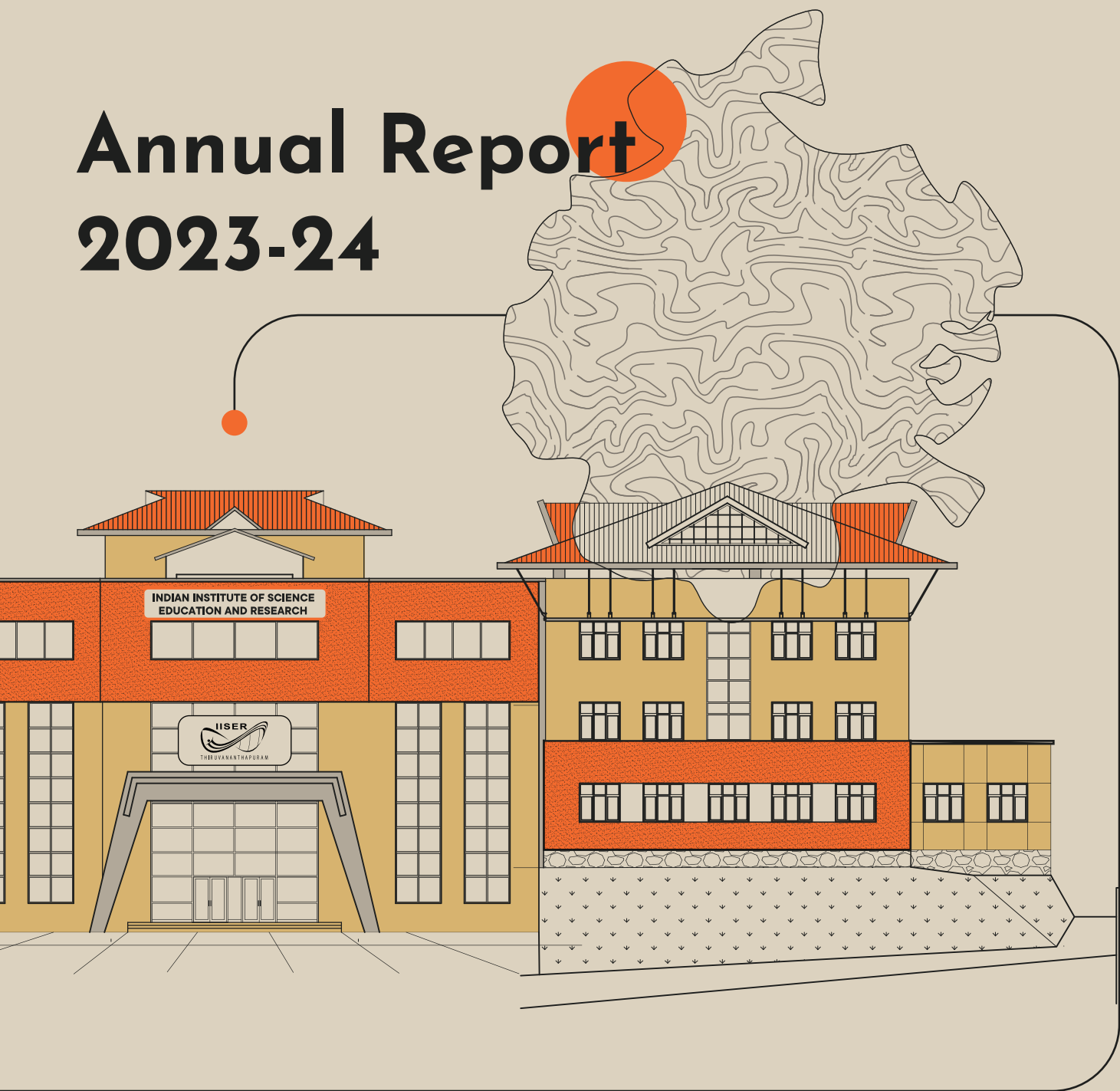


Annual Report

2023-24



**Indian Institute of Science Education and Research
Thiruvananthapuram (IISER TVM)**



**Indian Institute of Science Education and Research
Thiruvananthapuram (IISER TVM)**

Annual Report
2023-24

Credits



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Head, School of Chemistry
Head, School of Physics
Head, School of Mathematics
Head, Data Science and SEESS

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Dr. Pushpita Ghosh, Assistant Professor Grade I
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Hindi Translation:

Mrs. Sruthi U. A

Design:

Shyam M
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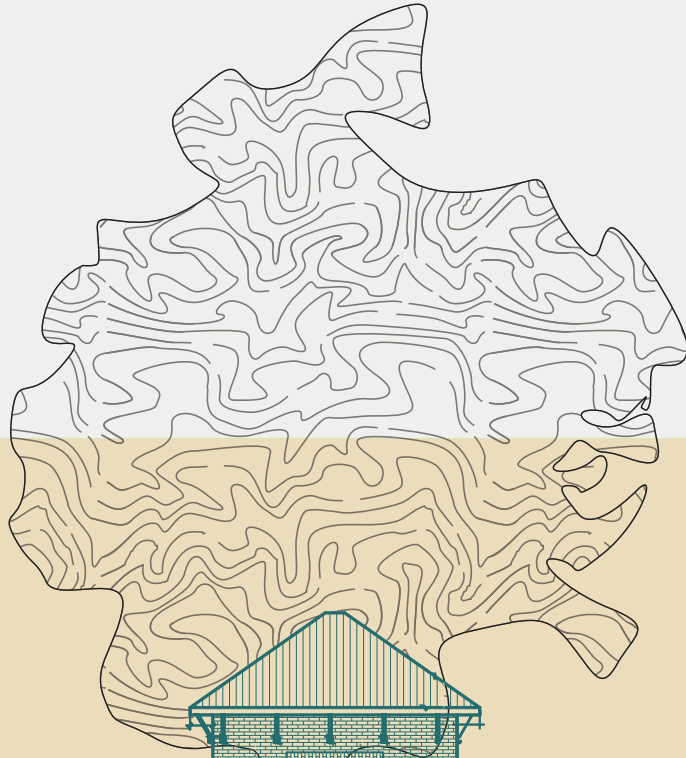
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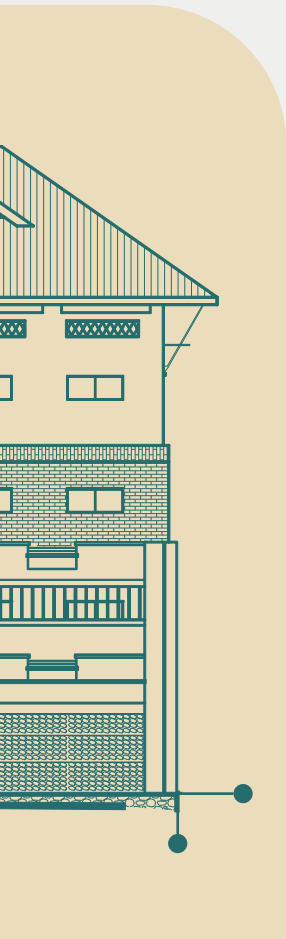
DIRECTOR'S FORWARD



I am pleased to present the 15th Annual Report of the Indian Institute of Science Education and Research Thiruvananthapuram (IISER TVM).

During the last financial year from April 2023 to March 2024, IISER TVM continued to grow after transitioning from the project mode in the previous year. IISER TVM made significant progress in the past academic year, focusing on providing high-quality education and conducting world-class research. The Institute expanded its research activities by introducing a new discipline with the establishment of the School of Earth, Environmental, and Sustainability Sciences (EESS). This school is forward-looking in its approach and is dedicated to addressing global challenges such as climate change, atmospheric pollution, renewable resources, and sustainability. In addition, the newly-established School of EESS, along with the School of Data Science, started admitting PhD students in the academic year. Furthermore, 12 new faculty members joined the Institute in 2023-2024, bringing the total number of faculty to 105 across the Schools of Biology, Chemistry, Mathematics, Physics, Data Science, and EESS.

It is heartening to note that the Institute has hired 16 women faculty members in the past few years. Women faculty now make up 21% of the total faculty, which is higher than the national average of 13.5% for STEM faculty. The Institute has also been successful in securing extramural funding of 18 Cr with 63 new grants, and has 108 Cr in running research grants. The Institute has also signed agreements with several institutions, nationally and internationally. Additionally, the Institute filed three patents and was granted one patent in the past academic year. A team of researchers from the School of Chemistry partnered with researchers at the University of Würzburg in Germany to secure funding for an International Research Training Program. The Institute has been working to align its curriculum with the National Education Policy (NEP) 2020, introducing multiple lateral



exits in its programs and skill enhancement courses to promote student-centric learning.

The faculty members at the Institute have shown impressive dedication in contributing to the academic development of the Institute. Their input has been crucial in creating new academic programs, implementing the NEP, and establishing new schools and research centers. Some faculty members have received prestigious awards for their outstanding contributions in their respective fields, such as the J. C. Bose National Fellowship, Associate Fellowship of the Indian National Science Academy, Dr. D. S. Bhakuni Prize Award, the Asian and Oceanian Photochemistry Award, and many more. Additionally, some faculty members have been invited to serve on the editorial boards of respected journals and have become members of esteemed scientific organizations. The research work of the faculty has been published in leading scientific journals, and the Institute's research fraternity has published over 270 scientific articles in the last academic year, bringing the total number of publications of IISER TVM close to 2200 since its inception. These remarkable achievements, along with the research output, demonstrate the increased visibility of IISER TVM in various rankings. Notably, the Institute is ranked 14 in the latest Nature Index rankings and is included in the top 2000 institutions and the top 10% of institutions in the Global 2000 list announced by the Centre for World University Rankings 2024 Edition.

The research community at the Institute has been actively engaging with the academic world to stay updated on the latest developments in their respective fields. Earlier this year, IISER TVM hosted the annual Frontiers Symposium Series. The inaugural editions of the Frontiers Symposium series were organized by the Schools of Data Science and EESS this year. In December of last year, the second edition of the Refresher and Preparative Winter School (RPWS), a unique outreach program of IISER TVM, was organized by the Schools of Biology, Chemistry, and Physics. The Institute also hosted several events including an Indo-French Seminar on Catalysis for Sustainability, an Indo-German Workshop on Thermoelectric Devices for Emerging Applications,

an International Conference on the Latest Advances in Computational and Applied Mathematics, the National Centre for Mathematics Workshop on Control of Partial Differential Equations, the Indian Drosophila Research Conference, the IISER TVM Symposia at the Global Science Festival of Kerala, the Higher Secondary School Teacher Transformation Program, and the Science Enrichment Workshop for MSc Students from the Kerala State.

It is essential to regularly upgrade infrastructure to support and advance higher education institutions. The Institute enhanced its research infrastructure by adding various advanced equipment such as a single-crystal X-ray diffractometer, a ceilometer for cloud studies, a particle size analyzer for atmospheric aerosol research, a double-deck fully motorized inverted confocal microscope, a flow cytometry analyzer, a fluorescence-activated cell sorter, and more. Additionally, teaching labs for the newly launched Integrated and Interdisciplinary Sciences (i2 sciences) were set up at the Central Instrumentation Facility and the School of Chemistry to meet the needs of BS-MS students specializing in interdisciplinary research areas. Other infrastructure augmentations include the construction of a concrete road with footpaths and side drains for easy access to the lecture hall complex, the installation of solar street lighting, the addition of protective handrails along walkways, and the use of shotcreting and retaining walls to prevent landslides. Moreover, high-density PVC pipes have been laid to channel water directly from natural streams in the woods above the campus to the water treatment plant, reducing electricity consumption. Meeting lounges have been established at the Schools of Biology and Physics, and offices at the finance, purchase, academic, R&D, and engineering project sections have been furnished. Other improvements comprise the establishment of a new container café near the academic area, the addition of sheet roofing for the terraces of student hostels, the development of a park in the residential area, the furnishing of residential quarters, and more. Despite the challenges posed by the location, hilly terrain, and heavy rains, the Institute administration has undertaken infrastructure upgrades

to create a vibrant and desirable living environment for the resident faculty, staff, and students on the beautiful campus.

Students are vital stakeholders and the primary beneficiaries in educational institutions. The Institute is committed to nurturing students to become well-rounded individuals by providing access to a comprehensive and multidisciplinary education. Students' participation in extracurricular activities is ensured through various Institute councils, such as the Science and Technology Council, Cultural Council, Sports Council, and Welfare Council. During Anvesha 2023, the annual science fest, the Institute hosted around 600 visitors who took part in various science activities and discussions. The Science and Technology Council set up and managed the IISER TVM Science Pavilion at the Global Science Festival of Kerala and received a lot of appreciation from various quarters. The Science and Technology Council has been instrumental in establishing the Science Exploratorium, affectionately named 'Crucible'. The IISER TVM international genetically engineered machine (iGEM) 2023 team, in its project called Oasis, designed an innovative clinical depression diagnostic kit based on blood biomarkers for depressive disorders. At the iGEM 2023 competition held in Paris, the team secured a Gold Medal, the Best Diagnostics Award, and a nomination for Best Integrated Human Practices. This achievement marked the second consecutive year that IISER TVM, an institute from Kerala, won a Gold Medal at the prestigious iGEM grand jamboree, a global synthetic biology competition held annually in Paris. Our students secured several prestigious fellowships and internship opportunities over the past year. Some of these include 17 DAAD-WISE fellowships, the ENS Paris-Saclay internship, the Institute of Photonic

Sciences internship, 2 Fulbright-Nehru award fellowships, and 8 The Prime Minister's Research Fellowships (PMRFs). In the last academic year, the Institute doubled the intake of the students through the Integrated PhD program, to provide an impetus to the aspirations of young Indian undergraduates to carry out impactful research in the country.

The IISER TVM contingent was the runners-up in the Inter-IISER Cultural Meet held at IISER Mohali for the second consecutive time. Ishya, the annual cultural fest of the Institute, was the grandest and best Ishya ever, with the participation of students from colleges across the country and two exciting proshows. The Humanities Collective of IISER TVM organized many socially and societally relevant lectures throughout the year. It also published its first-ever compilation of articles in the form of a magazine, Mithril. The Sports Council of the Institute successfully organized the annual Inter-IISER Sports Meet in December 2023 with the participation of well over 1600 students from all IISERs, NISER, and IISc. The IISER TVM contingent was commendably a 'runner-up' of the event. The Sports Council also brought together the entire institute fraternity for the annual sports meet, Itsav. Aligning with the theme, 'Sports as an enabler for an inclusive and fit society', the Sports Council organized a week-long celebration, commemorating National Sports Day. The Welfare Council of the Institute organized Prayati, the blood donation drive, three times during the last academic year, and the collected blood was supplied to the Government Medical College, Thiruvananthapuram. The 'World Blood Donor Day' was celebrated in the institute as part of the 'Raktadan Amrit Mahotsav' under the 'Azadi ka Amrit Mahotsav' celebrations. The Welfare Council also conducted various sessions and programs, including first aid-cum-lifesaving training, well-woman programs, snake awareness, and safe sex and sexual hygiene. Additionally, they organized health screening camps in collaboration with the District Government Hospital, Thiruvananthapuram and the KIMS Hospital, Thiruvananthapuram. Karuna, the animal welfare group of IISER TVM, conducted a vaccination drive for stray dogs on campus, organized rescue and adoption of stray dogs and puppies, and is working closely with the 'People for Animals' team.

IISER TVM is fortunate to have had the 'Vinita Balagopal and Balagopal Chandrasekhar Fellowships' instituted. These fellowships are awarded to meritorious BS-MS students to support their education. The Institute was also a beneficiary of the "Bank of Baroda Achievers Awards,"

as Bank of Baroda came forward with a generous gesture to support meritorious graduate and postgraduate students. During the 12th Convocation of the Institute, a significant milestone in its academic journey, 190 BS-MS students, 26 PhD students, 24 Integrated PhD students, 13 MS (Research) students, and 70 MSc students were awarded degrees upon completing their studies.

In the coming years, the Institute will effectively implement NEP 2020, initiate plans for new schools to expand academic offerings, recruit new faculty members in specialized areas, undertake infrastructure development, and support priority projects of national importance. I want to express my appreciation and gratitude to the Chairperson, Prof. Arvind A. Natu, and the members of the Board of Governors for their guidance and support. In conclusion, I extend my thanks to every individual who has contributed to the growth of this institution.

J. N. Moorthy
Director

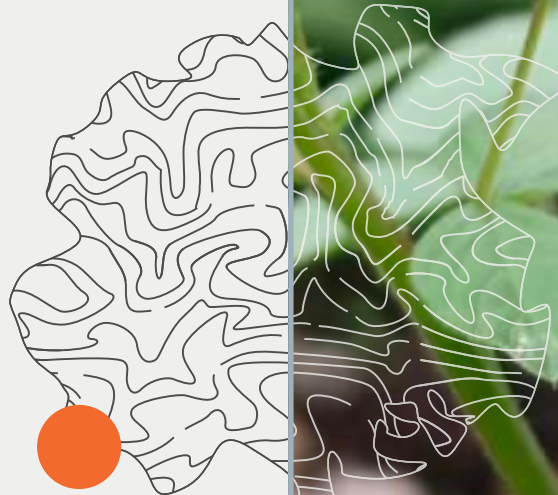


Photo: Parthiban, Electrical substations team

Board of Governors



BoG Members for the year 2023-24:

as on 31.03.2024

Prof. Aravind A Natu	Chairperson, BoG
Joint Secretary(TE)	MoE, Govt. of India
Director	Indian Institute of Science, Bangalore
Director	IIT Dharwad
Secretary	Department of New & Renewable Energy, Govt. of India
Secretary	Housing and Urban Affairs, Govt. of India
Chief Secretary	Govt. of Kerala
Joint Secretary & Financial Advisor	MoE, Govt. of India
Prof. Hema Somanathan	School of Biology, IISER TVM (upto 12.12.2023)
Prof. Nishant K. T.	School of Biology, IISER TVM (from 13.12.2023)
Prof. M. M. Shaijumon	School of Physics, IISER TVM (from 13.12.2023)
Prof. J. N. Moorthy	Director, IISER TVM
Prof. Mahesh Hariharan	Registrar & Secretary, BoG, School of Chemistry, IISER TVM (upto 12.12.2023)

Senate



Senate Members for the year 2023-24:

as on 31.03.2024

Prof. Sanoli Gun	Dept. of Mathematics, The Institute of Mathematical Sciences, Chennai
Prof. N. Venkata Reddy	Dept. of Mechanical and Aerospace Engineering, IIT Hyderabad
Prof. Binay Kumar Pattnaik	Dept. of Humanities and Social Sciences, IIT Kanpur
Prof. G. Ambika	Emeritus Professor, School of Physics, IISER TVM
Prof. Rajeev Bhaskaran	Emeritus Professor, School of Mathematics, IISER TVM
Prof. K. George Thomas	Dean Faculty Affairs, IISER TVM
Prof. Kana M Sureshan	Dean, I&P, IISER TVM
Prof. Utpal Manna	Dean Students Affairs, IISER TVM
Prof. Joy Mitra	Dean Academic Affairs, IISER TVM
Dr. Vinesh Vijayan	Associate Dean Academic Affairs, IISER TVM
Dr. Swathi R. S.	Associate Dean (R&D), IISER TVM
Prof. M. P. Rajan	School of Mathematics, IISER TVM
Prof. Tapas Manna	School of Biology, IISER TVM
Prof. Ramesh Chandranath	School of Physics, IISER TVM

Senate



Senate Members for the year 2023-24:

as on 31.03.2024

Prof. Anil Shaji	School of Physics, IISER TVM
Prof. Shaijumon M.M.	School of Physics, IISER TVM
Prof. Manoj A. G. Namboothiry	School of Physics, IISER TVM
Prof. Nishant K.T.	School of Biology, IISER TVM
Prof. Sukhendu Mandal	School of Chemistry, IISER TVM
Prof. Hema Somanathan	Head, School of Biology, IISER TVM
Dr. Arun K. R.	Head, School of Mathematics, IISER TVM
Dr. Deepshika Jaiswal Nagar	Head, School of Physics, IISER TVM
Dr. Ajay Venugopal	Head, School of Chemistry, IISER TVM
Dr. Rajeev N. Kini	Chief Warden, IISER TVM
Prof. Srinivasa M Srinivasula	Deputy Director, IISER TVM
Prof. J. N. Moorthy	Director & Chairman, Senate, IISER TVM
Prof. Mahesh Hariharan	Registrar & Secretary, Senate, School of Chemistry, IISER TVM

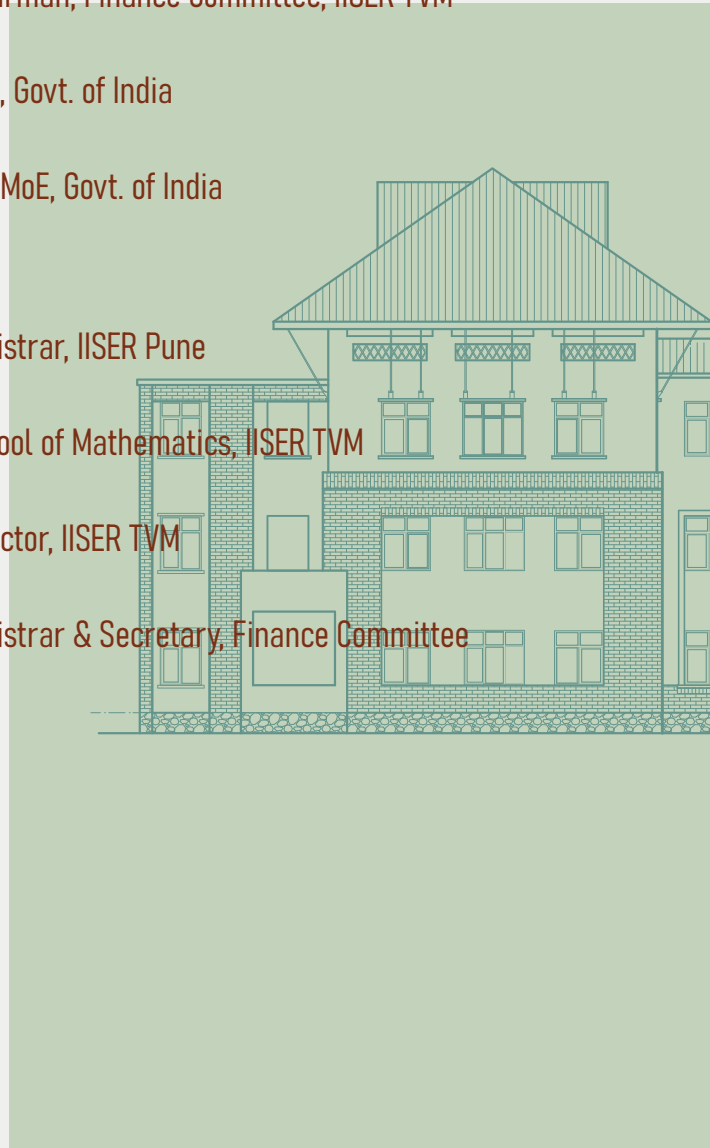
Finance Committee



Finance Committee Members for the year 2023-24

as on 31.03.2024

Prof. Arvind A. Natu	Chairman, Finance Committee, IISER TVM
Joint Secretary(TE)	MoE, Govt. of India
Joint Secretary & Financial Advisor	IFD, MoE, Govt. of India
Col. Raja Sekhar (Retd.)	Registrar, IISER Pune
Prof. Utpal Manna	School of Mathematics, IISER TVM
Prof. J.N. Moorthy	Director, IISER TVM
Prof. Mahesh Hariharan	Registrar & Secretary, Finance Committee




Building And Works Committee



Building And Works Committee for the year 2023-24

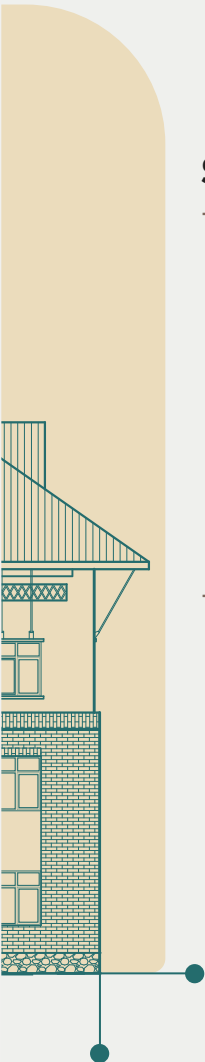
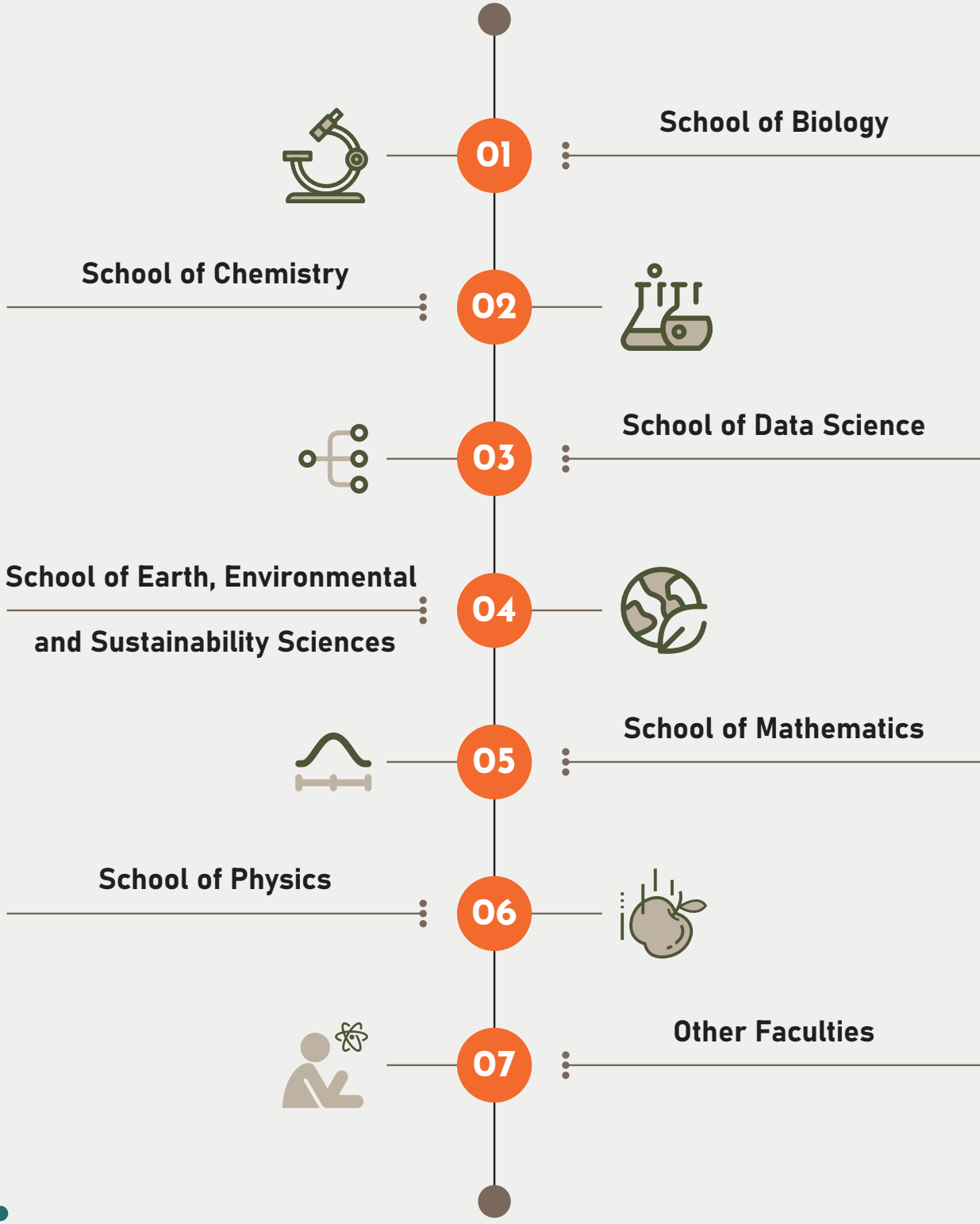
as on 31.03.2024

Prof. J. N. Moorthy	Chairman, Director, IISER TVM
Prof. S. Murty Srinivasula	Member, Deputy Director, IISER TVM
Prof. Manoj Mathur	Member, SPA, New Delhi
Shri. Sudhir Kumar Chawla	Member, EE. Retd. as DG(In-Situ), CPWD
Shri. Vivek Prakash Srivastava	Member, CE, IIT Kharagpur
Prof. Mahesh Hariharan	Member, Registrar, SoC, IISER TVM
Mr. S Sreehari	Member, PE (IC), IISER TVM
Prof. K. M Sureshan	Secretary, DoIP, IISER TVM

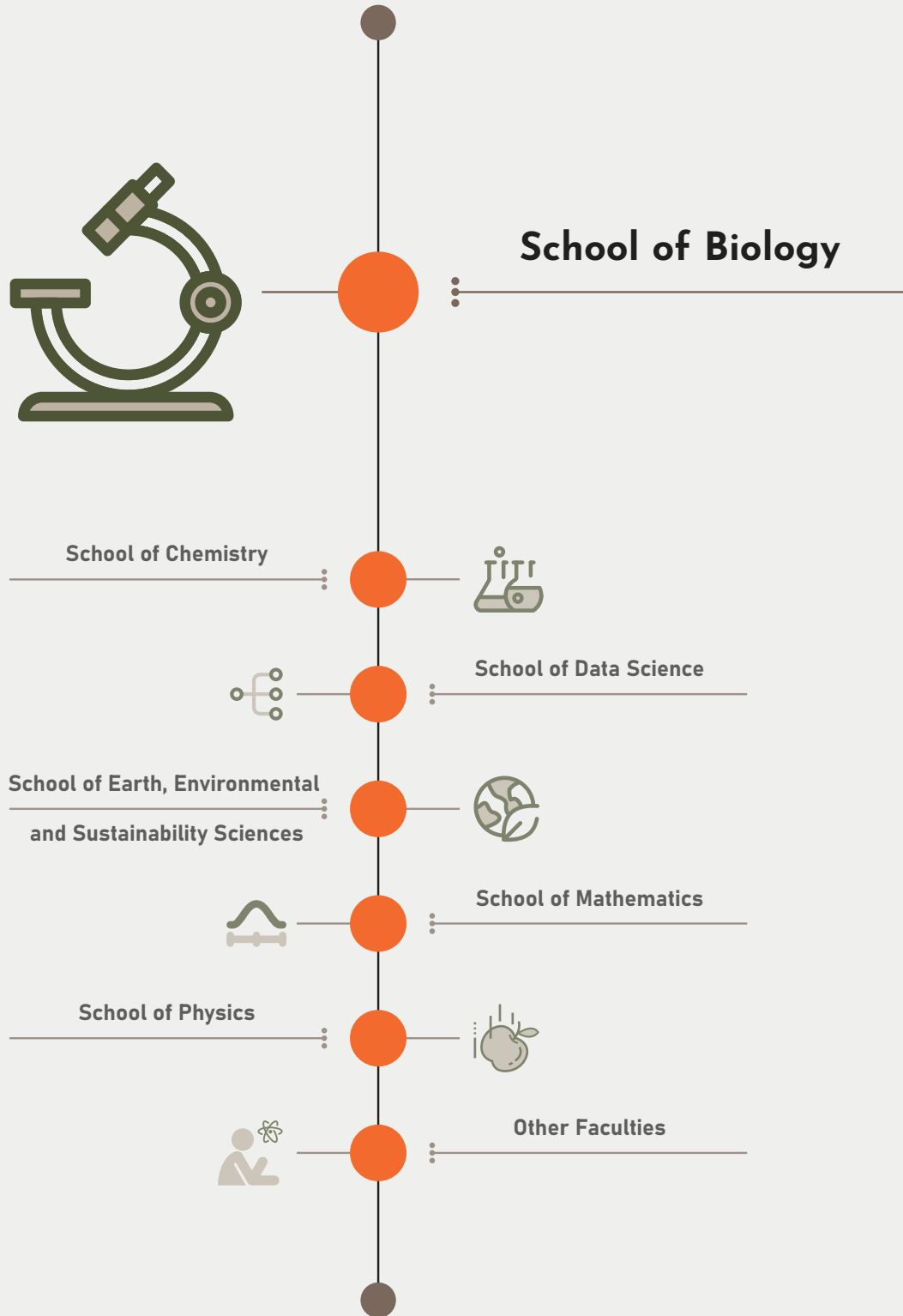




Research Reports



Research Reports - 01



Evolutionary and sensory ecology



Hema Somanathan

Professor

In my lab, we are interested in questions related to the behavioral ecology and the pollination services provided by bees.



We have examined the spatial resolution of the eyes of Indian honey bees, fruit bats and stingless bees. This enables us to examine interspecific differences in the visual ecology of bees across various habitats. We have found that honey bees have foraging ranges that are much smaller than the western honey bee, *Apis mellifera*. These differences may arise from differences in the resource distribution patterns in tropical and temperate habitats. We are currently examining their foraging ecology in varied landscapes to construct forage maps and pollination networks in both forest and in agroecosystems. We also study migration in honeybees using information coded in waggle dances (Figure above), to understand what triggers colonies to swarm and how consensus is reached. This has important consequences for pollination services.

Genome Stability

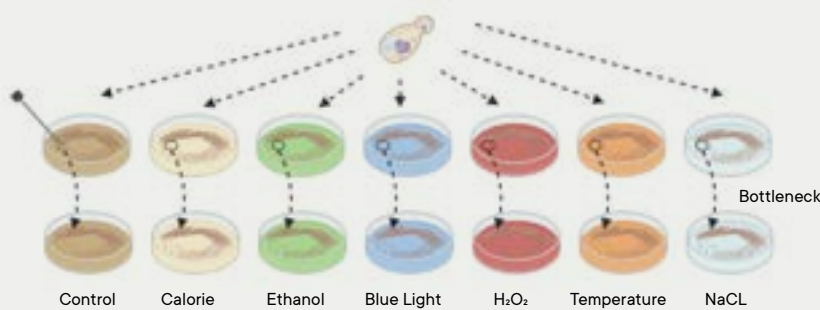


Figure 1. Mutational accumulation experiment in seven different environmental conditions



Nishant K.T

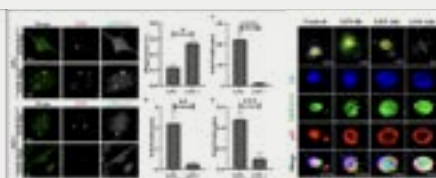
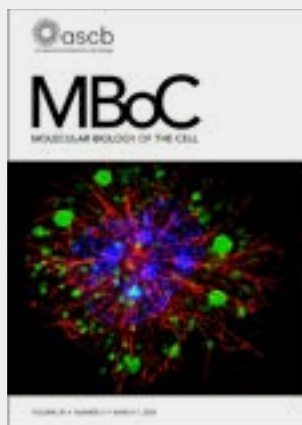
Professor

Prof. Nishant's group works in the area of genome stability. Key areas of research include mechanisms of meiotic recombination, chromosome segregation, loss of heterozygosity and aneuploidy in yeast and other eukaryotic models. These studies are relevant for understanding the molecular basis of diseases (e.g., birth defects and cancer), genome evolution, and architecture.

Mutations are induced in cells by both intrinsic and extrinsic factors. A better understanding of how ubiquitous environmental-induced mutations shape the cells' genome can help identify preventable causes of genome instability that may lead to cancer and aging. In the past year, we analyzed the effect of ubiquitous environmental factors, such as blue light, restriction of calories (CR), oxidative stress (H_2O_2), temperature (37C), ethanol, and salt (NaCl), on mutational signatures in the budding yeast *S. cerevisiae*. The mutational profile analyzed from the whole-genome sequencing data revealed a substantial variation in LOH, single-nucleotide mutations (SNMs), indels (insertions and deletions), and aneuploidy rates caused by exposure to the seven different environmental conditions (Figure 1).

Further, work on the role of meiotic recombination proteins (Msh5 and Rec8) in maintaining genome stability during meiosis was published in the journals- *Genetics*; *Genes Cells*.

Immunology and Cell Biology



Anushree's research work published in MBoC showed for the first time that ALIS formation upon LPS stimulation primes host cells against bacterial infection by effectively reducing the pathogen survivability. Super-resolution image showing association of ALIS with microtubules made it to the cover page of the journal.



Srinivasa Murty Srinivasula

Professor

Our lab works to understand the mechanisms at play in inter-organelle dynamics. We have shown that CARPs, a unique family of RING E3 ligases regulate Golgi dynamics in response to stimulation and stress, by targeting a Golgi structural protein(s). We are currently looking into a possible association of CARPs with other E3 ligases to determine their role in Golgi architecture in different pathophysiological conditions. Data from our lab also suggest a role of these E3 ligases in stress response as well, in conjunction with chaperones and other cochaperones such as STUB1 (Rahul et. al. The Febs Journal, 2023).

Previously, we have established that CARP2 in particular helps in Parkin recruitment to damaged mitochondria (Ravindran et. al. Autophagy, 2022). Building on the data, we explore the cross-talk between different deubiquitinating enzymes and CARPs in mitophagy.

Most recently, we showed that Aggresome like induced structures (ALIS), formed upon LPS treatment are associated with several anti-microbial peptides and help in reducing bacterial survivability in host cells.

Cytoskeleton, Cell Division, Signaling



Tapas K. Manna

Professor

Research Highlights:

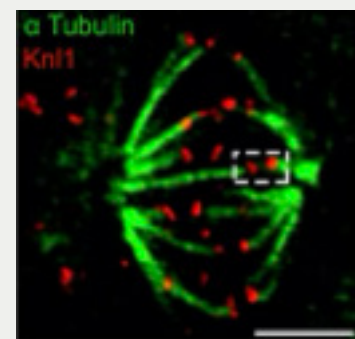
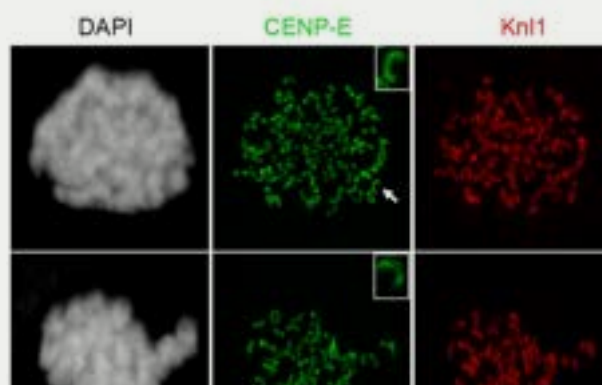
Error-free segregation of chromosomes is crucial for inheritance of genetic material equally during cell division and deregulation of the process leads to aneuploidy, a hallmark of birth defects, cancer etc. Chromosome segregation is orchestrated by kinetochore (KT) of the chromosome and centrosome, which assembles the mitotic spindle. We investigate the mechanisms and are trying to identify key proteins that regulate kinetochore- and centrosome-mediated chromosome segregation in human cells.

- In a recent work, we have demonstrated that Cytoskeleton Associated Protein 5 (CKAP5) regulates timely organization of the chromosomes and controls aneuploidy (EMBO reports, 2024). CAKP5 is involved in stabilizing CENP-E kinesin to ensure proper organization of the chromosomes at the metaphase plate. Abrogation of CKAP5 function causes early recruitment of PP1 phosphatase to the kinetochore leading to anaphase transition at a premature stage.
- In another work, we have identified a key role of a SCF family ubiquitin ligase, FBXW7 in controlling mitotic checkpoint signaling by targeting BubR1 for ubiquitin-mediated degradation and stability of the mitotic checkpoint complex (Cell. Mol. Life Sci. 2023)

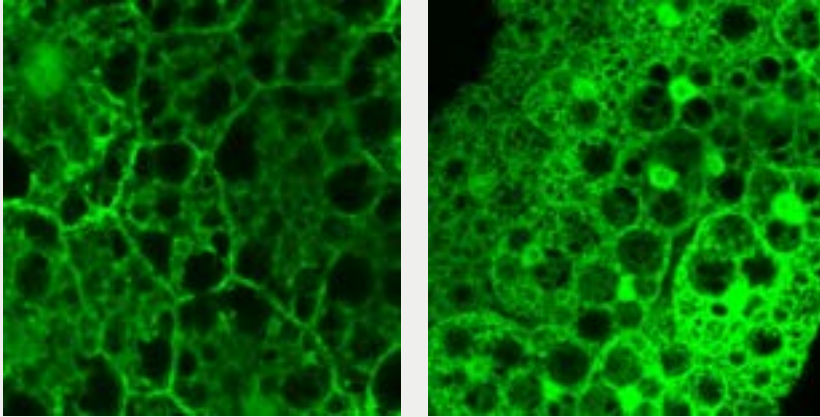
Publications (2023-24):

CKAP-5 stabilizes CENP-E at kinetochore by regulating microtubule-chromosome attachment. Lakshmi RB, Nayak P, Raz L, Sarkar A, Saroha A, Kumari P, Nair VM, Kombarakkaran DP, Sajana S, M G S, Agasti SS, Paul R, Ben-David U, Manna TK. EMBO Reports doi: 10.1038/s44319-024-00106-9 (2024)

E3-ubiquitin ligase, FBXW7 regulates mitotic progression by targeting BubR1 for ubiquitin-mediated degradation. Nair VM, Sabu AS, Hussain A, Pauly DK, Lakshmi RB, Manna TK. Cell. Mol. Life Sci. 80, 374 (2023)



Genetic regulation of nutrient homeostasis



Activity of an in vivo sensor for hypoxia (Hif1a-ODDD-GFP), in the *Drosophila* larval fat body, a tissue similar to mammalian liver and fat tissue. Shown is higher activity of the reporter in response to genetic activation of hypoxia (right panel) in comparison to control conditions (left panel).



Jishy Varghese
Associate Professor

Our research delves into crucial aspects of organismal biology, focusing on how organisms cope with and adapt to environmental changes, particularly concerning nutrient availability. Animals, in particular, have remarkable resilience to nutrient environment variations thanks to adaptive responses that maintain a stable internal environment. This involves complex communication networks linking the brain and metabolic centres. However, understand each theme by working mainly with a model organism, *Drosophila melanogaster*:

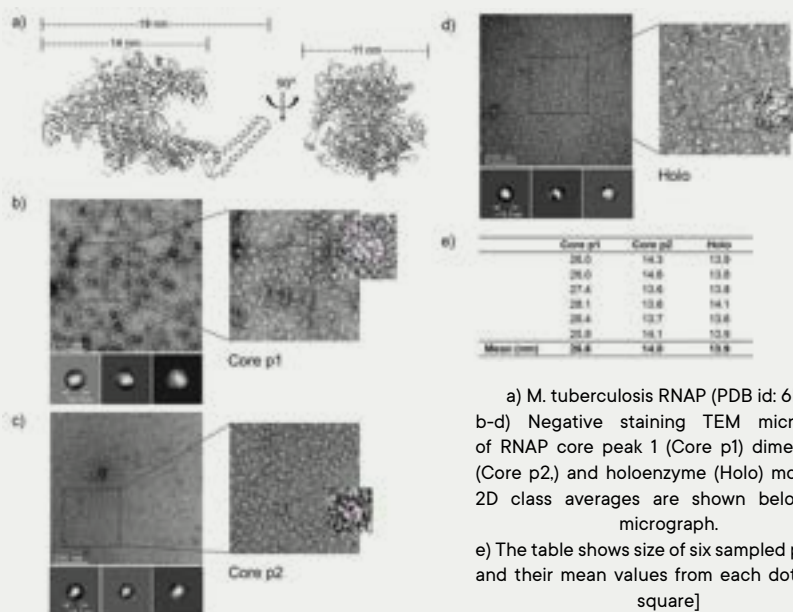
1. Neural and endocrine signalling networks that regulate growth, development, and metabolism, aiding overall energy balance adaptation.
2. Cellular and systemic mechanisms for sensing and responding to nutrient availability. Understanding these is crucial for coping with fluctuations and maintaining homeostasis.
3. Genetic regulation of developmental maturation, metabolism, and ageing. We investigate how genetic factors influence responses to environmental challenges.

Focusing on these research themes aims to advance our understanding of how organisms maintain nutrient and energy homeostasis, even in the face of environmental variability. Moreover, by identifying mechanisms conserved in humans, our research will aid in the better understanding of various developmental, metabolic, and ageing disorders, ultimately promoting health and well-being.

Transcription regulation, DNA damage and repair, Anti Microbial Resistance (AMR), Structural Molecular Biology, Single Particle CryoEM and Protein Crystallography



Ramanathan Natesh
Associate Professor



a) *M. tuberculosis* RNAP (PDB id: 6FBV)
b-d) Negative staining TEM micrographs of RNAP core peak 1 (Core p1) dimer; peak 2 (Core p2) and holoenzyme (Holo) monomers. 2D class averages are shown below each micrograph.
e) The table shows size of six sampled particles and their mean values [each dotted line square]

Our research focuses on structural investigation of proteins and its complexes involved in various crucial processes such as transcription regulation, DNA damage repair, topology manipulation, genome stability, chaperones, anti-microbial resistance (AMR) in infectious diseases, and cancer. In our lab, we aim to understand the mechanisms underlying transcription regulation and DNA damage repair by employing two principle techniques namely Cryo Electron Microscopy (CryoEM) and Protein Crystallography (PX) along with range of complementary biochemical, biophysical, and bioinformatics methods. Recently, using size exclusion chromatography and negative staining Transmission Electron Microscopy (TEM) studies and quantitative analysis of the TEM images, we demonstrate that the *in vivo* reconstituted RNAP core enzyme ($\alpha\alpha_2\beta\beta'$) can also exist as dimers *in vitro*. We also show that the holoenzyme (core + σ^A) does not dimerize *in vitro* and exist mostly as monomers. We propose that the oligomeric changes that we see might have functional relevance in the cellular process (**Francis et. al., 2024, Archives of Microbiology**). In another research project, we aim to design small molecule inhibitors mimicking the the secondary channel transcription regulators of *Mycobacterium tuberculosis* RNAP. Through structural, mutational and biochemical/biophysical studies of this factor, we aim to identify the regions that may play an important role in regulation, and target the binding regions.

Plant centromeres, kinetochores, haploids, uniparental genome elimination



Ravi Maruthachalam
Associate Professor



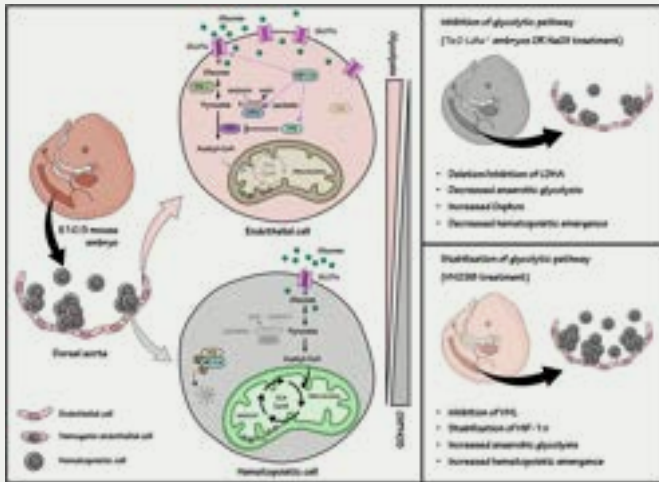
Representative images of Ler WT plants (top panel) at the inflorescence emergence (21 dpg), and flowering (28 dpg) stages as compared with *mea-1^{-/-};dme-2^{-/-}* plants (bottom panel) with ectopic shoot (marked by yellow arrowheads) at the inflorescence emergence, and flowering stages (28dpg). Rajabhoj et al., 2024 Plant cell reports.

The transition from gametophyte to sporophyte facilitates the alternation of generations within a plant's life cycle. In Arabidopsis, epigenetic regulators *DEMETER* (*DME*) and *MEDEA* (*MEA*) cooperate to control the proliferation and differentiation of central cells, ensuring a proper transition from gametophyte to sporophyte. Mutant alleles of *DME* and *MEA* are lethal to female gametophytes, making it difficult to study their role in the sporophyte. By exploiting the paternal transmission of these mutant alleles along with CENH3-haploid induction, we generated *mea-1;dme-2* sporophytes. The simultaneous loss of *MEA* and *DME* function results in the development of ectopic shoot meristems at the apex of the plant body. *DME* and *MEA* are expressed in the developing shoot apex and regulate the expression of various factors that promote shoot growth. Through various approaches like chromatin immunoprecipitation (ChIP), DNA methylation, and gene expression analysis, we identified several shoot regulators as potential targets of *MEA* and *DME*. RNA interference-mediated downregulation of upregulated shoot-promoting factors *STM*, *CUC2*, and *PLT5* rescued the abnormal twin-plant phenotype in 9–23% of *mea-1^{-/-};dme-2^{-/-}* plants, indicating the role of *MEA* and *DME* in restricting meristematic activity at the shoot apex during sporophytic development (Rajabhoj et al., 2024, Plant Cell reports)

Stem Cell and Developmental Biology



Satish Khurana
Associate Professor



We presented the first direct evidence of a metabolic switch that happens during the trans-differentiation process responsible for the generation of definitive HSCs. Our study demonstrated that glycolytic state of endothelium was central to the process.

The first hematopoietic progenitors in embryo proper are generated from endothelial precursors through the

process of endothelial to hematopoietic transition (EHT). This unique process of developmental trans-differentiation initiates a wave of definitive hematopoiesis from dorsal aorta and associated large arteries. Several molecular determinants involved in this process have been uncovered and show remarkable conservation across vertebrate species. Our recent work, now published in the journal *Science Advances* described the metabolic state of the cells undergoing EHT. We provided evidence that a glycolytic state of the endothelial cells is crucial for this process to happen (Anu PV et al. in *Sci. Adv.* 2024). Our results showed a clear switch from glycolytic to oxidative state during the course of hematopoietic emergence. Deep-tissue imaging tools and explant culture techniques were employed to examine hematopoietic emergence in dorsal aorta following metabolic alteration through pharmacologic and genetic intervention. We see this as the first significant step to unravel complex metabolic machinery at play during the emergence of hematopoiesis in embryo proper.



Evolutionary Ecology



We have discovered a narrow hybrid zone between two *Impatiens* species in the Western Ghats. We have characterized the ecology and fitness consequences of hybridization, and shed light on the factors maintaining the narrow hybrid zone

Our lab addresses how natural selection has shaped diversification of life forms. Over the last year We have studied how animals avoid predation by cryptic colourations that both prevent detection and recognition by predators. One of the salient results from this year indicates that detection and recognition of prey are not necessarily coupled, i.e, colour patterns that prevent detection do not necessarily prevent recognition. Therefore, colour patterns in prey animals can be optimized for either detection avoidance or recognition avoidance, and the properties of colour patterning are different for both.

We have used Next-Generation sequencing to understand why the *Impatiens balsamina-rosea* hybrid zone is narrowly restricted. We find asymmetric introgression between the two, and our study sheds light on geographic patterns of gene flow.

Many butterflies have adult wing pattern seasonal polyphenism, especially dry-wet polyphenism during the dry and wet parts of the year. Our work has shown that moisture content in the air does not directly affect wing patterns. However, moisture interacts with host plant quality to determine wing patterning.

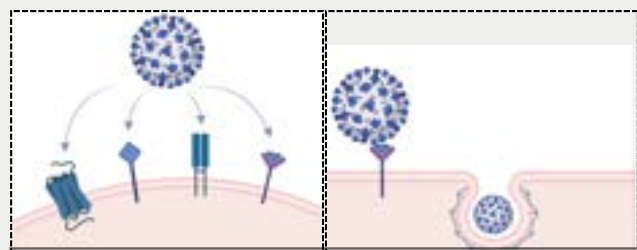


Ullasa Kodandaramaiah
Associate Professor



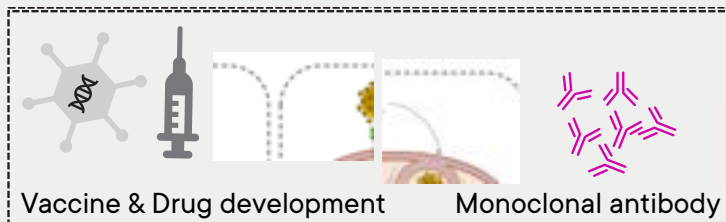
V. Stalin Raj
Associate Professor

Virus- receptor interaction, pseudotyped viruses, adenoviral vector and nanoparticle vaccine, monoclonal antibody production



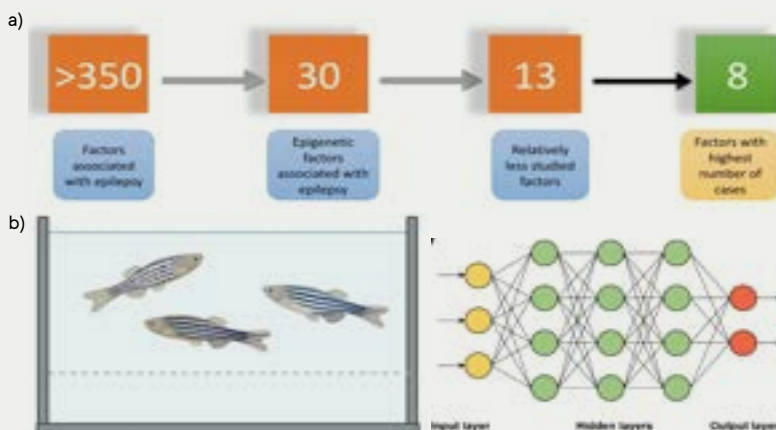
Receptor identification Viral entry mechanism

Our lab focuses on elucidating the entry mechanism and host cell receptor identification of coronaviruses, flaviviruses and adenoviruses. We have successfully developed VSV pseudotyped viruses to study the pathogenic viruses in a BSL-2 facility. By using the pseudotyped virus, we have expanded our research capabilities to understand the virus entry, antibody neutralization, and evaluation of entry inhibitors. We also focus on the generation of adenovirus and nanoparticle-based vaccines aimed at counteracting (re)-emerging viral outbreaks. Additionally, we are also developing assays and monoclonal antibodies to support and enhance influenza vaccine research.



