraged to participate.

Selected extended papers will be published in Scopus Indexed

Selected extended papers will be published in Scopus Indexed
Journals.

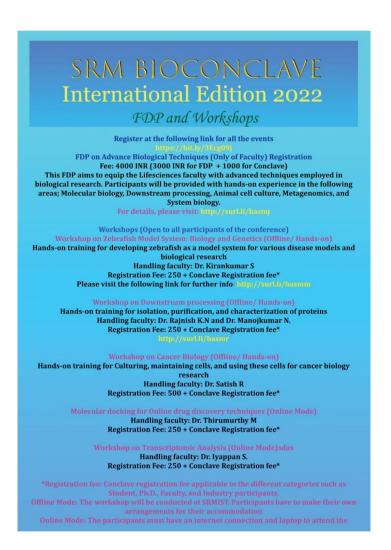
Deadline to submit abstracts: 10 Jan 2022 Please visit: https://www.srmist.edu.in/sbie-2022/ Mail to: sbie2022@srmist.edu.in

We invite papers on the following themes

Genetics, Genomics, and Informatics Cancer biology

Microbial engineering for pharmaceutical, biofuel, and industrial applications

Bio-nanotechnology and Bioprocessing Plant genetic engineering and tissue culture techniques Extracellular vesicles, cell biology, and theranostic studies



• Dr.P.Senthilkumar organized Online Alumni Talk of Mr.V.Sudarshan (RA1411014010088, 2014-2018), Co-founder and CEO, Biota Learning, Chennai on 14.02.2022 on "Starting a Startup"



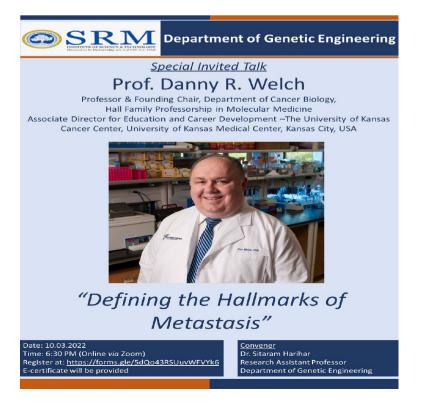
• Dr. Satish Ramalingam organized an invited lecture titled "Stem Cells for Regenerative Therapy" by Dr. Rajasingh Johnson, Associate Professor, College of Dentistry and Department of Bioscience Research, The University of Tennessee Health Science Center, Memphis, TN, USA on 21.04.2022.



 Dr.Devi.A organized a ONE day Research Symposium on "Stem Cells Research and Regenerative Medicine" on 23.02.22



Dr. Sitaram Harihar organized an invited lecture titled "Defining the Hallmarks of Metastasis" by Prof. Danny R. Welch, Professor & Founding Chair, Department of Cancer Biology, Hall Family, University of Kansas Medical Center, Kansas city, USA on 10.03.2022.



• Prof.M. Parani conducted a workshop on "DNA barcoding of plants" from 20.4.2022 to 22.4.2022.



WORKSHOP ON DNA BARCODING OF PLANTS

20 - 22 April, 2022

Department of Genetic Engineering, SRM IST



DNA barcoding facilitates fast and reliable taxonomic identification of organisms using short DNA sequences. It has become popular in academic research to address societal issues such as resolve taxonomic conflicts, biodiversity, environment monitoring, herbal product authentication and quality control. This three day workshop will provide a practical overview of the conceptual and analytical aspects of DNA barcoding of plants. This workshop is primarily aimed at training, students and researchers with interest in plant identification through molecular based identification of plant species through DNA sequencing approach.

Following topics will be covered;

- Miolecular techniques (DNA isolation, PCR, Electrophoresis, preparation of PCR product for Sanger's sequencing)
 for generating DNA barcodes
- DNA barcoding informatics (assessing sequence quality, estimating molecular authentication & identifying unknown sequences against reference databases)



B.Sc/B.Tech / M.Sc/M.Tech / PhD students and Faculty members of Universities / Colleges and Research Institutes. The number of participants will be limited to TWENTY 0 NLY.

REGISTRATION FEES

For all Rs. 500/-Mode of payment: Online Transfer (Note: First 20 seats only)

HOW TO APPLY

Apply through Google form (https://bit.ly/3lair9G) along with payment details.