Amrutha Swaminathan
Assistant Professor

Molecular Neurodevelopmental Biology



(A) Understanding the neural and molecular basis of complex behaviours:

We have established assays to study stress-responsive behaviour (novel tank diving), social behaviour (social preference test) and are currently working on developing new behavioural assays to study learning, memory and conditioning in zebrafish. Following the development of the arenas and recording chambers, we have developed deep learning methods to analyze these behaviours further and measure multiple parameters. Extensive testing of the deep learning methods was performed in collaboration with Dr. Alwin Poulouse, School of Data Science, IISER Thiruvananthapuram.

(B) Elucidating the contribution of chromatin factors to epileptogenesis:

Since the contribution of chromatin factors to epileptogenesis is not well understood, we used data from patient case reports in order to identify the extent of their involvement in epilepsies. From a handful of epigenetic factors associated from epilepsy, we identified 8 with the strongest association with epilepsy. We are currently working on generating zebrafish mutants of these factors using CRISPR-Cas9 technology. Following this, we will characterize these mutants and understand how mutations in the selected chromatin factors affect neurodevelopment and lead to epilepsy.

Theoretical and Computational Biology



A coupling of integrin-mediated (magenta) adhesion with myosin (green) contractility drives attachment-detachment-based polarized tissue flow (arrow)



Bandan Chakraborty
Assistant Professor (Grade I)

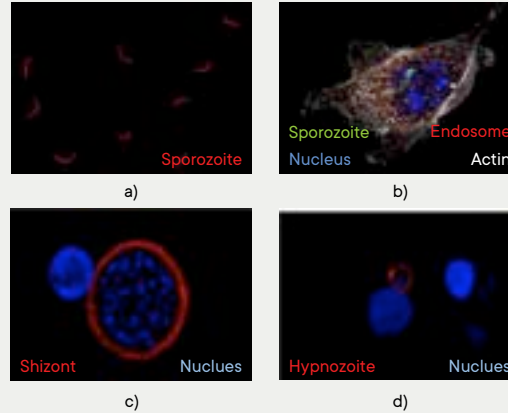
During early drosophila (fruit fly) development, the epithelial tissue moves through polarized tissue flow. Our early work has revealed the origin of the onset of this polarized flow is driven by a geometric coupling of the tissue curvature with the active torque generated by the myosin (Myo II) protein. However, it remains unclear how this polarized flow is sustained. To understand this, I have been involved in developing a dynamic vertex model framework. Using this computational model, we discovered that a dynamic attachment-detachment mechanism is driving such polarized tissue movement.

Plants are extremely robust in maintaining the shape and form of their organs and can efficiently regenerate the lost part of their organs. A recent experimental study has shown that at the resection site (resection via cut) the cell division pattern changes significantly. Particularly, in contrast to orthogonal cell division, the cells near the cut site divide diagonally. This altered division seems to contribute toward maintaining the overall shape of the root. This observation indicated the role of cell geometry in the restoration of plant organs. Currently, I am developing a computational model to decipher the role of cell geometry in plant organ restoration.

Biology of parasitic infections, Host-targeted interventions



Kamalakaran Vijayan
Assistant Professor (Grade I)



Multiple facets of liver-stage malaria.
(a) Liver infective forms of *Plasmodium* (red) isolated from the mosquito salivary glands.
(b) Invasion of *Plasmodium* sporozoite into hepatocyte (Green- parasite; red- endosome; pseudo white- actin; Blue- nucleus).
(c) Primary hepatocytes hosting active *P. vivax* liver forms.
(d) Dormant forms of *P. vivax* developing inside the hepatocytes (red: Plasmodium UIS4; Blue: nucleus).

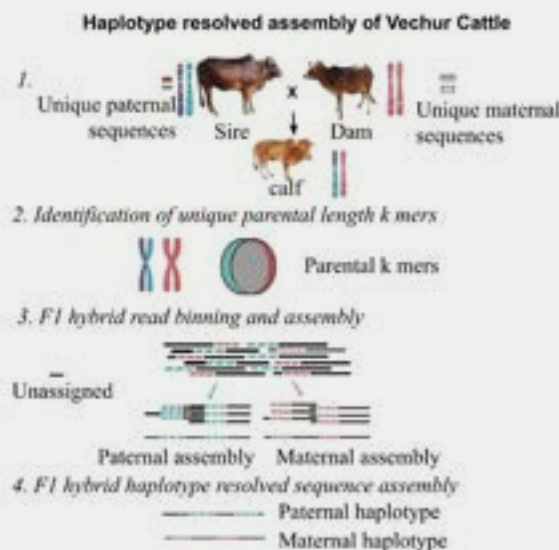
Our research focuses on understanding how the intracellular parasites such as *Plasmodium* and *Toxoplasma* rewires the complex host signalling network for its survival. Key to any intracellular survival strategy involves, deriving nutrients from the host while parallelly evading innate sensing. Understanding the nutrient trafficking mechanism at the host-parasite interface would significantly serve as to better the understand the molecular determinants of the infection and also the factors driving the triggers of active and dormant forms.

Central focus of our lab is to understand the mechanisms by which the intracellular liver-stage parasite
1) evade host innate sensing, 2) acquire nutrients from the host cells.

Genome editing, genetics and genomics



N. Sadananda Singh
Assistant Professor (Grade I)



Genome of a Vechur calf was sequenced on both short-read illumina and long-read nanopore platforms. Hybrid de novo assembly approach was deployed to obtain an average contigs length of 1.97 Mbp and N50 of 4.94 Mbp. Using a short-read genome sequence of the corresponding sire and dam, a haplotype-resolved genome was also assembled.

Chronobiology

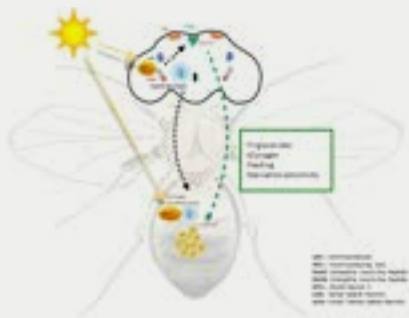


Figure legend: Fruit flies deficient in the circadian photoreceptor cryptochrome gene exhibited elevated triglyceride levels, glycogen storage, feeding behavior, and consequently, sensitivity to starvation. These outcomes suggest an additional potential function for cryptochrome in metabolism.



Nisha N Kannan
Assistant Professor (Grade I)

The endogenous circadian clocks found throughout various species govern a multitude of behavioral, metabolic, and physiological functions. While studies in *Drosophila* underscores the significance of core circadian clock genes in coordinating circadian rhythms with metabolism, little is known about the contribution of the circadian photoreceptor/s in this process. Cryptochrome (CRY), a deep brain circadian photoreceptor crucial for clock resetting in response to light, is notably abundant in metabolically active tissues in *Drosophila*. Studies in our lab were aimed to elucidate the potential roles of CRYPTOCHROME (CRY) in triglyceride metabolism. Our findings revealed that cry mutant (*cry⁰¹*) flies displayed heightened resistance to starvation and increased triglyceride levels under both 12-hour light:12-hour dark cycles (LD) and constant light (LL) conditions compared to control flies. Additionally, *cry⁰¹* flies exhibited elevated food consumption, glycogen levels, and lifespan under LD conditions. Furthermore, cryptochrome appeared to influence triglyceride levels in adult flies subjected to calorie-restricted and high-fat diets. These results indicate a role for the circadian photoreceptor cryptochrome in modulating triglyceride metabolism in response to normal, calorie-deficit and high-fat diets in *Drosophila*.

Chromatin Biology

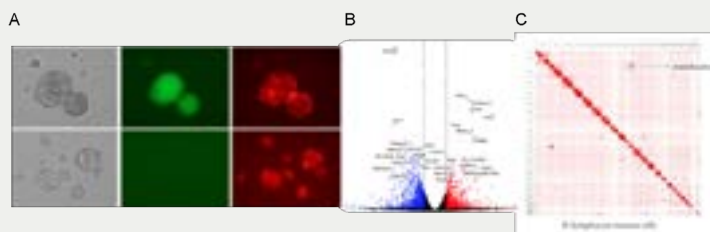


Nishana Mayilaadumveettil

Assistant Professor (Grade I)

Our team explores how nuclear organization and chromosomal interactions are important for regulation of cellular processes and how they are perturbed during physiological and pathological conditions. In order to answer our questions, we pursue a multi-disciplinary approach integrating data from Chromosome-Conformation-Capture (NGS) sequencing technologies, genome engineering as well as *in silico*, *in vitro* and *in vivo* analyses.

Currently, we focus on how alterations in the key players of chromatin organization leads to changes in nuclear architecture, chromatin accessibility and gene expression. We try to uncover the implications of these errors in the development of cancer and neurodegenerative disorders. We are also interested in exploring the impact of expression of Cancer Testes Antigens in the organization of somatic cells. Another area of our exploration is the interplay between non-B DNA structures, chromatin organization, and diseases. By examining how these unconventional DNA structures influence chromatin dynamics and disease states, we aim to uncover novel therapeutic targets and strategies. Further, we are engaged in investigating how the spatial organization of chromosomal elements influences the occurrence and progression of chromosomal translocations.



A. Utilize genetically modified cell lines to examine the effects of protein variants or mutants on chromatin organization. B. Leverage whole-genome studies to explore the consequences of these modifications comprehensively. C. Utilizing information from chromatin conformation capture (HiC data) to decipher structure variants in chromatin in diseases

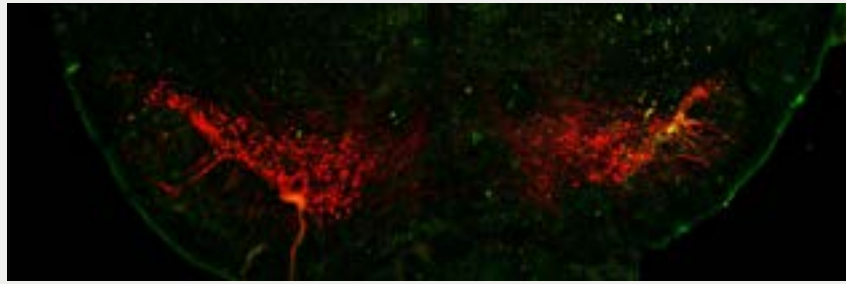
Neurodegeneration, Protein aggregation, Disease models

Parkinson's disease (PD) is one of the most common progressive neurodegenerative disorder. While symptoms and progression of the disease vary with each patient, histopathologically, PD is associated with the aggregation of α -synuclein protein and progressive loss of dopaminergic neurons (DA-neurons). Animal models are vital tools for elucidation of molecular pathogenesis of disease and development of neuroprotective strategies. One of the major challenges in the field is lack of suitable animal models that can accurately and reliably mimic the disease features. Dr Poonam Thakur's lab has recently generated a mouse model that



Poonam Thakur

Assistant Professor (Grade I)



A mouse brain section showing dopaminergic neurons (red). Right side of the brain shows appearance of pathological phosphorylated alpha-synuclein aggregates (green) in the PD model.

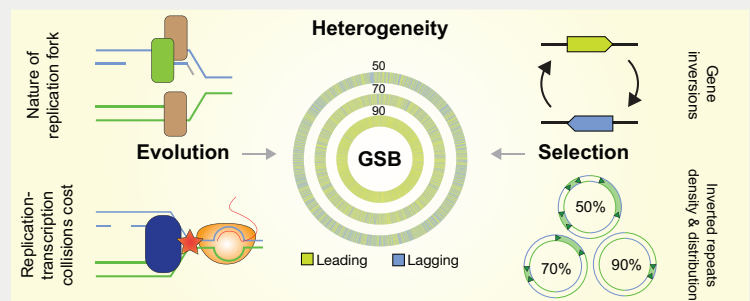
displays the complex pathology of the disease in a progressive manner. Utilizing such mouse model they are exploring various pathways that can be utilized to develop potential therapeutic targets.



Sabari Sankar Thirupathy

Assistant Professor (Grade I)

Replication-Transcription Collisions, Mutagenesis, Gene Expression, Evolution



The nature of replication has shaped the chromosomal distribution of genes across the bacterial kingdom.

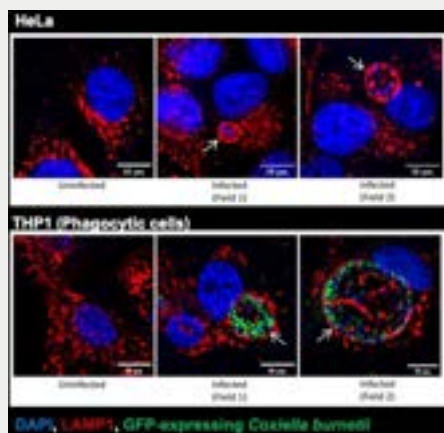
We investigate how collisions between replication and transcription affect mutational processes and gene expression and impact evolution. Recently, we have uncovered a significant association between replication and the distribution of genes in bacteria. Our findings reveal that natural selection shapes genome organization by influencing inverted repeats and gene inversions across the bacterial kingdom. Essentially, the genesis of genome organization in bacteria is intricately linked to chromosomal replication. Further, we are uncovering the mutational processes triggered by replication-transcription collisions and their effects on the evolution of antibiotic resistance.

Host-pathogen Interaction



Sandhya Ganesan

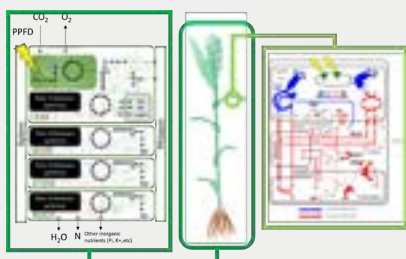
Assistant Professor (Grade I)



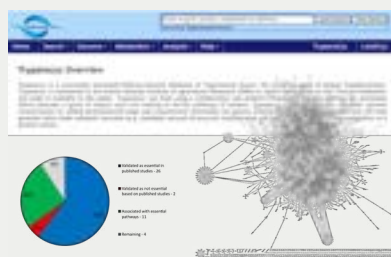
Representative images for infection of HeLa cells (top panel) or human monocytic cell line differentiated into macrophages (bottom panel) with *Coxiella burnetii* on 3 or 5 days post infection (Blue-DAPI; Red-LAMP1, Green- *Coxiella*). White arrows point to the spacious *Coxiella* containing vacuoles that support intracellular bacterial replication.

Our research broadly focuses on host-pathogen interaction at cellular and molecular level during infection. One of the current exciting research directions of the group is to understand immune signaling pathways that are activated by the intracellular pathogen *Coxiella burnetii* in epithelial and phagocytic cells that lead to expression of cytokines and chemokines and the role of transcriptional and post-transcriptional control and epigenetics. Other interests of our lab which continues to expand in research findings are investigating the role of lysosomal exocytosis during infection, the role of human family of proteins involved in vesicle fusion, called 'SNAREs' in infection and cell-autonomous immunity, and the relevance of the SNARE Syntaxin-11 (STX11) in this process, identifying/repurposing antimicrobials for effective targeting of extracellular and intracellular bacterial pathogens and applying bioinformatic approaches to compile and predict the functions of bacterial proteins and their potential role in pathogenesis.

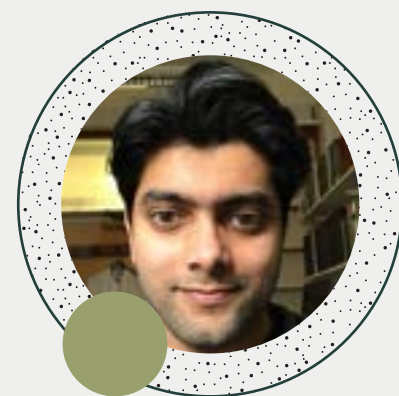
Computational Systems Biology



Multiscale model of whole wheat plants can be used to study metabolic interactions between plant organs and its dynamics



A genome-scale metabolic model of *T. brucei* developed from TrypanoCyc database



Sanu Shameer

Assistant Professor (Grade I)

Cellular metabolism is highly complicated and interconnected. My current research centers around using mathematical models to study complex metabolic systems in plants and parasites. I am particularly interested in combining these metabolic models with models describing other aspects of biological systems (such as signaling, regulation, organ development and resource allocation) and working towards the development of whole organism models.

All ongoing research project in our group during this reporting period can be grouped under three overarching goals:

a) Multiscale modeling of plant metabolism

To facilitate the multiscale modeling of whole wheat plants, work is currently undertaken to develop a genome-scale metabolic model for wheat. In parallel, team members are in the process of studying root metabolism and the effect of flooding related hypoxia, stomatal conductance and its effect on photosynthesis under different light intensity, and plant-soil-water relationships.

b) Modeling metabolism in protozoan parasites

Trypanosoma brucei is the causative agent of African sleeping sickness. In the reporting period, using an in-house genome-scale metabolic model, procyclic *T. brucei* metabolism is being studied to identify alternate nutrient sources for the parasite in tsetse fly gut. The lab is also actively involved in collaborative research on Plasmodium with LaPD lab in IISER TVM.



Vijay Jayaraman

Assistant Professor (Grade I)

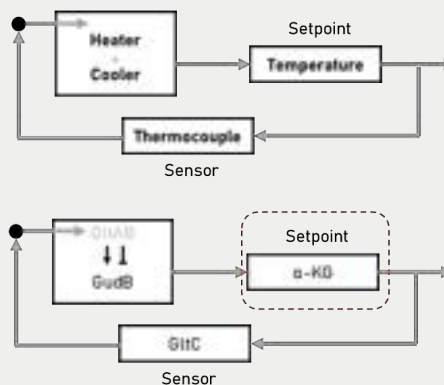
The “Evolutionary and Systems Biochemistry lab (EvoSysBio lab)” is interested in the evolutionary origins and the “logic” of post-translational regulatory strategies of enzymes like small molecule-based allosteric regulation and regulation by metabolon/anti-metabolon formation.

The lab will focus on the following areas in the next 5 years;

- Understanding design principles involved in bifunctional antagonistic enzymes

Systems Biochemistry and Molecular Evolution

Antagonistic enzymes in metabolism serving as an integral feedback loop

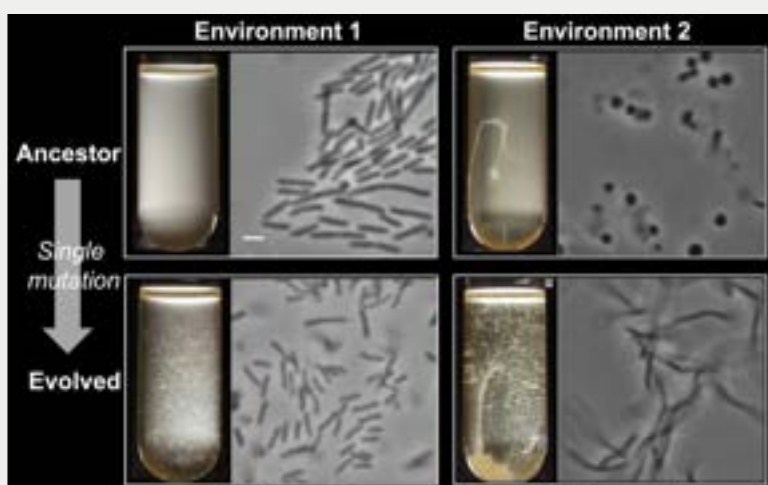


Our lab currently is interested in antagonistic enzymes that can work simultaneously in metabolic pathways. Shown here is the schematic representation of a GluB and GlcAB (a set of antagonistic enzymes) that together serve as an integral feedback loop to control alpha-ketoglutarate levels in *B. subtilis*, our favourite model organism.

- Evolution and regulation of metabolon/anti-metabolon
- Studying enzymes from microbial pathogens with 4Fe-4S-3Cys type clusters in their active sites
- Design principles in the regulation of enzymes involved in ROS homeostasis

In our approach to address questions in these areas, our lab employs molecular phylogenetics, directed evolution, biochemical and biophysical tools, bioinformatics and high-throughput bacterial growth measurements. We have active collaborations for mathematical modelling and microfluidics-based approaches.

Evolutionary Biology



A single mutation in the bacterium *Escherichia coli* can modulate the evolution of plastic phenotypes at multiple levels of organization and lead to the rapid genetic assimilation of multicellularity.



Yashraj Chavhan
Assistant Professor (Grade I)

I have wide-ranging interests in the evolution of asexual systems at both micro- and macro-evolutionary scales. In the proximate future, my lab plans to address both how- and why-questions on four broad themes concerning the evolutionary biology of asexual organisms:

1. The origin and evolution of multicellularity
2. The origin of cell differentiation in nascently multicellular lineages
3. How does phenotypic plasticity shape the ecology of interspecies co-existence?
4. The fundamental problem of complex adaptation: how do asexual populations cross fitness valleys?

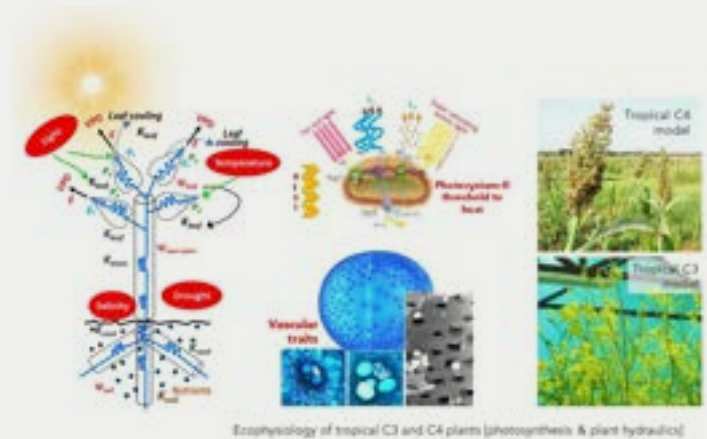
My lab will use experimental evolution, genomics, and transcriptomics to achieve its goals. We will primarily work with bacterial, protozoan, and bacteriophage populations, but we also plan to conduct individual-based simulations to better understand the underlying phenomena.

Ecophysiology, Photobiology, Plant Hydraulics



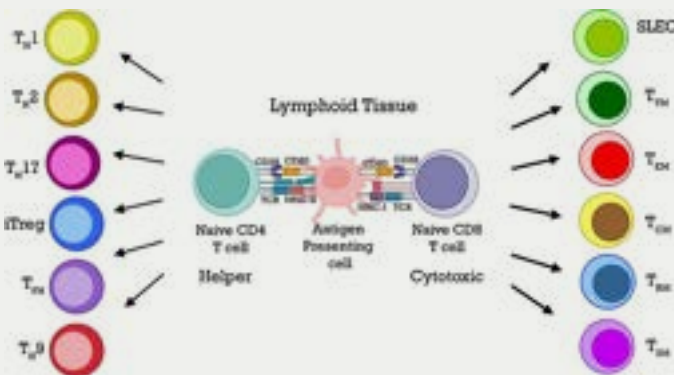
Anirban Guha

DBT- Ramalingaswami Faculty Fellow



My research focuses on the structure and function of plants in relation to growth environment and changing climate. I am interested in empirical questions addressing whole-plant physiology and stress resilience in natural and managed ecosystems. By integrating ecophysiological, anatomical, and plant monitoring approaches, I aim to link the plant functions to stress resilience, growth and fitness. At present, special attention is given to the following topics: (1) effects of heat stress on photoacclimation and photosynthetic heat tolerance capacity in selected C3 and C4 tropical plants, and (2) identifying vascular traits for higher conductance, better growth & yield of industrial plants. Our research has implications for genotype improvement, agroecosystem productivity, stress management, and sustainability. Please visit our lab webpage for more details of lab activities www.guhaanirban.weebly.com

Immunology, T cell differentiation



Mammalian immune system has evolved to fight against a wide variety of pathogens but the fascinating aspect is it is still evolving with outbreak of infections caused by novel pathogens. A set number of immune cells has the ability to not only fight against countless infections but also protect the hosts from any future infection.



Karthik Chandiran

Faculty Fellow

The fascination towards the whole adaptive nature of the immune response and its ability to orchestrate a specific response to a particular infection is the major reason for pursuing the current line of research. In particular, our immune system has been armed with only a limited number of immune cells and still it has been capable of generating appropriate response to control the immediate infection and protect the hosts from future infection. Our lab is studying how one naïve T cell can differentiate into an effector cell to fight an infection and a memory cell to protect from future infections.

An infection triggers a wide variety of immune cells to the site of infection, mainly the innate immune cells during the early phase of infection. These cells secrete a variety of proteins called cytokines and chemokines to alert and recruit the adaptive immune cells to the site of infection where they get programmed to provide a specific targeted immune response. Eventually, most of these adaptive immune cells undergo apoptotic cell death while some remain in the host to protect from future infections. After decades of research, we still do not know completely about activation and differentiation of T cells. While the advent of Next Generation Sequencing Technologies has led to unraveling of interesting details, it has also raised more questions about how the entire differentiation process works. Currently we are investigating about 1) the cytokines and 2) evolutionarily conserved signaling pathways involved in the differentiation process.

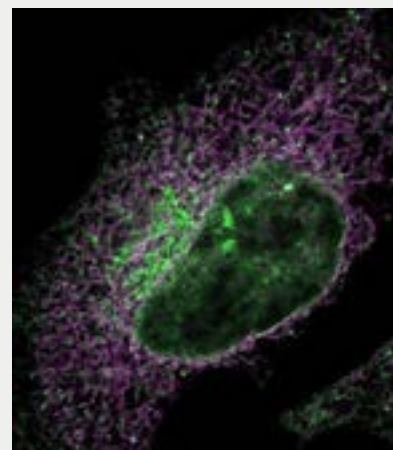


Swathi Devireddy Ph.D.

DBT- Ramalingaswami Faculty Fellow

Lysosomal biology

Image showing localization of identified Surf4 mutant. Surf4 in green; ER in magenta.



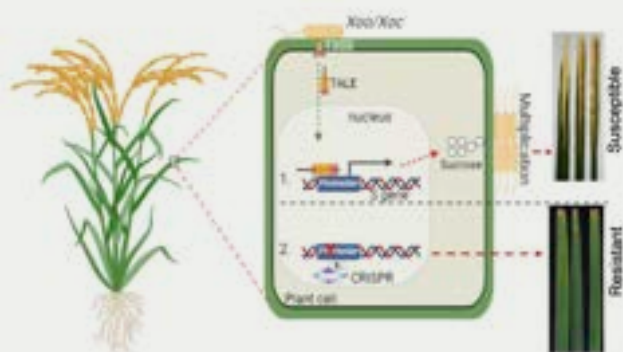
Lysosomes are the degradative organelles crucial for the normal functioning of cells. Lysosomal degradative function is carried out by the lysosomal hydrolases and their enzyme cofactors. Defects in lysosomal degradation cause an abnormal accumulation of undigested macromolecules that affect cellular function.

The lab research is focused on addressing how lysosomal degradative capacity is maintained in cells, and how defects in lysosomal function affect cell growth in lysosomal diseases.

Lysosomal proteins are synthesized in the ER, transported to lysosomes via Golgi. Surf4, an ER sorting receptor is necessary for the transport of lysosomal cargo Prosaposin with rapid ER exit rates. However,

how exit rates are sustained is unknown. Using the Surf4-Prosaposin model, we studied the parameters of receptor-cargo interactions that maintain rapid ER exit rates. We recently identified mutations that alter exit rates, either enhance or reduce ER exit rates of cargo.

Gene editing, Plant-pathogen interaction, Trait characterization, and Molecular breeding



Yugander Arra

DBT-Ramalingaswami Faculty Fellow

Engineering broad-spectrum resistance by reverse genetics

Rice is one of the most important food staples and is affected by biotic/abiotic factors that lead to severe yield loss. The development of broad-spectrum resistance is given the utmost importance. Reverse genetics allows us to understand individual gene function and changes in plant phenotype. Genome editing is a key evolutionary tool of reverse genetics that enables modifications at the genome level to generate broad-spectrum resistance and yield improvement.

I engineered broad-spectrum resistance for *Rice Yellow Mottle Virus* disease by genome editing of *CPR5* rice paralogues.

I standardized a rice root clip inoculation method to

develop rice bacterial blight kresek symptoms (unpublished data).

I developed resistance against the rice blast pathogen, *Magnaporthe oryzae* by CRISPR editing of the bZIP transcription factor (unpublished data).

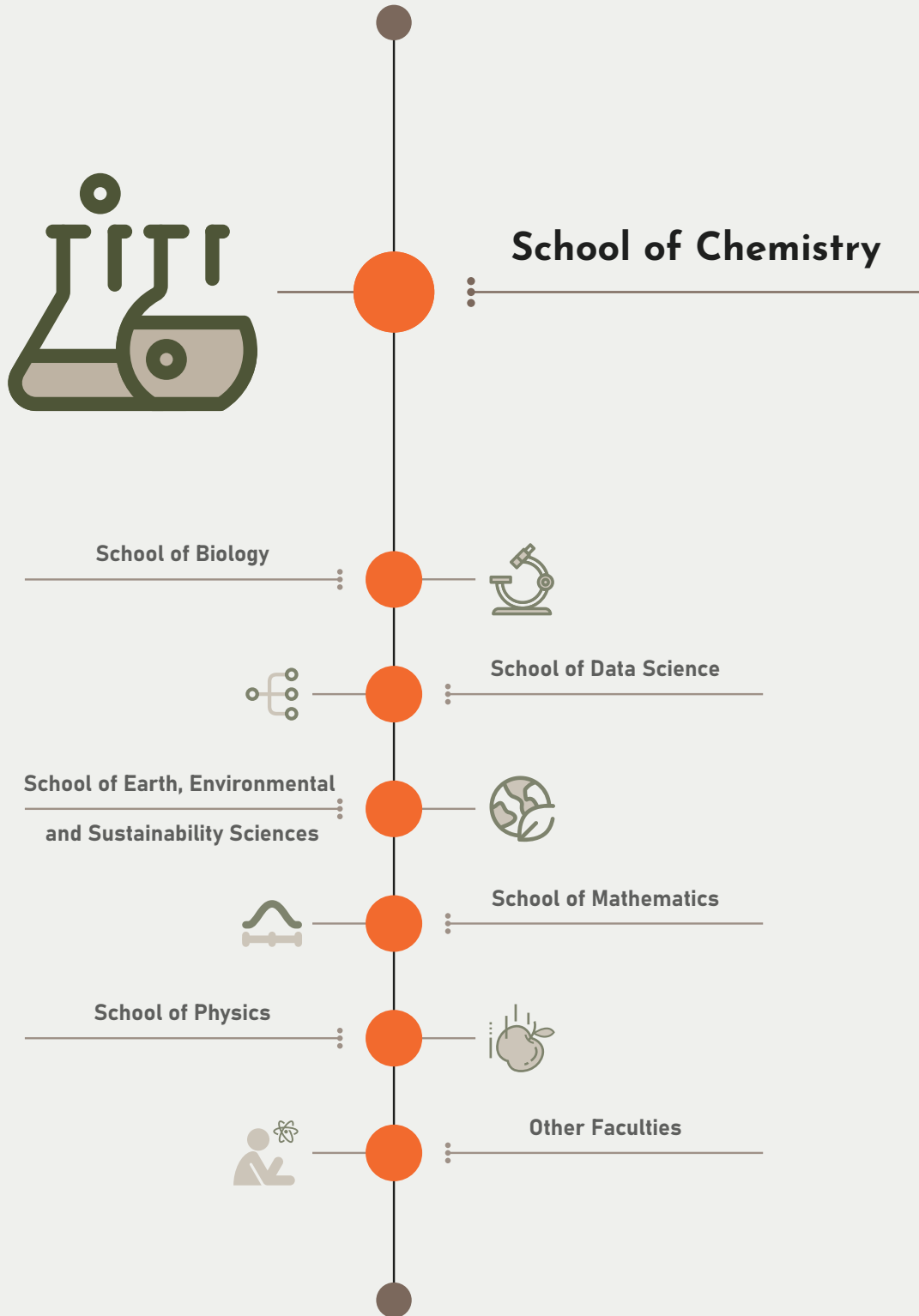
Developed fine grain, broad-spectrum resistant rice variety DRR Dhan 53 (IET 27294) against bacterial blight (BB) disease and released for farmers (Govt. of India Gazette notification on 09.02.2021) by pyramiding four BB resistance genes *xa5*, *xa13*, *Xa21* and *Xa38* through molecular breeding.

Developed a popular rice maintainer line, APMS 6B for bacterial blight (BB) resistance by pyramiding two major genes *Xa21* and *Xa38* through molecular breeding.

Successfully knock down a Peptidase inhibitor, effector of fungal rice pathogen *Rhizoctonia solani* which is involved in disease development by RNAi approach.

We identified 22 new pathotypes by characterizing the virulence profile of *Xanthomonas oryzae pv. oryzae* (*Xoo*) in India.

Research Reports - 02

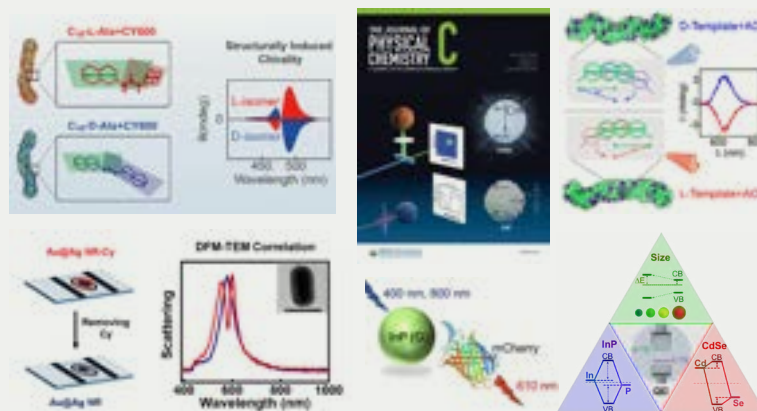




K George Thomas

Senior Professor and
J C Bose National
Fellow

Light-matter interactions at the nanoscale



Our group's research activities focus on understanding the photochemistry and photophysics of plasmonic systems, semiconductor quantum dots, and chiral nanostructures. Highlights are listed below.

Chiroptical Properties: Contrasting chiroptical properties are observed when the achiral molecules are bound on the surface of chiral templates derived from amino acids. These aspects are explored using L- and D-isomers of valine/alanine amphiphiles, which self-assemble in water as chiral nanofibers with negative surface charge.

- Acridine orange, an achiral chromophore, shows mirror-imaged bisignated circular dichroism and red-emitting circularly polarized luminescence when bound to nanofibers of L- and D-isomers of alkyl valine amphiphiles, due to asymmetric H-type dimer formation (*J. Phys. Chem. Lett.* **2024**, *15*, 507-513).
- In contrast, the cyanine dye CY600 exhibits bisignated CD signals with mirror-image symmetry upon binding to nanofibers of L- and D-isomers of alkyl alanine amphiphiles, resulting from J-type coupling (*ACS Nano* **2023**, *17*, 11054-11069).

Electron and energy transfer using semiconductor quantum dots: Demonstrated that the forward electron transfer rates from photoexcited InP to bound decyl viologen (DV^{2+}) do not substantially vary with an increase in core size, while the back electron transfer rates are found to be retarded. Single- and two-photon FRET investigations are performed using a conjugate of InP QDs tagged to mCherry by various steady-state and time-resolved measurements (*J. Phys. Chem. C* **2024**, *128*, 4373-4382; *J. Chem. Phys.* **2023**, *158*, 174706; *J. Chem. Phys.* **2024**, *160*, 044712).

Plasmonic nanoparticles: An efficient method for determining the dispersion curves and the Rabi splitting energy of chromophore-bound bimetallic core-shell Au-Ag nanorods has been demonstrated by recording single-particle scattering spectra using dark-field scattering spectroscopy/microscopy in two ways: by placing them on a glass slide and a micron-reference transmission electron microscope grid (*J. Phys. Chem. C* **2023**, *127*, 14326-14335).

Supramolecular Chemistry Engineering



K. M. Sureshan
Professor

Our research mainly involves the design of Topochemical reactions. We have contributed the Topochemical Azide-Alkyne Cycloaddition (TAAC) and the Topochemical Ene-Azide Cycloaddition (TEAC) reactions to the library of Topochemical reactions. We append molecules of biological significance such as peptides, sugars and carbasugars with the complimentary reactive groups (Azide & Alkyne Alkene & Azide) to obtain monomers, the crystals of which upon thermal activation yield polymers covalently linked with Triazole or Triazoline units. We dived deeper into TACC and TEAC reactions to achieve polymeric materials with interesting applications: materials with high, tunable porosity; a collagen inspired polymer which is able to support 1.5 million times its own weight without any deformation and a water-resistant polymer. Our research this year also shed light upon the molecular motions within the crystals- an important component of topochemical reactions which will hopefully enlighten the scientific community about the mechanisms of a topochemical reaction. It also challenges one of the long-standing pillars of Topochemistry- the Schmidt's Rules. We were also successful in obtaining different polymorphs of polymeric materials and obtained the first topochemical synthesis of two structurally isomeric polymers from a single monomer. Our research also involves host-guest chemistry and we showed how adamantoid derivatives can be employed for efficient cargo loading and delivery which can have promising pharmacological applications.

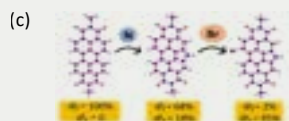
Excited state dynamics in biomolecules, organic crystals and organized donor-acceptor systems.



Energy Landscape of Peryleneimide Chromophoric Aggregates



Symmetry-Breaking Charge Separation in a Chiral Bis(perylenediimide) Probed at Ensemble and Single-Molecule Levels



Unveiling the intersystem crossing dynamics in N-annulated perylene bisimides



Room Temperature Phosphorescence in Crystalline Iodinated Eumelanin Monomer



Mahesh Hariharan
Professor

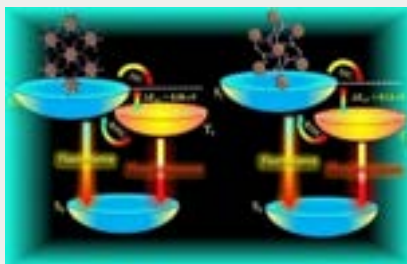
Our research group focuses on various aspects of Physical Organic Chemistry and Biophysical Chemistry to understand the effect of light on organic small molecules and biomolecules. Synthetic efforts to modulate the rate of charge recombination that is monitored using ultrafast spectroscopic techniques is one of the primary interests in our group at IISER Thiruvananthapuram. We also look at the strength of weak interactions in novel crystals using theoretical models such as quantum theory of atoms in molecules and exciton migration using cluster model. A combined effort to synthesize novel and diverse architectures, investigate/regulate the ultrafast processes and understand the theoretical reasons behind the events makes our attempt unique.



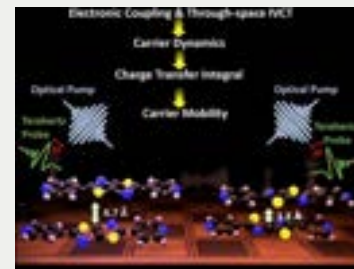
Sukhendu Mandal

Professor

Atom Precise Quantum Cluster and Cluster-Assembled Materials



The singlet-triplet energy gap was modulated by controlling the inter-cluster interaction defined by the supramolecular arrangements of Ag_{12} nanoclusters.



The extent of electronic coupling and through-space intervalence charge transfer in photo-conducting metal-organic frameworks is unveiled. Their influence on molecular separation is also revealed.

Our work spans over a diverse area of cluster chemistry and catalysis. We have demonstrated exquisite photoluminescence behaviour in silver nanoclusters, where molecular cluster with supramolecular arrangement exhibited a higher rate of intersystem crossing as compared to the assembled one. This behaviour is attributed to their energy gap dictated by the nature of the assembly of the cluster nodes. Additionally, we have synthesized and investigated copper nanocluster with promising catalytic activity towards carbonylative C-N coupling reactions.

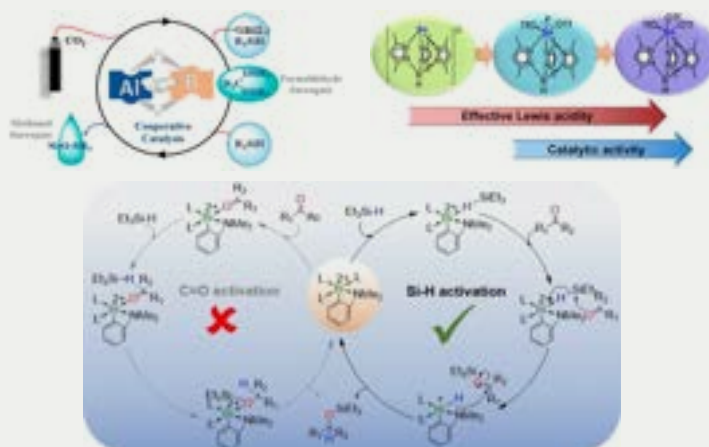
We have also engineered an efficient catalyst for Hydrogen Evolution Reaction (HER) by incorporating transition metal nanoparticles into an ultra-stable amine-functionalized NU-1000 metal-organic framework (MOF). Additionally, our investigations into metal-organic frameworks have revealed direct evidence of photoinduced through-space intervalence charge transfer (IVCT) between redox-active pairs arranged cofacially. The dynamics of this charge transfer phenomenon vary with the molecular separation within the frameworks.

Main Group Chemistry

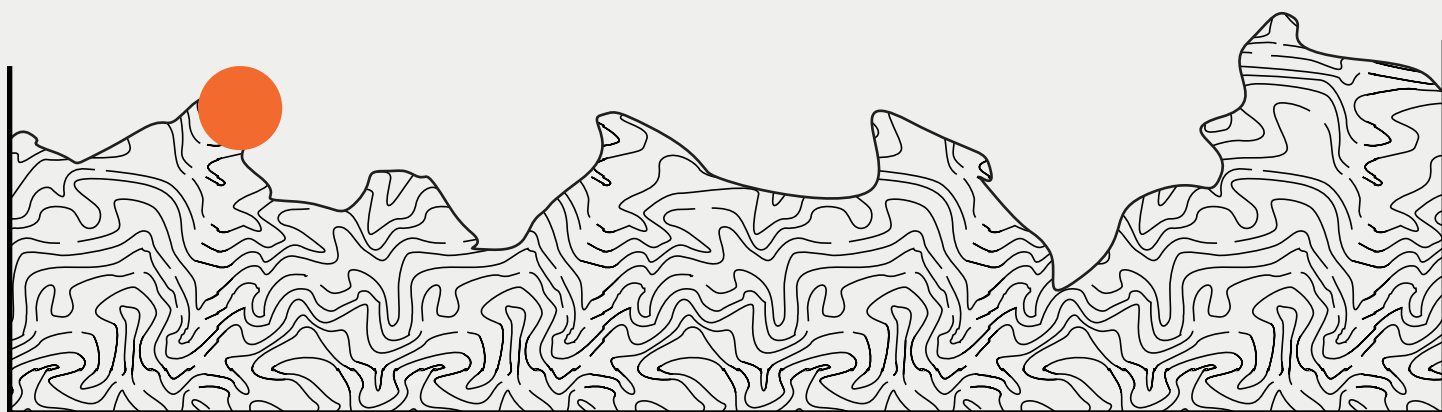


Ajay Venugopal

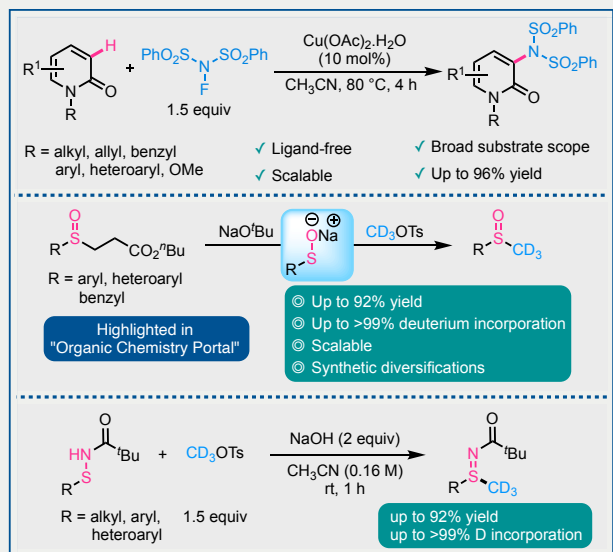
Associate Professor



Our research group has focussed on developing reactive main group compounds for the activation and functionalization of small molecules. We have the catalytic role of aluminum and boron centers in aluminum borohydride in selective reduction of carbon dioxide to formaldehyde and methanol surrogates. Computational investigations inferred that CO₂ reduction occurs across the Al-H bond, while Si-H activation occurs through a concerted mechanism involving an *in situ* generated aluminum formate species and BPh₃. An increase in Lewis acidity is expected on increasing the oxidation state of the central element in a main group compound. While this concept is obvious, there are no specific examples of molecular compounds to explain. An increase in Lewis acidity was demonstrated on going from Sn(II) to Sn(IV) in molecular systems. Catalytic phosphine oxide reduction was used to demonstrate the effect. Lewis acidic bismuth compounds have found catalytic applications in the reduction of unsaturated bonds. The inferences from the mechanistic studies on the catalytic reduction of ketones and phosphine oxides using an organobismuth dication in the presence of silanes as reducing agents provide evidence to a Si-H activation pathway in the reduction process.



Development of new synthetic methodologies for organic synthesis



Metal-mediated and metal-free cross-coupling reactions



Alagiri Kaliyamoorthy
Associate Professor

Dr. Alagiri's group's research interests are directed toward an organic synthesis focusing on developing new synthetic strategies. His group primarily works on activating less reactive pronucleophiles and subsequent C–C bond-forming reactions with various electrophiles. The development of metal-mediated and metal-free C–H functionalization and cross-coupling reactions is also his area of research interest. To this end, the PI accomplished the copper-mediated regioselective imidation of 2-pyridones using NFSI as an imidating source. In addition, PI developed a transition-metal-free route for the direct trideuteromethylation of sulfenate ions derived from β-sulfinyl esters in the presence of a Brønsted base using CD₃OTs as the electrophilic trideuteromethylating agent. Furthermore, PI expanded the trideuteromethylation chemistry for the regioselective trideuteromethylation of sulfenamides and sulfoximines using CD₃OTs as the electrophilic trideuteromethylating agent in the presence of a base. Also, the PI's group has been actively involved in developing copper-catalyzed 1,6-conjugate addition reactions and C–H functionalization reactions.



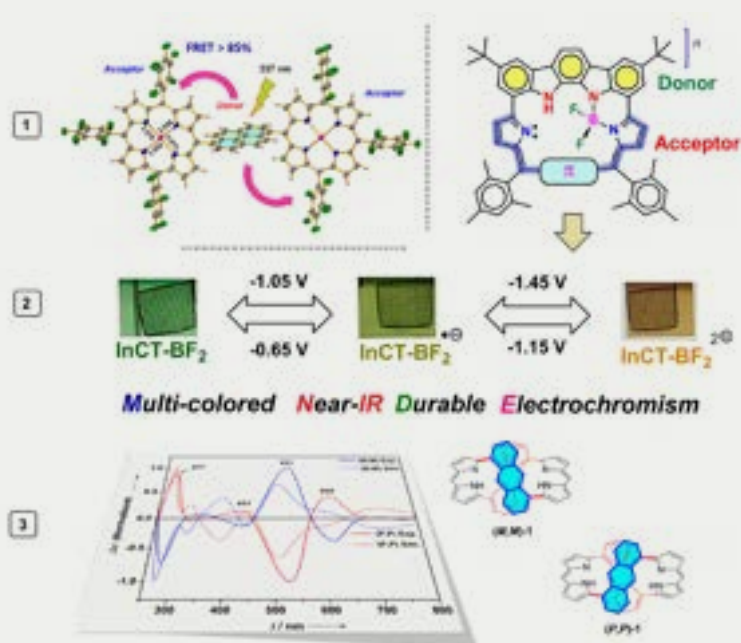
Macrocyclic Chemistry



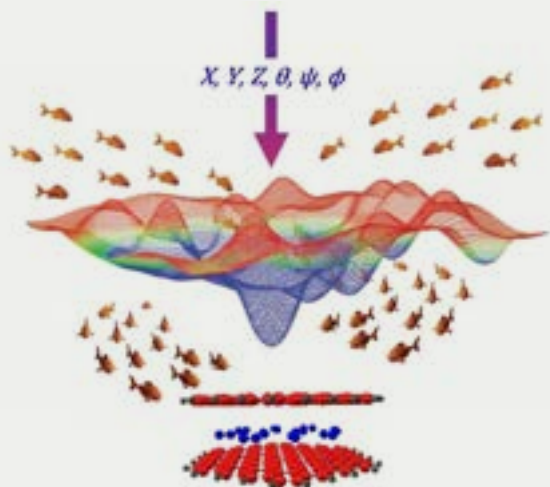
S. GOKULNATH

Associate Professor

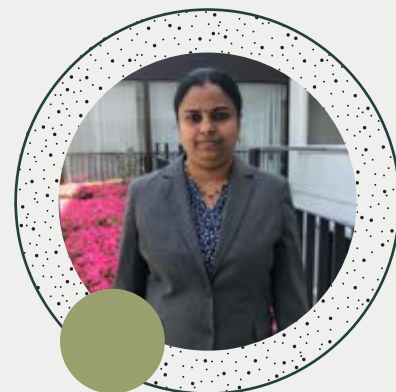
1. We recently accomplished a synthetic model exhibiting Förster Resonance Energy Transfer (FRET) constructed from covalently linked porphyrin dimers through pyrene bridge. The models are comprising with two porphyrin arrays (C_6F_5 -PyZnDP and Mes-PyZnDP) which differs with their meso-substituents. The effect of electron withdrawing and donating meso-substituents results in variation in the ground and excited state properties.
2. Next, during our ongoing efforts on macrocyclic chemistry, a new class of redox-active dihydroindolo(2,3a)carbazole-based porphyrin-like macrocycles (**InCT** and **InCB**) and corresponding [b]-annulated BODIPY complexes (**InCT·BF₂** and **InCB·BF₂**) exhibiting near-IR electrochromism. The spectroelectrochemical studies displayed intriguing near-IR electrochromic properties with reversible multi-color switching upon cathodic scans. **InCT·BF₂** shows high stability with a radical comproportionation constant (K_c) of 1.22×10^6 . Such inherent stability combined with high comproportionation constant and facile reversibility may open-up the opportunities for potential applications.
3. Further, a conformationally locked Cyclo[2]Dipyrrins Linked with Anthracene Subunits adopts a twisted 'figure of eight' conformation and exist as a pair of helical enantiomers such as (*P,P*) and (*M,M*) enantiomers shows moderate chiroptical properties such as absorption dissymmetry factor $|g_{abs}|$ in the order of 10^{-3} , and luminescence dissymmetry factor $|g_{lum}|$ of 3.8×10^{-3} and 2.9×10^{-3} at 702 nm respectively.



Theoretical Chemistry



[Global optimization of dinitrogen clusters bound to monolayer and bilayer graphene: A swarm intelligence approach (Chris John and R. S. Swathi, J. Phys. Chem. A, 127, 4632 (2023))]



R. S. Swathi
Associate Professor

Optical Excitation in Metal Nanostructures:

Our group focuses on the study of optical excitations in metal nanostructures and their utility as substrates in surface-enhanced spectroscopy using classical electrodynamics. We employ analytical approaches and finite-difference time-domain (FDTD) simulations to probe plasmonic features in metal nanostructures. The FDTD simulations are employed as benchmarks for modeling the plasmonic properties of nanostructure aggregates. Quasi-static approximation and coupled dipole approximation are our favorites for plasmonics modeling.

Multiscale Modeling of Carbon Nanostructures:

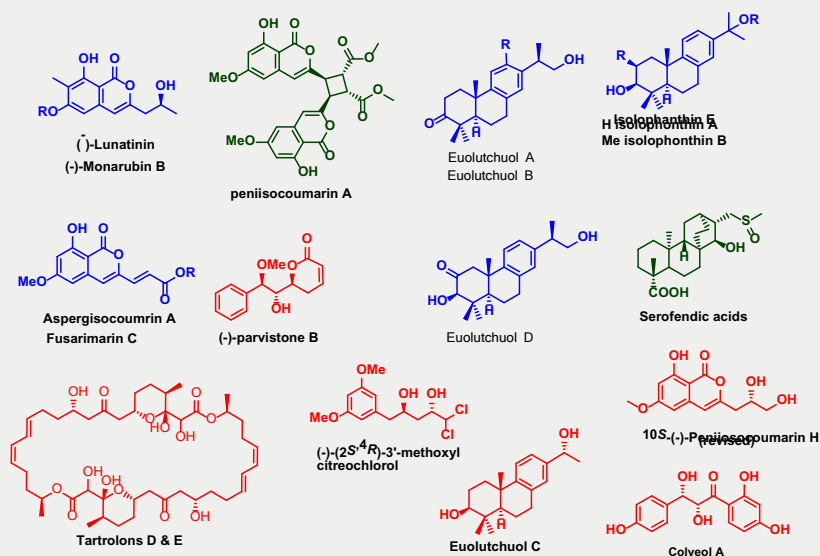
Our objective is to probe adsorption on carbon-based substrates and encapsulation into carbon nanotubes and fullerenes for sensing, separation and storage applications. We employ multiscale modeling approaches for probing the interactions of atoms, ions, molecules and molecular clusters with the carbon-based materials like graphene, graphynes and carbon nanotubes. We are also interested in developing empirical potential parameters for carbon materials that could yield reasonably accurate results in short computational times. We often employ the electronic structure calculations as a benchmark to develop accurate modeling approaches.

Organic Chemistry

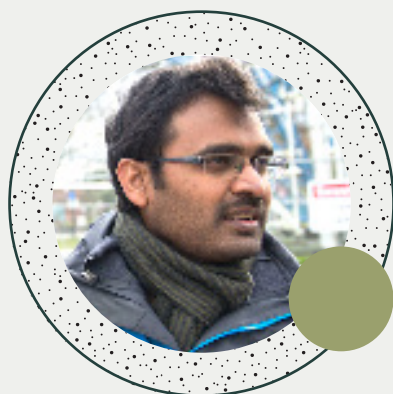


Rajendar Goreti

Associate Professor



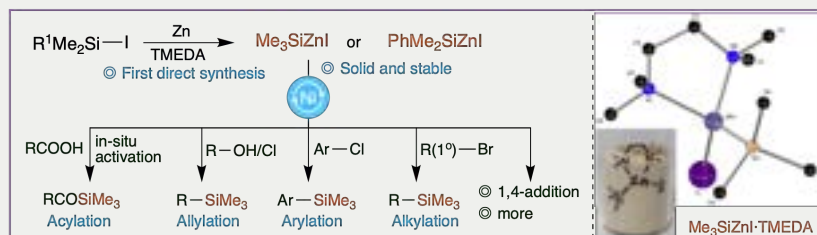
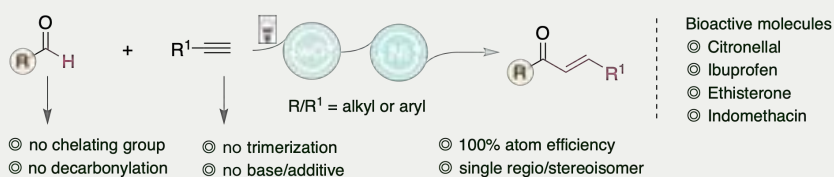
We work in the area of asymmetric organic synthesis. Our main focus is total synthesis of complex natural products, drug molecules, bio-active small molecules. We also involve in developing new synthetic methods and applying them for the total synthesis of bio-active natural products.



Ramesh Rasappan

Associate Professor

Organic Synthesis, Asymmetric Catalysis, Cross-Coupling, Photocatalysis



Our group research focuses in the field of organic chemistry, primarily on enantioselective synthesis, mechanistic studies and application to the synthesis of natural and non-natural products. Of particular interest are the exploring enantioconvergent and divergent process.

Transition-metal-catalyzed cross-coupling reactions of alkyl substrates are extremely useful for the construction C–C bond. Enormous effort has gone into the development of stereoconvergent cross-coupling reactions with alkyl halides as electrophilic coupling partners. Improvements in ligand structure and mechanistic understanding have enabled the cross-coupling between a range of C(sp³) electrophiles bearing a variety of functional groups.

The ability to employ bench stable and readily available organic halides, without the need to pre-generate a reactive organometallic reagent, endows these cross-coupling reactions with a practical advantage over many conventional cross-coupling procedures. Whereas the synthetic potential of secondary alkyl chlorides and ethers yet to be revealed due to the higher energy barrier to undergo oxidative addition. In addition, the synthesis enantiopure boronic esters and silanes yet to be investigated provided the existing methodology is limited in scope. The development of highly versatile methods will likely have a substantial impact on organic synthesis, particularly if one can start with an economic and racemic alkyl chlorides or ethers. Recognizing the wide accessibility of alkyl chlorides and ethers, our group aims to overcome the existing limitation by involving novel methodologies such as in-situ generation of M(O), employing electronically tunable chiral ligands and an investigation of unprecedented stereoconvergent coupling to enantiopure boronic esters and silanes.

Supramolecular chemistry, cancer therapy and DNA nanotechnology



A series of tumor microenvironment sensitive NPs for the enhanced chemodynamic therapy is developed recently in our laboratory for the targeted cancer treatment.



Reji Varghese
Associate Professor

Showcasing research from Professor Varghese's laboratory, School of Chemistry, Indian Institute of Science Education and Research (IISER), Thiruvananthapuram, Thiruvananthapuram, India.

Tumor microenvironment-responsive nanoparticles for efficient anticancer DNA delivery and enhanced chemodynamic therapy

A supramolecular strategy for the design of multifunctional, tumor microenvironment sensitive nanoparticles composed of amine-rich, tyrosine and anticancer DNA via a single-step assembly process is demonstrated. Enhanced therapeutic efficacy was observed due to the consecutive cascade DNA and anticancer therapy.



Cancer is undoubtedly one of the major threats to mankind. Our group is particularly focused on the cancer diagnosis and the development of suitable therapeutic approaches for the treatment of cancer. A supramolecular approach for the design of assembly–disassembly-driven 19F ON/OFF nanoparticles, triggered by specific molecular recognition, for the detection of DNA binding cancer bio- markers is recently developed by our group. This approach is universal in nature and we have demonstrated the selective detection of various cancer biomarkers including miRNA, ATP, thrombin, and telomerase. We are also actively involved in the development of various approaches for the cancer treatment. We are particularly interested in the development of cancer microenvironment sensitive nanocarriers for the drug delivery applications. Recently, we have reported different supramolecular approaches for the design of tumour microenvironment sensitive nanoparticles composed of artemisinin, glutathione-responsive and redox-active ferrocene and antisense DNA via a single-step assembly. The most remarkable feature of our design strategy is the glutathione-triggered cascade reactions of the NPs inside the cancer cell in a cooperative fashion. Cleavage of disulfide bonds of the NPs by the overexpressed glutathione in the tumour microenvironment leads to the following cascade chemodynamic therapy reactions: (i) glutathione-triggered uncaging of the ferrocene derivative to release amino ferrocene, which then undergoes reaction with endogenous hydrogen peroxide to produce OH radicals and Fe^{3+} and (ii) the in situ reduction of Fe^{3+} by glutathione to form Fe^{2+} and the subsequent Fe^{2+} -triggered cleavage of the peroxide bond of artemisinin to form carbon-centred free radicals. Furthermore, disassembly of NPs releases antisense DNA, which efficiently downregulates the translation of Bcl-2 mRNA and thereby causes cell apoptosis.



Subrata Kundu

Associate Professor

The Bioinorganic Research Group at IISER Thiruvananthapuram, led by Dr. Subrata Kundu, explores the transformations of various reactive sulfur, oxygen, and nitrogen species (RSONs). A key research recently published in *Angewandte Chemie* demonstrates a geometric-preference driven reactivity of a copper(II/I) redox couple in modulating the reversible interconversion between nitrite and nitric oxide, thereby forecasting the plausible activity of unusual red copper proteins. Another recent publication in *Angewandte Chemie*

Bioinorganic Chemistry, Reaction Mechanism Investigation



- Bioinorganic Chemistry
- Coordination Chemistry
- Small Molecule Activation
- Chemistry of Reactive Intermediates
- Inorganic Reaction Mechanism Investigation
- Mechanism Driven Catalysis

shows that the pharmaceutically relevant thiocarbonyl functional groups are capable of activating nitrite anion to yield H_2S/NO crosstalk intermediates like (per)thionitrite ($SNO^-/SSNO^-$).

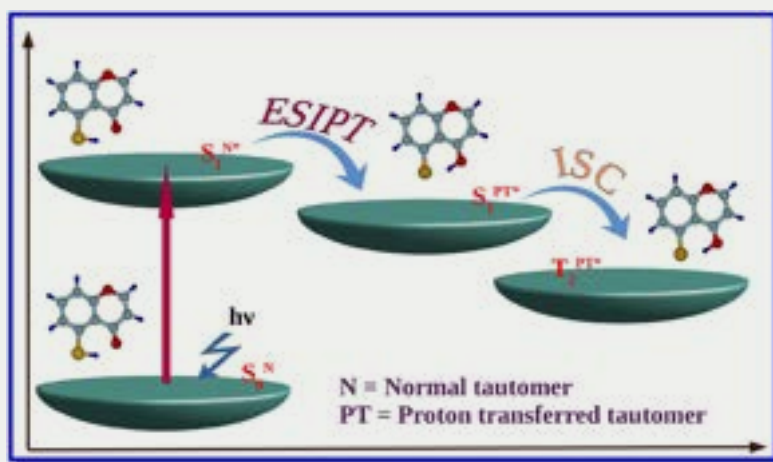


V. Sivaranjana Reddy

Associate Professor

Dr. Sivaranjana Reddy's group focuses on deciphering the photoinduced relaxation dynamics of molecular systems using quantum dynamics simulations. The simultaneous excited-state intramolecular proton transfer (ESIPT) and triplet-state generation events that occur within a few hundred femtoseconds have been elucidated in 2-mercapto-5-methyl-1,3-benzenedicarboxaldehyde, 5-sulfanylchromen-4-one, and 3-sulfanylchromen-4-one. The findings suggest that the presence of heavy-atom enhances the intersystem crossing, thereby lowering the ESIPT efficiency. New experimental ultrafast time-resolved spectroscopy investigations are required to validate our findings on the mechanisms and associated timescales of proton transfer and triplet generation in those molecules. Additionally, investigations on the efficient generation of T1 state in photosensitizers are presently underway.

Theoretical and Computational Chemistry



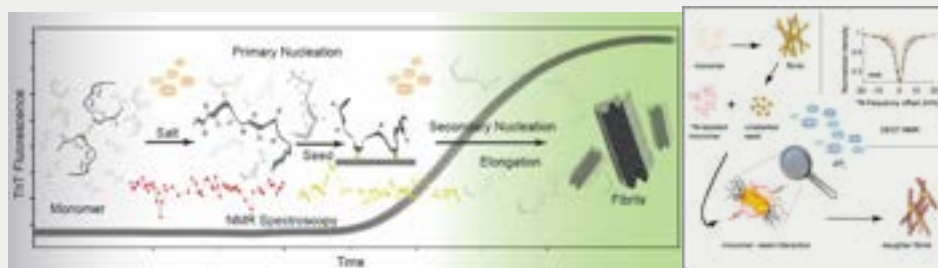
Schematic representation of the ESIPT and triplet generation upon photoexcitation of 5-sulfanylchromen-4-one



Vinesh Vijayan

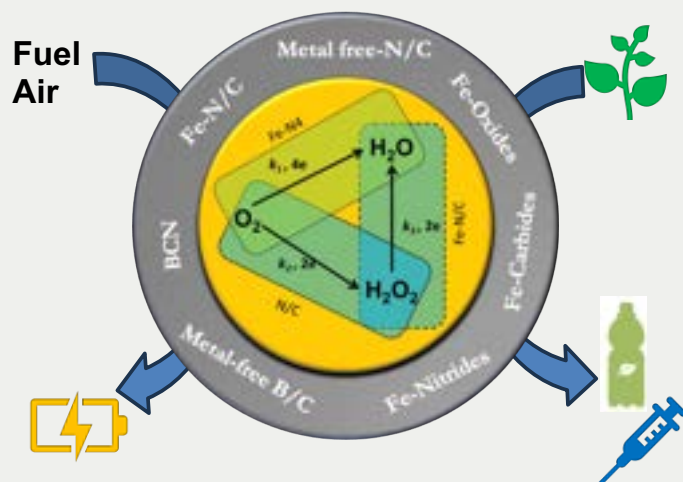
Associate Professor

Biomolecular NMR Spectroscopy



Our group works on the interface of solid, and solution state. Our lab focuses on developing and using NMR tools to study, and understand the structure, dynamics, and function of biomolecules. Using relaxation NMR we probe the initial stages of amyloid fibrilization. Distinct residue-specific NMR relaxation parameters were obtained for the truncated three repeat tau construct (K19) in equilibrium with structurally different, self-aggregated (saK19), or heparin-induced (hK19) fibrils. Thus, the relaxation profile of the monomers in equilibrium with the NMR invisible fibril seeds potentially distinguishes distinct structures of tau fibrils. More recently, we characterized the aggregation pathway of two tau protein constructs that have been recently demonstrated to form Alzheimer's (AD) fibril structures with divalent ions and Chronic Traumatic Encephalopathy (CTE) fibril structures with monovalent ions. The results highlight the involvement of identical residues in both primary and secondary processes of both AD and CTE fibril propagation. NMR relaxation experiments reveal increased flexibility of the motifs ³²¹KCGS within R3 and ³⁶⁴PGGGN within R4 in the presence of MgCl₂/NaCl, correlating with faster aggregation kinetics and indicating efficient primary nucleation. Notably, the seeded aggregation kinetics of the tau monomers in the presence and absence of metal ions were strikingly different. This correlates with the overall sign of ¹⁵N-ΔR₂ profile specifying the dominant mechanism involved in the process of aggregation.

Electrocatalysis for energy and biomass valorization



A. Muthukrishnan
Assistant Professor (Grade I)

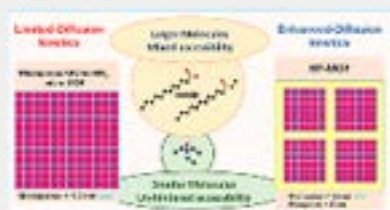
Oxygen reduction reaction (ORR) is one of the most studied reactions in the electrocatalysis. The most abundant element oxygen is used as the oxidizing agent in the low-temperature hydrogen fuel cells. Typically, platinum-based catalysts have been used to improve the ORR kinetics, limiting large-scale commercialization of fuel cells for energy applications. Understanding the ORR mechanism and the active sites information on the NPGM or metal-free catalysts are the real bottlenecks for the development of highly active and durable Pt-free catalysts for the ORR. Despite the series of attempts to characterize the active sites and ORR mechanism, the conclusions are not clear and lead to debate.

Our research group is working on fundamental aspects of ORR, characterizing the active sites and

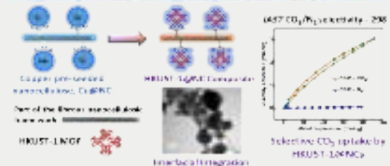
mechanism of the Fe-N/C and N-doped carbon catalysts, via the kinetic analysis. Our recent research proves that Fe-N_x active sites are mandatory in the Fe-containing carbon catalysts for the superior ORR activity. The role of local pH and the types of pores present in the carbon materials are studied elaborately. Our group is focusing on the bi-functional catalysts for the applications in the rechargeable metal-air batteries. The bifunctional CoFe alloy catalysts by the heat treatment of CoFe₂O₄ spinel compounds exhibits the bifunctional activity. As the continuation of our previous work on the topological defects, the edge rich graphitic carbon was studied for their ORR activity. We have synthesized few-layer graphite using the mechanochemical ball milling methods.

The bifunctional metal-free catalysts is more challenging and we have synthesised nitrogen and boron-doped graphite, which acts as a superior bifunctional catalysts for ORR and OER. The liquid electrolyte zinc-air battery shows high cycling capacity and further developments in the metal-free catalysts is underway.

Materials Chemistry: Porous materials, Gas Separation, Electrochemical energy storage



The increased accessibility to the active sites and better mass transfer kinetics in the hierarchically connected micropores and mesopores.



Well integrated porous composites, exhibit enhanced dye uptakes up to 70% and CO₂ separation property, with an *Q*₁₅ separation selectivity of 258 for the CO₂/N₂ (15/85, v/v) gas mixture at 298 K and 1 bar.



Thirumurugan Alagarsamy
Assistant Professor (Grade I)

Thirumurugan's research group explores new and novel materials for energy and sustainable development. In particular, the focus is on the investigations of coordination polymers, metal organic frameworks, nanocellulose composites of porous materials, redox active vanadium oxide clusters and their nanocomposites for molecular (gas) storage - separation, optical and electrochemical energy storage properties. We have employed soft template based mesoassemblies of gemini surfactants to introduce mesopores in some of the well-known microporous MOFs, such as HKUST-1 and UiO-66. By inducing variations in the optimized nucleation and crystal growth conditions that are crucial to achieve a wide range of hierarchical porosity (HP). Such HP materials are used in small molecular gas and dye separation processes. Mixed matrix membranes of MOF@nanocellulose composites, have been explored for CO₂, alkane, N₂ gas separation applications. Materials that provide simultaneously optimal energy density and

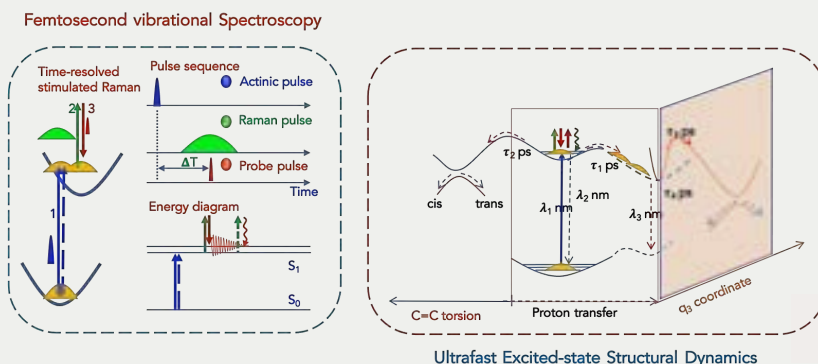
power density for the next generation electrochemical energy storage (EcES) devices is an important research focus. We have explored redox active vanadium based materials, such as layered vanadium formate (**VF**) coordination polymer and another Vanadium oxide cluster along with their composites of partially reduced graphene oxide (prGO), as anode materials for the Li-ion based EcES systems in the potential range of 0-3 V (vs Li⁺/Li).



Ultrafast structural dynamics, Proton-coupled electron transfer, excited-state chiro-optical properties, development of multi-photon, non-linear coherent spectroscopic methods.

Y. Adithya Lakshmanan
Assistant Professor (Grade I)

Our research interests are broadly in the direction of addressing the excited-state reaction dynamics that are mediated by fundamental processes such as electron transfer, proton transfer and proton-coupled electron transfer reactions. Such excited-state dynamics are typically described by employing femtosecond transient absorption and emission spectroscopic techniques. However, we focus on a structural perspective, essentially with an aim to unravel the intricate structural dynamics associated with excited-state electron and proton transfer processes by employing the ultrafast coherent Raman and IR spectroscopic methodologies.





Basudev Sahoo

Assistant Professor (Grade I)

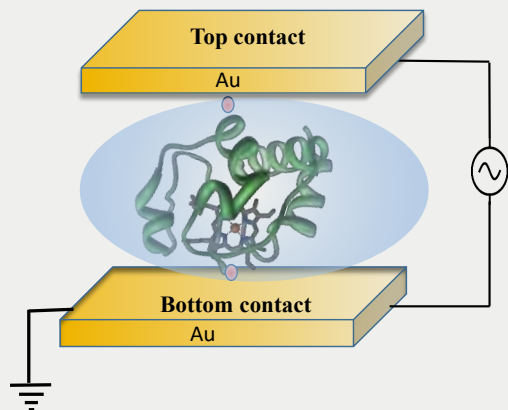
Sustainable Organic Synthesis and Catalysis



The Sahoo Research Group in the School of Chemistry, IISER Thiruvananthapuram is pursuing research in the area of organic synthesis and catalysis, with an emphasis on sustainability. Recently, we have contributed to the development of organic synthetic methods, where we have demonstrated the successful implementation of readily available unactivated aliphatic ketone feedstock as a non-trivial Csp^3 alkyl synthon via formidable inert C-C bond cleavage, aiding the construction of complex molecular architectures of interests, relying on visible light-mediated photocatalysis. In this realm, we have reported a catalytic technique for mild alkylation/arylation cyclization of N-acrylamides of N-heteroarenes and arylamines, utilizing unactivated ketone-derived dihydroquinazolinones (Sahoo et al. *J. Org. Chem.* **2023**, *88*, 12121). Catalytic alkylboration of alkenes represents a modular and efficient technique to construct organoboron building blocks, elaborating core carbon-skeleton through Csp^3 - Csp^3 linkage, alongside the decoration of boron functionality via B- Csp^3 bond formation. In this regime, motivated by the prevalence of “cyclopropyl” moiety as the 10th most important ring system in marketed drugs/leads as well as the synthetic versatility of boronic ester for further structural modification, we describe a copper-catalyzed regioselective alkylboration of versatile (hetero)benzylidenecyclopropanes with alkyl iodides and bis(pinacolato)diboron to access Csp^3 -enriched tertiary cyclopropyl boronic esters scaffolds (Sahoo et al. *Org. Lett.* **2024**, *26*, 1458). Boronic esters are readily convertible to bench-stable potassium salt of organotrifluoroborates. To evaluate the importance of organoboron reagents, the organotrifluoroborates were coupled with N-sulfinylamines under visible light photoredox catalysis to synthesize sulfinamides and their higher sulfur analogs, as promising bioisosteres of traditional sulfur functionalities in drug design and modifications (Sahoo et al. *Org. Lett.* **2024**, doi: 10.1021/acs.orglett.4c01270).



Charge Transport in Bio-Molecular Systems



A biomolecular junction is where a biomolecule is embedded between two conducting electrodes. The figure above shows a protein molecule embedded between two conducting gold electrodes in solid-state configuration.



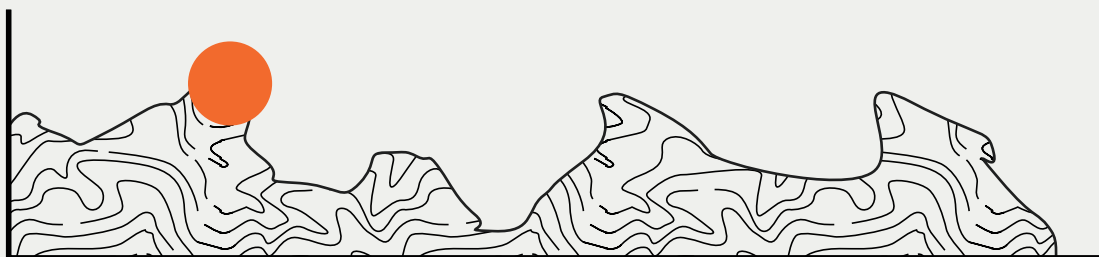
Jerry Alfred Fereiro
Assistant Professor (Grade I)

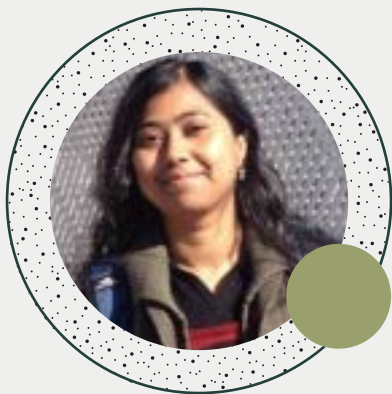
My principal research interests lie in the field of bio/molecular-electronics and interfacial charge transport. My areas of interest also include surface

functionalization, nano-fabrication, low temperature electronic measurements, surface analysis and electrochemistry

Integrating (bio)molecules into electronic junctions is a challenging research area, which combines nano-science and -technology, biophysics, and bio-electrochemistry. Apart from the principal aim of my research, which is to learn about electron transport through (bio)molecules, a potentially practical future goal may be the use of molecules/proteins as building blocks to develop multi-functional electronic devices for applications, such as biomedical, biofuel cells, and biosensing devices. As part of the effort to achieve my goal, I want to understand how the mechanism of electron transfer (ET) in the natural liquid surroundings of a protein compares to that of electron transport (ETp) in the solid-state, i.e., in dry proteins (dry in the sense that they keep only the structural water).

It is generally recognized that the details of contact geometry and conformation are critical to the electronic behavior of the junction, and these may vary significantly for each molecule studied. Except for the special cases of inelastic electron tunneling spectroscopy (IETS) and tip-enhanced SERS, single-molecule devices and ensembles are not amenable to the spectroscopic characterization of working junctions, so it is difficult to determine the precise conformation and contact geometry.





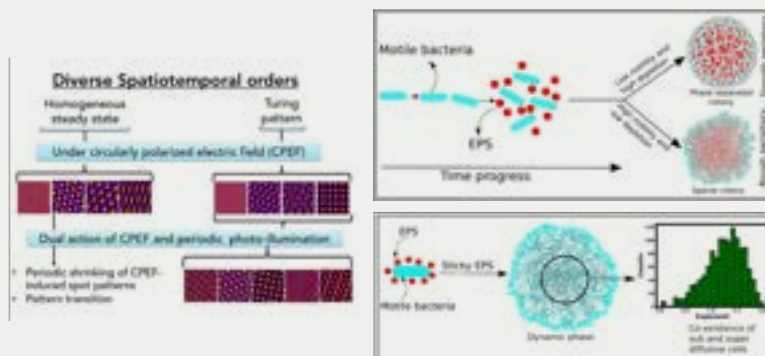
Pushpita Ghosh

Assistant Professor (Grade I)

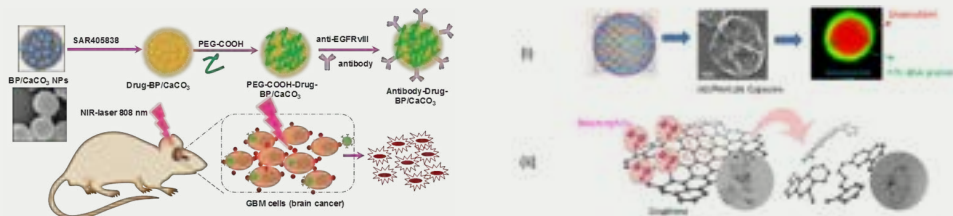
During this period, research endeavors delved into two distinct but interconnected realms within the overarching theme of unraveling the spatiotemporal dynamics of complex chemical and biological systems. The initial focus area scrutinized the interplay of electric fields and photo illumination within chemical reaction-diffusion systems, culminating in the emergence of spatiotemporal orders such as stationary patterns and propagating waves.

Concurrently, attention was directed towards investigating the spatiotemporal dynamics of bacteria at the multicellular level. This exploration involved a deep dive into the growth and morphological evolution of motile bacteria within expanding colonies. Understanding the pivotal roles of motility, self-secreted extracellular polymeric substances, nutrient concentration, and diffusivity in governing these dynamics emerged as a central objective. Employing agent-based modeling techniques, the research endeavors unraveled mechanistic insights into microcolony morphogenesis.

These multidisciplinary projects aim not only to advance scientific understanding but also to inspire and engage aspiring students and researchers in the realm of active matter research.



Biomaterials, Nano-Immune Interactions



Rajendra Kurapati

Assistant Professor (Grade I)

Our group research interests lie at the interface of Materials Chemistry, Biology and Bioengineering. Nanomaterials have revolutionarily expanded the spectrum of biomedical applications. However, the long-term fate of these nanomaterials in the organism is not understood and their inertness prevents biodegradation. Subsequently, the clinical translation of this nanomedicine is seriously hampered. Keeping the “biodegradability of the nanomaterials” as a primary objective for biomedical applications, our major research will first focus on understanding the biodegradability or biotransformation of highly studied nanomaterials.

Biodegradation of Emerging 2D Nanomaterials: Biodegradability of pristine and surface-functionalized 2D materials will be carried out using neutrophils and macrophages including mouse models. The expected results could help to understand the in vivo biotransformation of 2D materials, thereby helping to design better the biomaterials for potential applications such as degradable drug delivery and photothermal theranostics systems.

Biodegradable Drug Delivery Systems: Multifunctional biodegradable drug delivery systems will be developed using the ‘Safe-by-Design’ approach. We currently have a project from DBT entitled “Hybrid Black Phosphorus and CaCO₃ Nanoparticles for Synergistic Chemo-photothermal Therapy (through Ramalingaswami Fellowship 2021-26).

Graphene Composite Antimicrobial Coatings: Antimicrobial and antifouling coatings will be developed using the inherent antimicrobial properties of 2D materials and antimicrobial peptides or polymers.



Ramaraj Ayyappan

Assistant Professor (Grade I)

- My research group is working on the development of phosphine and carbene based multifunctional ligands (L_n). Ligand design is essential to control the metal electronic and steric properties in bond activation and catalytic applications such as hydrogenation, coupling reactions, polymerization.
- Using the tailored ligands, transition-metal complexes [L_nM] (Ti, Mn, Fe, Co, Ni, Cu, Ru, Ir, Rh) can be made. It must be mentioned that working with first row 3d-metal complexes is far more challenging than their heavier congeners because they do not form very stable metal ligand bonds and easily undergo one electron oxidation to form paramagnetic complexes. So, successful synthesis of [L_nM] is quite difficult. It is also incentive in terms of the cost, because first row 3d-elements are earth abundant, non-toxic.

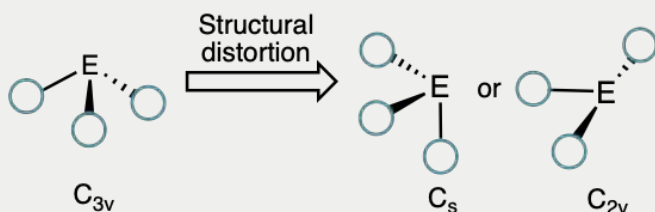
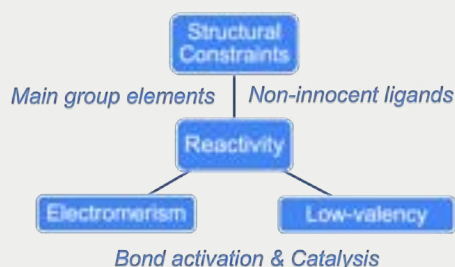
Transition-metal Organometallic Chemistry



Figure. (left) Schematic illustration of research areas and (right) pictures illustrating global research challenges for the sustainable future (image credit: google search engine).

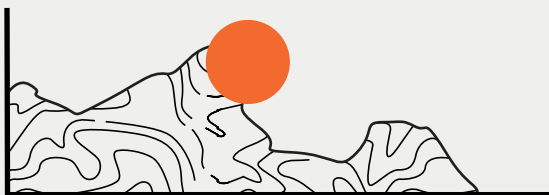
- Using the $[L_nTM]$ complexes, bond activations in carbon dioxide ($O=C=O$) and dinitrogen (N_2) and relevant catalytic transformations would be studied.

Main group chemistry



Ravi Yadav
Assistant Professor (Grade I)

Our group focuses on enhancing the reactivity of main group elements for various bond activation and further catalysis. The reactivity enhancement is approached by a) structurally constrained compounds (*non-VSEPR*) and b) spatially confined main group complexes for cooperativity effects. Structurally constrained main group compounds have diminished the HOMO-LUMO gap, a property mostly limited to transition metal complexes and low-valent main group compounds. A small HOMO-LUMO gap can be handy for initial bond activation in various catalytic cycles. The prudent choice ligand class is essential to tune the reactivity of the structurally constrained complexes. Our initial research is to introduce a new class of structurally constrained ligands for main group elements and further explore the reactivity and possible catalytic reactions. We are preparing spatially confined complexes with reactive main group centres. Spatial confinements on main group elements are almost unexplored and could provide new reactivities.

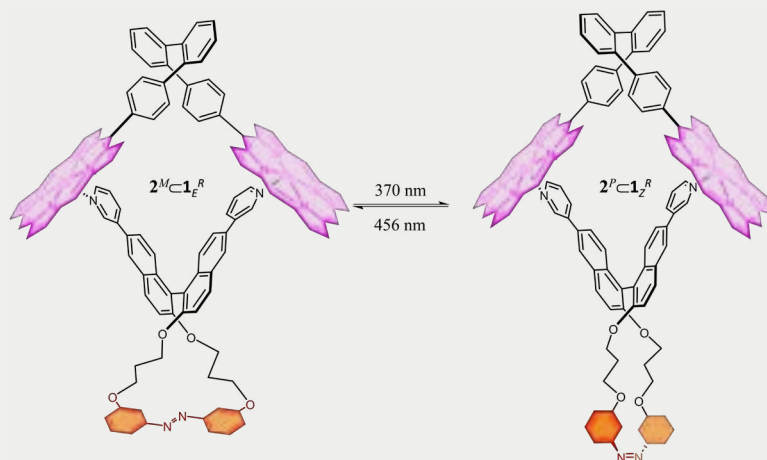


Supramolecular Chemistry



Soumen De

Assistant Professor (Grade I)



Operation of an artificial signal transduction systems

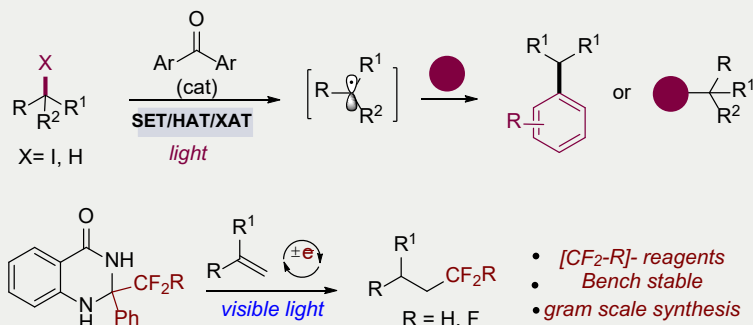
Our research group is at the forefront of dynamic supramolecular chemistry, a highly interdisciplinary field encompassing molecular switches and machines and stimuli-responsive materials. We're deeply immersed in exploring the potential of these dynamic systems, particularly focusing on harnessing the power of flexible and tunable BINOL-based building blocks.

These building blocks serve as the foundation for our work, enabling us to craft intricate chiral switches, hosts, and adaptive architectures. These molecular constructs exhibit remarkable capabilities, including selective guest sequestering, catalysis, and sensing functionalities. Through a fusion of synthetic and physical organic chemistry techniques, we meticulously design and synthesize target molecules. These molecules possess the innate ability to self-assemble through a myriad of non-covalent interactions and dynamic covalent chemistry.

Within our lab, we employ a diverse array of experimental methodologies, ranging from traditional synthetic techniques to advanced spectroscopic analyses. These techniques provide invaluable insights into the properties and behaviors of our designed molecules. Additionally, we leverage cutting-edge computational tools such as Density Functional Theory (DFT) calculations to elucidate our systems' emergent properties and dynamics.

In essence, our research endeavors revolve around pushing the boundaries of dynamic supramolecular chemistry, aiming to uncover novel functionalities and applications that hold promise in various fields, from catalysis to materials science.

Catalysis



Veera Reddy Yatham
Assistant Professor (Grade I)

Recently, it has been demonstrated that commercially available inexpensive ketones are utilized as organo photocatalysts in the presence of light. The photo-excited triplet ketone acts as a hydrogen-atom-abstracting agent, a single-electron acceptor, or can participate in energy transfer processes with the substrates to generate the radical entities that are efficiently merged with transition metal catalysts for versatile functionalization of C–H or C–X bonds. During this process, the photoexcited ketone is converted to an entity that is easily transformed to the ground-state ketones upon synergy with metal.

In this direction, our group recently developed a unique catalytic system by merging photoexcited ketone catalysis, halogen atom transfer (XAT), and nickel catalysis to forge C(sp³)–C(sp²) cross-electrophile coupling products from unactivated iodoalkanes and (hetero)aryl bromides. The synergistic catalytic system works under mild reaction conditions and tolerates a variety of functional groups; moreover, this strategy allows the late-stage modification of medicinally relevant molecules. Further, we explored synergistic merger other transition metals with photoexcited ketone catalysis in a variety of C(sp³)–H functionalization.

Our group also developed synthesis and characterization of bench stable tri/difluoro methylating reagents and their potential applications in redox neutral hydro tri/difluoromethylation of alkenes enabled by visible light. The new tri/difluoro methylating reagents are obtained on a gram-scale through simply cyclo condensation of commercially available anthranilamide with phenyl trifluoro or difluoromethyl ketone. Further applications of these reagents are ongoing in our laboratory.



Self-reconstruction of the Inorganic Materials under Photo and Electrochemical reactions

Indranil Mondal

SERB-Ramanujan Fellow

Electrochemical and photochemical reactions, encompassing processes like water splitting, carbon dioxide reduction, and organic small molecule transformations, form the cornerstone of devising sustainable methods for generating green feedstocks. However, many inorganic materials lack stability and tend to undergo self-reconstruction, leading to alterations in phase, oxidation states, and morphology of the active catalysts. My focus was on elucidating this self-reconstruction phenomenon through in situ spectroscopic techniques, such as X-ray absorption (XAS) and Raman spectroscopy. The transformation of the (pre)catalyst is contingent upon various applied conditions, including pH, electrolyte ions, temperature, potentials, and light intensity, each exerting a significant influence on catalytic activity metrics such as turnover number, product selectivity, and conversion efficiency (Mondal et al., *Adv. Energy. Mater.* 2022, 12, 2200269). For instance, during electro-oxidation, transition metal-based (pre)catalysts irreversibly transition into corresponding (oxy)hydroxide phases. These phases manifest as layered structures comprising [metal-O₆] units, replete with numerous defects and characterized by low long-range order. Consequently, properties like electron-proton conductivity, bridging-oxo groups, and stable low-valent metal species vary from those observed in chemically synthesized (oxy)hydroxide compounds. In essence, attributing a reaction mechanism presupposes a predetermined understanding of the active catalyst's structure.

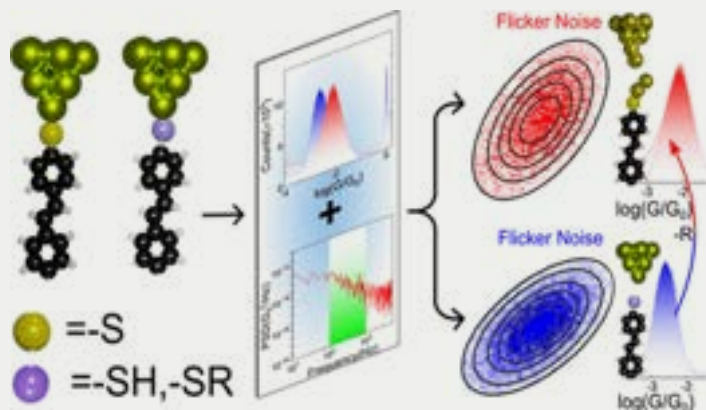




Keshaba Nanda Parida

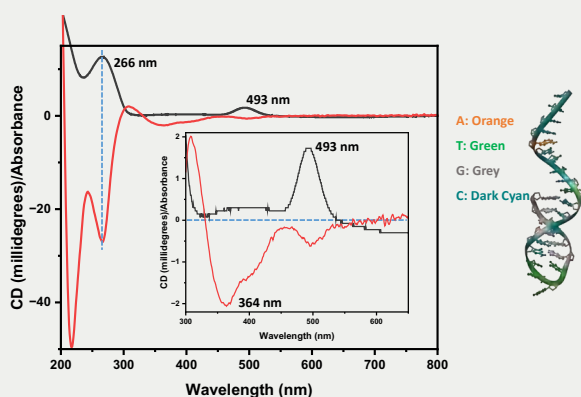
Pool Scientist, CSIR

Organic Synthesis and Molelectronics



For the optimum miniaturization of electronics, the nano-size organic semiconductors are supposed to become the next generation of electronics. In this aspect, we are investigating the properties of a single molecule (~1-2 nm) at a gold nano-junction. We have investigated the chemistry of the Au-S interface using a mechanically controlled break junction, and probed the conductance and analyzed Flicker noise for several aliphatic and aromatic thiol derivatives and thioethers. While for thiols strong Au-S covalent bonding was observed, the thioethers displayed weaker non-covalent interactions. The binding was reflected in the conductance, where the thiols displayed higher conductivity than the thioethers.

Chiral Inorganic and Biomaterials



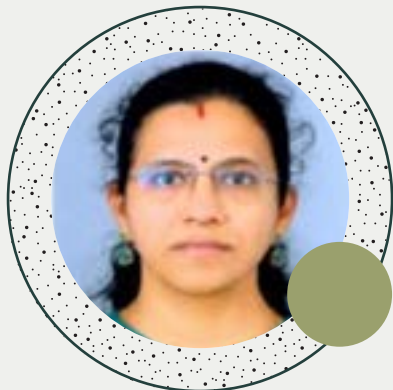
CD spectra (left) of chiral Ag₁₀@DNA nanoscale fluorophore and a schematic of the structure of the DNA template used (right). The CD band at 493 nm is expected due to the chirality of the Ag₁₀ core.



K R KRISHNADAS

RAMANUJAN FACULTY FELLOW

Research in our group focuses on unravelling stimuli-(temperature, pH, metal ions, etc.)-responsive dynamic chiral systems from inorganic and biomaterials. We use inorganic materials as well as biomolecules such as DNAs and proteins for the synthesis of such materials. These molecules possess inherent chirality and dynamism. We look forward to developing dynamic chirally responsive materials derived from these templates across various length scales. We also explore fluorescence spectroscopy in conjunction with chiroptical spectroscopies such as linear dichroism, circular dichroism and circularly polarized luminescence to unravel the dynamics of the chiral materials we develop in the laboratory. Our current research focusses on fluorescent nanomaterials derived from proteins as well as DNAs. Some of our specific interests are the following: (1) Chiral inter-cluster compounds for spin selective electron transport, (2) Circularly polarized luminescent biomaterials: assemblies, gels and spin selective transport, (3) DNA-templated chiral fluorophores for biomarker detection, (4) Robust optically active nanosystems and surfaces for enantioselective catalysis and facile enantioseparation (chiral TLC, for example). Chiral assemblies of materials are also a major goal of our activities. We look forward to utilizing electrospray and electrophoretic deposition methods for the same.



T. SHYAMALA

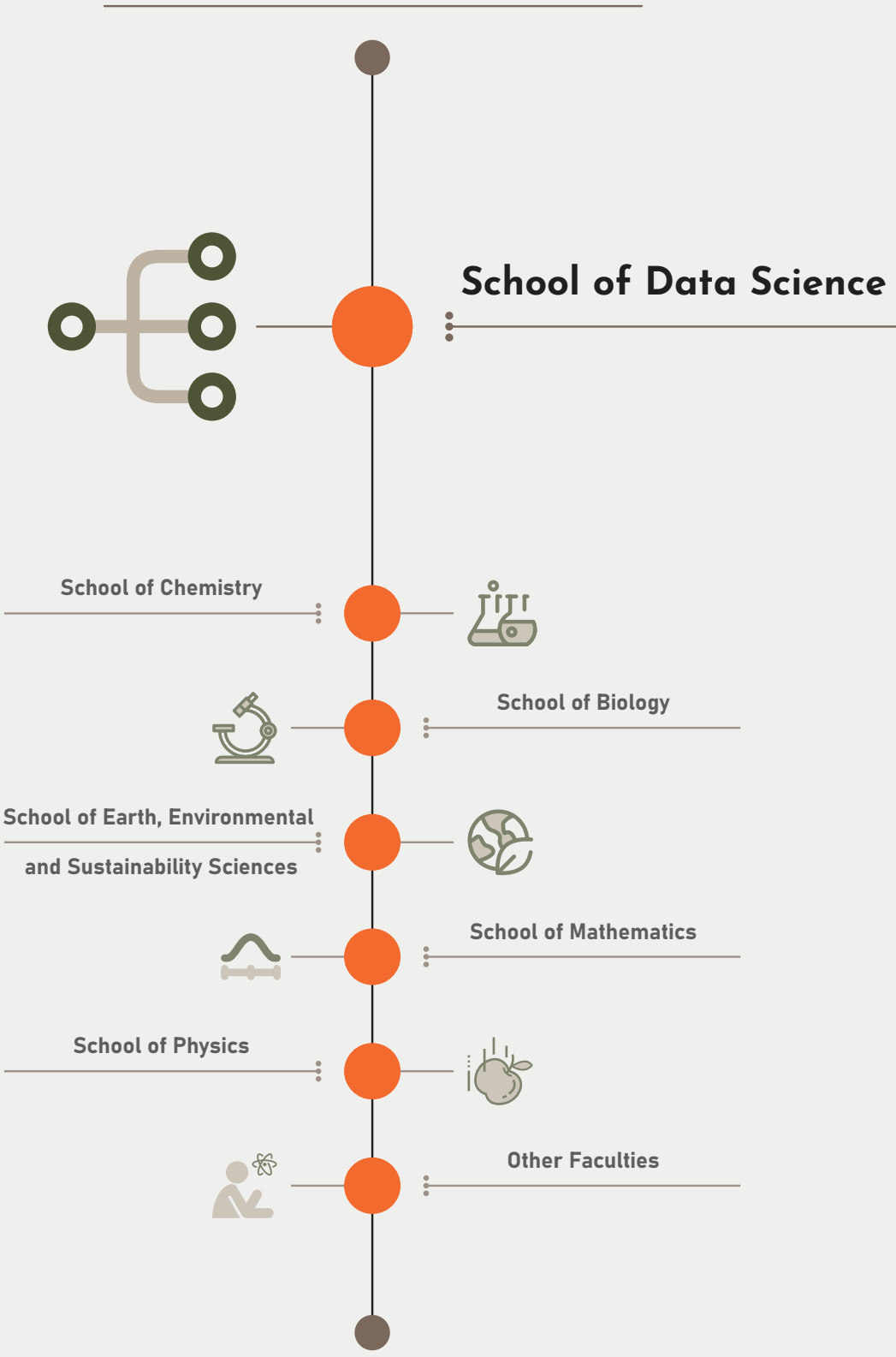
DST Women Scientist

Nanomaterials (metal nanoparticles and quantum dots), Raman spectroscopy, Photophysical Chemistry

Synthesis of metal nanoparticles and their application in surface enhanced Raman spectroscopy for detection of pesticides. Research areas also include quantum dots, FRET and fluorescence spectroscopy.



Research Reports - 03

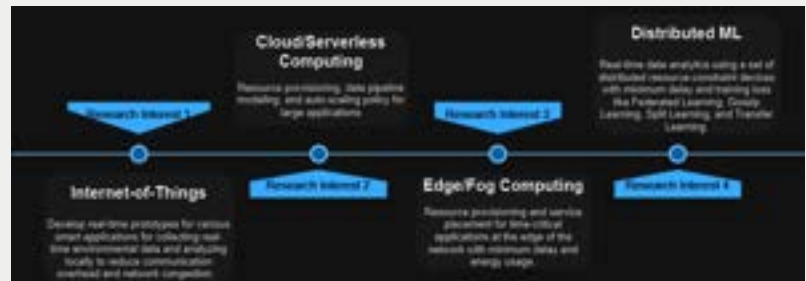


Research Areas: Distributed Machine Learning, Cloud/Edge/Fog computing, and Internet-of-Things

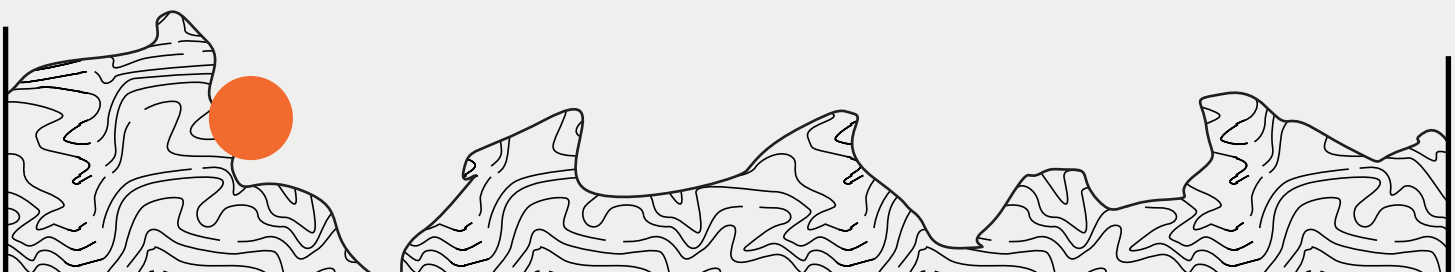


Mainak Adhikari

Assistant Professor (Grade I)



Research Highlights: Previously, I participated in the EU H2020 RADON project, where different microservices were migrated to the serverless cloud environment using the TOSCA (Topology and Orchestration Specification for Cloud Applications) standardization approach. I aim to extend the TOSCA standard in Edge/Fog networks for real-time decision-making of time-critical applications with minimum external/human efforts. I am also working on Edge/Fog Computing for processing real-time applications on the distributed edge/fog devices instead of transferring the data to the centralized cloud servers for improving multiple Quality-of-Service (QoS) parameters including latency, energy consumption, processing time, uploading and downloading time, bandwidth utilization, and resource utilization. I deploy different types of heuristic and meta-heuristic aware data offloading strategies by considering various QoS objectives in Edge/Fog computing. I plan to work on three important aspects of Edge/Fog Computing for processing real-time applications (such as Internet-of-Things) including (i) intelligent edge offloading using advanced machine learning techniques (i.e. deep learning, deep reinforcement learning, federation learning, etc.), (ii) Distributed Machine Learning for real-time decision and identification with minimum delay and training time, and (iii) mobility-aware data offloading for optimizing the data transmission while meeting various QoS objectives. Another important aspect is data processing in a serverless environment and container-based scheduling in Edge/Fog or cloud environment for processing event-driven and real-time applications by utilizing the computing resources efficiently with better system performance.



Statistical Inference, Design of Experiment, Clinical Trials, Reliability Theory, Survival Analysis

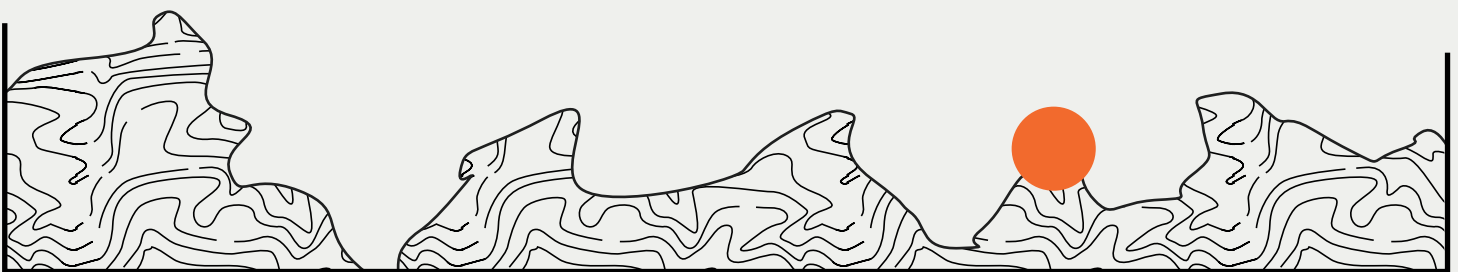


Priyanka Majumder
Assistant Professor (Grade I)

My research area broadly lies in the field of Design of Experiments and Mathematical Theory of Reliability & Life Testing. In particular, we are interested in cluster randomised trials, longitudinal data analysis, analysis of hierarchical data, survival analysis, theory of majorization and stochastic orderings.

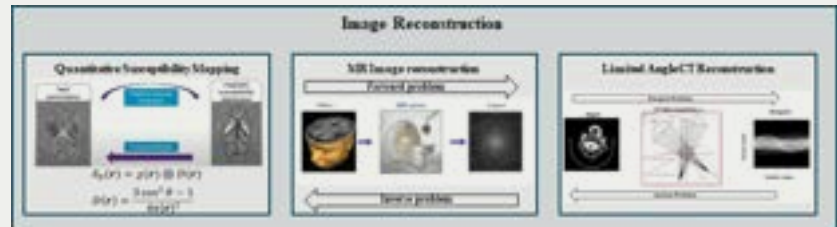
This year we have published two research works: one dealing with preservation of both discrete and continuous log-concavity properties in multi-state coherent systems. Using this results we have also found some useful bounds on joint probabilities related to times spent by multistate components, multistate series, multistate parallel systems, and the combinations thereof. In another research paper, we have explored various stochastic orders comparisons results for two finite (arithmetic) mixture models with general parametric family of distributions. Sufficient conditions for the usual stochastic order and hazard rate order are then established under the assumption that the model parameter vectors are connected in p -larger order, reciprocal majorization order and weak super/sub majorization order. Furthermore, hazard rate order and reversed hazard rate order between two mixture random variables also established when a matrix of model parameters and mixing proportions changes to another matrix in some mathematical sense.

This year I also started a project funded by SERB on design and analysis on Stepped-Wedge cluster randomised trials.





Research Areas: Deep Learning, Image Processing methods, Medical Imaging, Image Analysis.



Raji Susan Mathew

Assistant Professor (Grade I)

Research Highlights: My expertise is in the field of medical imaging including MR imaging reconstruction, regularization techniques, and compressed sensing. I have also worked on deep learning-based limited angle CT reconstruction, quantitative susceptibility mapping in MRI and optimization of variable density acquisition for MR data. Along with this, I have also worked on Ultrasound data and specifically on nerve segmentation with implementation to real-time application. My research interest lies in the realm of computational imaging methods, with a special emphasis on regularization, compressed sensing, and deep learning for medical image reconstruction. This exploration also extends to image analysis techniques and other computational methods tailored for medical imaging. Within the realm of deep learning, my pursuit includes the development of computationally efficient lightweight models strategically designed for deployment in point-of-care medical imaging applications. Particularly, I am interested in biomedical computational imaging with an objective to conduct research both on fundamental theoretical/mathematical aspects of imaging as well as on the application aspects such as deployment on edge devices that can assist the clinician in early and accurate diagnosis.

Copula, Degradation Modelling, Reliability Theory, Statistical Inference

My broad research area lies in the field of Applied probability and Statistics. Specifically in the field of Reliability Theory, Dependence Modelling using Copula and Degradation Modelling.

During the prescribed time period I have one published and one accepted research article. One deals with the bounds for joint probabilities of multistate systems using preservation of logconcavity. In the other article we develop a framework for acquiring state information and predicting resource availability for task offloading in cooperative fog-networks.



Shyamal Ghosh

Assistant Professor (Grade I)



Alwin Poulose

Assistant Professor (Grade II)

Localization, Human Activity Recognition, Facial Emotion Recognition, Intelligent Systems



Our system gathers data from wearable sensors and predicts human behavior/intention that enhances ambient assisted living. The most common sensors used in the prediction system are smartphone IMU sensors, camera sensors, smartwatches, and Wi-Fi access points

Our research focusses on developing an intention prediction system that can assist humans in intelligent and healthy living, healthcare, indoor navigation, ambient assisted living and abnormal activity detection. Our approach begins with an advanced indoor localization system where our research focuses on achieving a localization error as low as 10 cm. This research addresses crucial challenges such as mitigating cumulative errors from IMU sensors, accounting for the effects of refraction and attenuation on RSSI signals, enabling localization in complex environments, and facilitating multi-user localization. In addition, we work on human activity recognition (HAR), with a primary focus on sensor and camera-based approaches. Our HAR research tackles challenges such as handling age diversity, capturing accurate postural transitions, addressing missing values or labeling errors in datasets, and selecting suitable sensors.