A coount Name: Genetic Engineering Association; A coount Number: 117001000403689,

Bank Name: City Union Bank, Tambaram; IFSC Code: CIU B0000117

TRAVEL, FOOD & ACCOMMODATION

Travelling allowance, Food and Accommodation will not be provided by the organizers. Participants have to make their own arrangements. Refreshments will be provided for the participants during the programme.

Welcome kit, workshop manual, participation certificate will be provided.

Con tact

Organizer: Dr. M. Parani, Professor

For registration and other query, contact to R. Balaji, PhD Research Scholar Email: br3043@srmist.edu.in, Mobile: +91 9865384408





STUDENT COUNSELLING CELL

The department opened a student counselling cell to help deal with student distress and concerns. The counselling cell includes, Dr. Satish Ramalingam, Dr. Swapna Geetanjali and Dr. N. Aruljothi. One of the first programs organized by the cell was an invited talk on "emotional resilience" by Dr. U Vijayabanu, Assistant Professor and Head, Department of Psycology, Bhaktavasalam Memorial College for Women, Chennai.



Department of Genetic Engineering

Special Invited Talk Organized by "Student Counselling Cell"

Dr. U. Vijayabanu, Ph. D.

Assistant Professor and HoD Department of Psychology Bhaktavasalam Memorial College for Women Chennai



"Emotional Resilience"

Date: 30.05.2022 Time: 10:30 AM

Venue: Dr. G. N. Ramachandran Hall

Convener: Dr. Satish Ramalingam Organized by the Department Student Counselling Cell (Dr. S. Shobana, Dr. A. Swapna Geetanjali , Dr. N. Aruljothhi) **Assistant Professor**

Department of Genetic Engineering SRMIST

• Industry Institute Conclave which enables the interaction between scholars and industrial experts was organized by Dr.Rathinasabapathi and Dr. T. Kumar and Dr.Mahesh, Senior Lead Scientist, Cavinkare Pvt. Ltd., delivered an Online lecture on 4.2.22.



• Dr.J.Megala organized a One day online workshop on "Molecular diagnosis of Fastidious Bacterial infection by Real Time PCR" on 18.2.22.



• Dr. Aruljothi organized a special invited talk on "Cancer Immunobiology and proteaglycans: Therapeutic implications" by Dr. Karthikeyan Subbarayan, Research Scientist, Martin Luther University, Halle Wuttenburg, Germany in an offline mode on 5th May 2022.



• Dr. NS Raja organized a special invited talk on "Being Entreprenurial" by Dr. Prabhakar Kulkarni, CEO, NeoDx Biotech Labs Pvt. in online mode on 30th May 2022







• Dr. B. Usha (Alumni Coordinator) organized a felicitation program "Alumni achiever's connect" on 09.03.2022 to felicitate the following Alumnae who are achievers in their own field.



Achievers

Dr. ADVAITHA MADIREDDY

Assistant Professor Rutgers Cancer Institute, New Jersey, USA (Batch: B.Tech. 2008)

Dr. JANANI DAKSHINAMOORTHY

Founder and Geneticist, GeneAura Pvt. Ltd., Chennai, (Batch: M.Tech & Ph.D. 2021)

Ms. RUPAROSHNI

M.S. in Molecular Sciences University of Heidelberg, Germany (Batch: B.Tech.2019)

• Prof. M. Parani organized "Alumni conclave" on 21.04.2022 to felicitate the following Alumnae who are achievers in their own field.



Speakers

NIKILESH VIJAYAN, Ph.D. @ IISER, Thiruvananthapuram. (Batch: B. Tech 2017)

PAVITHRA SURESH, PhD @ Tzu Chi University, Taiwan. (Batch: B. Tech 2015)

ROSHAN K. N.Graduate @ Univ. Glasgow, Scotland.(Batch: B. Tech 2021)

 Dr. S.Shobana organized an Online Lecture - Lecture was delivered by Dr.Sathyadevi Venkataramani, Director, Amgen, California on "Quest for Quality Medicine: Developing Therapeutic Antibodies for Cancer Targets" on 6th June,2022.