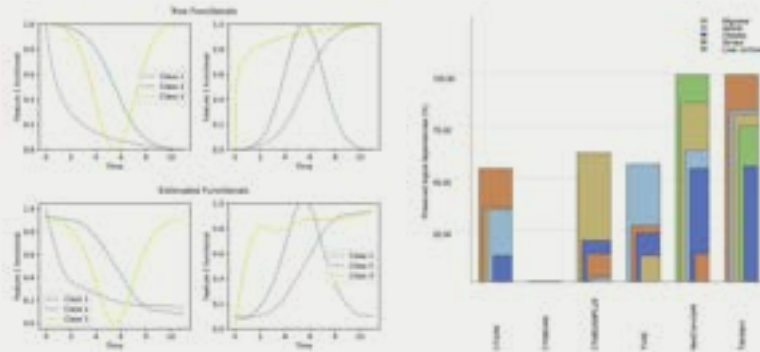
Emotion recognition also plays a significant role in our human intention prediction system. In this regard, our research focuses on analyzing facial expressions from a smartphone camera and emotion recognition from physiological signals such as ECG and speech. Overcoming challenges such as data augmentation, dealing with face occlusion and lighting variations, addressing racial differences, and accurately identifying children's emotions are key objectives of our emotion recognition research. Furthermore, we explore the use of videos to study human pose and employ eye-tracking systems for human intention prediction. Our research involve the implementation of advanced deep learning models to identify human location, activity, expression, posture, and eye movements.

Deep Learning in Clinical and biomedical data science, Generative neural networks, Predicting structures in graphs using Deep Learning



Saptarshi Bej

Assistant Professor (Grade II)



Short time series trend (e.g. monthly collected data on pregnancy) classification using the MUDRA model. The classification model is based on Functional Linear Discriminant Analysis.

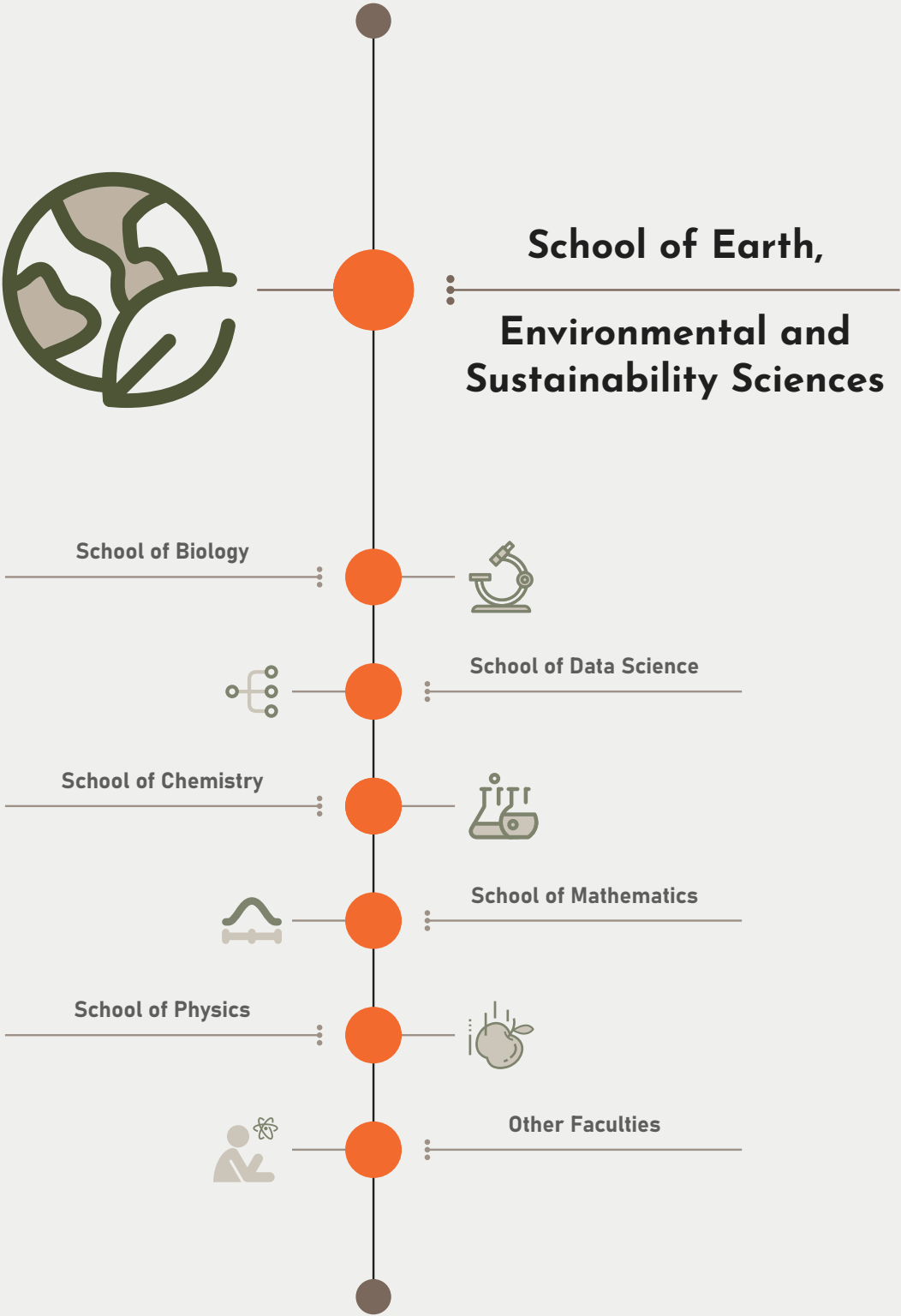
The NextConveN model we developed performs at par with state-of-the-art diffusion models to preserve semantic/logical dependencies in tabular clinical data.

with Dr. Kamalakannan Vijayan, IISER TVM on ML-based prediction synthetic lethal gene pairs in humans and plasmodium. This facilitates detection of drug targets to avoid antibiotic resistance of pathogens like plasmodium. Recently we also developed a statistical learning model (MUDRA) for trend classification in short time series data (e.g. monthly data collected during pregnancy)

Generative neural networks: I am working on using generative models for synthetic tabular data generation. Currently we developed a novel convex space learning approach for the purpose. We are testing the prospect of using synthetic data to improve data privacy, especially in the clinical field. Moreover, I am also working on designing that can preserve logical and semantic dependencies from original data to synthetic data.

Predicting structures in graphs using Deep Learning: Several graph structures such as Hamiltonian cycles, spanning trees, independent sets are hard to find algorithmically in larger graphs. However in many practical problems, predicting such structures from graphs become important. I am currently testing the prospect of using Neural Networks and Reinforcement Learning to find Hamiltonian cycles in certain Planar Graphs.

Research Reports - 04



Atmospheric optics, Aerosols, Boundary-Layer Meteorology, Free-Space Optical communication



Anand N.

Assistant Professor (Grade-I)

Anand's research focusses on atmospheric optical propagation. In situ, balloon-borne, and satellite observations of lower atmosphere, along with radiative transfer modelling are used to study the effects of atmospheric turbulence and aerosols on terrestrial and satellite-to-Earth Free-Space Optical (FSO) communication links.

Applied Optics (2024) – A new model for atmospheric refractive index structure parameter is developed using three-year surface layer observations from a tropical semi-arid location. This simpler model will be useful in free-space optical communication, laser remote sensing, and directed energy applications.

ACP (2023) – A 3D data set of aerosol black carbon over the Indian mainland, generated by assimilating data from surface, aircraft, and balloon measurements, along with multi-satellite observations is presented. The higher free-tropospheric warming observed from this data set will have large implications for atmospheric stability.

JASTP (2023) – Long-term aerosol measurements from a remote, inland location in India show low concentration close to the surface but high columnar optical depth, with free-tropospheric aerosols contributing about 60% to it. These findings show that insignificant anthropogenic activities do not entitle a location as 'remote'.

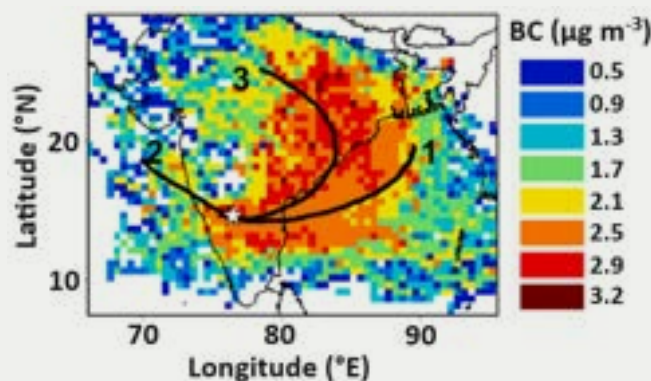
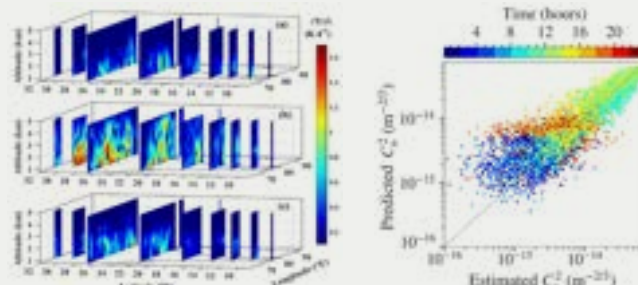
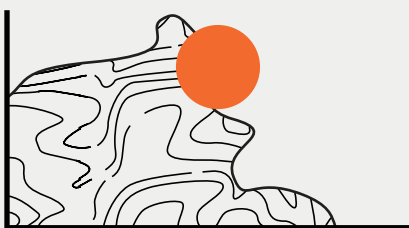


Fig. 1: Air mass back-trajectory clusters and concentration-weighted trajectory map for aerosol black carbon (BC) mass concentration in winter (*JASTP 2023*).

Fig. 2: Comparison of refractive index structure parameter estimated from micrometeorological measurements and model (*Applied Optics 2024*).

Fig. 3: Aerosol-induced atmospheric heating rate ($\partial T/\partial t$) profiles for (a) winter, (b) summer, and (c) post-monsoon seasons estimated using assimilated data (*ACP 2023*).



Igneous Petrology, Geochemistry, and Mineralogy

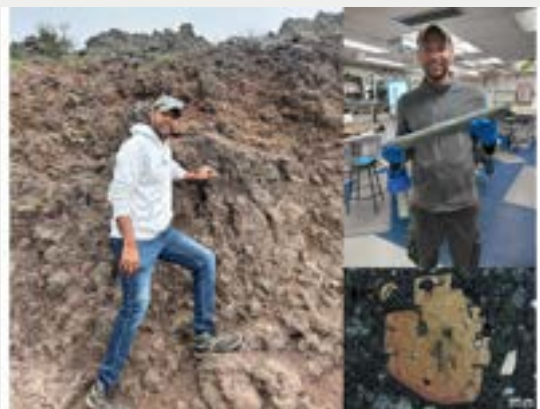


Fig. Left - Sampling the volcanic rocks from Mount Vesuvius, Italy. Right up - A core section of mantle rocks drilled in the Tyrrhenian Sea during International Ocean Discovery Program (IODP) Expedition 402. Right bottom: A well-formed clinopyroxene crystal showing a zoning pattern in a lamprophyre rock sampled in Anantapur, Andhra Pradesh.



Ashutosh Pandey
Assistant Professor (Grade I)

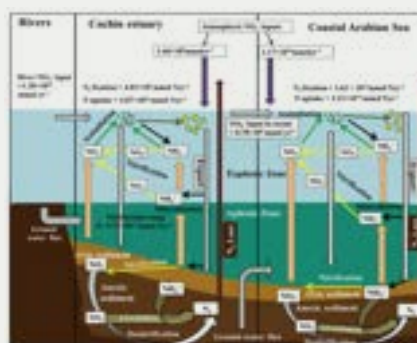
I am a geologist and my research focuses on comprehending the nature of Earth's mantle and its evolution through the mineralogy and geochemistry of mantle samples and mantle-derived magmatic rocks. I also utilize the composition of the

igneous rocks to elucidate large-scale geodynamic processes, such as the reorganization of tectonic plates, melting and differentiation of mantle reservoirs, and crust-mantle interaction, all of which have significant impacts on Earth's biogeochemical cycles and the formation of critical mineral resources. My current research emphasizes understanding the formation of Phanerozoic Large Igneous Provinces (LIP) in India, the origin and geodynamic significance of Precambrian deep mantle-derived alkaline rocks, mantle heterogeneity, processes of melt-rock interaction in the upper mantle, and the geodynamic evolution of the continent-ocean transitions (COT).



Bhavya P. S.
Assistant Professor (Grade I)

Marine biogeochemistry, Eutrophication, Stable isotope biogeochemistry



A diagram of nitrogen flow within and across the transition zones of the terrestrial and coastal zones. The nitrogen transformation rates shown in the diagram are obtained from the literature review and own research conducted in the Cochin estuary and coastal Arabian Sea."

The challenges marine scientists face lies in navigating the enigmatic qualities of the ocean, its ever-shifting dynamics, and its inherent unpredictability, particularly in the context of rapid changes in our climate. It is of utmost significance to document how the ocean reacts to environmental shifts so that we can monitor and assess the effects of both natural and human-induced influences. I employ stable isotopic techniques to trace environmental processes and quantify the metabolic rates of marine phytoplankton. Furthermore, delving into the microscopic analysis of metabolic rates at the cellular level is essential for closely identifying the key contributors to the carbon and nitrogen cycling within aquatic ecosystems.

Key research interests

1. Nitrogen and carbon cycling in aquatic ecosystems.
2. Stable isotope techniques (N and C).
3. Isotopic food web in the aquatic and terrestrial environments.
4. Impacts of climate change on the phytoplankton, primary production, and N₂ fixation.
5. Anthropogenic influence on coastal and estuarine ecosystems.
6. Cell-specific N₂ fixation and symbiotic relationships of diatoms and diazotrophs.



Pramitha M

Assistant Professor (Grade I)

Atmospheric Dynamics

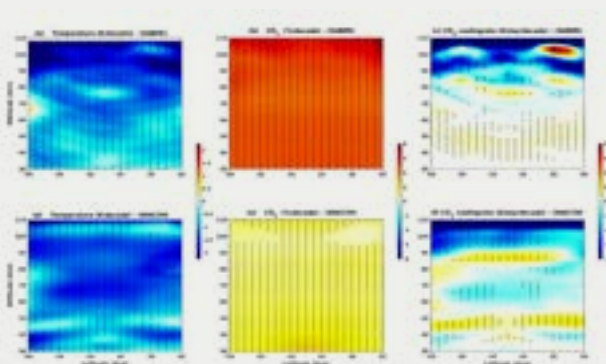


Figure1: Latitude-altitude section of long-term trends in (a) temperature, (b) CO₂ mixing ratio and (c) CO₂ cooling rate estimated from SABER measurements. Figures (d)- (f) are same as (a)-(c) but estimated from SD-WACCM simulations (Pramitha et al., 2023).

Figure 1 illustrates the trend in temperature, CO₂ concentration, and CO₂ cooling rate, as determined through Multivariate Linear Regression analysis. This analysis removes the impact of natural fluctuations like the solar cycle, QBO, and ENSO, from the datasets obtained from SABER measurements and SD WACCM simulations. The black dots denote these trends with a 95% confidence level. Across all latitudes, annual mean temperatures exhibit declining trends, ranging approximately from 0.5 to 2.5 Kelvin per decade. Meanwhile, CO₂ levels show consistent growth throughout the middle atmosphere, with a relative trend of 4.5% to 4.7% per decade.

Our research group focuses primarily on understanding the dynamics and chemical composition of

the middle atmosphere. Our main goal is to investigate atmospheric dynamics, including various wave modes in tropical and extratropical regions, and their influence on the strength of the stratospheric Brewer-Dobson Circulation and the Quasi-Biennial Oscillation. Additionally, we explore how the chemical composition of the atmosphere changes during different atmospheric phenomena. To achieve these objectives, we employ a combination of ground-based observations, satellite data, reanalysis datasets, and simulations from climate models.

Land-Atmosphere Interaction and Climate Modeling, Hydrology, and Agriculture



Prasanth Valayamkunnath
Assistant Professor

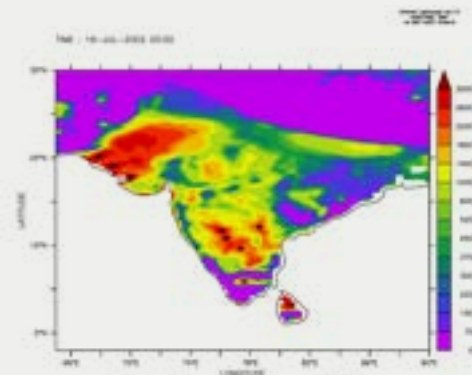


Figure 1

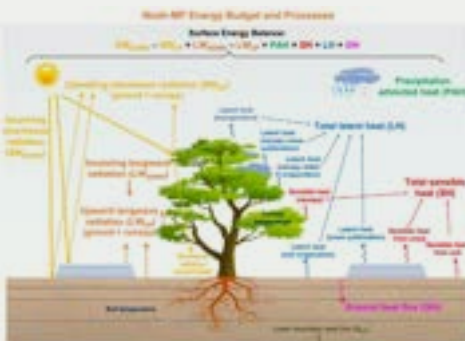


Figure 2

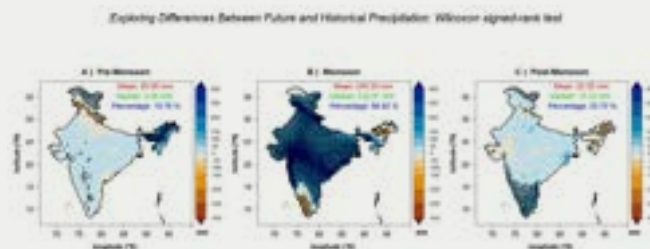


Figure 3

Figure 1: Wind power variations due to climate change in the Indian subcontinent was evaluated using CMIP6 model projections

- On average, South-Central India shows significant positive trend in number of days with optimum number of wind speed greater than 4 m/s.
- Western coast of Kerala, Karnataka, and Gujrat show slightly positive trend.
- North-Central India shows significant negative trend.

Overall, the results of this study indicated an increase in the regional spread of potential areas for wind power generation in India over the Indian subcontinent.

Figure 2: The Noah-MP LSM has been modernized to version 5.0 (v5.0) by adopting modern Fortran

code, data structures, and standards. This upgrade improves the model's modularity, interoperability, and applicability. The key features of v5.0 include: (1) Improved modularization and interoperability (2) Enhanced data structures with new hierarchical data types and optimized variable declaration and initialization. (3) Improved code structure and workflow, leveraging the new data structures and modularization. (4) Enhanced driver and interface structures for better coupling with host weather, climate, and hydrology models.

Figure 3: Projected future changes in water cycle due to climate change over Indian subcontinent is quantified by employing bias-corrected CMIP6 climate model outputs. Results indicated significant increase in water cycle intensity and monsoon rainfall over India during second half of the twenty-first century.

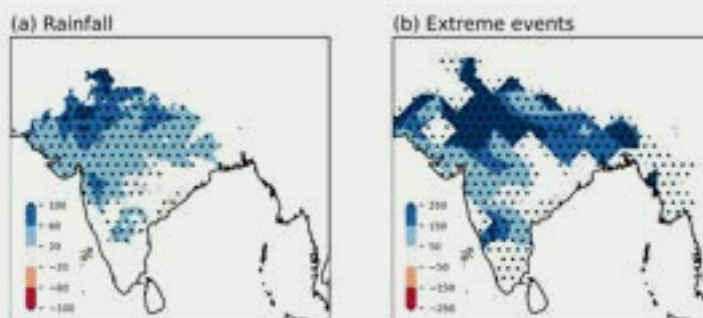


Monsoon, Low pressure system, Tropical cyclone, Extreme events

Vishnu S Nair

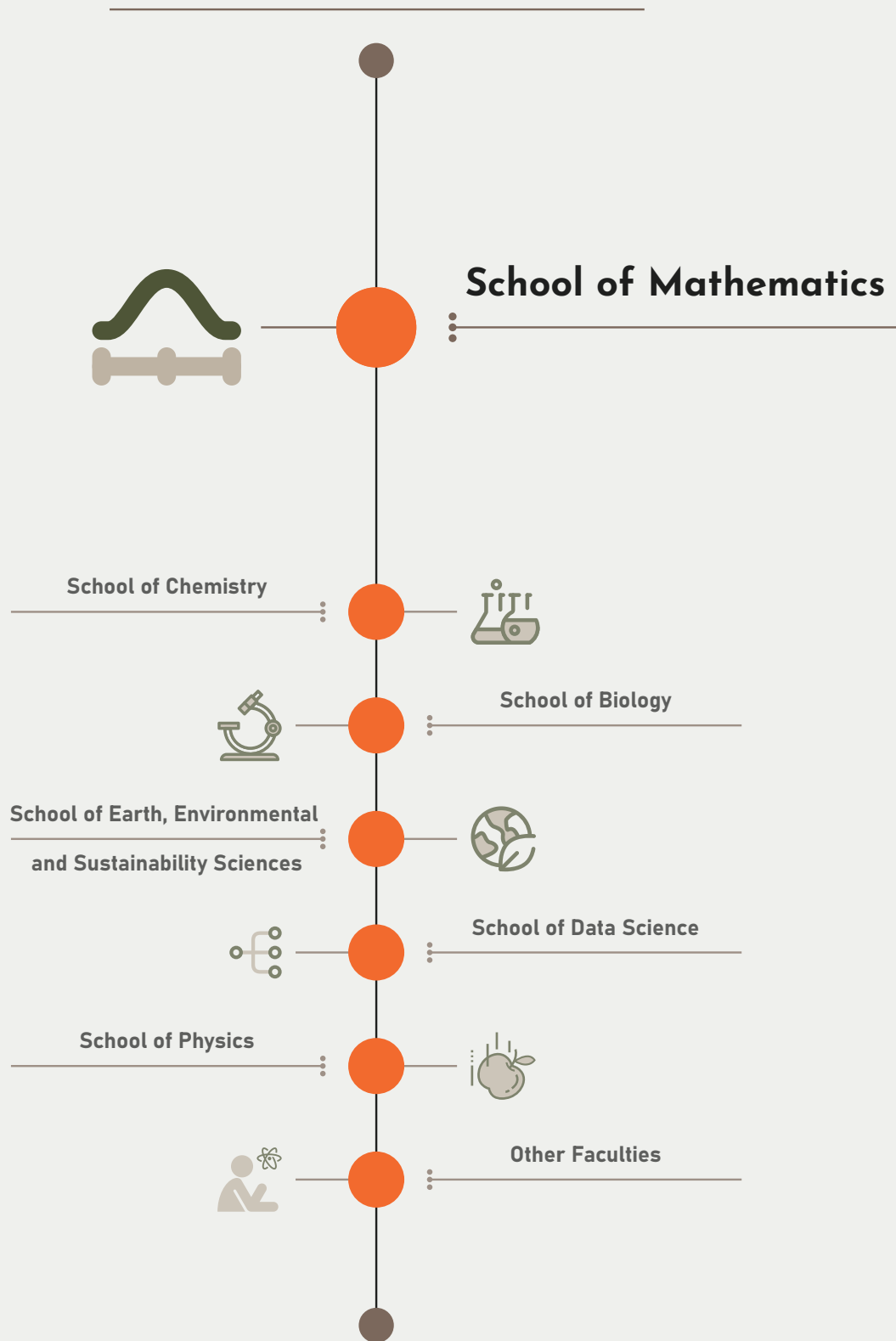
Assistant Professor (Grade I)

Vishnu studies tropical weather, focusing on monsoons and tropical storms using real-world observations and modelling experiments. One major focus is the impact of climate change on tropical weather systems, mainly weaker tropical cyclones, known as monsoon low-pressure systems, embedded in large-scale monsoons. It's about providing crucial insights that can inform policy decisions. Tracking these systems using phenomenon-based approaches to explore their changes in the warming climate. Subsequently, the thermodynamics of these systems will be analyzed to delve into the observed variations and their impact on seasonal rainfall and extreme events. Recent studies have unveiled a crucial finding: tropical weather systems produce more intense rainfall without changing dynamic intensity -- leading to the same intensity system, which can produce more intense rainfall in the warming climates. This trend is projected to become more pronounced at the end of this century (2070--2100), leading to a surge in extreme flooding events in highly populated regions of India.



The figure depicts the projected increase in (a) summer monsoon rainfall and (b) extreme events (rainfall greater than 150 mm in a day) from low pressure systems, comparing the end of this century (2070-2100) with the current period. Dots represent the agreement in signs of changes across the eight climate models used. India, especially North India, may see a 50% to 100% increase in monsoon rainfall and double to triple the frequency of extreme events, raising the risk of catastrophic floods.

Research Reports - 05





Cancer Research (Mathematical Biology); Financial Engineering; Inverse Problems; Data Science and Machine Learning; Numerical Functional Analysis

M.P. RAJAN

Professor

Our research focuses on inverse problems, numerical analysis, financial engineering, mathematical finance, statistical and econometric modeling, data science research, machine learning, mathematical biology (cancer research), parameter identification problems in PDE, singular perturbation problems in PDE, image processing and tomography. We also offer consultancy work in the financial domain/financial engineering, data science research and machine learning.

Stochastic Partial Differential Equations, Analysis and Control of Fluid Flow Problems, Liquid Crystals and Ferromagnetism

Our work in stochastic partial differential equations arises mostly from fluid dynamics, magnetisation and other physical problems (e.g, Navier-Stokes equations, magneto-hydrodynamic systems, Landau-Lifshitz-Gilbert equations in ferromagnetism, nematic liquid crystal model, Schrodinger equation, viscoelastic fluids etc.) driven by Wiener or Levy processes. We study existence, uniqueness, regularity, large deviation, control and other statistical properties of these kind of problems using tools from stochastic analysis, harmonic analysis, non-linear functional analysis, differential geometry and PDE theory. In recent times, our team is working on understanding the phase transition phenomena in the ferromagnetic materials below the critical temperature.



UTPAL MANNA

Professor

Control Theory, Partial Differential Equations, Fluid Flow Models

Our research group is looking at optimal control problems for fluid flow equations. In particular, we are looking at coupled systems where the Cahn Hilliard equation is coupled with dynamics equations like Navier Stokes' equation (CHNS), Brinkman (CHB) equations etc. The main theme of our work is to prove the existence of optimal control for a suitable control problem subjected to given equations.

Currently, we are exploring boundary control problems where the well posedness of the equation needs to be addressed before considering control problems. We have recently studied the existence, uniqueness and regularity of one such system, namely the local CHNS system with regular potential. Similar questions for the CHB system are being analyzed. Controllability for these equations is a completely open question and we are also investigating these problems.



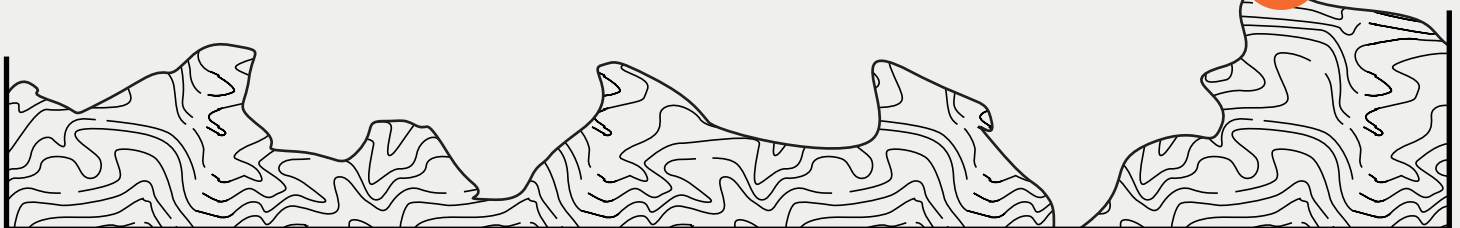
Dharmatti Sheetal
Associate Professor



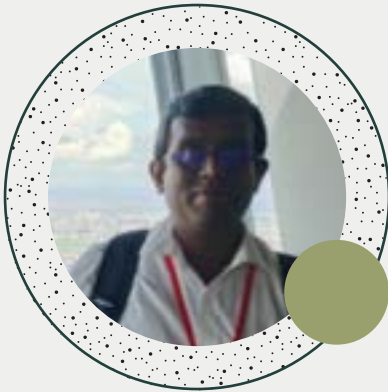
Geetha Thangavelu
Associate Professor

Representation Theory

Our lab focus includes:
Representation Theory of Finite groups and finite dimensional algebras
Cellular Algebras
Combinatorics

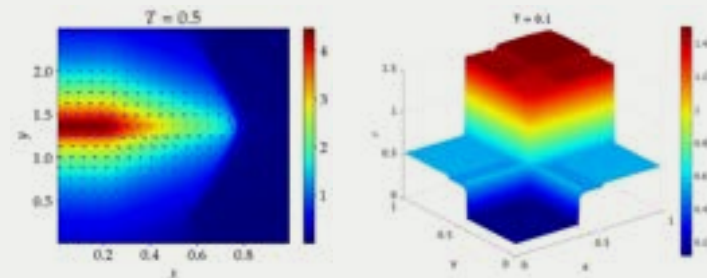


Numerical methods for PDEs



K. R. ARUN

Associate Professor



Ion extraction from a quasi neutral plasma in an electrostatic field. Density profile and velocity quivers (left). Shock waves in a 2D Riemann problem of compressible gas dynamics.

Asymptotic and structure preserving schemes for singular limits of hydrodynamic models. We consider systems of conservation laws modelling compressible fluids and plasma fluids. Such systems give rise to several non-dimensional parameters, e.g. the Mach, Froude, Rossby numbers, scaled Debye lengths and so on which characterises the multiscale nature of the solutions. Our research focuses on developing efficient numerical schemes for such models when one or more of characteristic parameters show a limiting behaviour. The main challenges to address are maintaining the energy stability and accuracy, preserving the positivity of quantities like mass, temperature etc. and capturing the complex flow dynamics containing shock discontinuities.

Dissipative measure-valued (DMV) solutions of compressible fluid equations. We study weak limits of numerical solutions generated by stable and consistent approximation schemes. It turns out that the limit does not belong to classical distributions, but give rise to a new class of solutions known as DMV solutions which can be represented by Young measures. We design and analyse structure preserving numerical schemes of compressible Euler-like systems and the DMV solutions generated by them.

Numerical Analysis, Scientific computing, Optimal Control of PDEs, Computational Biology, High-Performance Computing, Computational Fluid Dynamics, Modeling and Simulation of Multiscale Problems, Scientific Machine Learning



Nagaiah Chamakuri

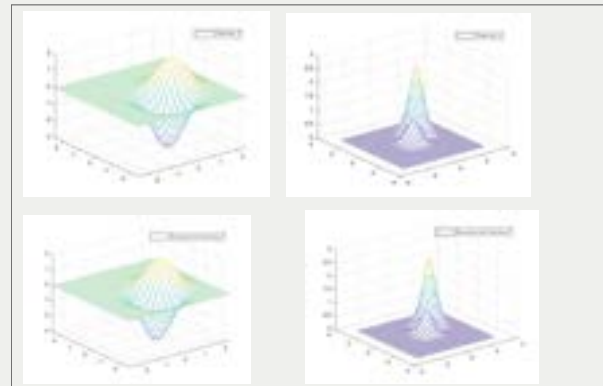
Associate Professor

Our group explores numerical tractability of bidomain equations, modeling and optimal control of electrical activity of heart, finite element methods, multiscale modeling and simulation of biological problems, various linear and non-linear models, and the development of computing technology for large scale problems.



P. Devaraj
Associate Professor

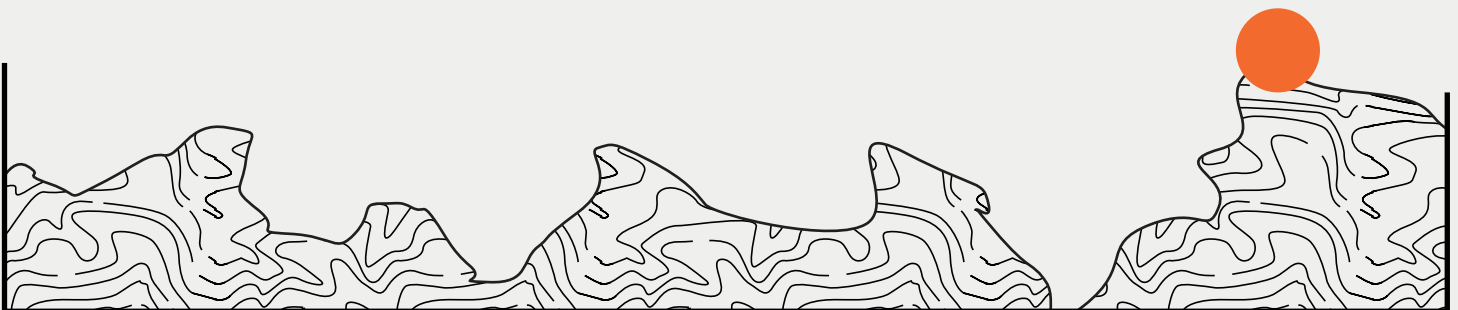
Harmonic Analysis



The research deals with the analysis of certain convolution operators on locally compact groups. For a given compactly supported measure on a locally compact group, the convolution of a continuous function with a measure gives the local moving averages of the function considered. The main focus of the analysis has two parts namely, analysing the range of such operators and providing suitable methods for reconstruction of continuous functions from their local moving averages.

Certain computational aspects of above research focuses upon reconstruction of the analog signals from their digitized versions called samples (or local weighted average samples) over various signal classes like shift invariant spaces and spline spaces.

Besides these, another research includes the duality principle in Gabor analysis.



Linear Algebra, Matrix Analysis

Our main research focus is in linear algebra and matrix analysis. Our current interests include (1) structure and linear preservers of certain positivity classes of matrices (2) perturbation results for matrix polynomials and rational matrices and (3) linear algebra & dynamical systems.



SACHINDRANATH JAYARAMAN

Associate Professor

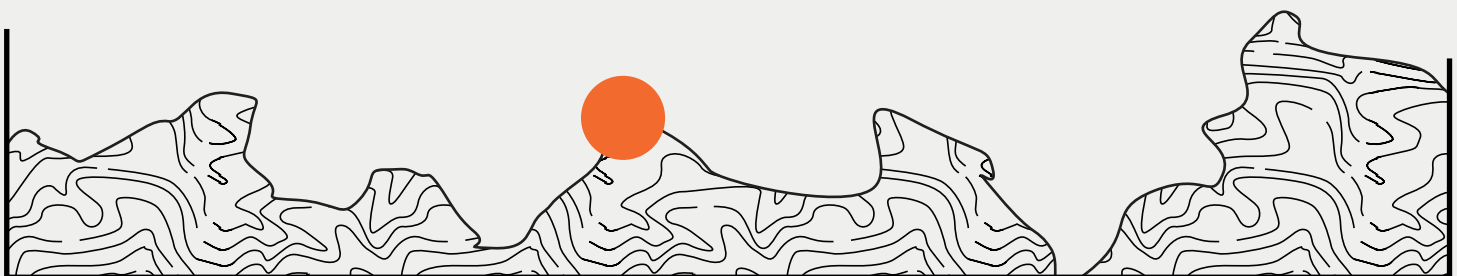


SAIKAT CHATTERJEE

Associate Professor

Geometry over Lie Groupoids and Stacks

After the development of gauge theory and Yang-Mills theory in physics, the bundles and connections were introduced to provide a precise mathematical framework, which subsequently became one of the main themes of modern differential geometry. On the other hand, mainly due to Grothendieck, the language of category theory became pivotal in expressing many abstract structures in geometry and topology. Our main focus is the study of bundles and connection structures over some specific type of categories, such as Lie groupoids and stacks.



Algebraic Geometry

Our lab focus is mainly on moduli space related problems on higher dimensional variety and questions on endomorphisms of endomorphisms of Fano varieties.



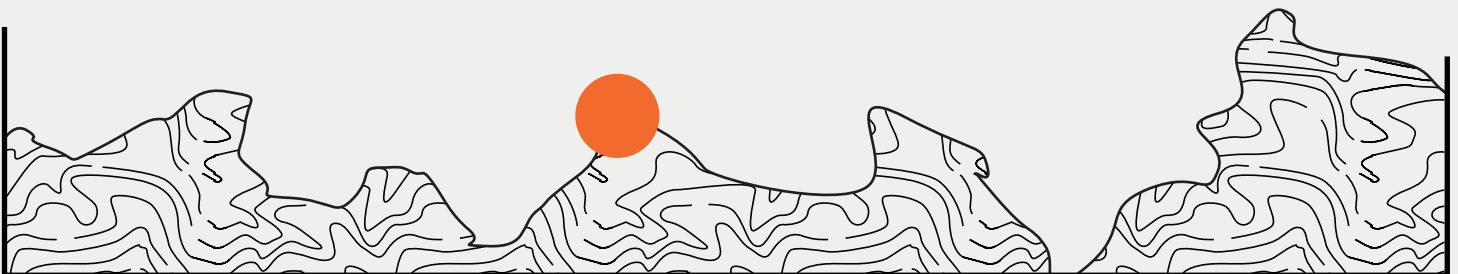
Sarbeswar Pal
Associate Professor

Complex Dynamics and Ergodic



Shrihari Sridharan
Associate Professor

Holomorphic, non-invertible dynamical systems of the Riemann sphere are surprisingly intricate and very captivating. Our research interests focus mainly on such complex dynamical systems. We have contributed towards various aspects in finer analysis of Julia sets of maps: polynomials, rational functions and closed. We also work on systems of holomorphic etc, both open correspondences, correspondences generated by a finite rational semigroup, ergodic theory and other related areas.



Number Theory, Graph Theory and Combinatorics

Our primary areas of interests are arithmetic geometry (elliptic Curves, modular forms & Galois representations), analytic, algebraic and additive number theory. Secondary areas of interests are Graph theory and Combinatorics.



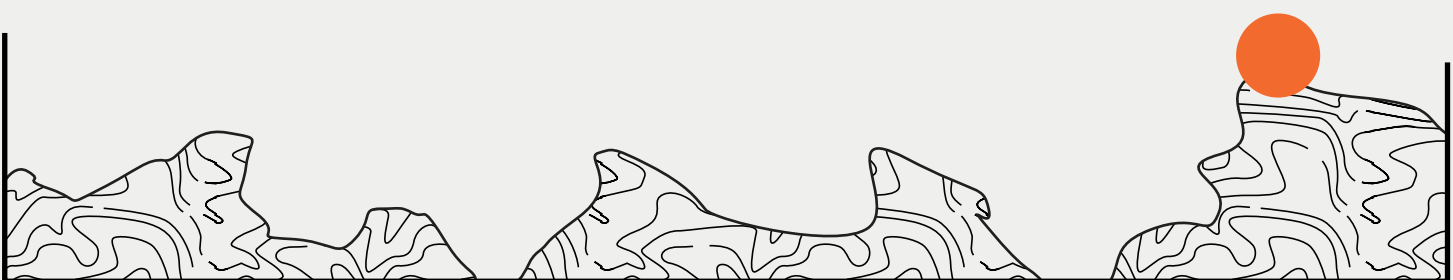
Srilakshmi Krishnamoorthy
Associate Professor

Commutative Algebra, Homological Algebra, Group Theory

In the past few years, we have been working on Schur's exponent conjecture, which states that for a finite group G , the exponent of the second homology of G with integer coefficients divides the exponent of G . We have proved Schur's exponent conjecture in several cases. We have also given bounds on the size of Schur multiplier of special p groups improving all previously known bounds for this class and thereby addressing a question of Berkovich.



VIJI Z. THOMAS
Associate Professor





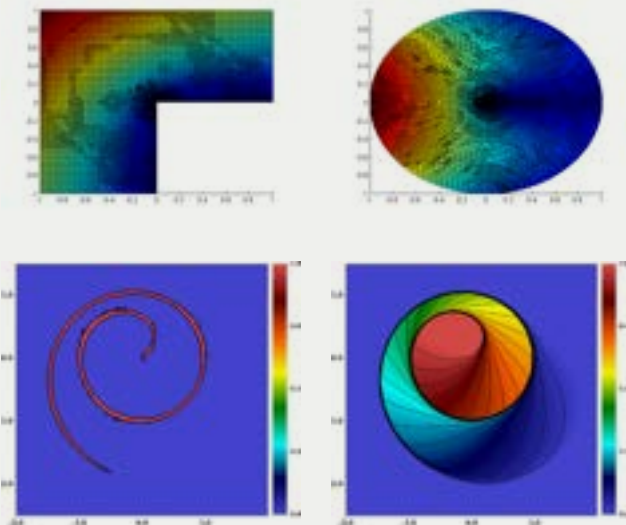
DHANYA RAJENDRAN

Assistant Professor

Elliptic Partial Differential

Recently, we have developed a keen interest in studying elliptic problems that involve double-phase operators, specifically the p - q Laplacian and fractional p - q Laplacian. Our focus lies in establishing the qualitative properties of solutions to these problems. This encompasses investigating the existence, uniqueness, and multiplicity of solutions for nonlinear problems that incorporate double-phase operators. Furthermore, we are actively exploring parameter estimates, regularity results, and other related aspects.

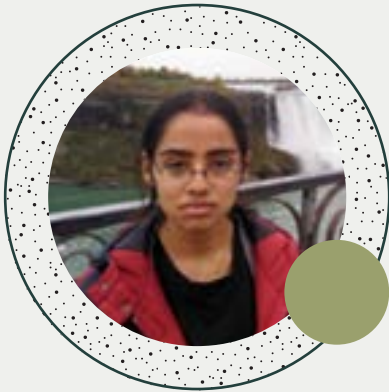
Numerical analysis, Adaptive FEM for PDE, Optimal Control Problems, Convergence Analysis



Dond Asha Kisan

Assistant Professor

Asha Dond interests include the study of the finite element methods (FEM), adaptive FEM, stabilized FEM and convergence analysis of these methods for the second-order elliptic partial differential equations. Finite element methods are elegant and powerful techniques used to compute the numerical solution of initial and boundary value problems. Furthermore, adaptive FEM is a well-known algorithm for computing numerical solutions with minimal computational effort



Jyothsna S
Assistant Professor

Algebraic number theory, Sieve methods

My primary research interest lies in tackling problems that arise in Algebraic number theory using techniques from Global class field theory, Sieve theory and Multiplicative number theory. I have worked on problems related to finding Euclidean domains among rings of integers, Artin’s primitive root conjecture, Linnik’s problem, Hasse failures and Analogues of the Brun-Titchmarsh theorem.

Selected Publications:

1. A note on the two variable Artin’s conjecture, S. Hazra, M. Ram Murty, J. Sivaraman, *Journal of Number Theory*, 262 (2024), 161-185.
2. On existence of Euclidean ideal classes in real cubic and quadratic fields with cyclic class group, S. Gun, J. Sivaraman, *Michigan Mathematical Journal*, 69 (2020).
3. On Euclidean ideal classes in certain Abelian extensions, J.-M. Deshouillers, S. Gun, J. Sivaraman, *Mathematische Zeitschrift*, 296 (2020).

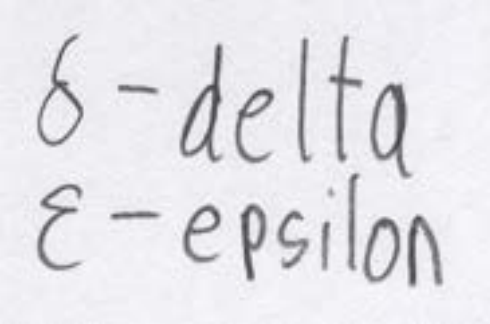
Operator Theory and Functional Analysis

Our research focuses on the field of Operator Theory, with a particular emphasis on Hilbert spaces composed of analytic functions. This area of investigation involves utilizing tools and techniques that intersect with various disciplines, including functional analysis, harmonic analysis, and complex analysis. Currently, we are interested in studying higher order weighted Dirichlet integrals and its various properties in order to understand the structure of the analytic m -isometric operators on Hilbert spaces and the structure of its invariant subspaces



Md. Ramiz Reza
Assistant Professor

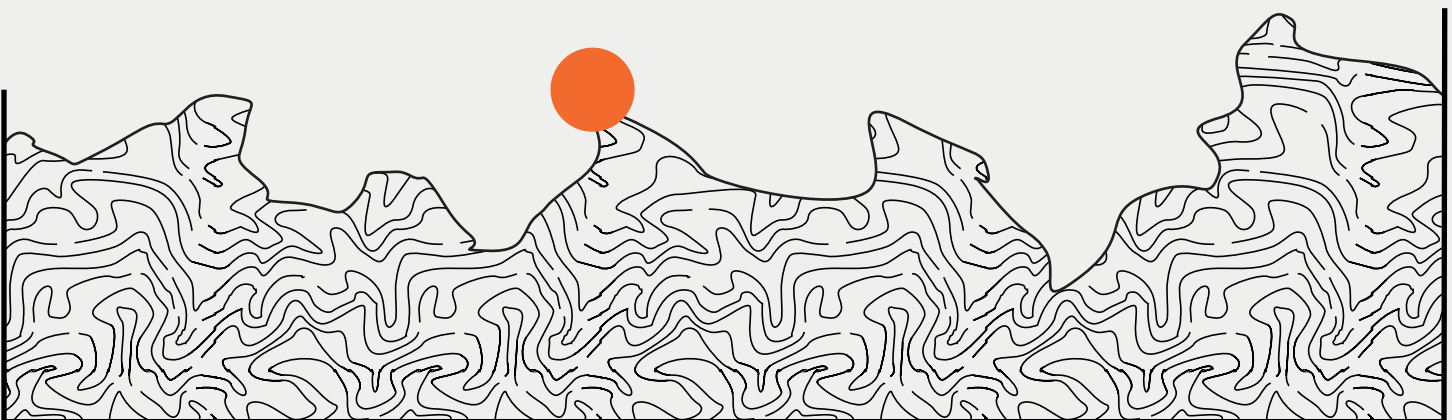




Samya Kumar Ray

Assistant Professor (Grade I)

My broad areas of research are functional analysis and harmonic analysis. My principle area of research is analysis on noncommutative L_p -spaces. Primarily, I am interested in establishing noncommutative analogues of classical results in harmonic analysis, ergodic theory and functional analysis. I am equally interested in purely classical problems in operator theory, harmonic analysis and functional analysis. More specifically, my current interests lie in the study of noncommutative maximal ergodic inequalities for actions of semisimple Lie groups and individual ergodic theorems, noncommutative maximal inequalities for ball averages on symmetric spaces, noncommutative Calderón-Zygmund operators, isometries between noncommutative L_p - spaces, Parrot like homomorphisms, von Neumann inequality and connection to random matrices, Grothendieck inequality and Banach space geometry, joint p -polynomial boundedness and column-row property on operator spaces. In past, I have also worked on functional calculus of Ritt operators, multivariate Halmos similarity problem, dilation on commutative and non- commutative L_p -spaces and Matsaev's conjecture, isometric embeddability between noncommutative L_p -spaces and column-row property. I use various tools from operator algebras, operator space theory, probability theory, Fourier analysis and geometry of Banach spaces in my research.

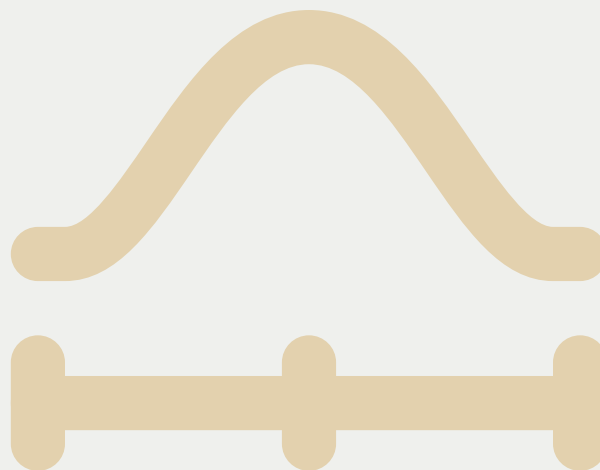


Hyperbolic Conservation Laws, High-Order Schemes, Conservation Laws with Discontinuous Flux, Flow in Porous Media

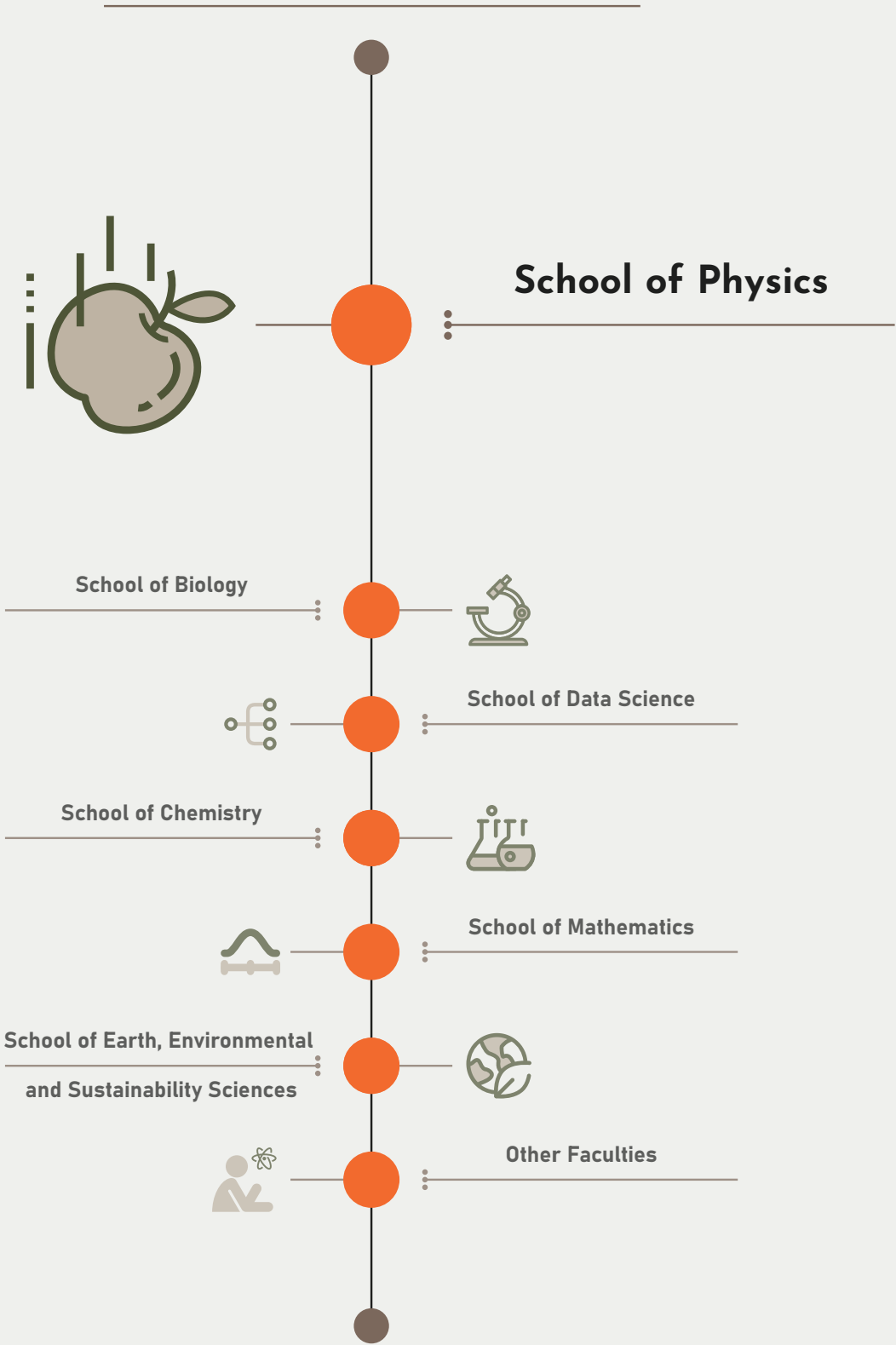
The Lax-Wendroff method is a single step method for evolving time dependent solutions governed by partial differential equations, in contrast to Runge-Kutta methods that need multiple stages per time step. We develop a flux reconstruction version of the method in combination with a Jacobian-free Lax-Wendroff procedure that is applicable to general hyperbolic conservation laws. The method is of collocation type, is quadrature free and can be cast in terms of matrix and vector operations. Special attention is paid to the construction of numerical flux, including for non-linear problems, resulting in higher CFL numbers than existing methods, which is shown through Fourier analysis and yielding uniform performance at all orders numerical results up to fifth order of accuracy for linear and non-linear problems are given to demonstrate the performance and accuracy of the method.



Sudarshan Kumar K
Assistant Professor



Research Reports - 06

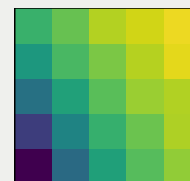
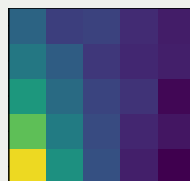




Quantum computing, information theory and quantum technologies. Open quantum dynamics, Simulation of molecular systems on quantum computers, Quantum Biology.

Anil Shaji

Professor



Scaling of the measurement precision with the resources that are used in noisy quantum metrology. The plots show that in regimes with low noise, a class of quantum states called Dicke-states can be used to perform quantum limited measurements with better than classical scaling while at high noise regimes, a different class of states called “X-states” perform better.

Exploring the limits of precision that can be obtained when quantum states are used as probes for performing sensitive measurements was one of the areas of research pursued. Quantum limited measurements in the presence of noise in the quantum probes was studied and the performance of large classes of experimentally accessible quantum states of collections of atoms as quantum probes were characterized. Identifying the resources that make mixed state quantum computing possible was another of research taken up by the group during the past year. We traced how quantum correlations flow through a quantum circuit in the context of measurement-based quantum computing and identified the role of non-Clifford operations in generating such correlations.

Another research area that was pursued was modelling the evolution of quantum fields using present-day quantum computers. Using the light-cone formulation of the theory, we showed that it is possible to simulate simple field theories on a few qubits and extract useful and measurable quantities out of the simulation.

Other areas of research pursued by the group included simulation of complex molecular systems on the small-scale quantum information processors that are available over the cloud. Extension of this to effectively handle molecular dynamics is also an active area of research. The group is continuing research into the theory of non-Markovian open quantum dynamics and generating a simple catalog of the consequences of various simplifying assumptions that are necessarily made when mathematically describing such dynamics. As support to the ongoing project in IISER TVM on building a few-qubit quantum computer using silicon quantum dot-based qubits, theoretical support in terms of materials and device modeling is also done in the group. One-sided device-independent quantum key distribution, non-classical correlations in three party scenarios, machine learning for improving quantum gates in specific architectures etc. are other related projects taken up the group members.

Experimental Condensed Matter Physics

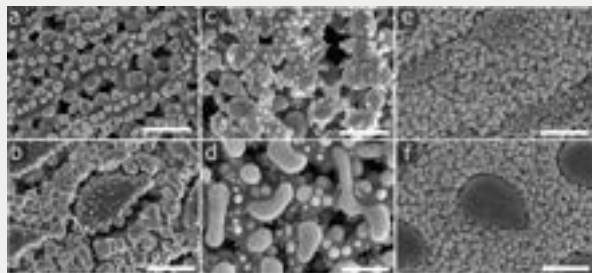


Figure 1: Secondary electron images of variously reduced NiTiO₃ samples showing Ni nanoparticles decorating TiO₂ matrix.

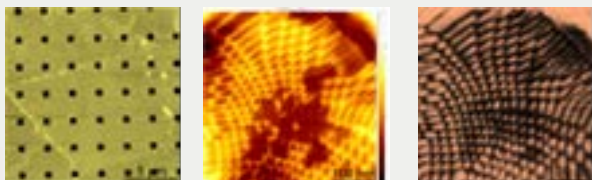


Figure 2: (a) AFM topography of a bi-layer MoS₂ on a SiO₂/Si substrate patterned with square holes. (b-c) topography and phase contrast on MoS₂ bi-layer suspended over the holes showing a complex wrinkle pattern.

and researches avenues for harnessing them for novel applications.

Collaborating with scientists from the Institute of Electronic Materials Technology, Poland, we are researching the eutectics of NiO-TiO₂ for potential optoelectronic applications. By incorporating Ni nanoparticles onto the TiO₂ backbone, our samples offer a unique platform for investigating various areas, including optoelectronics, catalysis, thermoelectrics, and plasmon-exciton interactions in hybrid systems.

Electrical noise in granular gold networks arises from fluctuations in charge carriers density or trapping/de-trapping processes at the boundary of interconnected gold grains. We study thermal and flicker noise (1/f noise) as a function of temperature, strain and optical excitation to gain insights into quasiparticle interactions, especially near critical points. Noise spectroscopy is an effective tool for optimising the performance of sensors, interconnects, and detectors and predicting failure.

Investigate effects of strain on 2D quantum materials (WS₂ and MoS₂ flakes) via correlating spatially resolved spectroscopic maps with electrical, electronic, and mechanical properties. We aim to understand how non-uniform local strain induces spatial heterogeneity in the optoelectronic properties of 2D layered materials. These insights are crucial for exploring potential applications of strain-induced enhancement of device performance.



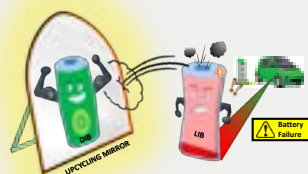
Joy Mitra
Professor

Dr Joy Mitra's group primarily studies fundamental physical phenomena realised at surfaces and interfaces via spatially and temporally resolved spectroscopic, electrical transport and optoelectronic response studies

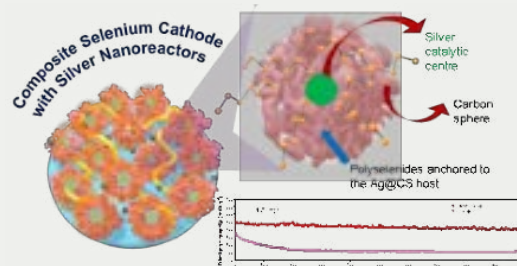
Energy storage and Conversion, Rechargeable batteries, 2-Dimensional Materials



M M Shaijumon
Professor



The prospects of upcycling spent lithium-ion batteries to dual-ion batteries are probed.



A silver centred carbon host for lithium selenium battery cathode is developed by a simple microwave assisted approach.

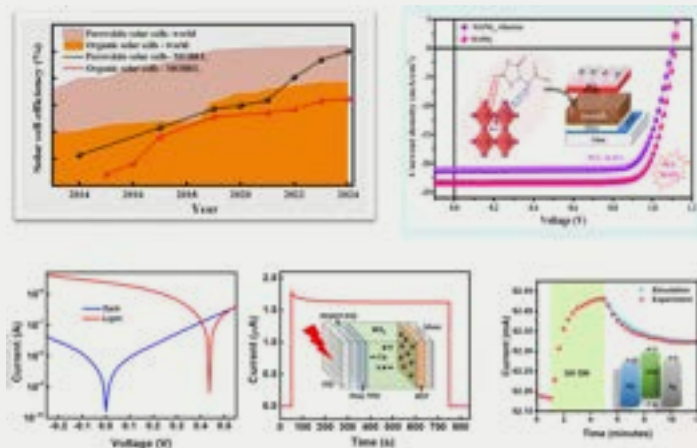
Dr. Shaijumon's group is involved in research on materials science and physics of various energy storage and conversion systems that will have huge impact on our society. The group's work is mainly focused on two areas; (i) 2-dimensional layered nanomaterials and (ii) High performance energy generation and storage systems, with a focus on experimental analyses to understand the underlying physical phenomena in these systems. During 2023-2024, our research efforts have been focused on both energy conversion and storage studies. In one of the recent efforts, we demonstrated an energy-efficient and scalable single-step approach for the electrosynthesis of ruthenium nanocluster decorated nickel diselenide catalysts for high-performance and stable alkaline water splitting application. The research activities related batteries was also very active, wherein we demonstrated an efficient process for upcycling spent lithium ion battery cathodes to lithium dual ion battery anodes. We have been actively collaborating with several of my colleagues in different topics such as optoelectronics devices and organic electrode materials.



Photoinduced free carrier generation, recombination and optoelectronic properties of devices made using organic, organic-inorganic hybrid, 2D, nano and quantum materials.

Manoj A. G. Namboothiry

Professor



Achieved an efficiency of $\sim 16\%$ for organic solar cells utilizing metal nanoclusters and non-fullerene acceptors and 23.5% for perovskite solar cells. Charge carrier dynamics in organic and perovskite solar cells are studied by various characterization techniques.

Demonstrated a robust approach that concurrently manages crystal growth and defect passivation within the perovskite layer through the introduction of a small molecule additive-allantoin to achieve an efficiency of 20.63% in methyl ammonium based perovskite solar cells. Moreover, Poly-TPD is used to modify the surface of PEDOT: PSS films in perovskite solar cells.

Demonstrated a method to improve the photostability and hysteresis in perovskite solar cells by controlling the lead halide residue.

Sequential photoluminescence spectra with varying delay times between scans (SPSVDT) is explored as a strategy to investigate the dynamics of electron de-excitations in such systems with zinc oxide (ZnO) thin films, a prototypical material exhibiting slow photoresponse, as a model.

Studied the origin of anomalous transient photocurrent in solution-processed WS₂ nanosheet-based self-powered photodetectors

Carried out SCLC measurements in engineered columnar liquid crystal for solution-processable nanoelectronics

Experimental Condensed Matter Physics



Ramesh Chandra Nath
Professor

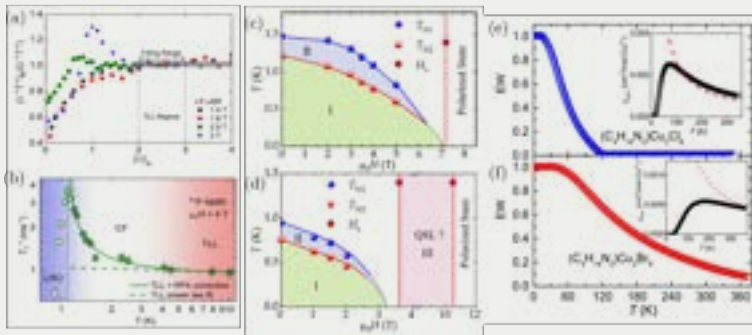
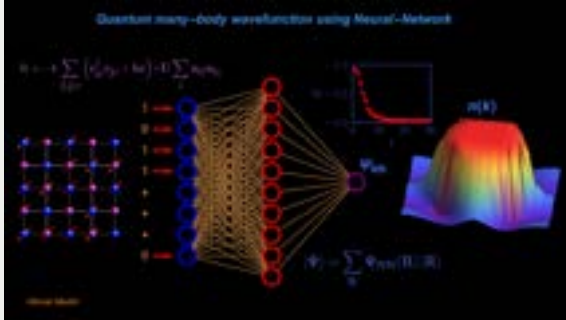


Fig. (a) Normalized $\lambda^{-1}T^n$ vs T/T_N to show the collapse of data sets in different fields onto one line. (b) The RPA+TLL fit (solid line) to the $1/T_i(T)$ data at 4 T. T vs H phase diagram for (c) $\text{Sr}_3\text{CoNb}_2\text{O}_9$ and (d) $\text{Sr}_3\text{CoTa}_2\text{O}_9$ constructed using the heat capacity and magnetization data. The exotic-field induced regime (III) between H_{S1} and H_{S2} for $\text{Sr}_3\text{CoTa}_2\text{O}_9$ (e) Entanglement witness vs T for spin-ladder compounds $(\text{C}_4\text{H}_{14}\text{N}_2)\text{Cu}_2\text{Cl}_6$ and $(\text{C}_4\text{H}_{14}\text{N}_2)\text{Cu}_2\text{Br}_6$. Insets: χ_{spin} vs T along with the entanglement boundary (dashed line).

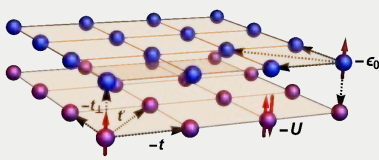
Prof. Ramesh Nath's group focuses on discovery of new materials based on transition metal and rare-earth ions and investigate their structural, electronic, magnetic, thermal, and dynamical properties using various experimental tools under extreme conditions i.e. at ultrahigh/ultralow temperatures, under high magnetic fields, and under high pressure. His research group aims at the fundamental understanding of the complex and emergent electronic and magnetic phenomena in strongly correlated electron systems and frustrated quantum magnets. In these materials, the charge, orbital, spin, and lattice degrees of freedom are often intertwined with each other leading to a variety of macroscopic properties which are having both fundamental as well as applied importance such as high temperature superconductivity, spin liquids etc. Some of the recent research highlights are:

- Double magnetic transitions, complex field induce phases, and large magnetocaloric effect in the frustrated garnet compound $\text{Mn}_3\text{Cr}_2\text{Ge}_3\text{O}_{12}$
- Disordered ground state in a spin-orbit coupled pseudospin-1/2 cobalt-based metal-organic framework magnet with orthogonal spin dimers
- Repulsive Tomonaga-Luttinger Liquid in quasi-one-dimensional alternating spin-1/2 antiferromagnet NaVOPO_4
- Crystal structure and magnetic properties of spin-1/2 frustrated two-leg ladder compounds $(\text{C}_4\text{H}_{14}\text{N}_2)\text{Cu}_2\text{X}_6$ ($\text{X} = \text{Cl}$ and Br)
- Structural and double magnetic transitions in the frustrated spin-1/2 capped-kagome antiferromagnet $(\text{RbCl})\text{Cu}_5\text{P}_2\text{O}_{10}$
- Double magnetic transitions and exotic field-induced phase in the triangular lattice antiferromagnets $\text{Sr}_3\text{Co}(\text{Nb,Ta})_2\text{O}_9$
- Disordered ground state in the spin-orbit coupled $J_{\text{eff}} = 1/2$ distorted honeycomb magnet BiYbGeO_5

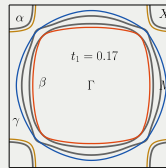
Condensed Matter Physics (Theory)



Schematic diagram of application of ANN to quantum system



A superconductor-metal bilayer system



Electronic correlation effect on Fermi surface



Amal Medhi
Associate Professor

Research in my group is focused mainly on physics of strongly correlated electrons in condensed matter systems. Strong electronic correlations in materials give rise to a hosts of novel phenomena which are fascinating yet very challenging for theoretical study. Our efforts have been to understand systems using various computational techniques, such as machine learning (ML) quantum Monte Carlo, slave-particle theory etc. We explored whether it is possible learn the ground state wave function of a fermionic many-body lattice Hamiltonian such as the Hubbard model which is at the heart of condensed matter theory, using ML techniques based on artificial neural-networks. Recently, we have proposed a new convolutional restricted Boltzmann machine (CRBM) based variational wave function for the fermionic Hubbard model. The resulting neural-network quantum state (NQS) is shown to outperform several other well-known variational wave functions for the model. We studied the effects of Hund's exchange coupling and spin orbit interaction on the ground state electronic properties of multi-band Hubbard model within the slave- spin mean field theory. We also studied the superconducting properties of a superconductor-metal bilayer using quantum Monte Carlo method and showed how the properties of the superconductor can be tuned by bringing it in proximity to a metallic band.

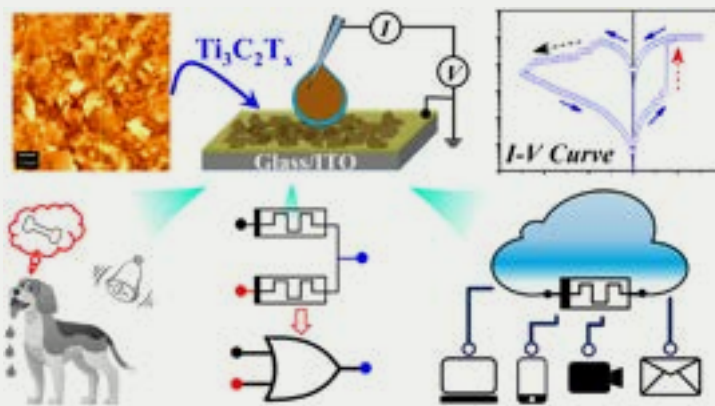
Semiconductor Physics and Devices



Bikas C. Das

Associate Professor

During this period, our group delved into the development of versatile memristor and self-powered photodetector devices, utilizing an array of advanced materials such as layered 2D van der Waals, layered MXene, and metal halide perovskite materials. Initially, we showcased a high-performance multifunctional memristor employing a thin film of liquid-phase exfoliated (LPE) 2D MoS₂ positioned between two electrodes. This memristor exhibited multifunctionality by executing two-input logic gate operations, edge computation, and adaptive learning, as exemplified by a Pavlovian conditioning experiment. This work has been published in **ACS Nano** 2024, 18 (1), 1137–1148. Subsequently, we presented another memristor device utilizing a two-dimensional titanium carbide (Ti₃C₂T_x) MXene thin film. Our Ti₃C₂T_x memristor proved to be remarkably versatile, serving as an all-in-one device for edge computation, logic gate operation, and classical conditioning, as documented in **ACS Appl. Mater. Interfaces** 2024, 16 (16), 20693–20704. In a separate endeavor, we reported a self-powered photodetector of exceptional performance, achieved by utilizing an all-inorganic CsPbBr₃ monocrystal directly grown in situ over a substrate with pre-patterned interdigitated gold (Au) electrodes. Notably, this device exhibited an extremely low dark current of about 1 fA at room temperature, a dark-to-light current ratio of 10⁷, a responsivity of 2 A/W, and a specific detectivity of 10¹⁴ Jones in self-powered mode. The self-powered operation was facilitated by a sufficient contact potential difference between the metal contacts due to unequal contact area, as detailed in **Phys. Rev. Applied** 2024, 21, 044015. Furthermore, we explored a novel device paradigm known as the iontronic memtransistor, employing superionic rubidium silver iodide (RbAg₄I₅) as the bilayer dielectric, along with a thin film polyethylene oxide (PEO) polymer and P3HT as the active channel layer. This pioneering work is documented in **Adv. Funct. Mater.** 2024, 34, 2304228.



The schematics and results represents the versatile memristor applications of titanium carbide MXene thin film

Conformal supergravity

Conformal supergravity is a theory of supergravity with additional symmetries. It is mainly used as a tool to construct the physical Poincare supergravity theories which realizes only the super-Poincare group of symmetries. The earlier construction of conformal supergravity theories greatly relied on the existence of a rigid superconformal algebra. During the period 1 April 2023 – 31 March 2024, we focused on the construction of conformal supergravity theories in the absence of a rigid superconformal algebra. It is well known from Nahm's classification that there is no rigid $N=2$ superconformal algebra in five dimensions. However, despite the absence of the rigid superconformal algebra, we found that one can have a theory of $N=2$ conformal supergravity in five dimensions. This theory descends from a $(2,0)$ theory of conformal supergravity in six dimensions via dimensional reduction. This work is submitted to JHEP and is currently under review.

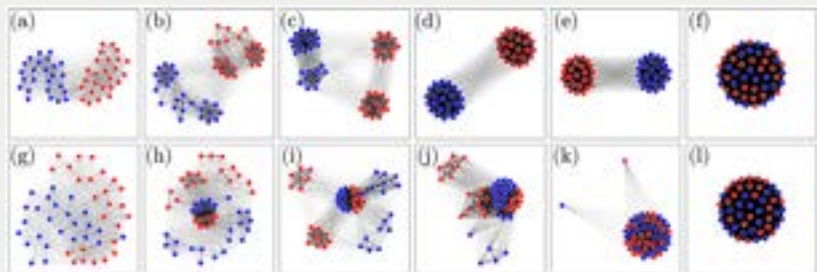


Bindusar Sahoo
Associate Professor



D. V. Senthilkumar
Associate Professor

Nonlinear Dynamics and Complex Systems



Nodal dynamics of the adaptive dynamical network with increasing coupling strength. Population A is shown in blue, and population B is shown in red. (a)-(f) illustrating single step transition to the global synchronization, (g)-(l) illustrating multi-step transition to the global synchronization.

Nonlinear Dynamics and complex systems group, led by Dr. D. V. Senthilkumar, is currently working on the emerging dynamics of complex networks with various topologies and their relevance to real-world phenomena. In particular, recent focus is on chimera states, a hybrid state with coexisting coherent and incoherent domains emerging from an ensemble of identical nonlinear oscillators by adopting various network topologies and models. Recently, his group is also working on enhancing the robustness of coupled oscillator networks despite the presence of a large fraction of local deterioration/failures in node dynamics by framing alternate mechanisms. For instance, his group introduced a simple limiting factor in the diffusive coupling, processing delay, and adaptive coupling in terms of low-pass

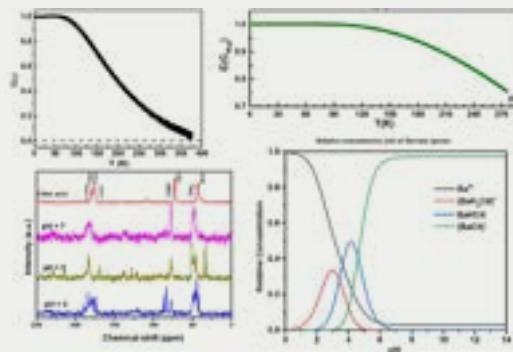
filters to improve the robustness of the macroscopic dynamics of the coupled oscillator networks.

We are also investigating the impact of simplicial complexes on the collective dynamics of various complex systems. We are also interested in formulating frameworks to mitigate failures of large classes of complex networks. Recently, we have devised a graph coloring framework to distinguish the immune nodes from the fragile set of nodes of complex networks. We are extensively working on the adaptive networks with various adaptation rules. Our recent interest is also vested in investigating the collective dynamics of networks of D-dimensional Kuramoto oscillators and D-dimensional limit-cycle oscillators. Nonlinear dynamics group is also working on the prey-predator interactions to understand the persistence and extinction of the ecological communities under global environmental change and to come up with the conservation measures to improve the persistence of the ecological communities. The group is also working on the dynamics of swarmalator collectives and their applications.



High temperature superconductivity, quantum phase transitions and charge transport at nano-scale

Deepshikha Jaiswal-Nagar
Associate Professor



Our group has a wide-ranging research interest in different phenomena such as strongly correlated electron systems, vortex physics, quantum criticality, quantum information theory, superconductivity and physics at nanoscale. Some of our broad areas of interest include quantum phase transitions, entanglement in low dimensional spin systems, high temperature superconductivity, charge transport at nanoscales, nanocluster physics, hydrogen sensing and hydrogen storage. We focus on materials discovery, in-house laboratory-based measurements like thermal expansion as well as scattering and spectroscopy experiments at large scale neutron and synchrotron facilities.

One of our group’s focus is to connect the quantum information content of a quantum many-body system with macroscopic thermodynamic variables like magnetic susceptibility and specific heat. In this regard, our group has found a new measure of bipartite entanglement of a one-dimensional dimer system called “distance between the states” and expressed it in terms of magnetic susceptibility and specific heat. We have, then, measured these thermodynamic variables on copper acetate, the celebrated dimer

system and found it to have a very high entanglement temperature of 300 K and above!
 We have done calculations on the PH variation and C/M variation of citrate to nitrate ratio to make nanosized, uniform and highly dense BaZrO₃ powders to help make crucible of BaZrO₃ which is known to be an inert crucible in which single crystals of YBa₂Cu₃O_{6+x} can be grown with excellent purity. We have also made the vortex phase diagram of an oxygenated YBa₂Cu_{3-x}Al_xO_{6+δ} where we found flux jumps in the odd quadrants of the M-H loop and have a model of cluster of (Al-O-Cu-O)_n and (Cu-O-Cu-O)_n in the basal plane of that have different pinning characteristics to explain the differences of the vortex phases.

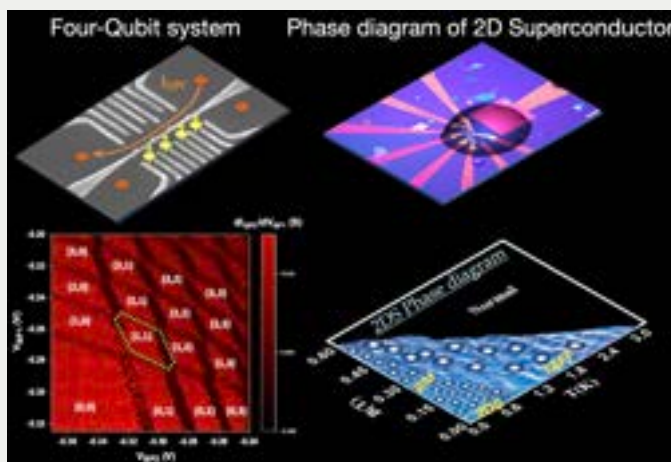


Quantum dot spin qubits, Quantum electrical sensing & metrology, 2D superconducting circuits.

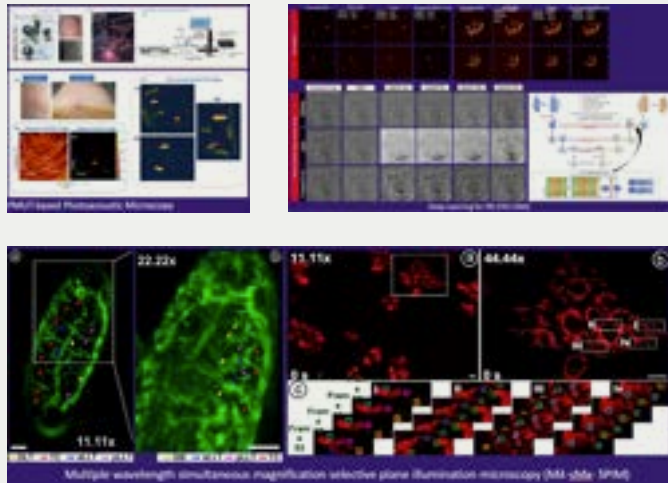
Madhu Thalakulam
Associate Professor

Madhu Thalakulam heads the Quantum Transport Lab with the goal of studying, tailoring, and utilizing various quantum transport phenomena to improve our understanding of fundamental problems, pushing the limits, and revolutionizing device technology. With hands-on experience in the design, fabrication, and measurement of devices operating in the quantum regime, the group specializes in ultra-low-temperature electrical transport measurement on systems such as gated quantum dots for spin qubit applications, quantum point contacts for the realization of ultra-sensitive electrical sensors operating in the quantum regime, and novel 2D superconducting systems for both improving our fundamental understanding of the phenomena and for future technological applications such as quantum electrical metrological circuits.

The current research focus is (i) the development of a few qubit quantum processors based on electron spins confined in gated quantum dots on Si/SiGe and GaAs/AlGaAs heterostructures. (ii) development of ultra-fast and ultra-sensitive electrical amplifiers operating in the quantum regime based on quantum point contacts on GaAs/AlGaAs system, and (iii) Development of 2D superconducting circuits based on NbSe₂ and MoS₂. The group has recently demonstrated the formation of a 4-qubit system on GaAs/AlGaAs system, the noise-limited operation of quantum point contact based electrical amplifiers, 2D superconductivity, and novel quantum phases such as Bose Metal phase on liquid-gated, few-layered MoS₂ devices.



Biomedical and Nano-bioscience Engineering Lab. (BnBEng.LAB)



Mayanglambam Suheshkumar Singh
Associate Professor

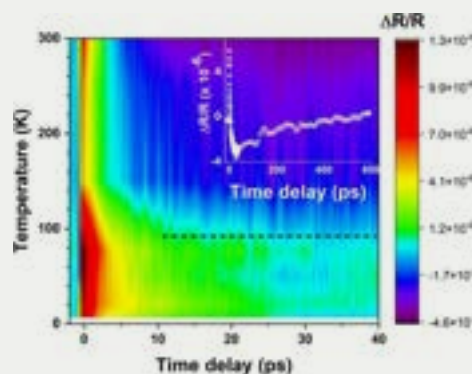
Research Outputs/Contributions: In this last one-year (April, 2023-March, 2024), our research group developed and reported: (i)

MEMS PMUT-based photoacoustic imaging (PAI) modality using single element which is a direction towards development of miniaturized PAI system and global commercialization as a make-in-India product, (ii) deep-learning based PAI modality that enables to reconstruct images without any image reconstruction algorithms, and (iii) multi-wavelength simultaneous magnification selective plane illumination microscopy (M λ -sMx-SPIM) that uniquely to image alive (larger ~1-2mm) biological specimen non-destructively but also to image multiple frames simultaneously in real-time and to provide 3D images of the specimen (at any optical wave-length in the range from 400-700nm).



Rajeev N Kini
Associate Professor

Ultrafast and Terahertz spectroscopy



"Temperature-dependent ultrafast hot carrier dynamics in the dilute bismide alloy GaSb_{1-x}Bi_x (x \approx 0.4%)", J. Appl. Phys. 135, 035701 (2024)

We examined temperature-dependent hot carrier dynamics in GaSb_{1-x}Bi_x epilayers grown via liquid-phase epitaxy with low concentrations of Bi ($x \lesssim 0.4\%$). Utilizing degenerate pump-probe transient reflectivity (PPTR) at $\lambda = 800$ nm, we investigated carrier dynamics. Two transient processes, fast and slow, were observed across all temperatures and epilayers. The fast relaxation time of hot carriers, due to intervalley scattering and thermalization (< 100 K), increased with temperature (≈ 0.8 – 2 ps at 6.6 K to ≈ 4 – 5 ps at 300 K). At higher temperatures (> 100 K), interband CHSH-Auger recombination prolonged the slower decay time. These findings provide insights for optimizing GaSbBi for hot carrier solar cells. [J. Appl. Phys. 135, 035701 (2024)]

Another study focused on electroluminescence (EL) properties in an optically pumped GaAsBi-GaAs heterojunction p-i-n diode. GaAsBi-GaAs quantum well excitonic transitions dominated EL, except at low temperatures where luminescence from Bi-induced localized states also influenced it. Optically pumped EL exhibited negative thermal quenching, with room-temperature intensity surpassing that at 22 K due to thermally induced tunneling of photo-generated carriers into the GaAsBi quantum well. [Appl. Phys. A 129, 603 (2023)]

Nonlinear optics, Frequency combs, Microwave Photonics



Ravi Pant
Associate Professor

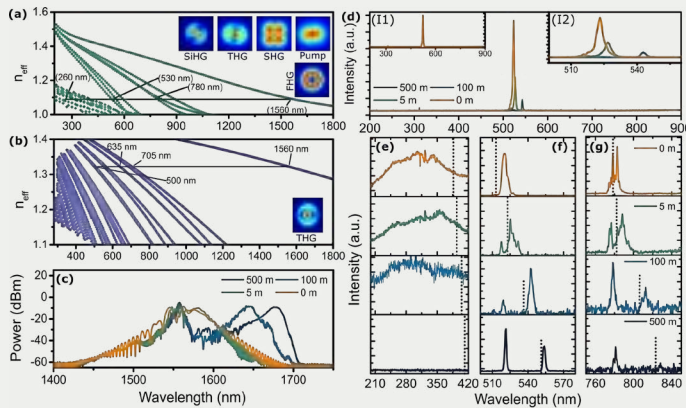


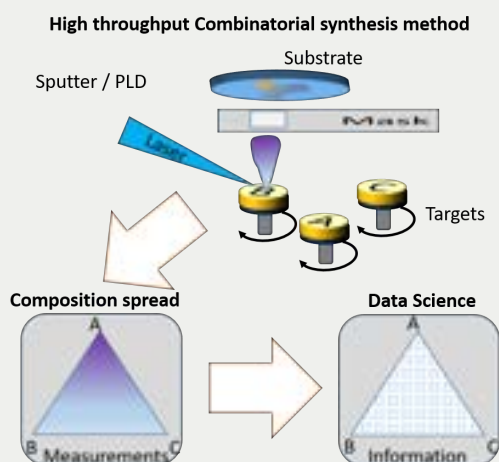
Figure: Tunable frequency combs in the visible wavelength region through the second-, third-, fourth- and sixth-harmonic generation of the self-frequency shifted mode-locked IR pulses, and intermodal phase matching in dispersion engineered silica nanowire. **Ref: Akhileshwar Mishra, Seth Mathew V, and Ravi Pant, Physical Review Research 5, L022020 (2023).**

Over the past year, my group demonstrated tunable frequency combs across different wavelength bands in the visible region. We harness the soliton self-frequency shift (SSFS) of sub-nJ energy mode-locked IR pulses in a standard single-mode silica fiber and combine

it with the up-conversion, through cascading of optical nonlinearities, in a dispersion-engineered silica nanowire to achieve wideband tuning of the second-, third-, fourth-, and sixth-harmonic generated (SHG, THG, FHG, SiHG) signals. By varying the fiber length and the IR pump power, we Raman shift the pump wavelength from 1560 to ~ 1750 nm using the SSFS and use it to tune the wavelengths of the THG and SHG signals in a 10 -mm-long silica nanowire from 520 to 578 nm and 780 to ~ 850 nm, respectively. Four-wave mixing between the THG and SHG signals creates a tunable signal close to the fourth-harmonic

(390 nm), and SHG of THG creates a tunable SiHG in the deep UV (260 nm). The generation and tuning of deep UV (~260 nm) to near-IR combs (~780 nm) using redshifted IR solitons demonstrate that the cascading of optical nonlinearities in a silica nanowire enables spectral translation between wavelength regimes that are more than five octaves apart.

Wide bandgap materials and devices



Kumaragurubaran Somu
Associate Professor

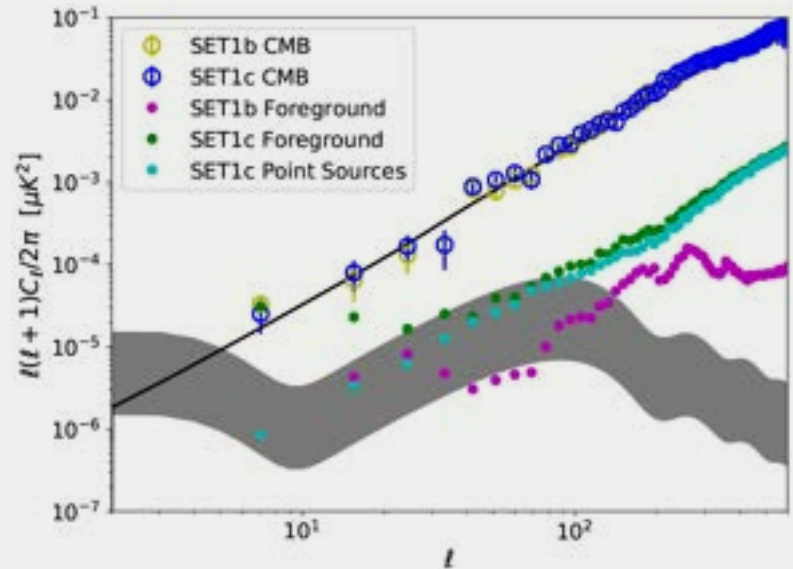
A collaborative research between IISER Thiruvananthapuram and National Institute for Materials Science, Japan established through DST-JSPS with an objective to control the physical properties of Ga_2O_3 , a promising power semiconductor, helped to initiate thinfilm combinatorial research in India. For tailoring the physical properties of Ga_2O_3 , we alloy with In_2O_3 . Generally, this involves a multi-step process of preparing several samples with various compositions and evaluation of the relevant properties of each of them. But, here we synthesized the alloy in a single step process by making a thinfilm composition spread of individual oxides and investigate the physical properties. This synthesis process is called as Combinatorial synthesis process. Through the collaborative program, we were able to access advanced technology for materials screening and an advanced combinatorial synthesis equipment is now being developed at IISERTVM through another Indian project entitled 'Non-volatile resistance switching memory on SiC for harsh environment applications' sanctioned by SERB, to the tune of INR 37,77,400/-, for a period of 3 years. In parallel, efforts are being made to sustain the research on Diamond and SiC with an aim towards practical-device applications.



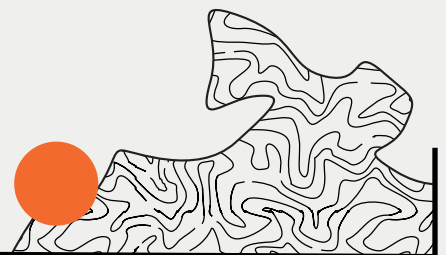


Soumen Basak
Associate Professor

Cosmology and Gravitational Wave Astronomy



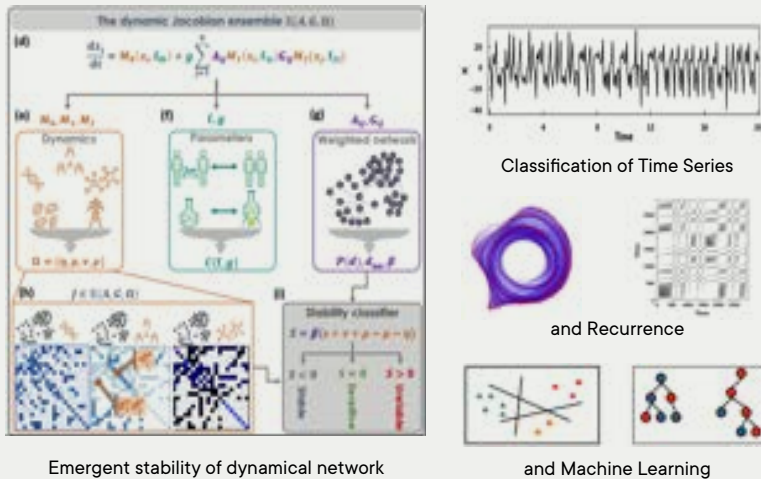
Dr. Soumen Basak’s research primarily centers on the observation of the Cosmic Microwave Background (CMB), the reverberation of the Big Bang, and the analysis of cosmological and astrophysical datasets. His recent endeavors delve into discerning the optimal methods for detecting Gravitational wave signatures within the CMB polarization through multifrequency sky observations. Central to his pursuits are the scientific implications of CMB polarization’s B-modes, the cosmological Gravitational Wave’s primordial power, and the Gravitational Lensing’s effects on the CMB. Engagingly, his team actively contributes to the “Foreground Working Group” of the CMB-Bharat satellite mission, forecasting its potential through meticulous assessments. Dr. Basak nurtures an ongoing partnership with the Laser Interferometer Satellite Antenna (LISA), leveraging the consortium’s extensive resources. LISA’s overarching goal is to identify Gravitational waves from various astrophysical phenomena, including supermassive black holes and extreme mass ratio inspirals, previously undetectable by ground-based missions like LIGO-Virgo. Presently, Dr. Basak’s group actively engages in the “Artefact Working Group” of LISA, focused on exploring the effects of data gaps on Massive Black Hole Binary signal analysis.



Nonlinear Dynamics, Complex Networks, Stability Analysis, Machine Learning Algorithms



Chandrakala Meena
Assistant Professor (Grade I)



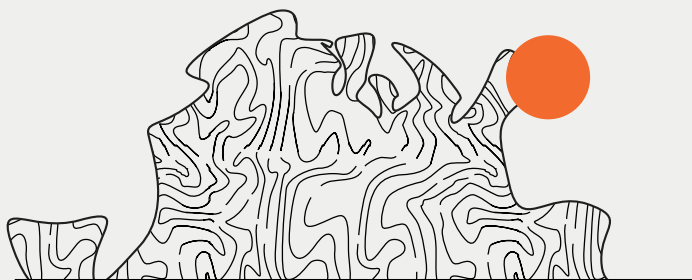
Emergent stability of dynamical network

and Machine Learning

Research in my lab aims to understand and predict complex systems' behavior using simulations of networked models, data analysis and machine learning approaches.

This year, in the paper Chandrakala et al. published in Nature Physics in 2023, we have shown that the actual behavior of the complex system is strongly intertwined with the network structure and dynamics. In addition, we have also found that heterogeneity of network structure enhances the stability of complex systems. Our finding solved 50 years old existing paradox 'Diversity Vs. Stability' in ecology and we believe that our developed theory, further will help in incorporating the effect of network structure and dynamics to solve many existing problems in our real life.

In the paper, Dheeraja et al. published in Chaos in 2024, we demonstrate how to detect the dynamical behavior of nonlinear time series data using recurrence measures and a machine learning approach. We trained the ML models using synthetic generated time series data and tested real data on these models. Successfully, we were able to detect the dynamical behavior corresponding to the real time series data. This article has been selected as an Editor's Pick.

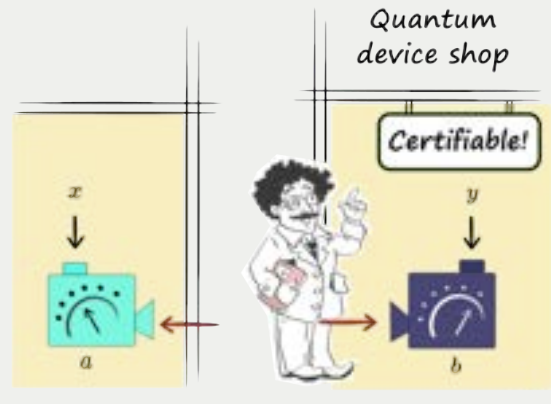




Debashis Saha

Assistant Professor (Grade I)

Quantum Information Theory, Foundations of Quantum Mechanics



To realize quantum technology and its enormous applications in information processing, it is of primary importance to certify that a quantum device operates in a nonclassical way. During this period, we invented novel certification schemes for various quantum multipartite-entangled states and incompatible quantum measurements. These certification schemes for quantum devices only rely on the input-output statistics or the empirical probabilities the devices generate. Moreover, they are feasible to implement with the off-the-shelf technology. Alongside, we showed that these certification methods can be used to perform quantum information processing, like, random number generation.

One of the tenets of quantum theory is that the physical properties of subatomic particles cannot pre-exist until they are observed. This counter-intuitive feature of quantum theory is called quantum contextuality. Despite the conceptual importance of contextuality in quantum theory, any direct application of contextuality was unknown. Using graph theory techniques, we showed that quantum contextuality provides enormous advantages in distributed computation and various communication protocols without requiring entanglement.

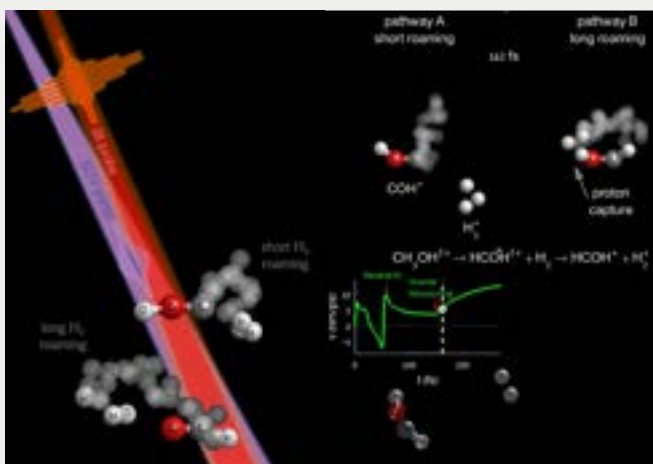
Apart from these, we explored the measurement problem of quantum theory in an operational approach and proposed thought experiments to test quantum correlations that are incompatible with the fact that measurement outcomes are objective.



1) Generation of attosecond pulse-train, Ultrafast molecular dynamics, 2) Interatomic Coulombic Decay, 3) Dissociative electron attachment process, 4) Laser Induced electron diffractions



Krishnendu Gope
Assistant Professor (Grade I)



Krishnendu Gope's group focuses on visualising ultrafast molecular dynamics experimentally using laser Induced electron diffraction techniques by measuring complete 3D momentum of all ejected electrons and fragmented ions in coincidence. Furthermore, he is also

planning to generate & utilized attosecond pulse-train (Nobel 2023) via higher-order harmonic generation process for investigating time-resolved molecular dynamics. Currently, his group is investigating the following processes in ultrafast time-scale: a) intermolecular Coulombic decay for benzenoid systems b) obtaining molecular structural information using electron impact Coulomb explosion imaging technique c) dissociative electron attachment processes. Couple of his recent research highlights are:

- The Velocity Slice Imaging technique has revolutionized charged particle-molecule interaction studies. In a crossed-beam experiment with an effusive molecular beam as a target, the background gas forms a strong extended source of ions. This extended source creates artefacts on the momentum images as we try to magnify them beyond a certain size. We have presented a solutions to address this issue by background subtraction with suitable magnification. Additionally, we demonstrated that a supersonic molecular beam target helps minimize these artefacts in the image magnification by reducing the background signal.
- The most stable structure of carbon ionic dimer is slipped-parallel (C2h). However, time-resolved extreme ultraviolet (EUV) pump – EUV probe Coulomb explosion imaging, combined with ab-initio molecular dynamics simulations, reveal totally unexpected asymmetric structural rearrangement of this ionic dimer. This surprising rearrangement occurs from the neutral slipped-parallel (C2h) geometry towards a T-shaped (C2v) structure on the ~100 fs timescale.



Mathew Arun Thomas
Assistant Professor (Grade I)

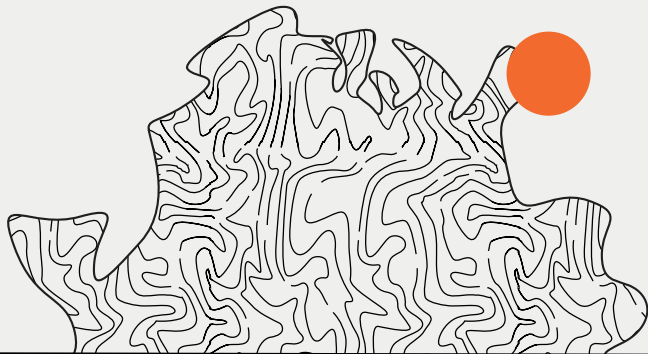
Study of effective field theory operators in 4k+2 dimensions revealed interesting Baryon number violation (BNV) processes wherein Dark Matter (DM) acts as a catalyst. This predicts new phenomena like DM-assisted Hydrogen-antihydrogen oscillation and DM-assisted Proton decay, leading to observable effects at galaxy centers. If detected, this is not only a significant milestone but also explains the lack of enough BNV events in terrestrial experiments.

We study the resurrection of the theoretically well-motivated Tri-bimaximal mixing scenario in the Minimal Flavour Violation hypothesis in the lepton sector. We analyze the flavour-violating currents such as $\mu \rightarrow eee$, $\mu Ti \rightarrow eTi$, $\pi^0 \rightarrow e^+\mu^-$, and $K_L \rightarrow \mu^+e^-$ in this scenario and show that the new physics that generates mixing among the charged leptons could lie within the reach of hadron colliders. Though the most stringent constraint on new physics is $\gtrsim \mathcal{O}(26 \text{ TeV})$ for maximal coupling, more natural coupling relaxes it to $\gtrsim \mathcal{O}(4 \text{ TeV})$.

Theoretical Particle Physics, Baryon number violation, Flavour Physics, Dark Matter

MMFV operators in minimal field content scenario	
\mathcal{O}^{T1}	$\frac{\partial_{\mu}^2}{\Lambda^2} \{ (\bar{\nu}_L m_{\nu}^2 U_{\mu\nu}^{\dagger} D_{\nu} \sigma_X) (\bar{d}_R \lambda^{31} u_L) + (\bar{\nu}_L U_{\mu\nu} m_{\nu}^2 U_{\mu\nu}^{\dagger} D_{\nu} \sigma_X) (\bar{d}_R \lambda^{32} d_L) \}$
\mathcal{O}^{T2}	$\frac{\partial_{\mu}^2}{\Lambda^2} (\bar{\nu}_L \sigma^{\mu\nu} e U_{\mu\nu} m_{\nu}^2 U_{\mu\nu}^{\dagger} D_{\nu} \sigma_X) F_{\mu\nu}$
\mathcal{O}^{T3}	$\frac{\partial_{\mu}^2}{\Lambda^2} \{ (\bar{\nu}_L m_{\nu}^2 U_{\mu\nu}^{\dagger} D_{\nu} \sigma_X) (\bar{d}_L \lambda^{32} u_R) - (\bar{\nu}_L U_{\mu\nu} m_{\nu}^2 U_{\mu\nu}^{\dagger} D_{\nu} \sigma_X) (\bar{d}_L \lambda^{32} u_R) \}$
\mathcal{O}^{T3}	$\frac{\partial_{\mu}^2}{\Lambda^2} \{ (\bar{\nu}_L m_{\nu}^2 U_{\mu\nu}^{\dagger} D_{\nu} \sigma_X) (\bar{d}_R \lambda^{33} \nu_L) + (\bar{\nu}_L U_{\mu\nu} m_{\nu}^2 U_{\mu\nu}^{\dagger} D_{\nu} \sigma_X) (\bar{d}_R \lambda^{33} \nu_L) \}$
\mathcal{O}^{V1}	$\frac{\partial_{\mu}^2}{\Lambda^2} (\bar{\nu}_L \gamma^{\mu} m_{\nu}^2 \nu_L + \bar{\nu}_L \gamma^{\mu} U_{\mu\nu} m_{\nu}^2 U_{\mu\nu}^{\dagger} \sigma_L) (\bar{\nu}_L \lambda^{V1} \gamma_{\mu} \nu_L + \bar{d}_L \gamma_{\mu} \lambda^{V1} d_L)$
\mathcal{O}^{V2}	$\frac{\partial_{\mu}^2}{\Lambda^2} (\bar{\nu}_L \gamma^{\mu} m_{\nu}^2 \nu_L + \bar{\nu}_L \gamma^{\mu} U_{\mu\nu} m_{\nu}^2 U_{\mu\nu}^{\dagger} \sigma_L) (\bar{\nu}_L \lambda^{V2} \gamma_{\mu} \nu_L + \bar{d}_L \lambda^{V2} \gamma_{\mu} d_L)$
\mathcal{O}^{V3}	$\frac{\partial_{\mu}^2}{\Lambda^2} (\bar{\nu}_L \gamma^{\mu} m_{\nu}^2 \nu_L + \bar{\nu}_L \gamma^{\mu} U_{\mu\nu} m_{\nu}^2 U_{\mu\nu}^{\dagger} \sigma_L) (\bar{d}_R \lambda^{V3} \gamma_{\mu} u_R)$
\mathcal{O}^{V4}	$\frac{\partial_{\mu}^2}{\Lambda^2} (\bar{\nu}_L \gamma^{\mu} m_{\nu}^2 \nu_L + \bar{\nu}_L \gamma^{\mu} U_{\mu\nu} m_{\nu}^2 U_{\mu\nu}^{\dagger} \sigma_L) (\bar{d}_R \lambda^{V4} \gamma_{\mu} d_R)$

MMFV operators in extended field content scenario	
\mathcal{O}^{T1}	$\frac{\partial_{\mu}^2}{\Lambda^2} \{ (\bar{\nu}_L m_{\nu} U_{\mu\nu}^{\dagger} D_{\nu} \sigma_X) (\bar{d}_R \lambda^{31} u_L) + (\bar{\nu}_L U_{\mu\nu} m_{\nu} U_{\mu\nu}^{\dagger} D_{\nu} \sigma_X) (\bar{d}_R \lambda^{32} d_L) \}$
\mathcal{O}^{T2}	$\frac{\partial_{\mu}^2}{\Lambda^2} (\bar{\nu}_L \sigma^{\mu\nu} e U_{\mu\nu} m_{\nu} U_{\mu\nu}^{\dagger} D_{\nu} \sigma_X) F_{\mu\nu}$
\mathcal{O}^{T3}	$\frac{\partial_{\mu}^2}{\Lambda^2} \{ (\bar{\nu}_L m_{\nu} U_{\mu\nu}^{\dagger} D_{\nu} \sigma_X) (\bar{d}_L \lambda^{32} u_R) - (\bar{\nu}_L U_{\mu\nu} m_{\nu} U_{\mu\nu}^{\dagger} D_{\nu} \sigma_X) (\bar{d}_L \lambda^{32} u_R) \}$
\mathcal{O}^{T3}	$\frac{\partial_{\mu}^2}{\Lambda^2} \{ (\bar{\nu}_L m_{\nu} U_{\mu\nu}^{\dagger} D_{\nu} \sigma_X) (\bar{d}_R \lambda^{33} \nu_L) + (\bar{\nu}_L U_{\mu\nu} m_{\nu} U_{\mu\nu}^{\dagger} D_{\nu} \sigma_X) (\bar{d}_R \lambda^{33} \nu_L) \}$
\mathcal{O}^{V1}	$\frac{\partial_{\mu}^2}{\Lambda^2} (\bar{\nu}_L \gamma^{\mu} m_{\nu} \nu_L + \bar{\nu}_L \gamma^{\mu} U_{\mu\nu} m_{\nu} U_{\mu\nu}^{\dagger} \sigma_L) (\bar{\nu}_L \lambda^{V1} \gamma_{\mu} \nu_L + \bar{d}_L \gamma_{\mu} \lambda^{V1} d_L)$
\mathcal{O}^{V2}	$\frac{\partial_{\mu}^2}{\Lambda^2} (\bar{\nu}_L \gamma^{\mu} m_{\nu} \nu_L + \bar{\nu}_L \gamma^{\mu} U_{\mu\nu} m_{\nu} U_{\mu\nu}^{\dagger} \sigma_L) (\bar{\nu}_L \lambda^{V2} \gamma_{\mu} \nu_L + \bar{d}_L \lambda^{V2} \gamma_{\mu} d_L)$
\mathcal{O}^{V3}	$\frac{\partial_{\mu}^2}{\Lambda^2} (\bar{\nu}_L \gamma^{\mu} m_{\nu} \nu_L + \bar{\nu}_L \gamma^{\mu} U_{\mu\nu} m_{\nu} U_{\mu\nu}^{\dagger} \sigma_L) (\bar{d}_R \lambda^{V3} \gamma_{\mu} u_R)$
\mathcal{O}^{V4}	$\frac{\partial_{\mu}^2}{\Lambda^2} (\bar{\nu}_L \gamma^{\mu} m_{\nu} \nu_L + \bar{\nu}_L \gamma^{\mu} U_{\mu\nu} m_{\nu} U_{\mu\nu}^{\dagger} \sigma_L) (\bar{d}_R \lambda^{V4} \gamma_{\mu} d_R)$

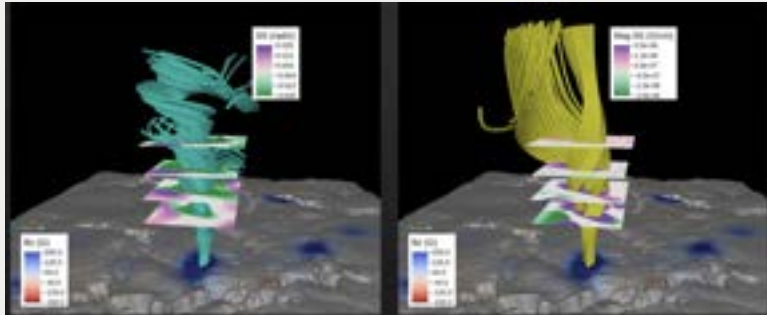


Computational Solar Astrophysics



Nitin Yadav

Assistant Professor (Grade I)



These images depict 3D streamplots showing a prominent vortex structure for the Quiet Sun case. In the left image, green lines depict velocity streamlines, and the horizontal maps show signed kinetic swirling strength at different heights. In the right image, yellow lines depict magnetic field streamlines, and the horizontal maps show signed magnetic swirling strength at various heights.

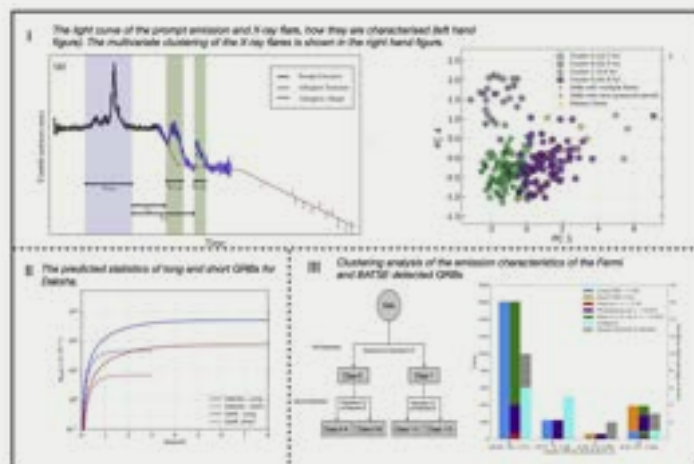
My research group focus on studying the propagation of magnetohydrodynamic (MHD) waves in the solar atmosphere and looking into wave-related phenomena there. For that, we perform realistic numerical simulations of various regions of the Sun such as quiet sun, active regions, sunspots etc. and use data analysis techniques to detect wave signatures and their association with observables.