• Dr. S. Shobana organized a Webinar on "Application of Machine Learning in Biological Sciences". As a part of the Southeast and South Asia and Taiwan Universities (SATU) joint research scheme, UNIVERSITI KEBANGSAAN MALAYSIA, Malaysia,



14th GENETIC ENGINEERING RESEARCH SYMPOSIUM

The Department of Genetic Engineering organized a one-day research symposium on 30.6.2022. This is an event organized every year to exhibit the B.Tech & M.Tech student projects through poster and oral presentations. The best research project was awarded with a "Citation award. The best oral & poster presentation awards were given to the deserving students.







Best project award was presented to Ms. Prajitha K Rajan (M Tech)



Best poster award was presented to Ms. Sakshi Seth (M. Tech) 1st prize Ms. Prathiksha (M.Tech) 2nd prize Mr. Gauresh Shivji (M.Tech) 3rd prize Ms. Shameli Jeeva (M.Tech) 3rd prize

E- CONTENT DEVELOPED

A total of 24 teaching videos were developed by the department faculty and uploaded on the department YouTube channel **SRM Genetic Engineering** from January to June 2022.

S.No	Subject/Lab	YouTube link
561 (0	Subjectification	https://www.youtube.com/watch?v=vHILTVlo3rl&list=PLu4HTMg15xvSdS3odyS5-p-
1		Zws5V8h1B2&index=5
		https://www.youtube.com/watch?v=VMLMF-tHjL0&list=PLu4HTMg15xvSdS3odyS5-
2		p-Zws5V8h1B2&index=4&t=12s
<u>=</u>	Animal Biotechnology	https://www.youtube.com/watch?v=ChgNIp5sq6c&list=PLu4HTMg15xvSdS3odyS5-p-
3		Zws5V8h1B2&index=3&t=147s
	Biotocimiology	https://www.youtube.com/watch?v=15Ltp4yXAF0&list=PLu4HTMg15xvSdS3odyS5-p-
4		Zws5V8h1B2&index=1&t=14s
_		https://www.youtube.com/watch?v=UNdEQ-KzgvI&list=PLu4HTMg15xvSdS3odyS5-
5		p-Zws5V8h1B2&index=2&t=56s
		https://www.youtube.com/watch?v=F6K-
6		vl4a3Y0&list=PLu4HTMg15xvT31U26AEvbmKjVe3AvxxXb&index=1&t=10s
_	n. n	https://www.youtube.com/watch?v=pcNOa-
7	Bio Process Lab	D8aOU&list=PLu4HTMg15xvT31U26AEvbmKjVe3AvxxXb&index=2&t=54s
		https://www.youtube.com/watch?v=szlS6AhQ14k&list=PLu4HTMg15xvT31U26AEvb
8		mKjVe3AvxxXb&index=3&t=4s
		https://www.youtube.com/watch?v=4sc27KcdnKc&list=PLu4HTMg15xvTgh3h0fazgTh
9		MC2Ukv424e&index=1&t=9s
-	Bio-Informatics	https://www.youtube.com/watch?v=RMqQOL43hzE&list=PLu4HTMg15xvTgh3h0fazg
10		ThMC2Ukv424e&index=2&t=13s
		https://www.youtube.com/watch?v=0Ok5532ibBo&list=PLu4HTMg15xvTFmyxE0DEe
11		vS0JZ1Tl8vk1&index=1
		https://www.youtube.com/watch?v=qC0wlwbzmMM&list=PLu4HTMg15xvTFmyxE0D
12	Plant	EevS0JZ1Tl8vk1&index=2
	Biotechnology	https://www.youtube.com/watch?v=-
13		XBVJGkp2QM&list=PLu4HTMg15xvTFmyxE0DEevS0JZ1Tl8vk1&index=4
		https://www.youtube.com/watch?v=MkdQ0j7Q-
<u>14</u>		BE&list=PLu4HTMg15xvTFmyxE0DEevS0JZ1Tl8vk1&index=3
	Students Lab	https://www.youtube.com/watch?v=LicquorxOe4&list=PLu4HTMg15xvQz0T7FcjnGU
<u>15</u>	videos	4ibH3HYAQp3&index=1&t=38s
		https://www.youtube.com/watch?v=nQ6I7OQFEsQ&list=PLu4HTMg15xvSqDGBtiXsi
<u>16</u>		LA9cPJBdlGeR&index=1&t=196s
		https://www.youtube.com/watch?v=MX8qgziwsLM&list=PLu4HTMg15xvSqDGBtiXsi
<u>17</u>		LA9cPJBdlGeR&index=2&t=20s
	T 1	https://www.youtube.com/watch?v=Zw8YRlJh4GQ&list=PLu4HTMg15xvSqDGBtiXsi
<u>18</u>	Immunology	LA9cPJBdlGeR&index=3
		https://www.youtube.com/watch?v=8WKw5onN1yA&list=PLu4HTMg15xvSqDGBtiXs
<u>19</u>		iLA9cPJBdlGeR&index=4&t=14s
		https://www.youtube.com/watch?v=3BFX0xYLxBM&list=PLu4HTMg15xvSqDGBtiXs
20		iLA9cPJBdlGeR&index=5&t=93s
		https://www.youtube.com/watch?v=j-
<u>21</u>	Instrumentation	WY1oRZbKg&list=PLu4HTMg15xvTyLqYNC3uB4YvnkUQMo0Pp&index=1&t=42s
		https://www.youtube.com/watch?v=gpvoiS6nNWk&list=PLu4HTMg15xvTyLqYNC3u
<u>22</u>		B4YvnkUQMo0Pp&index=2&t=9s
	Molecular Biology	https://www.youtube.com/watch?v=EFg9nAycrUY&list=PLu4HTMg15xvQm2BlaC04a
<u>23</u>		JZ9v1TcREVMb&index=1&t=10s
		nttps://www.youtube.com/watch?v=_Eg9YeeMNVU&list=PLu4H1Mg13xVQm2BlaCU
24		4aJZ9v1TcREVMb&index=2&t=11s