Observations and Physics of gamma ray bursts



Shabnam Iyyani

Assistant Professor



During the last year, our research group has worked on various subjects on gamma ray bursts and have made multiple publications. A *Statistical study of temporal and spectral properties of X-ray flares and prompt emission of GRBs* were conducted. We applied multivariate clustering techniques and conducted statistical correlation studies on this dataset of 220 GRBs. Furthermore, we created a publicly accessible catalog of these parameters that describe the characteristics of both prompt and flare emissions, intended for use by the research community.

In another project, in my capacity as the head of the GRB science working group for the Daksha project, our team has computed the expected GRB detection rate for Daksha. Based on the planned sensitivity and spatio-temporal coverage of the Daksha mission, our projections indicate that Daksha is poised to identify approximately 480 long GRBs and 47 short GRBs annually, surpassing the current observation rates of Swift and *Fermi* by roughly 7 times and 2.5 times, respectively.

In another study, we conducted unsupervised clustering with a novel methodology of nested Gaussian Mixture Model algorithm to analyze GRB data from the *Fermi* and BATSE catalogs, both separately and combined. We employ three observable parameters: duration (T90), spectral peak (Epeak), and the low-energy power law spectral index (α) for classification. This analysis identifies four distinct GRB classes: A, B, C, and D, comprising approximately 70%, 10%, 3%, and 17% of the dataset, respectively. This clustering analysis illuminates distinct GRB classes based on observable parameters, offering insights into the diversity of GRBs concerning radiation, duration and progenitor properties.

In January 2024, I was selected as the fellow of Indian National Young Academy of Sciences (INIAS) for a period of 5 years.



Souvik Paul

Assistant Professor (Grade I)

We employ first-principles based Density Functional Theory (DFT) to understand the properties of materials at the atomic level. DFT is a quantum mechanical technique that allows us to compute and comprehend the behaviour of electrons in materials precisely. It provides a robust framework for studying the structural, electronic, magnetic, and optical properties. The advent of high-

Computational Condensed Matter Physics

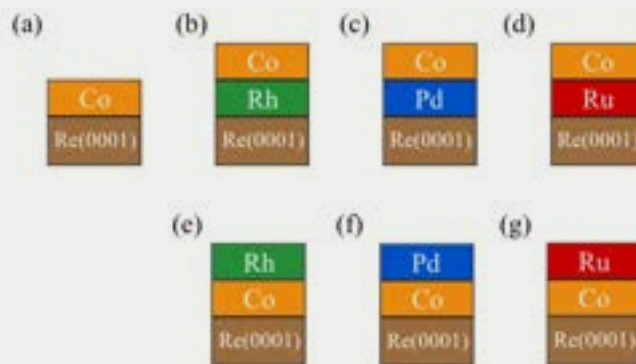


FIG. 1. Sketches of the ultrathin films considered in this study. Top row shows four film systems with a Co overlayer: (a) Co, (b) Co/Rh, (c) Co/Pd, and (d) Co/Ru on Re(0001). Bottom row shows three films where the bilayer composition is swapped: (e) Rh/Co, (f) Pd/Co, and (g) Ru/Co on Re(0001). For each film, except for Co/Re(0001), hcp and fcc stacking orders of the overlayer are considered, which adds up to thirteen films.

performance computing facilities and the integration of DFT formalism with advanced computational techniques make it a cornerstone of modern computational materials science. Our primary goal is to discover novel materials, explain materials behaviour and mechanisms, interpret experimental results and develop materials theory.

Our current research focus is magnetic topological quasi-particles such as skyrmions were proposed as a building block for next-generation spintronics devices. They can be used in unconventional computing such as neuromorphic, stochastic and reservoir computing as well as Qubits in quantum computers. Broadly we are working on two areas: (i) the search for novel skyrmion-hosting materials for next-generation spintronic devices and (ii) the quest for exotic materials where skyrmion-based qubits can be realised for quantum computing purposes.

Using DFT, we have performed a systematic study of various Co based transition metal ultrathin films and identified five promising films which can host isolated skyrmions. We have predicted, four out of the five films, can host isolated skyrmions without any external field, and one with an external field (**Phys. Rev. B 109, 064417, 2024**). So far Rh/Co/Ir(111) is the only Co based films which was shown to host zero-field isolated skyrmions. Therefore, our finding is significant in finding more co based zero-field skyrmion hosting materials. The detailed study of skyrmion related properties of the proposed five films will be communicated soon!

Non-equilibrium Physics

The main emphasis of Sreedhar Dutta's research group is on topics in Nonequilibrium Physics and Effective Field Theories. One of the major activities currently pursued by the group is towards establishing appropriate framework to describe periodically driven macroscopic systems and to investigate thermodynamics of such systems. Motivated to understand the asymptotic behavior of periodically driven thermodynamic systems, the group has studied the prototypical example of underdamped Brownian particle, in harmonic and anharmonic potentials, subjected to periodic driving. In particular, they have developed singular perturbative schemes suitable to analyse driven Langevin systems under large and low viscous drives.

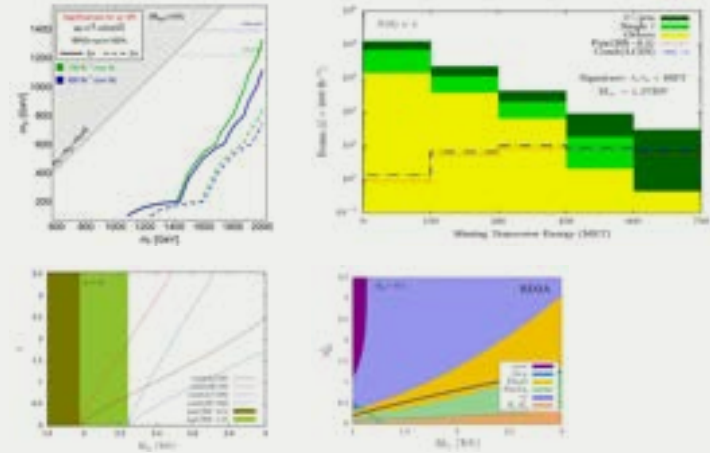


Sreedhar B. Dutta
Assistant Professor (Grade I)



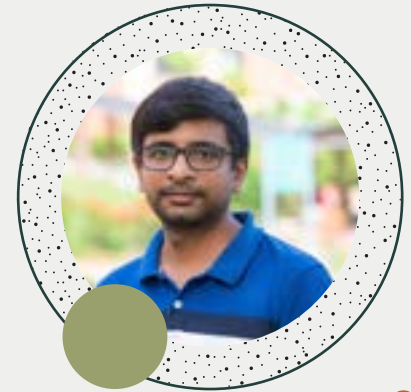
Tanumoy Mandal
Assistant Professor (Grade I)

Particle Physics Phenomenology

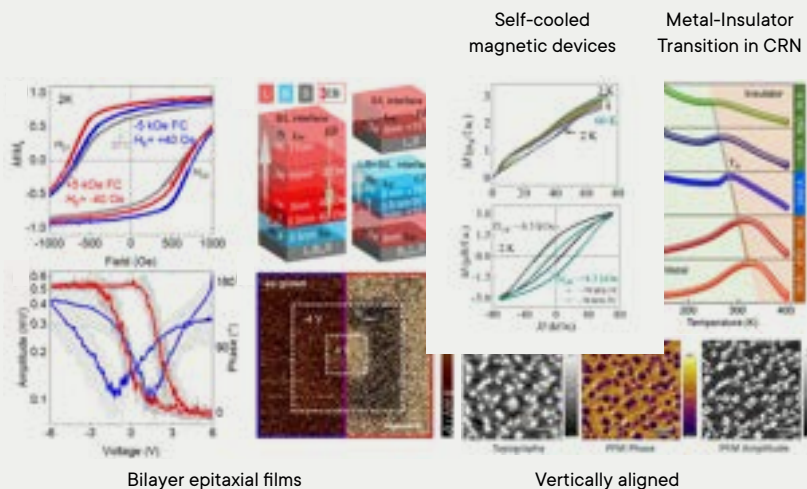


My research group is focusing on cutting-edge investigations in Particle Physics Phenomenology. In 2012, the discovery of the Higgs Boson at the Large Hadron Collider (LHC) marked a significant milestone, completing the particle spectrum within the Standard Model of particle physics. The Standard Model, a theory developed from a bottom-up approach based on the experimental results, is remarkably consistent with collider experiments so far at the energies hitherto probed. However, some theoretical shortcomings of the Standard Model (like the gauge hierarchy problem, strong CP problem etc.) as well as some observational evidences (like dark matter, dark energy, matter-antimatter asymmetry, neutrino mass etc.) motivate us to build theories beyond the Standard Model with high-scale validity whose low-energy effective versions must correspond to the Standard Model. The signatures of these new theories, if they exist within the reach of the collider energies, would show up either directly as new resonances or indirectly as deviations from the Standard Model predictions of some observables. My research at focuses on the phenomenology of new theories. A large magnetic field can exist inside the compact stars where the color superconducting (CSC) matter can be found. Thus, the study of the CSC phase in presence of magnetic field is important to explain and predict some astrophysical signatures. We studied the effect of strong magnetic field and temperature on chiral and diquark condensates in a two-flavor color superconductor using the NJL model. We found that a strong magnetic field can change the nature of the phase transitions. We also investigated the effect of electric and color charge neutrality conditions on CSC matter. We observed hints of the Clogston-Chandrasekhar limit in CSC matter in extreme conditions.

- 1. Non-volatile memory (NVM) for Energy-Efficient Neuromorphic Computing**
- 2. Quantum Materials for next generation Quantum Technologies**
- 3. Magneto-caloric materials for Solid State Refrigeration.**



Tuhin Maity
Assistant Professor
(Grade I)



Tuhin Maity possesses expertise in spintronics, particularly in advancing spin-based electronic devices for information storage and processing. One of his research endeavors uncovered an exchange bias in an epitaxial ultrathin bilayer

heterostructure on $\text{La}_{0.66}\text{Sr}_{0.33}\text{MnO}_3$ - BaTiO_3 without a conventional antiferromagnet. This was facilitated by the strain-tailored ferroelectricity of BaTiO_3 , without the need for an external electric field, thus paving the way for compact, low-power-consuming data storage devices. Additionally, he has delved into double perovskite systems, addressing unwanted heating in electronic devices. His works accounts for the possibility of driving magnetocaloric effect by the exchange bias in the same system, thus enabling same electric/magnetic fields to be used for both the phenomena. His significant contribution in finding the metal-insulator transition and the evidence of antiferromagnetism in CrN recently got published in Physical Review Letters (2024).

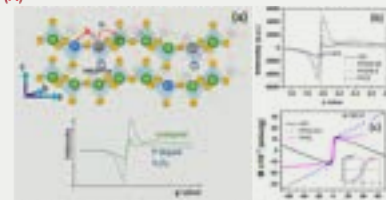
Previous prestigious publications of Dr Maity include (giant room-temperature ferroelectricity, published in Nature Communication (2020) and three phase VAN structure published in Nature Electronics (2021)) which demonstrated various advanced functionalities. To foster the previous experience with VAN structures and the bilayer films, his recent work on resistive/multiferroic VAN structures and multiferroic superlattices (to be published) indicates ongoing advancements and the potential for groundbreaking discoveries.



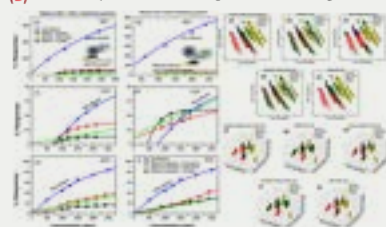
Vinayak B. Kamble

Assistant Professor (Grade I)

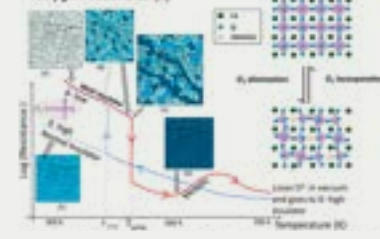
Engineering Lattice Oxygen defects and Polaronic transport in Vanadium pentoxide via isovalent phosphorous doping



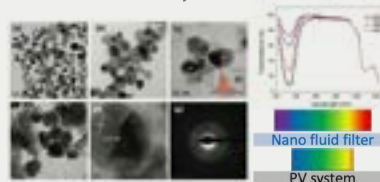
Metal oxide-based gas sensor array for VOCs determination in complex mixtures using machine learning



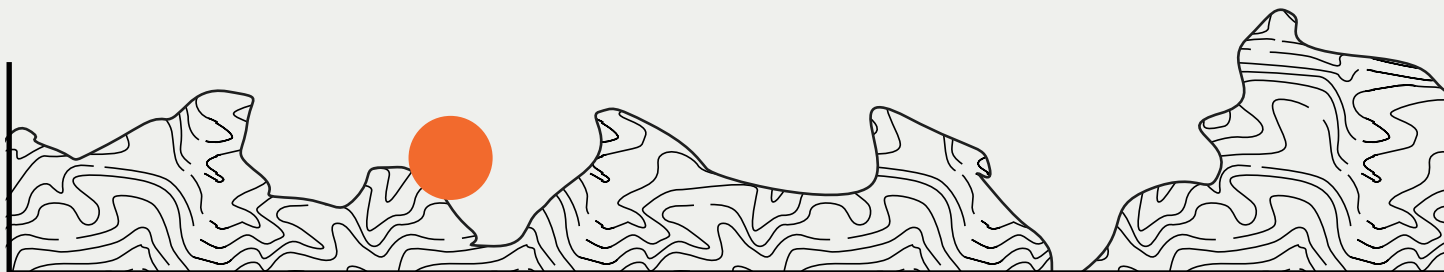
Resistive Avalanches in $\text{La}_{1-x}\text{Sr}_x\text{CoO}_{3-\delta}$ ($x = 0, 0.3$) Thin Films and Their Reversible Evolution by Tuning Lattice Oxygen Vacancies (δ)



Novel Ag/ZnO Hybrid Nanofluids for Spectral Splitting in Photovoltaic-Thermal Systems



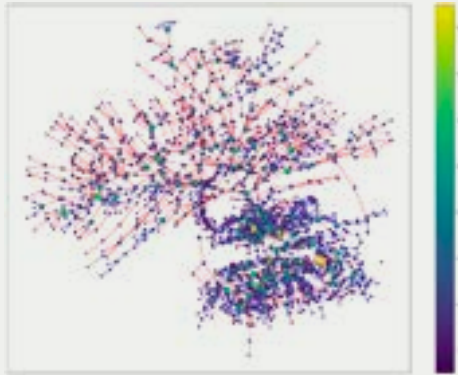
This year, the SMART lab celebrated significant milestones with exciting publications. One notable study, “Engineering Lattice Oxygen Defects and Polaronic Transport in Vanadium Pentoxide via Isovalent Phosphorous Doping,” elucidated the magnetism origin in V_2O_5 , attributing it to vacancy-mediated V^{4+} defects (Fig A). Another achievement was the development of a “Metal Oxide-based Gas Sensor Array for VOCs Determination in Complex Mixtures using Machine Learning,” which involved extensive dataset generation and analysis (Fig B). Additionally, our research highlighted the role of oxygen defects in “Resistive Avalanches in $\text{La}_{1-x}\text{Sr}_x\text{CoO}_{3-\delta}$ ($x = 0, 0.3$) Thin Films and Their Reversible Evolution by Tuning Lattice Oxygen Vacancies (δ)” (Fig C), showcasing how these defects induce lattice strain and influence transport properties. We also designed “Novel Ag/ZnO Hybrid Nanofluids for Spectral Splitting in Photovoltaic-Thermal Systems” Fig D. Moreover, occasions to celebrate included Mr. Soumya Biswas’s thesis submission on “Study of Thermoelectric Transport Properties in Oxide Nanohybrids, Thin Films, and Their Applications.” Dr. Vinayak Kamble’s recognition as a Rising Star in Material Science. Besides, our group hosted the Indo-German Workshop on Thermoelectric Devices for Emerging Applications (IG-WTEA), with 25 senior scientists from academics and industry researchers, participating in knowledge exchange and collaboration.



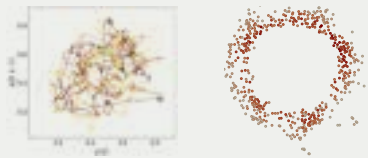
Nonlinear Dynamics & Complex systems and data analysis



G. Ambika
Emeritus Professor



Power transmission network of India - 220 KV and 400 KV lines

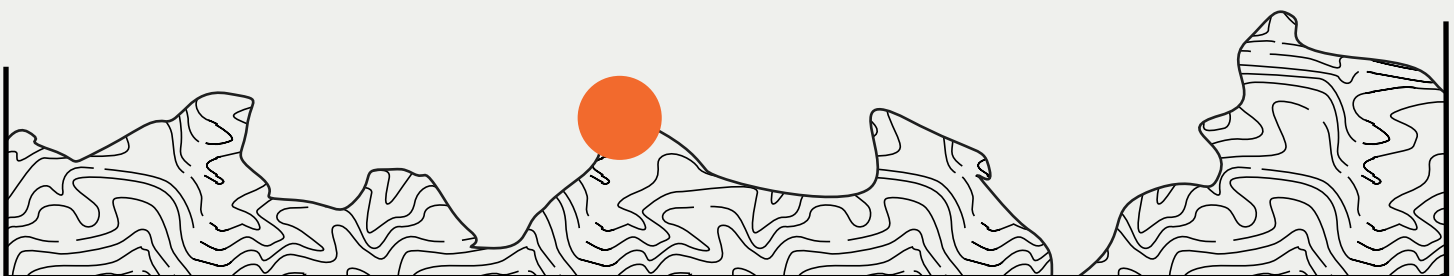


Reconstructed trajectory and recurrence network from temperature data of Bengaluru

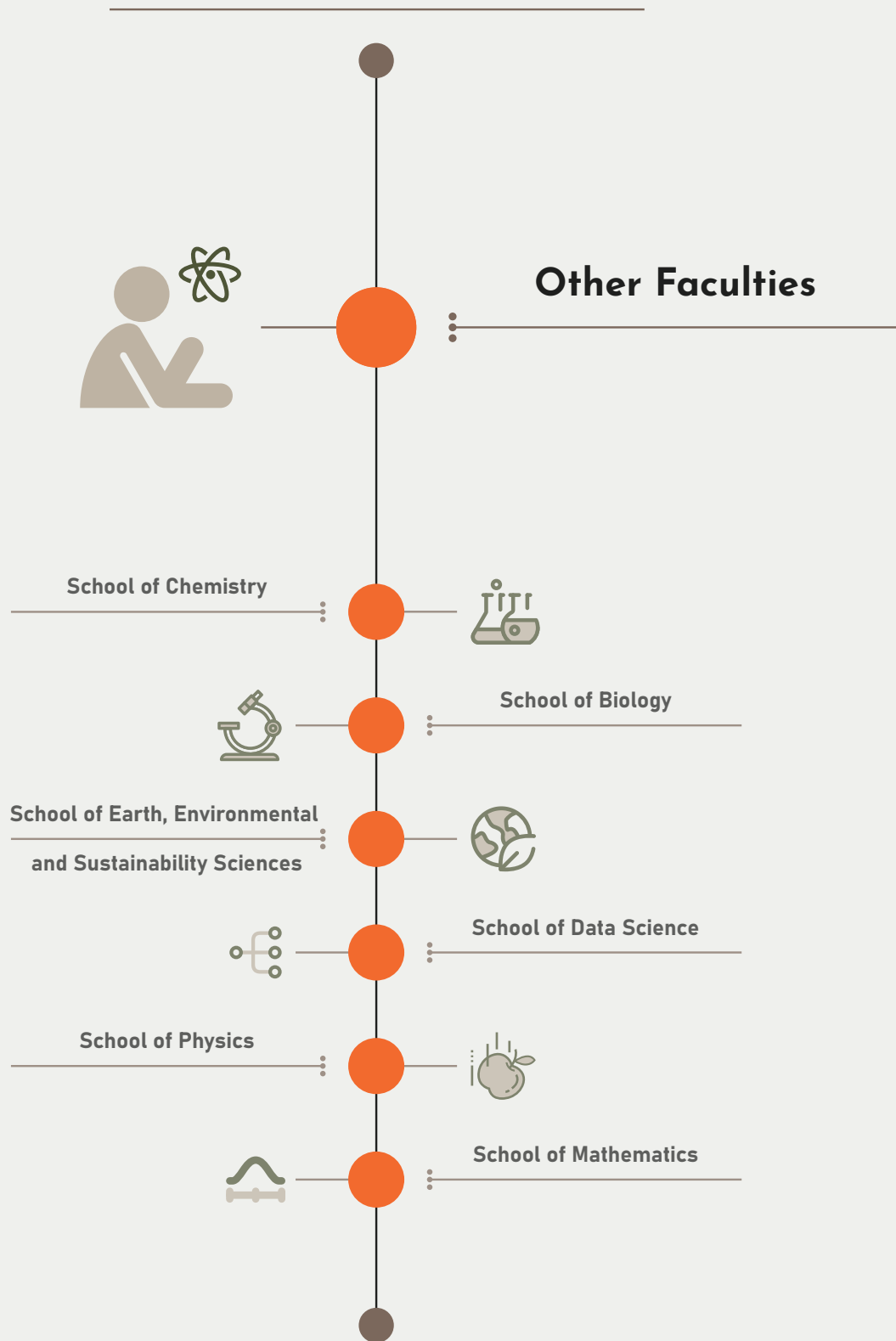
My research is on study of complex systems using the theory of nonlinear dynamics , complex networks and data analysis. We analyse dynamical transitions on complex networks and their emergent spatio-temporal behaviour. We also study how measures of complexity from observational data reveal the nature of the dynamics and detect or predict the tipping or regime shifts in complex systems.

A study on the Indian power transmission network is reported last year (<https://doi.org/10.1088/2632-072X/acd611>). The network structure with 220KV and 400 KV power lines is constructed from data and shown to be exponential in nature. The study indicates how the optimum choice of dead ends and redundancy can result in a power grid structure with minimum failed links. Further studies are on the dynamics of such networked systems in multilayers and with differing dynamical time scales.

Recently we reported how the variations in recurrence measures explain the dimming of star Betelgeuse as a transition in its pulsation dynamics (https://doi.org/10.1142/9789811269776_0288). Currently these measures are used as features for classification of data sets using machine learning and for studying climate dynamics of India from meteorological data.



Research Reports - 07



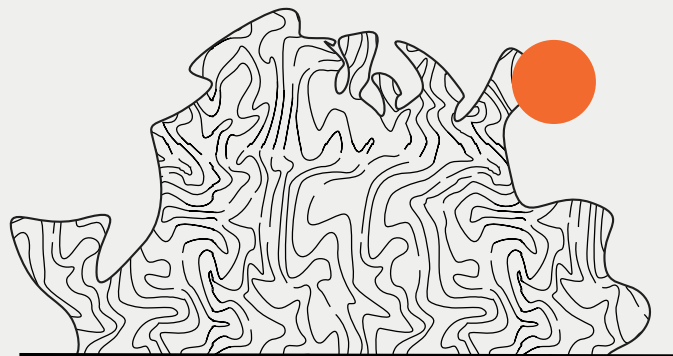
Health Economics, Health Policy and Innovations, and IPR



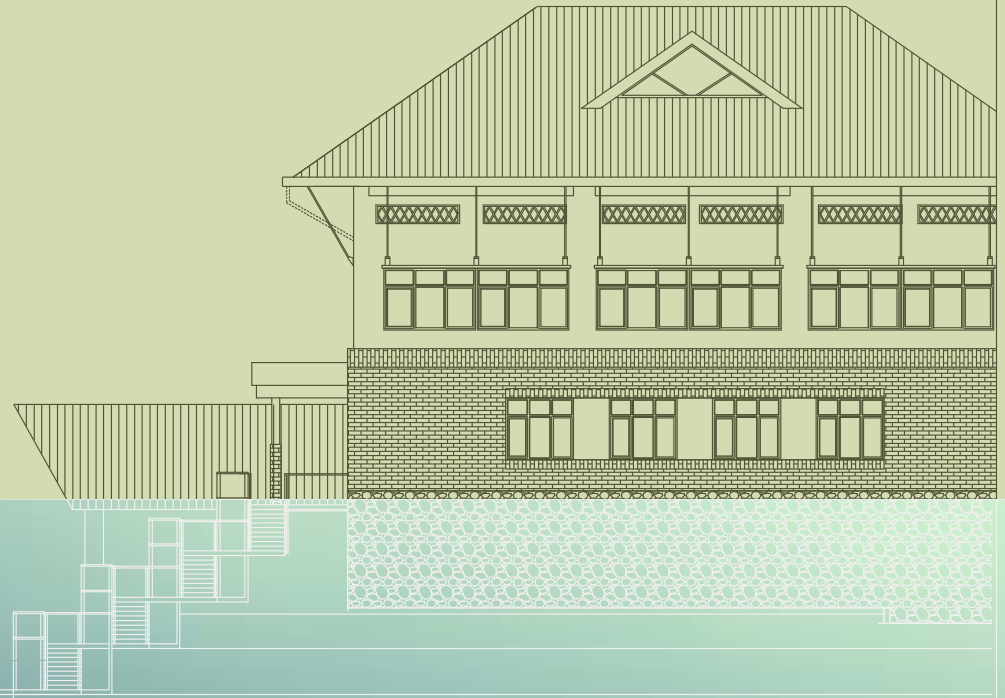
Harilal Madhavan

Ad-hoc Faculty

My research focuses on health systems and frugal innovations. As part of the collaborative work with French and European researchers, we analyze the implications of COVID-19 on health systems and their resilience. The low-tech frugal innovations in health sector are identified in the low and middle income countries as part of the broader disaster management strategies. Currently, I am working on two main themes. Firstly, I am examining the dynamics of health spending and conducting a fiscal space analysis of the healthcare sector in the state of Kerala during the post-COVID period. Secondly, I am documenting the experience of primary health care (PHC) in Kerala, which emerged and persisted over half a century by virtue of social activism and coalitions of local institutions in the context of decentralization.



List of Publications





School of Biology

1. Agharkar, A. N.; Hajra, D.; Roy, D.; Jaiswal, V.; Kabi, P.; Chakravortty, D.; Basu, S. Evaporation of bacteria-laden surrogate respiratory fluid droplets: On a hydrophilic substrate vs contact-free environment confers differential bacterial infectivity. *Physics of Fluids* **2024**, 36 (3). DOI: 10.1063/5.0196219.
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Collaborative Publications between School of Biology and Chemistry

1. Raj, G.; Vasudev, D. S.; Prasad, J.; Anbu, E.; Ram, S.; Daniel, G. B.; Narendradev, N. D.; Srinivasula, S. M.; Varghese, R. Antisense DNA loaded 2D nanosheets for combined photodynamic and antisense cancer therapy. *Materials Chemistry Frontiers* **2024**, 8 (2). DOI: 10.1039/d3qm00809f.

2. Rajan, D.; Muraleedharan, A.; Variyar, A.; Verma, P.; Pinhero, F.; Lakshmana, Y. A.; Sankar, T. S.; Thomas, K. G. Single- and two-photon-induced Förster resonance energy transfer in InP-mCherry bioconjugates. *Journal of Chemical Physics* **2024**, 160 (4). DOI: 10.1063/5.0186483.

Collaborative Publications between School of Biology and Data Science

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Collaborative Publications between School of Biology and Physics

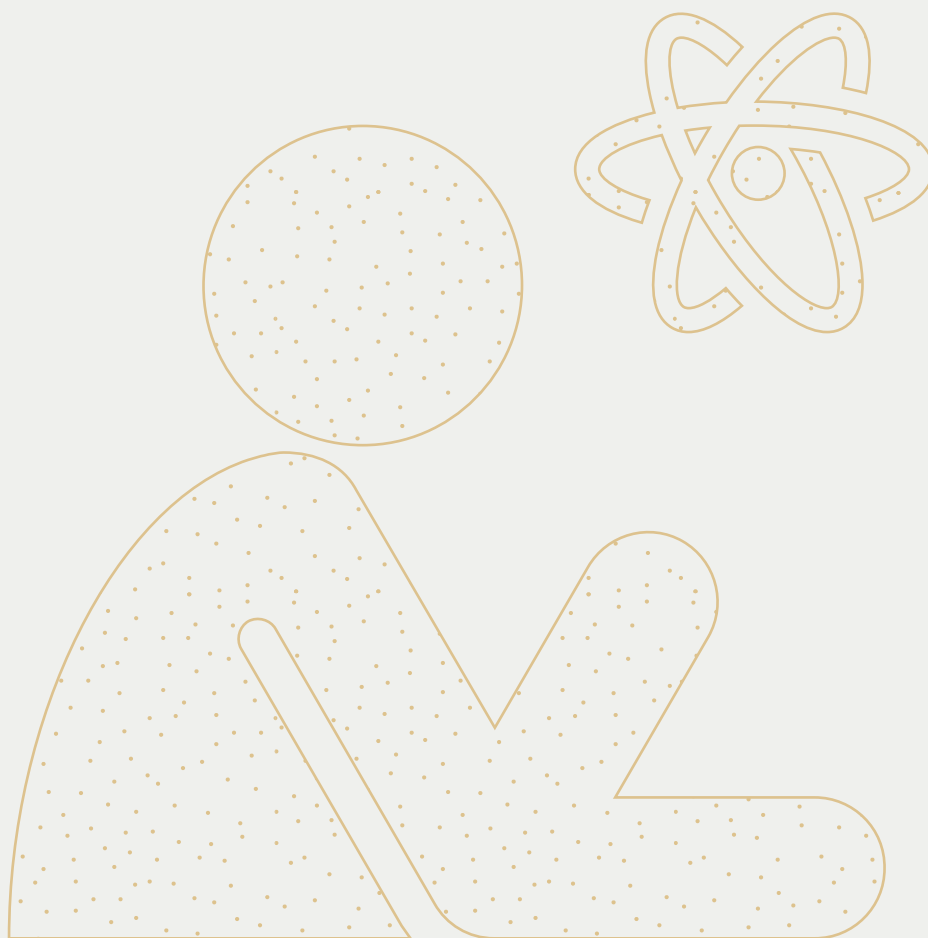
1. S, A. K.; Narendradev, N. D.; Narumbam, P.; Jain, P.; Srinivasula, S. M.; Singh, M. S. A study on mitochondrial dynamics and membrane potential in mammalian cells using home-built simultaneous multiple-level magnification selective plane illumination microscopy (sMx-SPIM); Proceedings. *SPIE 12846, Imaging, Manipulation, and Analysis of Biomolecules, Cells, and Tissues XXII*, **2024**. DOI: 10.1117/12.3003659.
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1. Athira, S.; Silva, S. L. L.; Nag, P.; Lakshmi, S.; Kumar, C. S.; Panda, D. P.; Das, S.; Rajput, S.; Alex, A. P.; Sundaresan, A.; et al. Bipartite entanglement via distance between the states in a one dimensional spin 1/2 dimer copper acetate monohydrate. *New Journal of Physics* **2023**, 25 (10). DOI: 10.1088/1367-2630/acfa1d.
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3. Das, S.; Babu, A.; Rao, T.; Jaiswal-Nagar, D. A study on the effect of pH and citrate to metal ratio towards the synthesis of barium zirconate using the sol-gel synthesis method. *Results in Materials* **2024**, 21, 100533. DOI: 10.1016/j.rinma.2024.100533.
4. Sebastian, S. J.; Mohanty, S.; Nath, A.; Saravanan, M. P.; Mandal, S.; Tsirlin, A. A.; Nath, R. Disordered ground state in a spin-orbit coupled pseudospin-21 cobalt-based metal-organic framework magnet with orthogonal spin dimers. *Physical Review Materials* **2024**, 8 (3). DOI: 10.1103/PhysRevMaterials.8.034403.
5. Suriyakumar, S.; Mazumder, A.; Dilip, P. S.; Hariharan,

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Awards & Recognition



Photo: Parthiban, Electrical substations team

SCHOOL OF BIOLOGY

Awards & Recognitions

Sl. No.	Name of Faculty member	Month & Year	Title of Award/ Recognition	Award/Recognition received for
1	Dr. Amrutha Swaminathan	12/2023	International Brain Research Organization's Rising Star Award	Providing research support to young faculty in the area of neurobiology from diverse and/or underrepresented backgrounds, who have made the choice to return to their home country from a high/upper-middle income country
2	Prof. Hema Somanathan	December 2023	Member, National Committee for the International Union of Biological Sciences (IUBS)	
3	Prof. Hema Somanathan	June 2023	Member, Selection committee, Rhodes Scholarship	
4	Prof. Hema Somanathan	November 2023	Jury, Inspiring Science Award, Cell Press	
5	Dr. Jishy Varghese	October, 2023	Selected to Chair a session during the European Drosophila Research Conference (EDRC), Lyon, France	Chaired the Physiology and Metabolism session at EDRC attended by ~1000 international participants
6	Prof. Nishant K.T	September 2023	Chairperson of jury panel for the Inspiring Science Award (Cell Press)	Chairperson of the jury panel for the Inspiring Science Award (Cell Press) for the best published scientific paper in the Life Sciences from India
7	Dr. Poonam Thakur	January 2024 -January 2027	Executive Committee Member- India Academy of Neuroscience	Serving in the executive decision making of the academy
8	Dr. Poonam Thakur	Nov-Dec, 2023	Jury member Inspiring Science Award	Serving as a Jury member to select the best papers published by Indian PhD students
9	Dr. Ramanathan Natesh	Feb, 2024	Session Chair	Chaired a scientific session at the FS-BIO 2024, Frontier Symposium in Biology, IISER-TVM.

Sl. No.	Name of Faculty member	Month & Year	Title of Award/ Recognition	Award/Recognition received for
10	Dr. Ravi Maruthachalam	19-20 Jan 2024	IIInvenTiv-2024	Our research work entitled "An improved method for in vivo haploid production for accelerated plant breeding and genetics" has been nominated and selected for the IIInvenTiv-2024, an R and D fair showcasing the technologies developed at IITs and IISERs.
11	Dr. Satish Khurana	May 2023	Inducted into Molecular Immunology Forum in its annual meeting	Molecular Immunology Forum is a prestigious platform for discussing research findings on immunology and related areas. Nomination is done by the members and new members are inducted on the basis of research quality and output in the field.
12	Dr. Satish Khurana	2023-24	Jury member Inspiring Science Award	Served as a Jury member for Inspiring Science Award (Cell Press) for the best published scientific paper in the Life Sciences from India
13	Dr. Vijay Jayaraman	June 2023	JBC early career reviewer	JBC's Early Career Reviewer (ECR) Board is designed to involve scientists in peer review at the early stages of their careers, creating a structured path for developing relevant skills and learning about the scientific publishing process.
14	Dr. Karthik Chandiran	July 2023	Travel award to attend conference	Travel award to attend International Congress of Immunology organized by International Union of Immunological Societies (IUIS)

SCHOOL OF BIOLOGY

Fellowship

Sl. No.	Name of Faculty member	Month & Year	Fellowship Title & Duration of Fellowship	Description
1	Kamalakaran Vijayan	01-03-2024	DBT-Wellcome Trust Intermediate Fellow / 5 years	This fellowship aims to understand how apicomplexan parasites rewire the host signaling network.

Sl. No.	Name of Faculty member	Month & Year	Fellowship Title & Duration of Fellowship	Description
2	Dr. Nishana Mayilaadumveettil	Feb 2024	Startup Research Grant (SRG) from SERB	The Start-up Research Grant (SRG) scheme aims to assist researchers to initiate their research career in a new institution. It is a two-year grant meant to enable researchers working in frontier areas of science and engineering to establish themselves and move on to the mainstream core research grant (CRG). Criteria for selection would be based on the track record of the applicant and the proposed research plan.
3	Dr. Sandhya Ganesan	March 2024	DBT/Wellcome Trust India Alliance Intermediate Fellowship (2024-2029)	This fellowship advances basic biomedical research by providing great funding, resources and platform for scientists to establish their labs, research program, execute their research projects and foster professional development of the fellows.
4	Dr. Vijay Jayaraman	June 2023	DBT Ramalingaswami Re-entry fellowship	DBT RRF is awarded to about 60 selected Indian nationals working overseas in various fundamental and applied biology areas. The fellowship duration is for 3 years and the research grant of about 39 lakhs is provided during this period. The fellows also meet annually at the the DBT-RRF conclave to brainstorm about their research progress.
5	Dr. Karthik Chandiran	July 2023	Ramalingaswami Fellowship, (3 years)	Ramalingaswami fellowship has been awarded to conduct my independent research for 3 years which will have research and salary support
6	Dr. Yugander Arra		DBT-Ramalingaswami Re-Entry Fellowship	It is a prestigious fellowship of India which has been conceptualized with the aim of attracting highly skilled researchers (Indian Nationals) working overseas in various cutting-edge disciplines of any area of Life Sciences

SCHOOL OF BIOLOGY

Editorial Assignments

Sl. No.	Name of Faculty member	Name of Journal and Duration of editorial assignment	Description
1	Prof. Hema Somanathan	Editorial board member, Current Opinion in Insect Science	Current Opinion in Insect Science is a systematic review journal that provides specialists with a unique and educational platform to keep up to date with the expanding volume of information published in the field of Insect Science.

Sl. No.	Name of Faculty member	Name of Journal and Duration of editorial assignment	Description
2	Prof. Hema Somanathan	Advisory Committee member, Journal of Comparative Physiology A	Dedicated to understanding physiological mechanisms at organismal, cellular and molecular levels.
3	Kamalakaran Vijayan	ACS Infectious Diseases / Early career editorial member	ACS Infectious Diseases is the first journal to highlight chemistry and its role in the multidisciplinary and collaborative field of infectious disease research. With editors well-versed in both chemistry and the biology of infectious diseases, the journal aims to bridge the gap between these two disciplines.
4	Prof. Nishant K.T	YEAST (Publisher: John Wiley & Sons Ltd, USA), Editor since 2021 till date	The journal publishes original articles covering the most significant research developments with unicellular fungi.
5	Prof. Nishant K.T	Journal of Genetics (Publisher: Indian Academy of Sciences, Bangalore), Editor since 2018 till date	Among the oldest English language journals in genetics, it covers all areas of genetics and evolution, including molecular genetics and molecular evolution.
6	Dr. Ravi Maruthachalam	Crop Design, Editorial Board Member	Crop Design is an international journal published by Elsevier Science Direct focused on the advanced research on field crops, particularly theory, and applications of the best crop cultivar improvement and production
7	Dr. Sandhya Ganesan	Member of the Early Career Board of the journal ACS Infectious Diseases	Journal focuses on research advances that integrate the disciplines of biology and chemistry in infectious diseases.
8	Dr. Ullasa Kodandaramaiah	Journal of Biosciences (2023-ongoing)	Premier Indian journal for Biology
9	Dr. Ullasa Kodandaramaiah	Current Science (2018-ongoing)	Top Indian multi-disciplinary journal
10	Dr. Ullasa Kodandaramaiah	Proceedings of the Royal Society B: Biological Sciences (2019-ongoing)	Reputed society journal in organismal biology
11	Dr. V. Stalin Raj	Frontiers in Virology; 2022 to 2024	A multidisciplinary journal which explores all biological and molecular aspects of viruses, with a focus on innovative investigative and analytical systems.

Sl. No.	Name of Faculty member	Title of the Talk	Date	Institution/Place of the Talk	Description
1	Dr. Amrutha Swaminathan	Understanding how mutations in mTOR regulators and chromatin factors result in epilepsy	04/11/2023 – 06/11/2023	8 th Meeting of the Asian Forum of Chromosome and Chromatin Biology, JNCASR, Bangalore	
2	Dr. Amrutha Swaminathan	Understanding how immune factors regulate the development of stress-responsive behaviour	21/02/2024 – 24/02/2024	Indian Society of Developmental Biologists, InStem, Bangalore	
3	Prof. Hema Somanathan	Working the night shift to get somewhere: evolution of nocturnality in bees	April 2023	Ahmedabad University	
4	Prof. Hema Somanathan	Neuroecology of tropical bees	July 2023	Plenary talk Association for Tropical Biology and Conservation (ATBC)	
5	Prof. Hema Somanathan	Bee matters and Bees matter	January 2024	Invited talk Global Science Festival of Kerala (GSFK)	
6	Prof. Hema Somanathan	Bees of India: what is the urgent need of the hour?"	December 2023	Plenary talk International conference on Animal Biology and Conservation	
7	Prof. Hema Somanathan	Foraging bees weigh colour and social information	December 2023	Invited talk Indian Drosophila Research Conference	
8	Dr. Jishy Varghese	Mechanisms that aid in maintaining nutrient homeostasis	05/06/2023	National Brain Research Center (NBRC), Manesar	

Sl. No.	Name of Faculty member	Title of the Talk	Date	Institution/Place of the Talk	Description
9	Dr. Jishy Varghese	miR-184: A Drosophila microRNA with diverse functions	18/10/2023	University of Cote D'Azur, Nice, France	
10	Dr. Jishy Varghese	About IISER TVM and academic programs	19/10/2023	University of Cote D'Azur, Nice, France	Invited talk for faculty members at the Institute for Biology Valrose
11	Dr. Jishy Varghese	From the Fly room to the bedside: Harnessing the power of basic sciences to treat diseases"	18/07/2023	Department of Zoology, University of Kerala, Thiruvananthapuram	Induction program for PG students
12	Dr. Jishy Varghese	Drosophila as a powerful tool for Biomedical research	13/12/2023	Rajeev Gandhi Center for Biotechnology (RGCB), Thiruvananthapuram	Online talk for PhD students
13	N. Sadananda Singh	Introduction to CRISPR-Cas9: Principles and Applications in Genome Editing and Nucleic Acid Detection; Guide RNA Design and optimization strategies for CRISPR-Cas9 editing; CRISPR-Cas9 Detection Techniques: Molecular Probes and Assays.	26/01/24	ICAR-National Meat Research Institute	Part of High-end workshop (KAARYASHALA) under the Accelerate Vigyan scheme, SERB Govt. of India from 22nd – 31st January 2024 at ICAR-National Meat Research Institute (formerly ICAR-NRC on Meat), Hyderabad
14	N. Sadananda Singh	Genomics, Genetics and genome engineering: a way to improve productivity traits	22 march 2024	Bharat mata College, Kochi	Conducted as part of activities under DBT Star college scheme by the Department of Botany of Bharata Mata College, Thrikkakara, Kerala.
15	Dr. Nishana Mayilaadumveettil	"A handful of science (from microbiology to genomics) and a handful of dreams (for those who dare to dream)!"	August 11, 2023.	Kannur University, Kerala	Dr. K. Surekha Memorial Oration

Sl. No.	Name of Faculty member	Title of the Talk	Date	Institution/Place of the Talk	Description
16	Dr. Nishana Mayilaadumveettil	“EVERY child is a scientist!!! Want to be a child forever?”	August 14, 2023	St. Teresa’s Anglo Indian Girls Higher Secondary School, Kannur, Kerala	
17	Dr. Nishana Mayilaadumveettil	“Altered three-dimensional chromatin organization as a driver of tumorigenesis”	September 14th to 16th, 2023	IIT Madras, Chennai	International Conference on Cancer Biology: Molecular Mechanisms, Genomics and Novel Therapeutics
18	Dr. Nishana Mayilaadumveettil	“CTCF and CTCFL: a short story of kin competition among two paralogous chromatin organizer proteins”	4 th -6 th November 2023	JNCASR, Jakkur, Bangalore	8 th meeting of The ‘Asian forum for Chromosome and Chromatin Biology’
19	Dr. Nishana Mayilaadumveettil	“Disruption of three-dimensional chromatin architecture: implications in oncogenesis”	January 19 to 22 2024	IISER Pune	43 rd Annual Conference of Indian Association of Cancer Research
20	Prof. Nishant K.T	Heterozygosity alters the binding of recombination proteins to meiotic chromosomes in the baker’s yeast	Feb 17, 2024	IISER Pune	EMBO Satellite meeting
21	Prof. Nishant K.T	Mechanisms for genome stability in cells	May 23-25, 2023	IISER Pune	BIOSANTEXC meeting
22	Dr. Poonam Thakur		February, 2024	inSTEM Bangalore	Invited talk at Biennial meeting of Indian Society for Developmental Biologists
23	Dr. Poonam Thakur		January, 2024	IIT-Bombay	Invited talk at “Recent Trends in Neurodegeneration” symposium
24	Dr. Poonam Thakur	Factors influencing PD progression- Avenues for therapeutic development	July, 2023	IGNITE life science foundation, Hyderabad	Neurodegeneration: From perspective to prospective conference

Sl. No.	Name of Faculty member	Title of the Talk	Date	Institution/Place of the Talk	Description
25	Dr. Poonam Thakur		May, 2023	Bengaluru	Neurodegeneration & Neurogenetics conference co-organized by JNCASR, CBR-IISC, Manipal Hospital at Bangalore
26	Dr. Ramanathan Natesh	Targeting the DNA damage repair, Transcription regulation and Chaperone against AMR	18 July 2023	JNCASR, Bangalore	5th Annual Bio-Group-India Meeting at JNCASR Bangalore.
27	Dr. Ramanathan Natesh	MicroED and cryoET in structural characterization of macromolecules/ macromolecular complexes.	18 April 2023	AIIMS/New Delhi	2 nd Workshop on "Electron Tomography of Biological Specimens (17-20 April 2023)
28	Dr. Ramanathan Natesh	Structural studies of Transcription regulators in mycobacterial spp.	22 April 2023	AIIMS/New Delhi	Int. Conference on Molecular and Cellular Electron Tomography (21-22 April 2023)
29	Dr. Ramanathan Natesh	Single Particle Cryo Electron Microscopy, the structural biology method that came in from cold	18 Nov 2023	NIT-Warangal and Sastra University (On-Line Mode)/Warangal, Tanjavur.	One-Day Introductory seminar series on cryo electron microscopy for structural Biology (Online)
30	Dr. Ramanathan Natesh	The amazing world of biological nanomachines within your cell	24 May 2023	UAS Campus School/ Bangalore	Motivational talk to Class 10 th , 11 th and 12 th students.
31	Dr. Ramanathan Natesh	The fascinating world of biological macromolecules as seen through the eyes of Protein Crystallography and Single Particle Cryo Electron Microscopy.	15 Feb 2024	IISER Thiruvananthapuram/ Thiruvananthapuram	Faculty talk series organised by Proteus IISER TVM
32	Dr. Ramanathan Natesh	Stability of p53 oligomers: size does not matter	6 Mar 2024	ACTREC/Mumbai	Invited talk at ACTREC Mumbai
33	Dr. Ramanathan Natesh	The Overall cryoEM flow and specimen preparation	7 Mar 2024	IIT Bombay/Mumbai	Day 1. Session 5 and Workshop Session 1

Sl. No.	Name of Faculty member	Title of the Talk	Date	Institution/Place of the Talk	Description
34	Dr. Ramanathan Natesh	The oligomerization secrets of macromolecular assemblies	9 Mar 2024	IIT Bombay/Mumbai	Day3. Session 3 Understanding the Breathing of Biomolecules:Recent Advances in Cryo-EM and Chemical Biology
35	Dr. Ravi Maruthachalam	Understanding and exploitation of uniparental genome elimination for accelerated plant breeding and genetics	Feb. 27-29, 2024.	Department of Biotechnology, Punjab Agricultural University, Ludhiana	Invited Speaker, National Symposium 'Genomics Revolution to Foster Advances and Innovations in Crop Improvement' on
36	Dr. Ravi Maruthachalam	The power of haploid genetics in plants – Lessons from Arabidopsis thaliana.	June. 05-09, 2023	Chiba, Japan	Invited Speaker, 33rd International Conference on Arabidopsis Research (ICAR2023).
37	Dr. Ravi Maruthachalam	The power of haploids: Attributing a sporophytic role of gametophytic epigenetic regulators <i>DEMETER</i> and <i>MEDEA</i> in Arabidopsis	Feb 02-04, 2024	IISER Thiruvananthapuram	Invited speaker, Frontier Symposium in Biology 2024
38	Dr. Ravi Maruthachalam	Exploiting uniparental genome elimination for accelerated plant breeding and genetics	Feb 15, 2024	ICAR- Sugar Cane Breeding Institute(SBI), Coimbatore, Tamil Nadu	Invited speaker, ICAR Sponsored Winter School on Climate Smart Sugarcane Agriculture for Food and Energy Security in India
39	Dr. Ravi Maruthachalam	Exploiting uniparental genome elimination for accelerated plant breeding and genetics	Jan 4-5, 2024	St. Berchmans College, Changanassery, Kerala	Invited speaker, National Seminar on Advancements in Plant Sciences
40	Prof. Srinivasa Murty Srinivasula		14 th September, 2023-17 th September, 2023.	The International Conference on Cancer Biology, 2023 was held in IIT Madras.	
41	Dr. Sabari Sankar Thirupathy	Molecular conflicts and the evolution of bacterial genome organization	17-12-2023	SMBE-Ashoka University/Dehradun	Molecular Mechanisms in Evolution SMBE Regional Meeting in India, 2023

Sl. No.	Name of Faculty member	Title of the Talk	Date	Institution/Place of the Talk	Description
42	Dr. Sabari Sankar Thirupathy	Interferences in the central dogma govern genome organization in bacteria	28-03-2024	Madurai Kamaraj University/Madurai	5 th International Conference on Genome Biology
43	Dr. Sandhya Ganesan	“Immune Evasion mechanisms”	July 27, 2023	Online talk delivered to Bhavans Vivekananda College, Secunderabad as part of DBT STAR College Scheme.	
44	Dr. Sandhya Ganesan	“SNAREs in infection, immunity and organelle dysfunction”	Oct 9-11, 2023	Organelle Biogenesis and Membrane Trafficking (OBMT) meeting, NBRC Manesar	
45	Dr. Satish Khurana	Hematopoietic stem cells: Niche and Development	5-8 May 2023	MIF meeting held at Jim Corbett National Park, Uttarakhand	Invited by Molecular Immunology Forum of India. The meeting was organized by National Institute of Immunology, New Delhi
46	Dr. Satish Khurana	Molecular regulation of hematopoiesis: Developmental lessons that we can learn	19 th July 2023	Institute of Life Sciences, Bhubaneswar	Invited by Dr. Soumen Basak of ILS for a research talk
47	Dr. Satish Khurana	Metabolic state in stem cell development and function	3 rd Feb. 2024	IISER Thiruvananthapuram	Internal speaker at annual FS-BIO symposium from the School of Biology, IISER TVM
48	Dr. Satish Khurana	Energy producing metabolic pathways in stem cell fate decisions: a tale of two cities	16 th Feb. 2024	THSTI, Faridabad, NCR, India	Invited speaker at the Global Immunology Summit organized by THSTI
49	Prof. Tapas K. Manna	Molecular Basis of Centrosome Amplification	March 26-27, 2024	Presidency University, Kolkata Meeting on Ciliopathy	
50	Dr. Ullasa Kodandaramaiah	Pupal Colour Plasticity in Tropical Butterflies	12-07-2023	Prague, Biology of Butterflies 2023 Conference	Invited to give a keynote talk at the International Conference on the Biology of Butterflies

Sl. No.	Name of Faculty member	Title of the Talk	Date	Institution/Place of the Talk	Description
51	Dr. Vijay Jayaraman	Antagonistic enzymes in metabolism: A molecular spandrel or an intricate regulatory paradigm?	16th December 2023	Ashoka University/ Shaheen bagh, Dehradun	The talk was given at the Society for Molecular Biology and Evolution (SMBE) meeting titled "Molecular mechanisms in evolution," held at Dehradun and organized by Ashoka University.
52	Dr. Anirban Guha	Plasticity in photoprotective functions in tropical tree species under climate change like conditions	16 January 2024	IISER Bhopal, India	Satellite Photobiology Meeting, IISER Bhopal, 15-16 Jan 2024
53	Dr. Karthik Chandiran	Smad4 prevents aberrant differentiation of activated CTLs independent of TGFb during antiviral immune response	30-11-2023	Capetown, South Africa	

SCHOOL OF CHEMISTRY

Awards & Recognitions

Sl. No.	Name of Faculty member	Month & Year	Title of Award/Recognition	Award/Recognition received for
1	Dr. Sukhendu Mandal	December 2023	Dr. D. S. Bhakuni Award	Contribution in chemical science research by Chemical Society of India
2	Veera Reddy Yatham	Aug 2023	MHRD-STARS	MHRD-STARS (MoE/STARS/2023-0092): 32 lakhs; PI
3	Veera Reddy Yatham	Aug 2023	MHRD-STARS	MHRD-STARS[MoE/STARS2/2023-0829]: 35 lakhs; Co-PI
4	Veera Reddy Yatham	Oct 2023	CSIR-HRDG	CSIR-HRDG (02/0466/23/EMR-II); 12 lakhs; PI
5	Kana M. Sureshan	Jan 2024	JC Bose National Fellowship	This is a prestigious fellowship given to highly achieved researchers in India.
6	Kana M. Sureshan	March 2024	Inducted in the nomination panel for Infosys Prize	Infosys Prize is a prestigious fellowship for highly performing researchers under the age of 40. Only select nomination panel members can nominate a candidate for this prize.
7	Prof. Mahesh Hariharan		Editorial Advisory Board Member of The Journal of Physical Chemistry A/B/C, 2023-2025 Editorial Advisory Board Member of Chemical Science, 2023-2025 Reviewer Spotlight in Chemical Science 2023	

Sl. No.	Name of Faculty member	Month & Year	Title of Award/Recognition	Award/Recognition received for
			Featured in Chemical Society Reviews Pioneering Investigators Issue 2023	
			Editorial Board Member, Resonance, 2024-	
			Editorial Board Member, International Reviews in Physical Chemistry, 2024-	
			Outstanding Reviewer for Chemical Science 2024	

SCHOOL OF CHEMISTRY

Fellowship

Sl. No.	Name of Faculty member	Month & Year	Fellowship Title & Duration of Fellowship	Description
1	Dr. Subrata Kundu		INSA Associate Fellow (IAF) 2023	Fellowship awarded by Indian National Science Academy to recognize the young scientists for their contributions in science.
2	Jerry A Fereiro	26-09-2023	STARS – duration of the fellowship is 3 years	The fellowship is for the project (Project ID: 2023-0635) titled “AN INVESTIGATION INTO THE FEASIBILITY OF USING NANOFABRICATED PROTEIN DEVICES AS SOLID-STATE ELECTRONIC GAS SENSOR” under STARS-2 program in the Chemical Sciences domain.
3	Kana M. Sureshan	Jan 2024	J C Bose National Fellowship	This is a prestigious fellowship given to highly achieved researchers in India.
4	K. George Thomas	June 2019 - May 2024	J C Bose National Fellowship	JC Bose fellowship is awarded to active scientists in recognition for their outstanding academic and scientific performance.

SCHOOL OF CHEMISTRY

Editorial Assignment

Sl. No.	Name of Faculty member	Name of Journal and Duration of editorial assignment	Description
1	Dr. Sukhendu Mandal	Inorganic Chemistry (2024-2026)	A pioneer journal of the American Chemical Society in the area of Inorganic Chemistry research.
2	Dr. R. S. Swathi	Associate Editor, Bulletin of Materials Science (2023-2025)	Bulletin of Materials Science is a bi-monthly journal publishing unique contributions across the materials science field with an impact factor of 1.878. The journal is published by the Indian Academy of Sciences, Bangalore.
3	Dr. R. S. Swathi	Editorial Advisory Board Member, ACS Applied Optical Materials (July 2023-December 2025)	ACS Applied Optical Materials is an international and interdisciplinary forum to publish original experimental and theoretical research in optical materials.
4	Kana M. Sureshan	Advisory Board Member: Chemical Society Reviews (From 2023)	This is a prestigious review journal in chemistry
5	Kana M. Sureshan	International Advisory Board Member: Chemistry Europe (From 2023)	This is a prestigious journal in chemistry published by Wiley
6	Prof. Mahesh Hariharan	Editorial Board Member, Resonance, 2024-	Resonance is a science education journal catering primarily to undergraduate students and teachers.
7	Prof. Mahesh Hariharan	Editorial Advisory Board Member of Chemical Science, 2023-2025	Chemical Science is a weekly peer-reviewed scientific journal covering all aspects of chemistry. It is the flagship journal of the Royal Society of Chemistry.[1] It was established in July 2010 and is published by the Royal Society of Chemistry
8	Prof. Mahesh Hariharan	Editorial Advisory Board Member of The Journal of Physical Chemistry A/B/C, 2023-2025	The Journal of Physical Chemistry A/B/C publishes scientific articles reporting research on several subdisciplines of physical chemistry: Nanoparticles and nanostructures, surfaces, interfaces, and catalysis, Electron transport, optical and electronic devices, Energy conversion and storage etc.

Sl. No.	Name of Faculty member	Title of the Talk	Date	Institution/Place of the Talk	Description
1	Keshaba Nanda Parida	Organic Synthesis with Umpeled Species	1st March 2024	University of Jammu, J&K	
2	S. Gokulnath	Axial Chirality in Anthracene Embedded Helical Systems with Circularly Polarized Luminescence	November 4	IIT Kanpur	Recent Advances in Inorganic Molecules to Materials (RAIMM-2023)" on
3	S. Gokulnath	Conformationally Locked Cyclo[2]Dipyrins Linked with Anthracene Subunits: Synthesis and Chiroptical Properties	December 14-17, 2023	IISC Bangalore, India	International Conference on Modern Trends in Inorganic Chemistry-MTIC XX
4	S. Gokulnath	Protonation Induced Helical Chirality in Cyclo[2]Dipyrins Linked with Anthracene Subunits	February 23-25, 2024	IISER Kolkata	Inter IISER-NISER Chemistry Meet 2024 Sustainability and Interdisciplinarity in Chemical Sciences (SICS 2024)
5	S. Gokulnath	Carbazole Embedded Macrocyclic Systems with Multifaceted Properties	26-28 March 2024	IISER Mohali	Emerging Trends in Photodynamics and Photochemistry, ETPP-2024
6	Dr. Subrata Kundu	Nitrite and Nitric Oxide Interconversion at Copper: Insights into the Bioactivities of Nitrosocyanin and Ceruloplasmin.	16-21 July 2023	20th International Conference on Biological Inorganic Chemistry (ICBIC 2023); Adelaide, Australia.	
7	Dr. Subrata Kundu	Bidirectional NO _x Reactivity at Copper: Insights into the Activities of Red Copper Proteins.	0 Oct - 02 Nov 2023.	International Conference on Organometallics and Catalysis (ICOC 2023); Goa, India.	
8	Dr. Subrata Kundu	Modelling Nitrite to Nitric Oxide Conversion at Mononuclear Copper(II) and Zinc(II) Sites.	07-11 Jan 2024.	6th Symposium on Advanced Biological Inorganic Chemistry (SABIC 2024); Kolkata, India.	

Sl. No.	Name of Faculty member	Title of the Talk	Date	Institution/Place of the Talk	Description
9	Dr. Subrata Kundu	Bio(in)organic Activation of Nitrite: Modeling Bioregulatory Routes for NO and H ₂ S Signaling.	21 Feb 2024	Jadavpur University, Kolkata, India	
10	Dr. Subrata Kundu	Bio(in)organic Activation of Nitrite: Modeling Bioregulatory Routes for NO and H ₂ S Signaling.	23-24 Feb 2024	Inter IISER NISER Chemistry Meet (IINCM 2024); IISER Kolkata, India.	
11	Veera Reddy Yatham	Unactivated Haloalkanes in C–C Bond Formation Reactions	February 23-25, 2024	IISER Kolkata	Inter IISER/NISER Chemistry Meet @ IISER Kolkata
12	Dr. R. S. Swathi	Global Optimization of Clusters Bound to One-atom-thick Carbon Membranes: A Swarm Intelligence Approach	21 st December 2023	University of Wurzburg, Germany	
13	Dr. R. S. Swathi	Modeling the Permeation of Atoms and Molecules through One-atom-thick Carbon Membranes	13 th December 2023	University of Wurzburg, Germany	
14	Dr. R. S. Swathi	A Journey Toward the Chemical Fidelity of Intermolecular Force Fields	12 th December 2023	University of Wurzburg, Germany	
15	Dr. R. S. Swathi	Tunneling: The Ubiquitous Quantum Mechanical Effect	4 th April 2023	Cochin University of Science and Technology, Cochin	
16	Dr. R. S. Swathi	Global Optimization of Clusters Bound to One-atom-thick Carbon Membranes: A Swarm Intelligence Approach	17 th October 2023	26 th International Workshop on Quantum Systems in Chemistry, Physics, and Biology held at Jaipur, India	
17	Dr. R. S. Swathi	Quantum Sieving using One-atom-thick Carbon Membranes	25 th September 2023	Sathyabhama Institute of Science and Technology, Chennai	

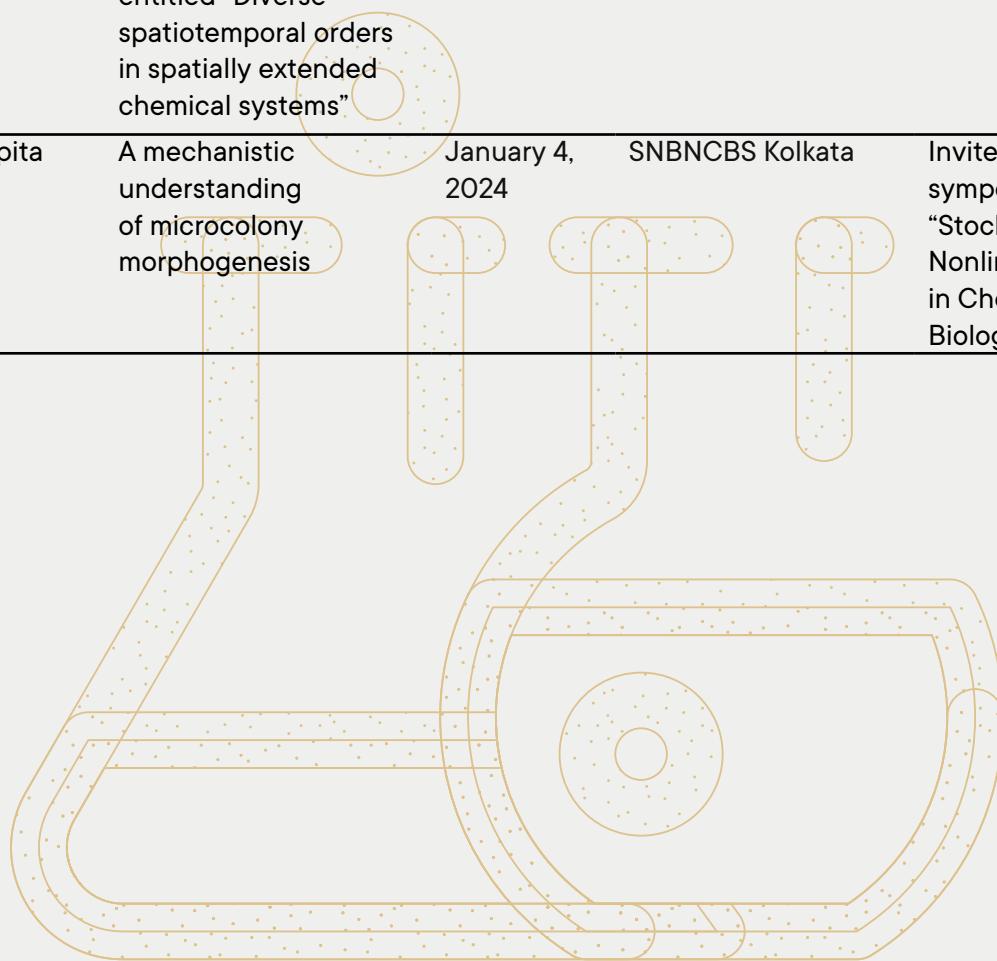
Sl. No.	Name of Faculty member	Title of the Talk	Date	Institution/Place of the Talk	Description
18	Dr. R. S. Swathi	Quantum Sieving using One-atom-thick Carbon Membranes	27 th September 2023	A Five-Day Workshop on Modeling and Synthesis: Molecules to Macromolecules held online and hosted by NIT, Rourkela	
19	Dr. Alagiri Kaliyamoorthy	Development of New Carbon-Carbon and Carbon-Heteroatom Bond Forming Reactions Using Heteroarene Derivatives as the Feedstock	21 st January 2024	IISER Thiruvananthapuram	
20	Dr. Basudev Sahoo	Alkylboration of Benzylidene-cyclopropanes Enabled by Copper Catalysis	7 th – 9 th Mar 2024	IIT Kharagpur, Kharagpur, India	A flash talk was presented at the 2 nd International Conference on Emerging Trends in Catalysis and Synthesis (ETCS)
21	Dr. Basudev Sahoo	Catalytic C-C Bond Functionalization of Aliphatic Ketones	10 th – 13 th Dec 2023	IISER Thiruvananthapuram, Thiruvananthapuram, India	A flash talk was presented at the Indo-French Seminar on Catalysis for Sustainability (IFSC)
22	Dr. Basudev Sahoo	Radical C-C Bond Functionalizations of Ketones Enabled by Metal & Photoredox Catalysis	30 th Oct – 2 nd Nov 2023	The Zuri White Sands, Goa, India	A flash talk was presented at the International Conference on Organometallics and Catalysis (ICOC)
23	Dr. Adithya Lakshmana	Ultrafast Structural Dynamics in Molecular Adducts Featuring Photo-initiated Proton-Coupled Electron Transfer	Sept 3-7, 2023	8 th Asian Spectroscopy Conference 2023 at Niigata, Japan	http://www2.riken.jp/lab/spectroscopy/ASC2021/index.html

Sl. No.	Name of Faculty member	Title of the Talk	Date	Institution/Place of the Talk	Description
24	Dr. Adithya Lakshmana	Ultrafast Structural Dynamics in Molecular Adducts Featuring Photo-initiated Proton-Coupled Electron Transfer	July 5-8, 2023	Photonics 2023 at IISc Bangalore	https://photonics2023.net
25	Jerry A Fereiro	The mysteries of charge transport in bio-molecular electronics	7 th July 2023	Weizmann Institute of Science, Israel	
26	Jerry A Fereiro	Are we really measuring proteins in protein junction?	21 st April 2023	TUM Molecular Electronics (MOL) Retreat/workshop, Raitenhaslach, Germany	
27	Jerry A Fereiro	Molecules in the world of electronics	6 th October 2023	Mar Ivanios College, Trivandrum Kerala, India	
28	Jerry A Fereiro	Charge transport studies via protein molecules	10 th November 2023	Baby John Memorial Government College, Chavara, Kerala, India	
29	Jerry A Fereiro	Solid-state Electrochemistry: From devices to applications	5 th March 2024	Cochin College, Cochin, Kerala, India	
30	Jerry A Fereiro	The Fundamentals of Electrochemistry	10 th March 2024	Kannur University, Kerala, India	
31	Kana M. Sureshan	Plenary Speaker, 4 th International Symposium on New Trends in Applied Chemistry	Feb 8, 2023	SH College Thevara	
32	Kana M. Sureshan	Invited speaker, 26 th congress and general assembly of the international union of crystallography	22-29 August 2023	Melbourne Convention and Exhibition center, Melbourne, Australia	
33	Kana M. Sureshan	Plenary speaker, International Conference on Polymer Science and Technology, SPSI-MACRO-2023	13 th December 2023	IIT Guwahati	

Sl. No.	Name of Faculty member	Title of the Talk	Date	Institution/Place of the Talk	Description
34	Kana M. Sureshan	Invited speaker, Two different polymers from a monomer. Rasyan-18	29 th Jan 2024	Christ University Bangalore	
35	Kana M. Sureshan	Invited speaker, National conference on Transcending Frontiers in Chemical Sciences (TFCS-2023)	11 & 12 August 2023	NIT Trichy	
36	Prof. Mahesh Hariharan	Greek Cross Aggregate	July 23-28, 2023	International Conference on Photochemistry, Sapporo, Japan	
37	Prof. Mahesh Hariharan	Greek Cross Aggregate	February 9, 2024	Dr. Reich Lecture, University of Würzburg, Germany	
38	Dr. T. Shyamala	Surface-Enhanced Raman Scattering (SERS): From Benchwork to Translational Impact	01-03 March 2024	National Conference on Recent Trends in Chemical Sciences Sambalpur University, Odisha	Conference Coordinator and Invited Speaker of RETICS 2024 conducted at Sambalpur University
39	Dr. T. Shyamala	Retracing the memory lane: The life and Academic Journey of Prof. A.K. Mishra	04 May 2024	One day National Symposium on Chemistry and Spectroscopy	Conducted by Indian Photobiology Society
40	Dr. Ramesh Rasappan	Organosilanes: Synthesis and Application via Nickel Mediated Cross-Coupling Reactions	26-Feb-2024	IISER Kolkata	
41	Dr. Ramesh Rasappan	Organosilanes: Synthesis and Application via Nickel Mediated Cross-Coupling Reactions	28-Feb-2024	NOST, NISER Bhubaneswar	
42	Dr. Ramesh Rasappan	Organosilanes: Synthesis and Application via Nickel Mediated Cross-Coupling Reactions	21-Feb-2024	MKU, Tamilnadu	

Sl. No.	Name of Faculty member	Title of the Talk	Date	Institution/Place of the Talk	Description
43	Dr. Ramesh Rasappan	Organic Synthesis and applications	11-Jan-2024	Jamal Mohamed College, Trichy, Tamilnadu	
44	Dr. Ramesh Rasappan	Organic Synthesis and applications	01 -August -2024	American college, Madurai, Tamilnadu	
45	Prof. K. George Thomas	Semiconducto Quantum Dots: From Trap States to Single Photon Purity	Jan 12, 2024	IISER Kolkata, India.	Plenary talk, Nanomaterials and Molecules: From Spectroscopy to Bioimaging (NaMoSBio2024)
46	Prof. K. George Thomas	Single-particle and Ensembl Photoluminescence of Quantum Emitter(s) in Plasmonic Field	Dec 7, 2023	Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), School of Advanced Materials (SAMat)	Invited talk, International Conference on Recent Advances in Materials (RAM 90)
47	Prof. K. George Thomas	Emergent Chiroptical Properties in Assembled Molecules and Materials: From Native Chirality to Global Chirality	Nov 27, 2023	University of Melbourne, Australia.	Plenary talk, 12th Asian Photochemistry Conference (APC2023)
48	Prof. K. George Thomas	Semiconductor Quantum Dots: From Trap-States to Single Photon Purity and Charge Stabilization	Jul 5, 2023	Indian Institute of Science, Bangalore, India.	Plenary talk, The International Conference on Photonics (Photonics2023)
49	Prof. K. George Thomas	Plasmon Assisted Emission and Raman Signal Enhancement: From Ensemble to Single Particle investigations	Jun 14, 2023	CSIR-Central Scientific Instruments organization Chandigarh, India & Institut Fresnel Marseille, France.	Plenary talk, Indo-French Workshop on Disruptive Nanophotonics.
50	Dr. Pushpita Ghosh	A mechanistic understanding of microcolony morphogenesis"	July 28, 2023	IIT Bombay	Invited Talk in in Mini Symposium -Theoretical Physical Chemistry and Chemical Physics" (MSTPCCP) 2023

Sl. No.	Name of Faculty member	Title of the Talk	Date	Institution/Place of the Talk	Description
51	Dr. Pushpita Ghosh	A mechanistic understanding of microcolony morphogenesis	June 16, 2023	Jim Corbet, Uttarakhand	Invited talk in “Soft Matter Young Investigator’s meet” (SMYIM) 2023.
52	Dr. Pushpita Ghosh	Online Lecture Series in Nonlinear Dynamics: entitled “Diverse spatiotemporal orders in spatially extended chemical systems”	May 12, 2023	Online	Invited RUSA Lecture
53	Dr. Pushpita Ghosh	A mechanistic understanding of microcolony morphogenesis	January 4, 2024	SNBNCBS Kolkata	Invited talk in symposium: “Stochastic and Nonlinear dynamics in Chemistry and Biology”



SCHOOL OF DATA SCIENCE

Awards & Recognitions

Sl. No.	Name of Faculty member	Month & Year	Title of Award/ Recognition	Award/Recognition received for
1	Dr. Priyanka Majumder	04 September 2023	Start-up Research Grant by SERB	My project entitled "On Design and Analysis of Stepped Wedge Cluster Randomized Trials" has been approved by the Science and Engineering Research Board (SERB) under the Start-up Research Grant (SRG) scheme.
2	Dr. Shyamal Ghosh	2023	KARYASHALA-2023 fund	KARYASHALA-2023 fund for conducting the workshop entitled "Workshop on real-life data modeling via statistical and machine learning tools"
3	Dr. Mainak Adhikar	15th March, 2024	IEEE Senior Member	For publishing quality papers in various IEEE Transactions, Journals, and Conferences last five years.

SCHOOL OF DATA SCIENCE

Format for Editorial Assignments

Sl. No.	Name of Faculty member	Name of Journal and Duration of editorial assignment	Short description about the journal
1	Dr. Mainak Adhikari (Area Editor)	Physical Communication (Elsevier) (SCIE Indexed) Duration: 2023-2025	<i>Physical Communication</i> is an international and archival journal providing complete coverage of all topics of interest to those involved in all aspects of physical layer communications . Theoretical research contributions presenting new techniques, concepts, or analyses, applied contributions reporting on experiences and experiments, and tutorials are published.
2	Dr. Mainak Adhikari (Area Editor)	Journal of Big Data (Elsevier) (SCIE Indexed) Duration: 2023-2025	Journal of Big Data examines the challenges facing big data today and going forward including, but not limited to: data capture and storage; search, sharing, and analytics; big data technologies; data visualization; architectures for

massively parallel processing; data mining tools and techniques; machine learning algorithms for big data; cloud computing platforms; distributed file systems and databases; and scalable storage systems.

SCHOOL OF DATA SCIENCE

Invited Talks

Sl. No.	Name of Faculty member	Title of the Talk	Date	Institution/Place of the Talk	Description
1	Dr. Priyanka Majumder	Statistical power and sample size requirements to detect an intervention by time interaction in four level longitudinal cluster randomized trials	15/12/2023	Department of Statistics, University of Kerala	I delivered a special invited talk in the “Ninth International Conference on Statistics for Twenty-first Century - 2023 [ICSTC-2023]” which was held from 15-18 December 2023.
2	Dr. Priyanka Majumder	Detecting trend change in hazard functions—an L-statistic approach	05/03/2024	Department of Mathematics, IIT Hyderabad	I was Invited to deliver two lectures and visit the Department of Mathematics, IIT Hyderabad during 5-6 March 2024.
3	Dr. Priyanka Majumder	Sample size requirements to detect an intervention by time interaction in four level longitudinal cluster randomized trials	06/03/2024	Department of Mathematics, IIT Hyderabad	I was Invited to deliver two lectures and visit the Department of Mathematics, IIT Hyderabad during 5-6 March 2024.
4	Dr. Shyamal Ghosh	On a bivariate copula for modeling negative dependence: application to New York air quality data	15.12.2023	University of Kerala	Invited Speakers
5	Dr. Shyamal Ghosh	On a bivariate copula for modeling negative dependence	01.02.2024	Rajagiri School of Engineering & Technology	Invited Talk
6	Dr. Shyamal Ghosh	Unveiling the Power of Data	23.02.2024	Garhbeta College, Vidyasagar University	Invited Talk

SCHOOL OF EARTH, ENVIRONMENTAL AND SUSTAINABILITY SCIENCE

Awards & Recognitions

Sl. No.	Name of Faculty member	Month & Year	Title of Award/ Recognition	Award/Recognition received for
1	Anand N.	August 2023	Associate, Indian Academy of Sciences	Associate, Indian Academy of Sciences, 2023.
2	Anand N.	August 2023	Program Committee Member	Program Committee Member in the Propagation Through and Characterization of Atmospheric Oceanic Phenomena (pcAOP), organized by Optica (formerly known as the Optical Society of America) as part of the Optica Imaging Congress.
3	Anand N.	September 2023	Excellence in teaching award, IISER Thiruvananthapuram	Excellence in teaching award, IISER Thiruvananthapuram, 2023
4	Bhavya P. S.	October 2023	Member of the Council governing the South Asian Biodiversity Portal (SABDP)	The SABDP portal is a principal component of the 'Landuse-landcover mapping and modelling using pollen and isotopic data in different Ecological regions of the Monsoon' (LEM) project, as approved under the 'Humans and Biosphere Commission' (HABCOM) of the International Union for Quaternary Research' (INQUA), is hosted at the 'Birbal Sahni Institute of Paleosciences' (BSIP), Lucknow.
5	Anand N.	December 2023	National Working Group committee member	National Working Group committee member, Organics in Space research collaboration
6	Ashutosh Pandey	February-April 2024	Participant in the International Ocean Discovery Program (IODP) Expedition 402 in the Tyrrhenian Sea as an Igneous Petrologist	Nominated by IODP India and invited by the JOIDES (Joint Oceanographic Institutions for Deep Earth Sampling) Resolution Science Operator (JRSO) to participate in the IODP Expedition 402
7	Pramitha M	February 2024	Selected from World Climate Research Programme – Atmospheric Processes And their Role in Climate (WCRP-APARC) community to organize online seminars on Gravity Wave/ Quasi Biennial Oscillation(GW/QBO)activity.	We are a team of four early career faculty members from different institutes to coordinate a monthly online seminar on GW/QBO.

SCHOOL OF EARTH, ENVIRONMENTAL AND SUSTAINABILITY SCIENCE

Fellowship

Sl. No.	Name of Faculty member	Month & Year	Fellowship Title & Duration of Fellowship	Description
1	Prasanth Valayamkunnath	May 2023	Scheme For Transformational And Advanced Research In Sciences (STARS) Research Grant Duration: Three years	A proposal titled “An investigation on the impacts of climate change and anthropogenic activities on terrestrial hydroclimate and agriculture using a convection-permitting climate model” is selected for the STARS research grant.

SCHOOL OF EARTH, ENVIRONMENTAL AND SUSTAINABILITY SCIENCE

Editorial Assignments

Sl. No.	Name of Faculty member	Name of Journal and Duration of editorial assignment	Description
1	Ashutosh Pandey	Geological Society London Special Publication (Co-editor of a proposed special volume by the Geological Society London Special Publication on ‘Alkaline rocks and their economic and geodynamic significance through geological time’)	Geological Society London Special Publication (https://www.lyellcollection.org/book/sp) is a part of the flagship series of The Geological Society, publishing around 20 themed volumes every year. It is renowned throughout the global geoscience community for its high quality of science and production.

SCHOOL OF EARTH, ENVIRONMENTAL AND SUSTAINABILITY SCIENCE

Invited Talks

Sl. No.	Name of Faculty member	Title of the Talk	Date	Institution/Place of the Talk	Description
1	Pramitha M	Gravity wave observations and gravity wave ray-tracing over India	05 May 2023	Institute of Energy and Climate research Stratosphere (IEK7) Forschungszentrum Julich(FZJ)	Visited as Guest Scientist at IEK7, FZJ for the period 15.05.2023-30.05.2023
2	Prasanth Valayamkunnath	Agriculture Water Managements in Noah-MP Land Surface Model	May 23 to May 25, 2023	National Center for Atmospheric Research (NCAR), USA	Oral presentation on International Workshop on Noah-MP
3	Prasanth Valayamkunnath	GCM – Downscaling – Bias correction	November 1 to November 3, 2023	KSCSTE - Institute for Climate Change Studies	Delivered a talk and hands-on session at the workshop on “Bridging the Knowledge Gap: Workshop on the Theory of Climate Change”
4	Anand N.	On atmospheric aerosols and radiative transfer models	December 2023	Indian Institute of Science	DST National Training Program on Aerosols and Climate
5	Anand N.	Role of aerosols and refractive index fluctuations in atmospheric optical propagation	20 January 2024	Indian Institute of Space Science and Technology	1 st symposium on Genesis and Evolution of Organics in Space

SCHOOL OF PHYSICS

Awards & Recognitions

Sl. No.	Name of Faculty member	Month & Year	Title of Award/ Recognition	Award/Recognition received for
1	Dr.Nitin Yadav	July 2023	IUCAA associateship	Associateship Programme, under which a faculty member of an Indian university or a post-graduate department in a college can visit IUCAA for periods of short and long durations over a span of three years to develop his or her interest and expertise in astronomy and astrophysics. The Associateship Programme has been designed to promote mobility and, to this end, the travel and local living expenses of an associate for these visits will be borne by IUCAA as per its rules.
2	Dr.Vinayak Kamble	Jan 2024	Rising star in Materials Science 2023	From over 300 nominations, Editors of <i>ACS Materials Au</i> selected 17 early career researchers to represent the depth, breadth, diversity, and interconnectivity of materials science being conducted across the globe. Each awardee has contributed a Perspective, Article, or Review, and these are assembled in the <i>ACS Materials Au 2023 Rising Stars in Materials Science Virtual Special Issue</i> . https://pubs.acs.org/doi/10.1021/acsmaterialsau.4c00004
3	Dr.Shabnam Iyyani	Jan 2024	Indian National Young Academy of Sciences	INYAS is the only recognised academy of young scientists in India which was established in 2014 with the vision to promote science education, networking among young scientists, engage in capacity building for interdisciplinary science researches, as well as collaboration with young academies across the world.
4	Prof.M.M. Shaijumon	May 2023	Science & Engineering Research Board (SERB)	SERB Science & Technology Award for Research (STAR)

SCHOOL OF PHYSICS

Fellowship

Sl. No.	Name of Faculty member	Month & Year	Fellowship Title & Duration of Fellowship	Description
1	Dr.Nitin Yadav	Feb 2024	SERB-MATRICS (3 years)	To provide fixed grant support to active researchers with good credentials in Mathematical Sciences, Theoretical Sciences and Quantitative Social Sciences. The funding provided would cater to the specific needs of Mathematical/Theoretical Sciences research.
2	Dr.Nitin Yadav	March 2024	CSIR-ASPIRE (3 years)	Aligned to the Government of India's initiative to empower women and promote 'Nari Shakti' in the country and Hon'ble Prime Minister's efforts to put Nari Shakti at the forefront of India's development journey, as we move towards Amrit Kal, CSIR has for the first time announced A Special Call for Research Grants for Women Scientists (CSIR-ASPIRE). In this call only women scientists across the country are eligible to apply for research grants to carry out R&D in major disciplines of science and engineering viz Life Sciences, Chemical Sciences, Physical Sciences, Engineering Sciences and inter/trans disciplinary sciences. The funds will be provided for staff (JRF/SRF/RA), contingency and minor equipment.
3	Dr.Chandrakala Meena	July 2023	Scientific High Level Visiting Fellowship for Short Research Trip to French Institute, 2023	Aligned to the Indo-French collaboration through the funding of short research trips to France for Indian faculty and researchers from eminent Indian Higher Education and Research Institutions (HERI).
4.	Dr.Chandrakala Meena	November 2023	SRG, SERB grant (2 years)	Supported by SERB, Government of India to assist researchers to initiate their research career in a new institution.
5	Dr.Chandrakala Meena	January 2024	EEQ, SERB grant (3 years)	Supported by SERB, Government of India for providing empowerment and equity to researchers belonging to the Scheduled Caste and Scheduled Tribe in undertaking research in frontier areas of science and engineering.

SCHOOL OF PHYSICS

Editorial Assignments

Sl. No.	Name of Faculty member	Name of Journal and Duration of editorial assignment	Description
1	Dr.Vinayak Kamble Guest editor	Journal of Physics Communications, July 2023 - June 2024	<i>Journal of Physics Communications (IOP)</i> publishes high-quality research in all areas of physics and builds on the strength and prestige of the Journal of Physics series. All physics-related research is in scope, including interdisciplinary and multidisciplinary studies.

SCHOOL OF PHYSICS

Invited Talks

Sl. No.	Name of Faculty member	Title of the Talk	Date	Institution/Place of the Talk	Description
1	Dr.Nitin Yadav	MHD wave coupling of solar atmosphere	3-5 April, 2023	USO, PRL, Udaipur	Multi-scale Phenomena on the Sun: Present Capabilities and Future Challenges
2	Dr.Nitin Yadav	Modelling of Solar MHD waves and relevance to Aditya-L1	1-13 April 2023	VSSC, Thiruvananthapuram	Science from In-situ Measurements of Aditya-L1 (SIMA-01)
3	Dr.Nitin Yadav	MHD wave coupling of solar atmosphere'	13-15 July, 2023	Raman Science Center (IIA campus in Leh, Ladakh UT)	3rd conference on plasma simulation (CPS-2022)
4	Dr.Nitin Yadav	MHD wave coupling of solar atmosphere'	1-23 September 2023	JNU, New Delhi	3rd International Conference on Plasma Theory and Simulations (PTS-2023)
5	Dr.Nitin Yadav	Why does the Sun, our nearest star, have a hot atmosphere?	4 March 2024	IISER Pune	Physics Colloquium

Sl. No.	Name of Faculty member	Title of the Talk	Date	Institution/Place of the Talk	Description
6	Dr.Pramitha M	Gravity wave observations and gravity wave ray-tracing over India	30.05.2023	Institute of Energy and Climate research Stratosphere (IEK7) Forschungszentrum Jülich(FZJ)	Visited as Guest Scientist at IEK7, FZJ for the period 15.05.2023-30.05.2023
7	Prof.Ramesh Nath	Double magnetic transitions and exotic field-induced phase in the triangular lattice antiferromagnets Sr ₃ Co(Nb,Ta)2O ₉	7 – 13 January-2024	IIT Madras	International conference on Highly Frustrated Magnetism (HFM) 2024
8	Prof.Ramesh Nath	Exotic Quantum Phases in Spin-1/2 Frustrated Square Lattice (J ₁ – J ₂) Model	12 – 15 December-2023	School of Materials Science and Technology, IIT BHU, Varanasi	MRSI AGM Meeting 2023
9	Prof.Ramesh Nath	Field Induced Quantum Phase Transitions in One-dimensional spin-1/2 Heisenberg Antiferromagnet	16 th October 2023	IOP Bhubaneswar	Invited speaker for the Golden Jubilee Celebration of IOP
10	Prof.Ramesh Nath	Quantum Magnetism: Fundamental and Applied Aspects	22 nd June 2025	Department of Physics, University of Kerala	Kerala University Research Fest
11	Dr.Tuhin Maity	Strain-engineering multiferroics for novel functionalities	12 – 15 December-2023	34 th Annual General Meeting of MRSI And 5 th Indian Materials Conclave Programme, IIT BHU, Varanasi	Annual conference of MRSI
12	Dr.Chandrakala Meena	Dynamic stability of complex systems	7-10 February 2024	National Physicists' Conclave 2024 SRM, Institute of Science and Technology, Chennai,India	National Physicists' Conclave is a premier gathering of physicists, physics enthusiasts, researchers, and experts from across India.
13	Dr.Bikas C. Das	Multifunctional Memristors Based on Two-Dimensional Layered Materials	20-23 Nov 2023	RPGR 2023 Bengaluru, India	

Sl. No.	Name of Faculty member	Title of the Talk	Date	Institution/Place of the Talk	Description
14	Dr.Bikas C. Das	Impact of Low-Voltage Resistive Switching Devices on Neuromorphic Computing	26 Nov - 01 Dec 2023	2023 MRS Fall Meeting & Exhibit, Boston, USA	
15	Dr.Bikas C. Das	Low-Voltage Resistive Switching Devices for Brain-Inspired Computing	12 - 15 December 2023	34th Annual General Meeting of MRSI and 5th Indian Materials conclave IIT (BHU), Varanasi, India	
16	Dr.Bikas C. Das	Heterojunction-Free Self-Powered Photodetector of Halide Perovskite Monocrystal	22 - 23 December 2023	Hybrid Halide Perovskite - 2023 IACS, Kolkata, India	
17	Dr.Shabnam Iyyani	Onset of Particle Acceleration in Prompt Emission of Gamma Ray Burst	2 - 4 November 2023	Advances in Relativistic Astrophysics, ARIES, Nainital, India	Conference to discuss the advances and researches happening in various topics of relativistic astrophysics.
18	Dr.Shabnam Iyyani	Onset of Particle Acceleration in Prompt Emission of Gamma Ray Burst	19 - 21 January 2024	Frontier Symposium in Physics, IISER TVM, India	
19	Dr.Shabnam Iyyani	Prompt Emission of GRBs: Key research and future prospects	1 - 2 April 2024	Transients 2024, IIT Bombay, India	Conference to discuss and identify the key science topics and requirements for the new ISRO space missions in high energy astrophysics
20	Dr.Mathew Arun Thomas	Tri-bimaximal-Cabibbo Mixing: flavour violation in charged lepton sector	6-9 November 2023	BSM-2023, Hurgada, Egypt	
21	Dr.Bindusar Sahoo	Superconformal approach to N=4 supergravity.	June 19 2023	Albert Einstein Institute Potsdam	Invited talk at AEI Potsdam
22	Dr.Bindusar Sahoo	Superconformal approach to N=4 supergravity.	September 18-22, 2023	Strings attached 2.0, IIT Kanpur	Invited talk at Strings attached 2.0 held at IIT Kanpur

Sl. No.	Name of Faculty member	Title of the Talk	Date	Institution/Place of the Talk	Description
23	Dr.Rajeev N Kini	Terahertz phonon optics	2-4 March 2024	International Conference on Light Matter Interaction & Ultrafast Processes, MG University, Kottayam, Kerala	Invited talk
24	Dr.Rajeev N Kini	Terahertz phonon optics	15 – 17 February 2024	9th Topical Conference on Ultrafast Photonics and Quantum Science 17th Feb 2024, PRL Ahmedabad	Invited talk
25	Dr.Rajeev N Kini	Terahertz phonon optics	25-27 Nov 2023	Ultrafast sciences 2023, NPL Delhi	Invited talk
26	Dr.Rajeev N Kini	Seeing the nanoworld at femtosecond time scales	6 October 2023	Recent Trends in Advanced Materials & Characterization Techniques Govt. College Nedumangad, Kerala	Invited talk
27	Dr.Rajeev N Kini	The nanoworld through the eyes of femtosecond spectroscopy	16 Nov 2023	National Seminar on Optics and Photonics Govt. College Mananthavady, Wayanad, Kerala	Invited talk
28	Prof.M.M. Shaijumon	Next-generation 'Beyond Li-ion' Batteries: Promises and Challenges	05 March 2024	One day conference on Electrochemistry CUSAT, Kerala	Invited talk
29	Prof.M.M. Shaijumon	Powering the Future: Innovations in Next-generation Batteries	29 February 2024	Central University of Kerala	Invited talk
30	Prof.M.M. Shaijumon	Interface Engineering and Design Strategies for the Development of All-solid-state Lithium Batteries	21-23 December 2024	University of Calicut, Kerala	Invited Talk
31	Prof.M.M. Shaijumon	Building Better Batteries for Clean Energy Future	28 January 2024	Global Science Festival Kerala	Invited Talk

Sl. No.	Name of Faculty member	Title of the Talk	Date	Institution/Place of the Talk	Description
32	Prof.M.M. Shaijumon	2-D Materials and their Heterostructures for Electrocatalysis	21 June 2023	Amrita Viswa Vidhyapeetham, Coimbatore, INDIA	Invited Talk
33	Prof.M.M. Shaijumon	2nd International Conference on Thin Films and Nanotechnology - Knowledge, Leadership and Commercialization (ICTN-KLC 2023)	07 July 2023	IIT Madras	Invited Talk
34	Prof.M.M. Shaijumon	Interface Engineering and Design Strategies for the Development of All-solid- state Batteries	07 December 2023	IIT Roorkee, INDIA	Invited Talk
35	Prof.M.M. Shaijumon	Materials Development and Design Strategies for Advanced Electrochemical Energy Storage Devices	09 November 2023	Joint International Workshop on Energy & Sustainability JNCASR Bangalore, INDIA	Invited Talk
36	Prof.M.M. Shaijumon	Atomically Thin 2-D Materials and their Heterostructures for Electrocatalysis	28 June 2023	Graphene 2023 The University of Manchester, UK	Invited Talk
37	Prof.M.M. Shaijumon	2-D Materials and their Heterostructures for Electrocatalysis	31 August 2023	NanoteC 2023 Brighton, UK	Invited Talk

Sl. No.	Name of Faculty member	Title of the Talk	Date	Institution/Place of the Talk	Description
38	Prof.M.M. Shaijumon	Materials Development & Design Strategies for Advanced Electrochemical Energy Storage Devices	17 August 2023	The National Symposium on ELECTROCHEMICAL SCIENCE AND TECHNOLOGY NSEST-2023 Hyderabad	Invited Talk
39	Prof.M.M. Shaijumon	Materials Development & Design Strategies for Electrochemical Energy Storage & Conversion Systems	03 October 2023	UCLouvain, Belgium	Invited Talk
40	Prof.M.M. Shaijumon	Transition Metal Dichalcogenide-based Electrocatalysts for Hydrogen Production	02 December 2023	Green Hydrogen Initiative Workshop, IIT Bombay IIT Bombay, INDIA	Invited Talk
41	Prof.M.M. Shaijumon	Engineered 2D Heterostructures for Electrocatalysis	22 November 2023	RPGR 2023 Bangalore	Invited Talk
42	Prof.M.M. Shaijumon	Designing Electrode Architectures for Electrochemical Energy Storage	29 June 2023	University College London, UK	Invited Talk
43	Dr.Madhu Thalakulam	Vortex dynamics in highly fragile 2D superconducting & Bose metal states on MoS ₂ , International Conference on Complex Quantum Systems	Jan 2023	International Conference on Complex Quantum Systems (ICCQS-2023), BARC, Mumbai	Invited talk
44	Dr.Madhu Thalakulam	Charge and Spin Readout Techniques in Quantum Dot Qubits	SEP 2023	C-DAC Bangalore	Invited talk

Sl. No.	Name of Faculty member	Title of the Talk	Date	Institution/Place of the Talk	Description
45	Dr.Madhu Thalakulam	3D to 0D, a quantum confined journey	OCT 2023	NANOFEST 23, International and interuniversity centre for nanoscience and nanotechnology, MG University, Kerala	Invited talk
46	Dr.Madhu Thalakulam	Macroscopic manifestation of microscopic backaction due to quantum tunneling of electrons,	OCT 2023	International Conference on Emergent Phenomena and Quantum Technologies (ICEPQT-2023), Central University of Kerala	Invited talk
47	Dr.Madhu Thalakulam	Macroscopic manifestation of microscopic backaction due to quantum tunneling of electrons	DEC 2023	Helmholtz-Zentrum Dresden-Rossendorf, Germany	Invited Talk
48	Dr. Madhu thalakulam	Transient vortex dynamics and evolution of Bose metal from a 2D superconductor on MoS2	MAR 2024	Physics of Strongly Correlated Systems (PSCES 2024), IISER Bhopal	Invited Talk

Grants & Partnerships

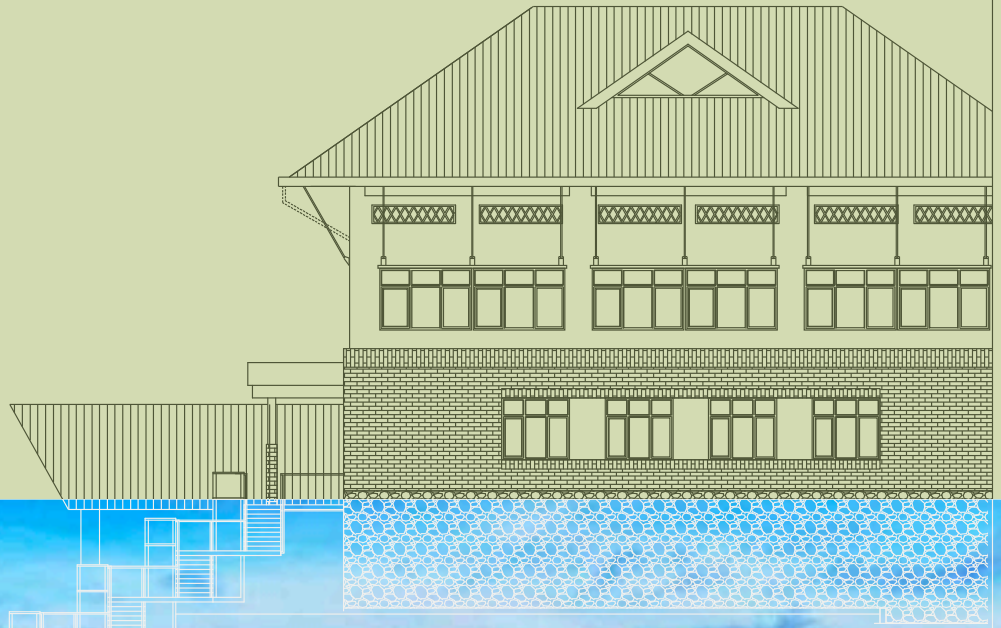


Photo: Parthiban, Electrical substations team

NEW EXTRAMURAL GRANTS

NEW EXTRAMURAL GRANTS (2023-24)

Sl. No.	Name of the Project	Project Leader	Funding Agency	National / International	Period	Funds Received During the Year 2023-24 (Amount in Lakhs)
1	High-efficient delivery of antimicrobials to target intracellular, vacuole-bound bacterial pathogens	DR. SANDHYA GANESAN	ACRON	National	01.05.2023 to 30.04.2024	6.6
2	Structure based drug design targeting transcription regulator, and its binding to RNA polymerase complexes in Mycobacteria	DR. ARUN KUMAR G	KSCSTE	National	13.02.2023 to 12.02.2025	6.69
3	RAMANUJAN FELLOWSHIP	DR. RAM KUMAR	SERB	National	20.02.2023 to 19.02.2028	26.36
4	RAMANUJAN FELLOWSHIP	DR. KARTHIK CHANDIRAN	SERB	National	10.04.2023 to 09.04.2028	23.22
5	Development of Sodium-Ion Batteries for Efficient and Sustainable Energy Storage	DR. M M SHAIJUMON	SERB	National	31.01.2023 to 30.05.2026	12.9
6	Nanophotonic Approaches Towards Enhancing the Chiroptical Signals in Assembled Molecules and Materials	DR. K GEORGE THOMAS	CEFIPRA	National	11.05.2023 to 10.05.2026	26.28
7	FIST PROGRAM	DST-FIST - SOM	DST	National	02.03.2022 to 01.03.2027	83.5

Sl. No.	Name of the Project	Project Leader	Funding Agency	National / International	Period	Funds Received During the Year 2023-24 (Amount in Lakhs)
8	Insights into meiotic crossover mechanisms using SNP-ChIP analysis	DR. NISHANT K T	SERB	National	28.06.2023 to 27.06.2026	16.98
9	Unraveling the molecular and biochemical basis of a drought-resistant, bushy mutant with high organogenic potential in Arabidopsis thaliana	DR. RAVI MARUTHACHALAM	SERB	National	17.10.2023 to 16.10.2023	18.41
10	Elucidating the mechanisms of nutrient acquisition by liver-stage plasmodium	DR. KAMALAKANNAN VIJAYAN	ICMR	National	29.06.2023 to 28.06.2026	23.42
11	Understanding the role of infection and signaling pathways involved during formation of T cell memory	DR. KARTHIK CHANDIRAN	ICMR	National	17.08.2023 to 16.08.2026	32.86
12	A novel heterostructure architecture for photodetection and photo-enhanced electron emission applications	DR. JOY MITRA	DST	National	2022 to 2024	4.52
13	Quantifying ecosystem services provided by native bees to forests and adjacent cropland: towards a sustainable forest-farm network	DR. HEMA SOMANATHAN	DBT	National	10.05.2023 to 09.05.2026	19.34
14	Chromosomal features governing crossover pathway choice	DR. NISHANT K T	DBT	National	14.09.2023 to 13.09.2026	17.42
15	Genome editing in bovine embryo: optimization and generation of targeted genetic variant	DR. N SADANANDA SINGH	DBT	National	19.09.2023 to 18.09.2023	40.75
16	Development of Rapid Biodegradability Test'- Sub-Project-4- "Test-tube Model Rapid and Accelerated Biodegradation (RAB) of Bioplastic	DR. RAJENDRA KURAPATI	DBT	National	05.09.2023 to 05.09.2023	10.88

Sl. No.	Name of the Project	Project Leader	Funding Agency	National / International	Period	Funds Received During the Year 2023-24 (Amount in Lakhs)
17	Hard Carbon development for battery electrodes	DR. M M SHAIJUMON	OTHERS	National	15.05.2023 to 31.05.2024	21.31
18	Ramanujan Fellowship	DR. INDRANIL MONDAL	SERB	National	03.07.2023 to 02.07.2028	17.73
19	Development of miniature lithium ion batteries for on-chip energy storage	DR. M M SHAIJUMON	MoE	National	26.09.2023 to 25.09.2026	32.03
20	Identification and characterisation of conserved microRNAs and target genes that regulate ageing in Drosophila	DR. JISHY VARGHESE	MoE	National	26.09.2023 to 25.09.2026	21.82
21	Copper-Catalyzed Asymmetric Conjugate Addition Reactions of Fluorinated Pronucleophiles	DR. ALAGIRI KALIYAMOORTHY	MoE	National	26.09.2023 to 25.09.2026	14.63
22	Electrochemical Routes to Synthesis the 2,5-Furandicarboxylic Acid from Biomass-Derived 5-Hydroxymethylfurfural	DR. A MUTHUKRISHNAN	MoE	National	26.09.2023 to 25.09.2026	22.92
23	Bench-stable di/trifluoromethylating reagents and their applications in radical-based difunctionalization of alkenes	DR. VEERA REDDY YATHAM	MoE	National	26.09.2023 to 25.09.2026	22.33
24	Identification and characterisation of conserved microRNAs and target genes that regulate ageing in Drosophila	DR. JERRY ALFRED FERREIRO	MoE	National	26.09.2023 to 25.09.2026	26.34
25	RAMANUJAN FELLOWSHIP	DR. KRISHNADAS K R	SERB	National	13.07.2023 to 12.07.2028	17

Sl. No.	Name of the Project	Project Leader	Funding Agency	National / International	Period	Funds Received During the Year 2023-24 (Amount in Lakhs)
26	DBT Research Associateship Program	DR. ANAND RAMAIAH SANTHASEELA	DBT	National	03.07.2023 to 02.07.2025	7.55
27	Remote C-H functionalization driven by cerium photocatalysis	DR. VEERA REDDY YATHAM	CSIR	National	01.08.2023 to 31.07.2026	0.75
28	Unveiling weak carbon nucleophiles in metal-catalyzed C-S coupling with N-sulfinylamines for organic synthetic application	DR. BASUDEV SAHOO	CSIR	National	26.02.2024 to 25.02.2027	3.56
29	Exploration of I-Heteroaryl-I-propynes as pronucleophile for various propargylation and allenylation reactions	DR. ALAGIRI KALIYAMOORTHY	CSIR	National	06.10.2023 to 05.10.2026	0.94
30	Theoretical Investigation on the triplett formation pathways in natural photosensitizers	DR. VENNAPUSA SIVARANJANA REDDY	CSIR	National	08.07.2023 to 07.07.2026	5.92
31	Synthesis and application of chiral mechanically interlocked molecules	DR. SOUMEN DE	CSIR	National	01.08.2023 to 31.07.2026	0.56
32	Climate change and water balance challenges in pollinator insects	DR. ULLASA KODANDARAMIAH	MoE	National	26.09.2023 to 25.09.2026	15.23
33	Unravelling the role of VEGF signaling in hematopoietic stem cell maturation and expansion in mouse fetal liver	DR. SATISH KHURANA	SERB	National	07.12.2023 to 06.12.2026	16.4
34	Modulating cellular metabolism to enhance neural stem cell function in adult mammalian brain	DR. SATISH KHURANA	ICMR	National	30.11.2023 to 29.11.2026	46.62
35	Electrochemical studies with Graphene	DR. M M SHAIJUMON	BPCL	National	2023 to	9.16

Sl. No.	Name of the Project	Project Leader	Funding Agency	National / International	Period	Funds Received During the Year 2023-24 (Amount in Lakhs)
36	A Core-shell Hybrid Sorbent for Efficient Marine Oil Spill Recovery	DR. K M SURESHAN	MoE	National	26.09.2023 to 25.09.2026	15.77
37	Stability of complex systems under higher-order interactions	DR. CHANDRAKALA MEENA	SERB	National	22.12.2023 to 21.12.2025	21.21
38	Carbonyl activation using late-transition metal-hydride complexes [H-M-L-X-H] (X = O, N) containing hydrogen bond donor ligands	DR. RAMARAJ AYYAPPAN	SERB	National	26.12.2023 to 25.12.2025	22.28
39	Investigation of quantum phase transitions in two-dimensional Heisenberg kagome lattice antiferromagnets	DR. RAMESH CHANDRA NATH	SERB	National	20.01.2024 to 19.01.2027	21.14
40	INSPIRE FACULTY FELLOWSHIP	DR. CHANDRAKALA MEENA	DST	National	06.11.2020 to 05.11.2025	0
41	Development of Novel Adeno Viral Vector Platform for Vaccine Delivery: Pandemic Preparedness Against Emerging Viral Pathogens	DR. STALIN RAJ VICTOR	ICMR	National	15.02.2024 to 14.02.2025	161.17
42	On Design and Analysis of Stepped Wedge Cluster Randomized Trials	DR. PRIYANKA MAJUMDER	SERB	National	15.02.2024 to 14.02.2026	7.3
43	Unveiling the hidden relationship between vorticity and magnetic field in the solar atmosphere	DR. NITIN YADAV	SERB	National	17.02.2024 to 16.02.2027	2.2
44	Rising Stars Award - T1	DR. AMRUTHA SWAMINATHAN	IBRO-OTHERS	National	21.02.2024 to 20.02.2026	10.31

Sl. No.	Name of the Project	Project Leader	Funding Agency	National / International	Period	Funds Received During the Year 2023-24 (Amount in Lakhs)
45	Main-group compounds for carbon monoxide activation	DR. AJAY VENUGOPAL	SERB	National	23.02.2024 to 22.02.2027	8.65
46	Design and Synthesis of Helically Chiral Conformationally Stable Macrocycles Towards Chiroptical Properties	DR. GOKULNATH SABAPATHI	SERB	National	26.02.2024 to 25.02.2027	36.6
47	Si-H bond activation and its applications in homogeneous catalysis	DR. RAMARAJ AYYAPPAN	SERB	National	26.02.2024 to 25.02.2027	36.65
48	Emergent patterns in complex dynamical networks of mixed dynamics	DR. CHANDRAKALA MEENA	SERB	National	26.02.2024 to 25.02.2027	16.62
49	Deciphering the molecular pathways underlying chromatinopathies in neurological disorders	DR. NISHANA MAYILAADUMVEETIL	SERB	National	28.02.2024 to 27.02.2026	18.18
50	Structure, function and molecular mechanism studies of an evolvability factor Repair Coupling Factor in Mycobacterium spp.	DR. RAMANATHAN NATESH	SERB	National	02.03.2024 to 01.03.2027	23.35
51	Synthesis and Application of Alkyl(trialkoxyl) silanes via Cross-Electrophile and Nickel Hydride Coupling Reactions	DR. RAMESH RASAPPAN	SERB	National	02.03.2024 to 01.03.2027	11.62
52	Unravelling the role of interchromophoric electronic coupling in symmetry breaking charge separation vs. singlet fission	DR. MAHESH HARIHARAN	SERB	National	02.03.2024 to 01.03.2027	68.84
53	Defining fundamental principles of vesicle fusion using infectious and genetic disease models	DR. SANDHYA GANESAN	DBT	National	01.03.2024 to 28.02.2029	64.64

Sl. No.	Name of the Project	Project Leader	Funding Agency	National / International	Period	Funds Received During the Year 2023-24 (Amount in Lakhs)
54	Elucidating Plasmodium induced complexity in the host signaling network	DR. KAMALAKANNAN VIJAYAN	DBT	National	01.03.2024 to 28.02.2029	65.93
55	Small molecule inhibitors to cripple mycobacterial "SOS" response mutagenic axis and combat antimicrobial resistance (AMR)	DR. RAMANATHAN NATESH	ICMR	National	09.02.2024 to 08.02.2027	4.27
56	JC BOSE FELLOWSHIP	DR. K M SURESHAN	SERB	National	14.02.2024 to 13.02.2029	4.67
57	Characterization and stalking of multiple susceptible genes for a broad range of rice pathogens to engineer broad-spectrum resistance insouth Indian mega rice varieties by genome editing	DR. YUGANDER ARRA	DBT	National	01.03.2024 to 28.02.2027	27.72
58	National Post-Doctoral Fellowship	DR. ALOK KUMAR	SERB	National	09.04.2024 to 08.04.2026	6.7
59	Exploring extreme light-matter interactions in the epsilon near zero regime of doped metal oxide semiconductors and conducting polymers	DR. JOY MITRA	SERB	National	22.03.2024 to 21.03.2027	33.5
60	Investigating cross-talks between insulin signalling and hypoxic signalling pathway in managing nutrient homeostasis during growth and development in Drosophila	DR. JISHY VARGHESE	SERB	National	22.03.2024 to 21.03.2027	21.71
61	Class numbers of number fields	DR. SRILAKSHMI KRISHNAMOORTHY	SERB	National	16.03.2024 to 15.03.2027	10.67