E- CONTENT DEVELOPED

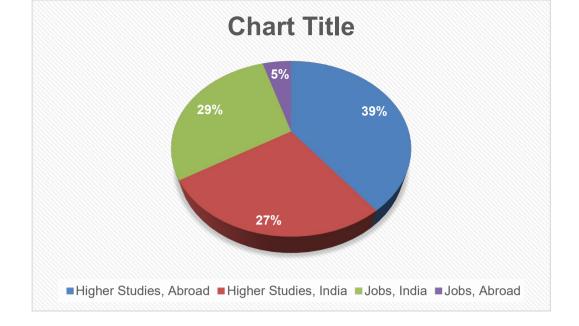
A total of 17 videos on departmental activities, including lab facilities and departmental events were uploaded during during the period of January to June 2022 on the department YouTube channel- **SRM Genetic Engineering**.

S. No	TOPIC	YouTube LINK	TITLE
5.110	Genetic		
	Hamiaeeriam Jeat _	https://www.youtube.com/watch?v=lsiC9Bpd6AI&list=PLu	-
1	An Introduction	0 1	Engineering
		https://www.youtube.com/watch?v=Cr3YvOYEerk&list=PL	Special Talk
2		u4HTMg15xvSr0jU82pTDjyNb5Kt-vRLQ&index=1	- F
	Events	https://www.youtube.com/watch?v=fmTpNnd3Qew&list=P Lu4HTMg15xvSr0jU82pTDjyNb5Kt-	Cracial Talls
3	Events	vRLQ&index=2&t=7s	Special Talk
		https://www.voutube.com/watch?v=c_11vtMIFdA&list=PI	a
4		u4HTMg15xvSr0jU82pTDjyNb5Kt-vRLQ&index=3	Special Talk
		https://www.youtube.com/watch?v=iDNqpFIL4w8&list=PL	Molecular Biology Lab
5		u4H1Mg13xvR kxr 2svEM6ieZm20GOtx&index=1	Wolceulal Blology Lau
		https://www.youtube.com/watch?v=8xOOJVawt50&list=PL	
		S	Cancer Genetics Lab
6		0s https://www.youtube.com/watch?v=K1gz7Z-	
		z6BA&list=PLu4HTMg15xvR kxr 2sVEM6ieZm20GOtx	Immunogenetics Lab
7		&index=3&t=20s	inimanogeneties Lao
		https://www.youtube.com/watch?v=BEteoW5qz90&list=PL	
		u4HTMg15xvR_kxr_2sVEM6ieZm20GOtx&index=4&t=1	Stem cell cancer Biology Lab
8		37s	
		https://www.youtube.com/watch?v=4-	
0		FEUtokLAA&list=PLu4HTMg15xvR_kxr_2sVEM6ieZm2	Genomics Lab
9		0GOtx&index=5&t=11s https://www.youtube.com/watch?v=LQrkK7Q6Un8&list=P	
10	Lab Facilities	Lu4HTMg15xvR kxr 2sVEM6ieZm20GOtx&index=6	Common Research facility
10		https://www.youtube.com/watch?v=o8-	
		*	Scholar Lab
11		GOtx&index=7	
		https://www.youtube.com/watch?v=Pgl94RQlhxw&list=PL	Plant Virology Lab
12		u4H1Mg15xVR kxr 2sVEMbieZm20GOtx&index=8&t=3s	Tiant virology Lao
		https://www.youtube.com/watch?v=vQLDn937-	DCOS 1-1.
13		0E&list=PLu4HTMg15xvR_kxr_2sVEM6ieZm20GOtx∈ dex=9	rcos lad
13		https://www.youtube.com/watch?v=slanebs_jXo&list=PLu4	
14		HTMg15xvR kxr 2sVEM6ieZm20GOtx&index=10&t=4s	Scholar Lab 2
			Transenic Greenhouse
15		*	Facility
		https://www.youtube.com/watch?v=Dh1mKQRXowk&list=	
		PLu4HTMg15xvR_kxr_2sVEM6ieZm20GOtx&index=12&	Zebrafish Genetics
16		t=4s	
	Nemester Ahroad	https://www.youtube.com/watch?v=irVyjTPlwZI&list=PLu	Competer Abread Dragues
17	Program	4HTMg15xvSFC8FM1Q7aQrOA_p3v8M6S&index=1&t=1 2s	Semester Abroad Program
1 /		20	

PLACEMENTS

Campus Placements: In 2022, thirty-three students enrolled for the campus placements from the Department of Genetic engineering. Campus placement mainly attract IT and IT service companies, and the total placement percentage was 81.8%. Students were placed majorly in business analytics companies. The average and the highest pay package of 4.98 lakhs and 15.25 lakhs per annum respectively.

Name of Student	Course	Placed in Company	Job Profile Title	CTC (lakhs)
Ishwaryavidya Nagarajan	B. Tech-Genetic Engineering	Fractal Analytics	Imagineer	15.25
Annie	B.Tech -Genetic Engineering	Business Development Executive	Masters Learn	7
Wasim Akther M	B.Tech -Genetic Engineering	Business Development Associate	Masters Learn	7
Ishwarya C T	B.Tech -Genetic Engineering	Production Software Engineer,	Cerner Healthcare	6.6
Hemalatha Muralikrishnan	B.Tech -Genetic Engineering	Program Managers	FACE	6
Saransh Mishra	B.Tech -Genetic Engineering	Analyst	The Math Company	5
Harshita Sushant Gandhi	B.Tech -Genetic Engineering	Graduate Engineering Trainee (GET)	Zifo RnD Solutions	4.76
Shivani S	B.Tech -Genetic Engineering	Cognizant	Generation cognizant	4
Kota Bhaargavi Sai	B Tech -Genetic Engineering	Cognizant	Generation cognizant	4



Foreign Institutes in which our alumni are pursuing higher studies:

University of Liverpool, UK

Queen Mary University, UK

University of Leeds, UK

University of Glasgow, Scotland

Trinity college, Dublin, Ireland

Nottingham University, UK

University Of Arizona, USA

Harvard University, USA

Taichi University, Taiwan

Paris Grenoble Ecole de Management, France

University of Texas, Dallas, USA

Queen Mary University of London, UK

PACE University, UK

Chosun University, South Korea

Michigan Technological University, USA

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Cactus Communications, Bangalore, Karnataka

SRL Diagnostic Lab, Chennai

SmartX connected products, Chennai

Moulana hospital, Kerala

Eazima Solutions Pvt. Ltd., Madhya Pradesh

Xcode lifesciences, Chennai, Tamil Nadu

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