Sl. No.	Name of the Project	Project Leader	Funding Agency	National / International	Period	Funds Received During the Year 2023-24 (Amount in Lakhs)
62	Robust and Collaborative Fog-aided Federated Learning Framework for Enhanced Resiliency of Real-time Applications	DR. MAINAK ADHIKARI	SERB	National	17.03.2023 to 16.03.2025	5.45
63	Directed evolution of regulatory multi-enzyme complexes	DR. VIJAY JAYARAMAN	DBT	National	01.12.2023 to 30.11.2026	13.5
64	Identification of host factors that regulate Plasmodium entry of hepatocytes	DR. KAMALAKANNAN VIJAYAN	SERB	National	08.03.2024 to 07.03.2026	18.29
65	Supply of pheromones for ongoing Coconut Development Board	DR. RAJENDAR GORETI	RARS (SZ) Vellayani, Trivandrum	National	2023 to	3.51
66	Evaluation of the neuroprotective potential of Probulcol and Chlorogenic acid in a progressive mouse model of Parkinson's disease	DR. POONAM THAKUR	Cure Parkinson's Trust	International	01.04.2024 to 30.09.2025	4.09
67	INSA Associate Fellowship 2023	DR. SUBRATA KUNDU	DST	National	01.01.2024 to 30.06.2024	0.6
68	Chief Minister's Navakerala Post-doctoral Fellowship	DR. SANGEETHA VARMA	KSHEC	National	10.07.2023 to 09.07.2025	0.4

NEW EXTRAMURAL GRANTS (2023-24)

Sl. No.	Name of the Project	Project Leader	Funding Agency	National / International	Period	Funds Received During the Year 2023-24 (Amount in Lakhs)
1	Quantum Network Nonlocality using Neural Networks Oracle	ANANTH KRISHNAN S	IISER-PUNE	National	15.05.2023 to 15.11.2023	0.74
2	Hybrid Quantum Circuit: Coupling of Topological Insulator to a Coplanar Waveguide Resonator	AYISHA FERHANA	IISER-PUNE	National	21.04.2024 to 20.10.2023	0.74
3	Self-Testing Quantum State Using Entangled measurements	SUBHAM DAS	IISER-PUNE	National	01.02.2024 to 30.09.2024	0.99
4	Certifying Quantum Advantage in Direction-Agnostic Multy-Party Communication Networks	A V N S MEGHANATH	IISER-PUNE	National	01.02.2024 to 30.06.2024	0.62



ON-GOING EXTRAMURAL GRANTS

ONGOING EXTRAMURAL GRANTS (2023-24)

Sl. No.	Name of the Project	Project Leader	Funding Agency	Period	Funds Received During the Year (Amount in Lakhs)
1	Elucidating post-transcriptional regulation of circadian behavior in <i>Drosophila</i>	DR. NISHA N KANNAN	DBT	01.01.2017 to 30.06.2023	0.84
2	Al(I)/Al(III) Lewis Pairs for the Activation of Inert Chemical Bonds	DR. AJAY VENUGOPAL	SERB	01.01.2020 to 30.06.2023	0
3	Post-doctoral Fellowship	DR. ARATI SHASHI	DAE	01.05.2021 to 30.04.2023	8.78
4	JC BOSE FELLOWSHIP	DR. K GEORGE THOMAS	SERB	01.06.2019 to 31.05.2024	15
5	Identifying the effect of α -synuclein induced alterations on electrophysiological homeostasis of dopaminergic neurons in Parkinson's disease progression	DR. POONAM THAKUR	DBT	01.09.2019 to 31.08.2024	71.67
6	Conflict between Replication and Transcription accelerates Mutagenesis and drives Antibiotic Resistance	DR. SABARI SANKAR THIRUPATHI	DBT	01.10.2019 to 30.09.2024	18.35
7	INSPIRE FACULTY FELLOWSHIP	DR. SHABNAM IYANI	DST	01.10.2020 to 30.09.2025	5.72
8	Understanding the role of Periostin-Itgav interactions in adult and fetal hematopoiesis	DR. SATISH KHURANA	DBT	01.12.2016 to 31.05.2023	5.5
9	Exploring 2D Atomic Crystals for Resistive Switching Based Emerging Artificial Neuromorphic Devices	DR. BIKAS C DAS	SERB	02.03.2022 to 01.03.2025	0
10	Control and Finite Element Analysis of Cahn-Hilliard-Navier-Stokes system	DR. SHEETAL DHARMATTI	SERB	02.03.2022 to 01.03.2025	0
11	Nickel mediated cross-coupling reactions of a - Silyloxyalkyl - Zinc reagents	DR. RAMESH RASAPPAN	CSIR	03.06.2021 to 02.06.2024	0.91

Sl. No.	Name of the Project	Project Leader	Funding Agency	Period	Funds Received During the Year (Amount in Lakhs)
12	Design and Synthesis of Pie Extended and Ring-Extended Bis- Macrocyclic and Investigating their Photophysical Properties for Optoelectronic Applications	DR. GOKULNATH SABAPATHI	SERB	05.02.2020 to 04.08.2023	0
13	Multifunctional Biodegradable Hybrid Black phosphorous-CaCO ₃ Nanoparticles as a Synergistic Targeted Chemo-photothermal Therapy for Glioblastoma Multiforme	DR. RAJENDRA KURAPATI	DBT	05.04.2021 to 04.04.2026	0
14	Plasmonic Chromatography for Multiresidue Pesticide Detection in Spices	DR. T SHYAMALA	DST	07.01.2022 to 06.01.2025	9.5
15	Decoding Neuronal States using Chimera Patterns	DR. D V SENTHIL KUMAR	SERB	08.03.2022 to 07.03.2025	2.5
16	Schurs Exponent Conjecture	DR. VIJI Z THOMAS	SERB	10.02.2021 to 09.02.2024	1.8
17	Characterization of network structure and homogeneity of N-Doped Graphene activated Natural Rubber Sulfur Vulcanizate	DR. RANI ALPHONSA JOSE	SERB	10.12.2021 to 09.12.2024	0
18	Understanding the regulation of kinetochore protein phosphorylation for the activation of spindle assembly check-point	DR. TAPAS KUMAR MANNA	SERB	11.03.2021 to 10.03.2024	16.5
19	Blockade of CXCL-3—CXCR-2 axis normalises tumor vasculature and enhances immune surveillance in triple negative breast cancer	DR. SUBOJ BABYKUTTY	SERB	13.12.2021 to 12.12.2024	0
20	DST-Storage MAP	DR. M M SHAIJUMON	DST	14.02.2022 to 13.02.2025	33.25
21	Energy-Efficient Synaptic Transistors of Two-Dimensional Layered Material	DR. BIKAS C DAS	SERB	14.03.2022 to 13.03.2025	0
22	Thermal Expansion Measurements in a spin ¹ / ₂ Heisenberg antiferromagnet C12H14CuN4O5	DR. DEEPSHIKHA JAISWAL NAGAR	SERB	14.03.2022 to 13.03.2025	0
23	Structure, function and molecular mechanism of transcription regulators in Mycobacterium spp.	DR. RAMANATHAN NATESH	MHRD	15.05.2020 to 14.05.2024	23.33

Sl. No.	Name of the Project	Project Leader	Funding Agency	Period	Funds Received During the Year (Amount in Lakhs)
24	Photochemical and Electrochemical Processes in Assembled Molecules and Nanomaterials: Implications Field and Coherence in Photovoltaics	DR. K GEORGE THOMAS	DST	15.11.2021 to 14.11.2025	0
25	Functionality Shuttling via Catalytic Isodesmic Reaction and Its Application in Organic Synthesis	DR. BASUDEV SAHOO	SERB	15.12.2021 to 14.12.2023	5
26	Activation of Alkyl chlorides Driven by Visible Light Titanium Photoredox Catalysis	DR. VEERA REDDY YATHAM	SERB	15.12.2021 to 14.12.2023	4
27	Chemistry of Reactive Sulfur and Selenium Species: Elucidating the Routes in Bio(in)organic Signalling and Toxicology	DR. SUBRATA KUNDU	SERB	15.12.2021 to 14.12.2024	5
28	Lithium Battery Testing	DR. M M SHAIJUMON	OTHERS	15.12.2021 to -	26.73
29	Non-volatile resistance switching memory on SiC for harsh environment applications	DR. KUMARAGURUBARAN SOMU	SERB	16.03.2022 to 15.03.2025	0
30	Development of porous titania supported Lithium Hydroxide for efficient capture of carbon-di-oxide	DR. K M SURESHAN	ISRO	16.11.2020 to 31.12.2023	7.51
31	Conductive inorganic-organic hybrid materials for electrochemical applications	DR. SUKHENDU MANDAL	CSIR	17.08.2021 to 16.08.2024	0.66
32	Palladium and Magnesium based hybrid nanocluster structures for high gravimetric capacity hydrogen storage	DR. DEEPSHIKHA JAISWAL NAGAR	DST	17.09.2019 to 16.09.2023	0
33	Exploring the active sites of nitrogen and boron containing/doped materials: N2-C-B type active sites for electrocatalytic 4-electron oxygen reduction reaction	DR. A MUTHUKRISHNAN	DST	17.09.2019 to 16.09.2023	0
34	Terahertz spectroscopic studies of layered 2-D materials	DR. RAJEEV N KINI	SERB	18.01.2020 to 17.07.2023	0
35	Stereoselective Total Synthesis of Atisan Based Diterpenoids Antiquorpenes	DR. RAJENDAR GORETI	SERB	18.12.2020 to 17.12.2023	1

Sl. No.	Name of the Project	Project Leader	Funding Agency	Period	Funds Received During the Year (Amount in Lakhs)
36	Unraveling the conformational changes during photocyclization of o-arenes by femtosecond time-resolved circular dichorism	DR. Y ADITHYA LAKSHMANNA	SERB	18.12.2020 to 17.12.2023	1.5
37	Integrating collective behaviour with biomechanics of social spider webs	DR. HEMA SOMANATHAN	SERB	19.03.2020 to 18.07.2023	0
38	Neural-network quantum state (NQS) based variational wave function for strongly correlated electron systems	DR. AMAL MEDHI	SERB	19.03.2022 to 18.03.2025	0
39	Unrevealing the entry mechanism of Tick-borne Kyasanur Forest diseases Virus	DR. STALIN RAJ VICTOR	DBT	20.07.2021 to 19.07.2023	1.98
40	INSPIRE FACULTY FELLOWSHIP	DR. MATHAW ARUN THOMAS	DST	20.10.2020 to 19.10.2025	0
41	Design and fabrication of electrocatalytic microcells using elemental 2-dimensional materials	DR. M M SHAIJUMON	SERB	22.03.2022 to 21.03.2025	0
42	FIST PROGRAM	HOD, SOP	DST	22.07.2019 to 21.07.2024	0
43	INSPIRE FACULTY FELLOWSHIP	DR. ANAND NARAYANA SARMA	DST	22.10.2021 to 21.10.2026	22.44
44	Noble-Metal free Advanced Catalysts for Hydrogen Generation and Fuel Cell Applications	DR. M M SHAIJUMON	DST	23.10.2019 to 22.10.2023	0
45	Development and Evaluation of diagnostics and Candidate VACacines for emerging SARS-Coronavirus-2 (Dec-VAC-SARS)	DR. STALIN RAJ VICTOR	SERB	23.12.2020 to 22.12.2023	12
46	Realizing distributed quantum computing with silicon- based spin qubits	DR. MADHU THALAKULAM	DST	24.02.2020 to 31.03.2024	6
47	Open quantum systems - Non Markovian dynamics and Not completely Positive Maps	DR. ANIL SHAJI	DST	24.02.2020 to 31.03.2024	6.66
48	Organisation of Summer Schools	DR. ANIL SHAJI	DST	24.02.2020 to 31.03.2024	0
49	Transparent solar cells: A perspective for bifacial solar cells	DR. MANOJ A G NAMBOOTHIRY	SERB	24.02.2022 to 23.02.2025	10

Sl. No.	Name of the Project	Project Leader	Funding Agency	Period	Funds Received During the Year (Amount in Lakhs)
50	Asymptotic preserving IMEX-DG schemes on adaptive grids for multiscale compressible flows	DR. K R ARUN	SERB	24.02.2022 to 23.02.2025	0
51	IISER TVM-KLDB COLLABORATIVE PROJECT	DR. N SADANANDA SINGH	KLDB	24.09.2021 to 23.09.2026	0
52	Twistronics with transition metal dichalcogenides	DR. RAJEEV N KINI	SERB	26.03.2020 to 26.03.2025	0
53	Structural elucidation of the bacterial transcription elongation complex with Gre factors: focus on Mycobacterium tuberculosis RNA polymerase	DR. SANDREA MAUREEN FRANCIS	KSCSTE	26.04.2021 to 25.04.2024	0
54	FIST PROGRAM	HOD, SOB	DST	27.08.2019 to 26.08.2024	0
55	Autophagy upregulation as a therapeutic approach for Parkinson's disease	DR. POONAM THAKUR	SERB	28.12.2021 to 27.12.2023	3.5
56	Efficient Neuromorphic Memory via Nano-engineered Composite Film	DR. TUHIN SUBHRA MAITY	SERB	28.12.2021 to 27.12.2023	3.5
57	Identification and characterization of the molecular factors for the quality-control of kinetochore size and fidelity of spindle-chromosome attachment	DR. TAPAS KUMAR MANNA	DBT	29.07.2019 to 28.07.2023	0
58	Engineering a site-specific synthetic chromatin remodeler for genome editing and gene expression	DR. NISHANT K T	SERB	31.08.2021 to 30.08.2024	0
59	Integration of 2D materials in organic and inorganic hybrid solar cells: Insights into charge extraction and transport	DR. MANOJ A G NAMBOOTHIRY	MHRD	31.12.2019 to 04.02.2024	20.05
60	Quantum point contact charge amplifiers embedded in a planar superconducting microwave resonator: Quantum-limited charge sensing and counting	DR. MADHU THALAKULAM	MHRD	31.12.2019 to 04.02.2024	11.12
61	Structural characterization of functional prion domain of mammalian cytoplasmic polyadenylation element-binding protein 3 (CPEB3)	DR. VINESH VIJAYAN	MHRD	31.12.2019 to 18.02.2024	33.34

Sl. No.	Name of the Project	Project Leader	Funding Agency	Period	Funds Received During the Year (Amount in Lakhs)
62	Electrophilic Aluminium Compounds for Catalytic CO2 Hydroxylation	DR. AJAY VENUGOPAL	MHRD	31.12.2019 to 18.02.2024	8.74
63	Epigenetic modulation of centromeres to produce in vivo haploids by triggering uniparental genome elimination in plants	DR. RAVI MARUTHACHALAM	MHRD	31.12.2019 to 18.03.2024	20.11
64	ENDFLU - Evaluation of Rationally Designed Influenza Vaccines	DR. STALIN RAJ VICTOR	DBT	31.12.2020 to 30.12.2025	0
65	Investigations of Structure-Reactivity Patterns of First-Row Late Transition Metal-Boryl/Silyl Complexes	DR. SUBRATA KUNDU	CSIR	20.10.2021 to 19.10.2024	0.99
66	DST-Bioenergy & H2 MAP	DR. DEEPSHIKHA JAISWAL NAGAR	DST	16.03.2022 to 15.03.2025	0
67	DST-Materials MAP	DR. MANOJA G NAMBOOTHIRY	DST	16.03.2022 to 15.03.2025	20.01
68	Growth of Nuclear Radiation Sensitive Single Crystals through Bridgman Technique	DR. RAMESH CHANDRA NATH	DRDO	29.04.2022 to 28.09.2023	0
69	BEEscape: Investigating landscape level pesticide use and health of native, social bees	DR. HEMA SOMANATHAN	SERB	30.05.2022 to 29.05.2025	0
70	On the central idempotents of algebras arising from Schur-Weyl Duality and the invariant theory of certain groups	DR. GEETHA T	SERB	10.06.2022 to 09.06.2025	0
71	Cheif Minister's Navakerala Post Doctoral Fellowship (CMNPF)	DR. NEEMA P M	KSHEC	20.06.2022 to 19.06.2024	0
72	Cheif Minister's Navakerala Post Doctoral Fellowship (CMNPF)	DR. HIJAS K M	KSHEC	14.07.2022 to 13.07.2024	1.75
73	Cheif Minister's Navakerala Post Doctoral Fellowship (CMNPF)	DR. ASWATHI K	KSHEC	04.07.2022 to 03.07.2024	1.75
74	CRISPR Crop Network: Targeted improvement of stress tolerance, nutritional quality and yield of crops by using genome editing	DR. RAVI MARUTHACHALAM	ICAR	16.08.2022 to 15.08.2025	2.49

Sl. No.	Name of the Project	Project Leader	Funding Agency	Period	Funds Received During the Year (Amount in Lakhs)
75	Neutrophils Mediated Enzymatic Biodegradability of Two-Dimensional MXenes Nanosheets: Effect of Surface Functionalization and BloodSerum Protein Coating	DR. RAJENDRA KURAPATI	SERB	27.09.2022 to 26.09.2024	3
76	Collective spatiotemporal dynamics of biological soft matter using theory and computation	DR. PUSHPITA GHOSH	SERB	27.09.2022 to 26.09.2024	4
77	INSPIRE FACULTY FELLOWSHIP	DR. PRAMITHA M	DST	09.09.2021 to 08.09.2026	6.99
78	Biomass-Derived Carbon Dots for High-Performance Supercapacitor	DR. SAM JOHN	SERB	28.10.2022 to 27.10.2025	0
79	Hydraulic targets for better crop growth and productivity under climate change like conditions	DR. ANIRBAN GUHA	DBT	01.11.2022 to 31.10.2027	24.72
80	Defining lysosomal mechanisms of defense against intracellular pathogens	DR. SANDHYA GANESAN	SERB	04.11.2022 to 03.11.2024	4
81	Physiology and metabolism of lysosomal dysfunction in a lysosomal storage disorder causing prosaposin mutation	DR. SWATHI DEVIREDDY	DBT	22.09.2022 to 21.09.2027	24.68
82	INSPIRE FACULTY FELLOWSHIP	DR. NITIN YADAV	DST	08.12.2022 to 07.12.2027	7
83	INSPIRE FACULTY FELLOWSHIP	DR. PRASANTH VALAYALAMKUNNATH	DST	08.12.2022 to 07.12.2027	0
84	Copper-Mediated Nucleophilic and Electrophilic Propargylation Reactions: Asymmetric Synthesis of Various Propargylic Compounds	DR. ALAGIRI KALIYAMOORTHY	SERB	09.01.2023 to 08.01.2026	10
85	Atom-Precise Metal Nanocluster and Two-Dimensional Cluster-Assembled Materials for Efficient Electrochemical Nitrogen Reduction Reaction	DR. SUKHENDU MANDAL	SERB	12.01.2023 to 11.01.2026	0
86	Thorough investigation of the mechanism of the origin of Gamma-ray burst through first principles, observational interpretation and simulation studies	DR. SHABNAM IYANI	SERB	13.01.2023 to 12.01.2025	0

Sl. No.	Name of the Project	Project Leader	Funding Agency	Period	Funds Received During the Year (Amount in Lakhs)
87	Synthesis of mimics of collagen, elastin and fibroin via isosteric replacement of amide with triazole	DR. K M SURESHAN	SERB	13.01.2023 to 12.01.2026	0
88	Hybrid numerical schemes for system of hyperbolic conservation laws	DR. ASHA KISAN DOND	SERB	13.01.2023 to 12.01.2026	0
89	Nanofabricated Single Protein Assemblies for Solid-State Bioelectronic Devices	DR. JERRY ALFRED FERREIRO	SERB	18.01.2023 to 17.01.2026	0
90	Cyclodextrin tethered polymeric materials for the capture of plant essential oils: Evaluation of its in vitro efficacy as an antimicrobial and cytotoxic agent for biomedical applications	DR. SONIA MOL JOSEPH	SERB	13.10.2022 to 12.10.2025	3.35
91	An Improved Lennard-Jones Formulation for Modeling Adsorption on Graphynes	DR. R S SWATHI	SERB	31.01.2023 to 30.01.2026	0
92	Cancer environment stimuli-responsive DNA nanoparticles: A unique drug delivery vehicle for combination cancer therapy	DR. REJI VARGHESE	SERB	06.02.2023 to 05.02.2026	0
93	Existence and qualitative properties of solutions of quasilinear and nonlocal elliptic partial differential equations	DR. DHANYA RAJENDRAN	SERB	09.02.2023 to 08.02.2026	0
94	Understanding the mutational landscape in different <i>Candida auris</i> clades using a multiprognosed approach	DR. NISHANT K T	ICMR	20.02.2023 to 19.02.2026	0
95	Understanding the effect of stabilizing selection for the timing of adult emergence on circadian clock of <i>Drosophila melanogaster</i>	DR. NISHA N KANNAN	SERB	22.02.2023 to 21.02.2026	0
96	Interface Engineering of Bi-Sb-Ge Tellurite Superlattices using Atomic Layer Deposition	DR. VINAYAK B KAMBLE	SERB	23.02.2023 to 22.02.2026	0
97	Development of AI assisted Versatile Chemical Sensor Array for On-demand End Use	DR. VINAYAK B KAMBLE	SERB	02.03.2023 to 01.03.2026	9
98	2D Materials/Biopolymer based Broad-Spectrum Antimicrobial Multilayer Coatings: Synergistic Approach to Thwart the Biofilm Formation on the Medical Implants	DR. RAJENDRA KURAPATI	SERB	17.03.2023 to 16.03.2026	0

Sl. No.	Name of the Project	Project Leader	Funding Agency	Period	Funds Received During the Year (Amount in Lakhs)
99	Stabilization by sparse controls for system of reaction-diffusion equations with mixed state and control constraints	DR. NAGAI AH CHAMAKURI	SERB	17.03.2023 to 16.03.2026	0
100	Understanding the role of energy producing metabolic pathways on hematopoietic emergence in mouse	DR. SATISH KHURANA	DBT	28.03.2023 to 27.03.2026	43.42
101	Studies on the feasibility of electrochemical oxidation of 5-hydroxymethylfurfural to furan dicarboxylic acid	DR. A MUTHUKRISHNAN	TREEMERA GmbH, GERMANY	08.06.2022 to -	7.92

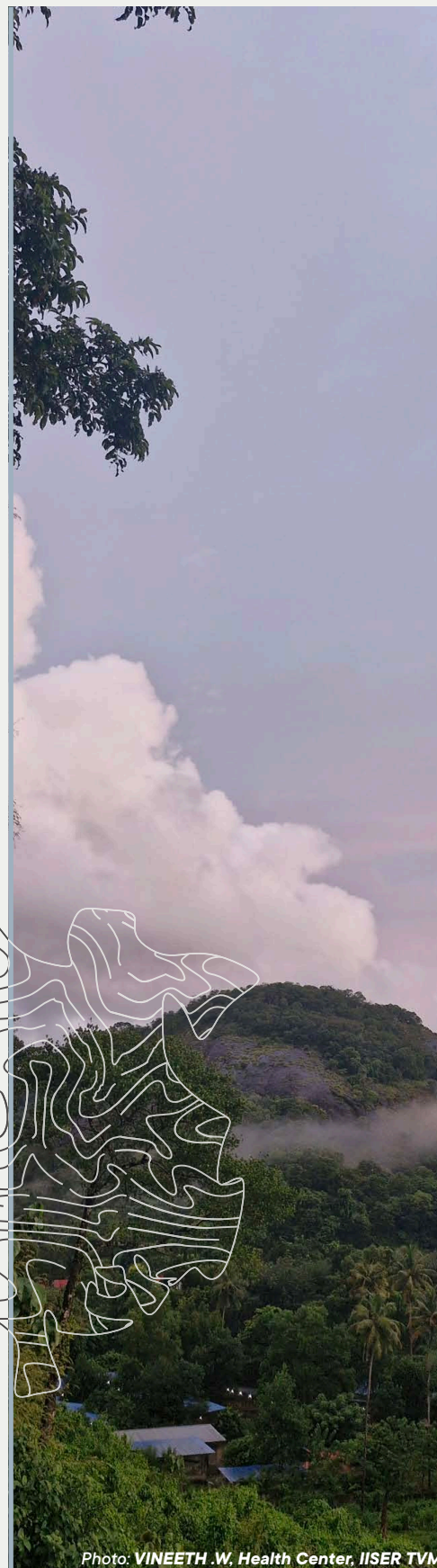
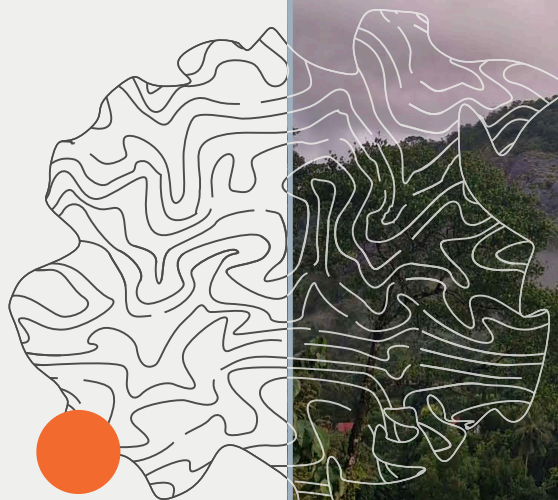


Photo: VINEETH .W, Health Center, IISER TVM

Students Recognition

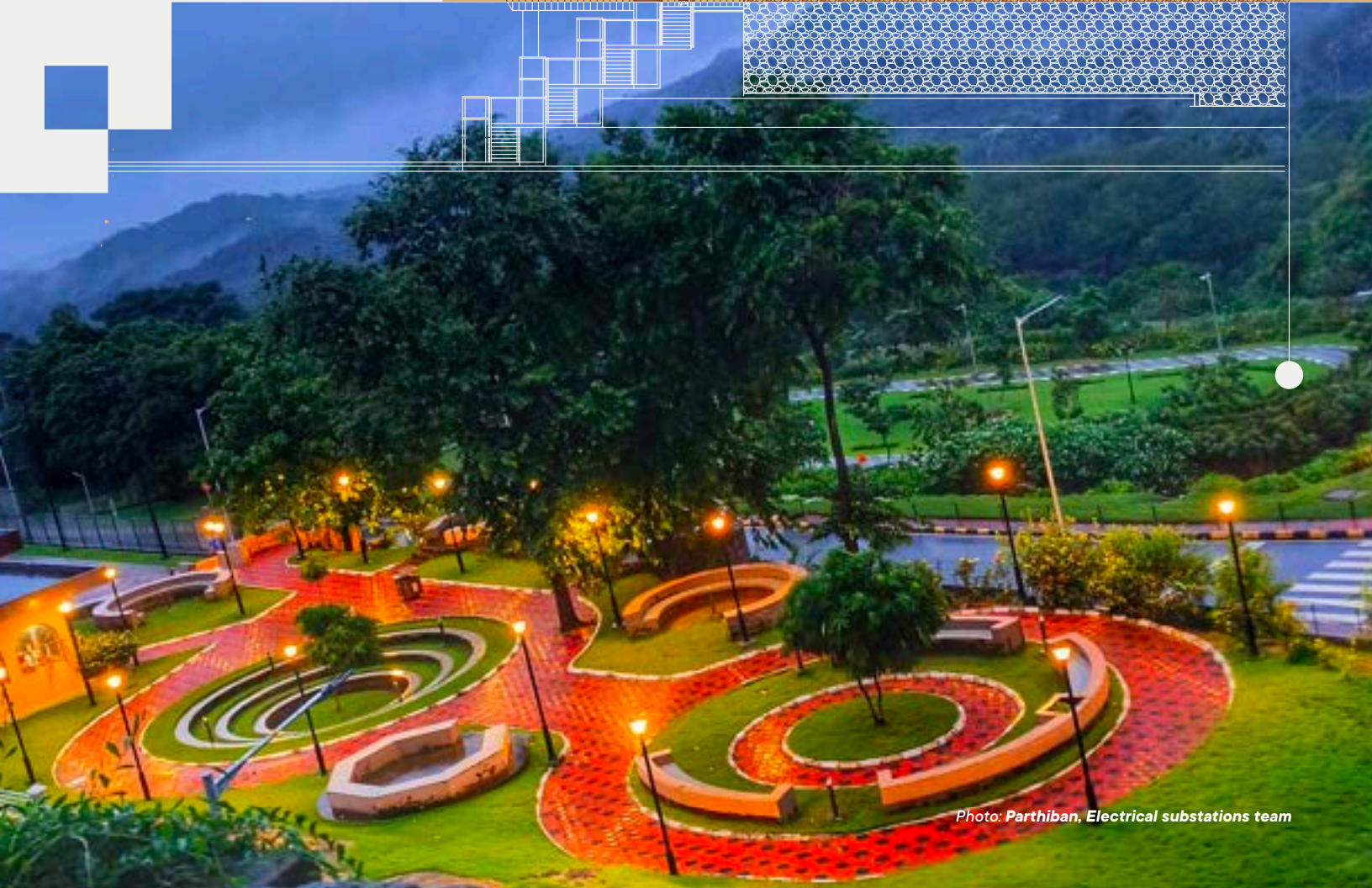
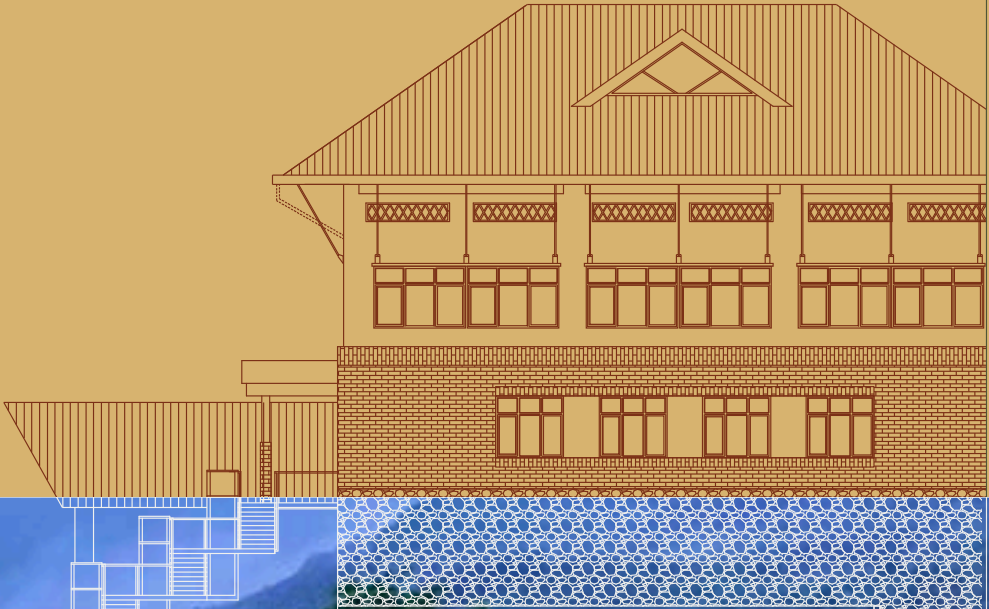


Photo: Parthiban, Electrical substations team

SCHOOL OF BIOLOGY

Student Placements

Sl. No.	Student Name	Course	Advisor	Higher Education		Employment Details
				Indian Universities	Foreign Universities	
1	Sajesh Vijayan	PhD	Hema Somanathan		Postdoctoral fellow, University of Western Ontario, Canada	
2	Reshma Basak	Post-doc	Hema Somanathan			Assistant Professor, Gitam University, Bangalore
3	Baheerathan Murugavel	PhD	Hema Somanathan		Postdoctoral fellow, IISER Mohali	
4	Josy Joseph	BS-MS	Dr. Jishy Varghese		Indiana University, US	
5	Dr. Sreesha Sudhakar	PhD	Dr. Jishy Varghese			Clinical Scientist 4Base Care, Bengaluru
6	Dr. Niyas Rehman	PhD	Dr. Jishy Varghese			Assistant Professor Yenapoya University, Mangalore
7	Anju Maria Jose	BS-MS	Dr. Jishy Varghese			Auditor Comptroller and Auditor General (CAG), Government of India
8	Namitha TJ	BS-MS	Dr. Nisha N Kannan		PhD at Max Planck Institute for Molecular Biomedicine, Germany	

Sl. No.	Student Name	Course	Advisor	Higher Education		Employment Details
				Indian Universities	Foreign Universities	
9	Sanjay Ramnarayan Yadav	BS-MS	Dr. Nisha N Kannan		PhD at Institute of Zoology, Slovakia Academy of Science, Slovakia	
10	Sagar Salim	PhD	Prof. Nishant K.T		Brandeis University	Postdoctoral position
11	Simran Negi	B.S-M.S	Prof. Nishant K.T		Institute of Biophysics (IBP), Czech Republic	PhD position
12	Adarsh Jay	B.S-M.S	Prof. Nishant K.T		Université Laval, Canada	PhD position
13	Shreya Venkateshan	BS-MS	Poonam Thakur		Georg- August Universität Göttingen, Germany	PhD program
14	Rakhshana B Krishnan	BS-MS	Dr. Ramanathan Natesh		University of Strasbourg	Biological Data Processing Engineer, IGBMC, Strasbourg, France.
15	Sneha S	BS-MS	Dr. Ramanathan Natesh		City University of New York (CUNY)	Doctoral program in Biochemistry at the CUNY Graduate Center, New York, USA.
16	Akash Gharwal	BS-MS	Dr. Ramanathan Natesh		University of Galway	PhD program at University of Galway, Ireland, UK
17	Deepika V	BS-MS	Dr. Ramanathan Natesh		ISTA, Vienna	PhD program,, ISTA, Vienna, Austria
18	Kumar Vaibhav	MSc	Dr. Ramanathan Natesh		Ohio State University	PhD program at Ohio State University, Ohio, USA.
19	Shehna PK	BS-MS	Dr. Ramanathan Natesh		Charles University	PhD program at BIOCEV(Biotechnology and Biomedicine Centre of the Academy of Sciences and Charles University in Vestec), Prague, Czech Republic.
20	Abhin M Vishnu	BS-MS (Minor)	Dr. Ramanathan Natesh		University of Massachusetts	University of Massachusetts, Amherst, USA.

Sl. No.	Student Name	Course	Advisor	Higher Education		Employment Details
				Indian Universities	Foreign Universities	
21	Ira Zibbu	BS-MS (Minor)	Dr. Ramanathan Natesh		University of Texas at Austin	University of Texas at Austin, Austin, Texas, USA.
22	Ananthu M	BSMS	Ravi Maruthachalam		Max Planck Institute of Plant Breeding and Research, Cologne, Germany	PhD Scholar
23	Sudev Sankar	BSMS	Ravi Maruthachalam		University of Zurich, Switzerland	PhD Scholar
24	Vishnu Pijakkal	BSMS	Ravi Maruthachalam		University of Warwick, United Kingdom	PhD Scholar
25	Sreejith Allipra	PhD	Ravi Maruthachalam		Institut Jean-Pierre Bourgin (IJPB), INRAE-AgroParisTech, France	Post Doctoral research Scholar
26	Amrutha Sahoo	BSMS	Ravi Maruthachalam		Max Planck Institute of Plant Breeding and Research, Cologne, Germany	PhD Scholar
27	Vishnu S Babu	BSMS	Ravi Maruthachalam	Project fellow at NIPGR, New Delhi		Field Specialist in Bioinformatics at Integrated Gulf Biosystems in Riyadh, Saudi Arabia.

Sl. No.	Student Name	Course	Advisor	Higher Education		Employment Details
				Indian Universities	Foreign Universities	
28	Dr. Rahul Sharma	PhD	Prof. S. Murty Srinivasula		The University of Texas at Austin	Rahul defended his thesis on 5 th January, 2024 and will now be commencing his Post Doctorate at the University of Texas, Austin with Dr. Jeanne C. Stachowiak. Here his research focus will be on membrane dynamics employing biophysical and biochemical tools.
29	Tejas Sabu	BSMS 19, Major Project student	Prof. S. Murty Srinivasula		University of Wisconsin, Madison	PhD placement at the McArdle Laboratory for Cancer Research at the University of Wisconsin, Madison
30	Vidyarashmi Hanehalli	BSMS 19, Major Project student	Prof. S. Murty Srinivasula		CECAD, University of Cologne	PhD placement as a CGA graduate student at the CECAD, University of Cologne under Prof. Alexandra Trifunovic
31	Sreyas Sreekumar	BS-MS	Sabari Sankar Thirupathy		University of Marburg, Germany	PhD
32	Bharat Joshi	BS-MS	Sabari Sankar Thirupathy		University Medical Center Mainz, Germany	PhD
33	Ira Zibbu	BS-MS	Sabari Sankar Thirupathy		University of Texas at Austin	PhD
34	Varun Sunder	IPHD	Sabari Sankar Thirupathy		University of Basel, Switzerland	PhD
35	Fabi Rasheed	BS-MS	Sabari Sankar Thirupathy			IAS, Govt. of India.

Sl. No.	Student Name	Course	Advisor	Higher Education		Employment Details
				Indian Universities	Foreign Universities	
36	Chandhana Prakash	M.Sc. Biology (Batch 22)	Dr. Sandhya Ganesan		University of Queensland (PhD)	
37	Siva Subramanian A	BSMS Biology (Batch 19)	Dr. Sandhya Ganesan		Max Planck Institute of Evolutionary Biology, Plön, Germany (PhD) from September 1, 2024	
38	Anushka Mitra	M.Sc. Biology (Batch 22)	Dr. Sandhya Ganesan		Max Planck Institute for Molecular Physiology (PhD)	
39	Archisha Ganguly	MSc Biology	Dr. Satish Khurana		-	Project Associate, Institute for Stem Cell Science and Regenerative Medicine
40	Amulya V Hejjaji	BS-MS Biology	Dr. Satish Khurana	-	Institute of cell biology, University of Münster	
41	Anaswar S R	BS-MS Biology	Dr. Satish Khurana	-	DIGS-BB PhD program, Institute of Anatomy, Technical University Dresden, Germany.	
42	Anchita Gopikrishnan	BS-MS Biology	Dr. Satish Khurana	Department of Developmental Biology and Genetics, Indian Institute of Science, Bengaluru	-	
43	Arunima Mathew	BS-MS Biology	Dr. Satish Khurana	-	Master of Fine Arts in Art, Science and Visual Thinking : Duncan of Jordanstone College of Art and Design - University of Dundee, Scotland	

Sl. No.	Student Name	Course	Advisor	Higher Education		Employment Details
				Indian Universities	Foreign Universities	
44	Devika Rag T	BS-MS Biology	Dr. Satish Khurana	-	Institute of Physiological Chemistry and Pathobiochemistry, University of Münster, Germany	
45	Siddharth Kurne	BS-MS Biology	Dr. Satish Khurana	-	Stowers Institute of Medical Research, Kansas city, Missouri, United States	
46	Sreelakshmi Sanam	BS-MS Biology	Dr. Satish Khurana	-	Cancer and Cell biology Graduate program, University of Cincinnati, Ohio, United States	
47	Ankita Kumari	BS-MS Biology	Dr. Satish Khurana		International Institute of Molecular Mechanisms and Machines, Poland	
48	Soham Chatterjee	BS-MS Biology	Dr. Satish Khurana		PhD program in Genome, Cell and Developmental Biology (GCDB), Indiana University Bloomington, US	
49	Ahmed Hussain	MSc	Prof. Tapas Manna		Utrecht University, Netherlands	Joined in PhD programme
50	Antony John	BS-MS	Prof. Tapas Manna	NCBS, Bengaluru		Joined in PhD programme
51	Ganga Mohan	BS-MS	Prof. Tapas Manna		RWTH Aachen University, Germany	Joined in PhD programme
52	Sanusha MG	BS-MS	Prof. Tapas Manna		IRB, Barcelona	Joined in PhD programme
53	Shivani R	BS-MS	Prof. Tapas Manna		Institute Curie, Paris, France	Joined in PhD programme

Sl. No.	Student Name	Course	Advisor	Higher Education		Employment Details
				Indian Universities	Foreign Universities	
54	Arunima Muiyil	BS-MS	Prof. Tapas Manna		University of Geneva, SW	Joined in PhD programme
55	Amit Santhu	BS-MS	Prof. Tapas Manna		ETH, Zurich	Joined in PhD programme
56	Bhagyanath S	BS-MS	Prof. Tapas Manna		CEA/JGA, Paris, France	Joined in PhD programme
57	Grishma Kulkarni	BS MS	Dr. V Stalin Raj		University of Geneva	University of Geneva, Switzerland
58	Shubham Diwakar	BS MS	Dr. V. Stalin Raj	IISC Bangalore		IISC Bangalore, India
59	Adithi Kamath	BS MS	Dr. V. Stalin Raj		University of Utah, US	University of Utah, USA
60	Diana Thomas	BS MS	Dr. V. Stalin Raj		University of Texas at Austin	University of Texas at Austin USA
61	Pranav Thapron	BS-MS	N. Sadananda Singh		Stowers Institute	Project fellow
62	Muskan Jain	MSc (biology)	N. Sadananda Singh	Indian Council Medical Research (ICMR) - National Institute of Research In Tribal Health, Jabalpu		JRF
63	Manya Lal	MSc (biology)	N. Sadananda Singh	CSIR-IGIB		Associate-I

SCHOOL OF BIOLOGY

Awards & Recognitions

Sl No.	Student Name	Course	Advisor	Month & Year	Title of Award/Recognition	Award/Recognition received for
1	Kavya Mohan	PhD	Hema Somanathan	2023	American Animal Behaviour Society student grant	Research grant
2	Manish Ravi	PhD	Hema Somanathan	2023	Gentry award, Association for Tropical Biology	Best poster
3	Sudeep R	PhD	Hema Somanathan	2023	Travel grant for attending ISBE, Melbourne	Attending and presenting at ISBE 2024 in Australia
4	Anagha Muralidharan		Amrutha Swaminathan, Alwin Poullose	2024	Khorana Program for Scholars	To work in the lab of Dr. Howard Sirotkin in Stonybrook University for a period of 12 weeks.
5	Reshma Menon	PhD	Dr. Jishy Varghese	March 2024	Selection as a speaker for the Asia-Pacific Drosophila Neurobiology Conference	Asia-Pacific Drosophila Neurobiology Conference, Tokyo, Japan
6	Sohela Sarkar	PhD	Dr. Jishy Varghese	December, 2023	Best Platform Speaker Indian Drosophila Research Conference	Indian Drosophila Research Conference (InDRC-23), held at IISER TVM
7	Sohela Sarkar	PhD	Dr. Jishy Varghese	February, 2024	Best Platform Speaker Frontier Symposium in Biology	Frontier Symposium in Biology (FS-Bio 24), held at IISER TVM
8	Palak Khare	iPhD	Dr. Jishy Varghese	December, 2023	Best Poster prize Indian Drosophila Research Conference	Indian Drosophila Research Conference (InDRC-23), held at IISER TVM
9	Sohela Sarkar	PhD	Dr. Jishy Varghese	February 2024	Selection as a speaker for the Indian Society for Developmental Biologists Conference	InSDB Biennial Meeting held at Bengaluru

Sl No.	Student Name	Course	Advisor	Month & Year	Title of Award/Recognition	Award/Recognition received for
10	Anna Geo	PhD	Dr. Nisha N Kannan	January 2024	CSIR International travel grant	To attend Asia Pacific Drosophila Neurobiology conference (APDNC) in Tokyo, Japan.
11	Swetha Gopalakrishnan	PhD	Dr. Nisha N Kannan	March 2024	DST international travel support grant	To attend Society for Research on Biological Rhythms biannual meeting at San Juan, USA
12	Anna Geo	PhD	Dr. Nisha N Kannan	March 2024	DMM Conference travel grant by the company of biologists.	To attend Asia Pacific Drosophila Neurobiology conference (APDNC) in Tokyo, Japan.
13	Suman Dash	PhD	Prof. Nishant K.T	June, 2023	EMBO Travel grant	To attend EMBO Meiosis meeting in Austria
14	Dr. Sandrea Maureen Francis	Post Doctoral Fellow	Dr. Ramanathan Natesh	Apr 2023	CMNPF	Chief Ministers Navakerala Postdoctoral Fellowship 2022-2023, Mode II, Kerala State Higher Education Council
15	Yash Misra	Ph.D.	Dr. Ramanathan Natesh	June 2023	CSIR-UGC-JRF-NET	CSIR-UGC-JRF-NET with All India Rank 130.
16	Yash Misra	Ph.D.	Dr. Ramanathan Natesh	Jan 2024	CCP4 Study Weekend-Travel Bursary 2024	Attending CCP4 Study Weekend (Conference) at EMCC Nottingham from 3rd to 5th January 2024 and selected for poster presentation.
17	Yash Misra	Ph.D.	Dr. Ramanathan Natesh	October 2023	DBT-ESRF Bursary for visiting synchrotron	Visiting European Synchrotron Radiation Facility (ESRF) DBT-ID23-2 beamline line for X-ray diffraction and data collection from 5th to 8th October 2023.
18	Anjitha K.	Ph.D.	Dr. Ramanathan Natesh	January 2024	Travel bursary	Travel bursary from DECTRIS Ltd. to attend "South-East Asian Crystallographic Overview And Systematic Training" 2024 (SEA COAST 2024)
19	Madhavi M	BS-MS	Dr. Ramanathan Natesh	May - July 2023	Charpak Lab Scholarship	Charpak Lab Fellowship to IGBMC Strasbourg
20	Aparna Vivek (VIT Vellore)	BS-MS	Dr. Ramanathan Natesh	February 2024	Mitacs Globalink Research Internship	Mitacs Globalink Research Internship at Dalhousie University, Canada

Sl No.	Student Name	Course	Advisor	Month & Year	Title of Award/Recognition	Award/Recognition received for
21	Meega Reji	BSMS	Ravi Maruthachalam	May to November 2023	University of Paris- Saclay Master's Thesis internship	To study chromatin dynamics in response to DNA damage in tomato at Dr. Cecile Raynaud's Chromosome Dynamics group
22	Prabhal Das	BSMS	Ravi Maruthachalam	May to December 2023	Secured Master's Thesis internship to work in Max Planck Institute of Plant Breeding and Research, Cologne	To work with the group of Andre Marques to study holocentromeres in <i>Rhynchospora</i>
23	Nikhil Dev Narendra	PhD	Prof. S. Murty Srinivasula	August 2023- April 2024	Fulbright-Nehru Doctoral Research Fellowship	Nikhil was awarded the Fulbright Nehru Doctoral Research Fellowship, to work with Prof. John R. Yates at the Scripps Research Institute, La Jolla, California, USA.
24	Rahul Sharma	PhD	Prof. S. Murty Srinivasula	February 2024	Bank of Baroda Academic Achievement Award	
25	Vidyarashmi Hanehalli	BSMS 19, Major Project student	Prof. S. Murty Srinivasula	December 2023-April 2024		Part of the Major project was carried out under Dr. Dhanendra Tomar, Department of Cardiology, School of Medicine, Wake Field University
26	Ananya Aravind	BSMS 19, Major Project student	Prof. S. Murty Srinivasula	October 2023- February 2024	ENS – IISER M2 Internship	Ananya was selected through the ENS-IISER M2 program to perform part of her major project under Prof. Jean-Pierre Mothet, focusing on organelle dynamics in neuron physiology.
27	Vidyarashmi Hanehalli	BSMS 19, Major Project student	Prof. S. Murty Srinivasula	May 2023- July 2023	DAAD WISE fellowship	Vidyarashmi carried out her internship under Prof. Jorg Tatzelt at Ruhr-Universitat Bochum.
28	Harshini	BSMS 20	Prof. S. Murty Srinivasula	May 2023- June 2023		Summer internship with Dr. Alexis Kaushanky at the University of Washington
29	Krishanu Dey Das	PhD	Prof. S. Murty Srinivasula	2 nd -4 th February, 2024	Best Flash Talk at the Frontier Symposium in Biology, 2024	Krishanu was awarded the best award for flash talk, describing his work on the role of CARP1 in Golgi dynamics.

Sl No.	Student Name	Course	Advisor	Month & Year	Title of Award/Recognition	Award/Recognition received for
30	Samhitha Patil	BS-MS	Sabari Sankar Thirupathy	Feb 2024	DAAD-WISE Fellowship	12 weeks research internship at Max Planck Institute of Evolutionary Biology, Plön, Germany
31	Anuraag Nallan Chakravarthi	IPHD	Sabari Sankar Thirupathy	Feb 2024	CSIR-UGC Fellowship	AIR 51
32	Anjali Variyar	IPHD	Sabari Sankar Thirupathy	Feb 2024	Conference Registration & Travel Fee Waiver Award by EMBO	To attend and present a poster at the EMBO Workshop on Evolution and diversity of the DNA damage response.
33	Chandhana Prakash	M.Sc. Biology (Batch 22)	Dr. Sandhya Ganesan	1. February, 2024 2. December, 2023 3. June, 2023	1. Baroda Achievers Award for Best in Academics 2. Global Immunocourse at Indian Institute of Science, 2024 3. Junior Research Fellowship by UGC	1. For securing the first rank in the M.Sc. Program at IISER Thiruvananthapuram (Batch 22) 2. Aspiring immunologists were selected among hundreds of applicants for the course conducted by renowned Indian and international immunologists 3. Secured AIR 133 in the Joint CSIR-UGC Net Exam
34	Siva Subramanian A	BSMS Biology (Batch 19)	Dr Sandhya Ganesan	June 2023 to March 2024	Master thesis project via IISER-MAX PLANCK Master thesis internship program	Master thesis titled "Adaptation genomics to climate and ecological niche modeling of the perennial plant "Arabidopsis thaliana" at MPI Plant Breeding Institute, Cologne
35	Bhavyalakshmi K B	BSMS Biology (Batch 20)	Dr. Sandhya Ganesan	January 2023	Secured JRF position with lectureship for CSIR NET December 2023.	All India Rank 172 for CSIR NET.

SI No.	Student Name	Course	Advisor	Month & Year	Title of Award/Recognition	Award/Recognition received for
36	Anushka Mitra	M.Sc. Biology (Batch22)	Dr. Sandhya Ganesan	1. December, 2023 2. June, 2023	1. Global Immunocourse at Indian Institute of Science, 2024 2. Junior Research Fellowship by UGC	1. Aspiring immunologists were selected among hundreds of applicants for the course conducted by renowned Indian and international immunologists 2. Secured AIR 149 in the Joint CSIR-UGC Net Exam
37	Sayanthana Benny	BSMS Biology (Batch 19)	Dr. Sandhya Ganesan		Qualified GATE Lifesciences XL	All India Rank 365
38	R. Bhagya Lakshmi		Prof. Tapas Manna	August, 2023	Best poster award	Poster presentation in EMBO conference in Denmark on 'Signal regulation by protein phosphatases: Mechanisms and pathways'
39	R. Bhagya Lakshmi		Prof. Tapas Manna	Feb, 2023	Prize for flash talk	FS BIO meeting of School of Biology, IISER TVM
40	Akhil Sadiq	PhD	Ullasa Kodandaramaiah	Mar 2024	ISBE Travel Grant	Awarded travel grant of USD 2500 to attend the International Society for Behavioral Ecology (ISBE) Congress 2024 in Melbourne, Australia.
41	Anaswara KS	PhD	Ullasa Kodandaramaiah	Mar 2024	ISBE Travel Grant	Awarded travel grant of USD 2500 to attend the International Society for Behavioral Ecology (ISBE) Congress 2024 in Melbourne, Australia.
42	Gopal Murali	PhD	Ullasa Kodandaramaiah	Mar 2024	INSPIRE Faculty Award	INSPIRE Faculty Award to take up a PI position in an Indian institute

SCHOOL OF CHEMISTRY

Student Placements

Sl. No.	Student Name	Course	Advisor	Higher Education		Employment Details
				Indian Universities	Foreign Universities	
1	Varun CP	BSMS Major Project	Keshaba Nanda Parida		PhD Scholar	King's College London, UK.
2	Aiswarya N	BSMS Major Project	Keshaba Nanda Parida		PhD Scholar	University of Minnesota, USA
3	Jibin Thomas	BSMS Major Project	Prof. Sukhendu Mandal		PhD Scholar	Technical University of Munich
4	Priyadarshini Baidya	BSMS Major Project	Prof. Sukhendu Mandal		PhD Scholar	Cornell University
5	Rajannya Adhikary	BSMS Major Project	Prof. Sukhendu Mandal		PhD Scholar	University of California, Davis
6	Teena Thomas	I.PhD Minor Student	Prof. Sukhendu Mandal		PhD Scholar	The Ohio State University
7	Rahul Ramachandran M	BSMS Major Project	Prof. Sukhendu Mandal		PhD Scholar	The Pennsylvania State University
8	Avirup Sardar	Msc Student	Prof. Sukhendu Mandal		PhD Scholar	Carnegie Mellon University
9	Irin Elizabeth Aby	BSMS Major Project	Prof. Sukhendu Mandal		PhD Scholar	University of Rochester
10	Sona S Rose	BSMS Major Project	Prof. Sukhendu Mandal		PhD Scholar	Ohio State University
11	Sankeerthana	BSMS Maor Project	Dr. S. Gokulnath		PhD Scholar	Indian University, Bloomington, USA

Sl. No.	Student Name	Course	Advisor	Higher Education		Employment Details
				Indian Universities	Foreign Universities	
12	Arya Jayaraj	BSMS	Rajendra Kurapati		PhD Scholar	University of Strasbourg
13	Pratiksha	BSMS	Rajendra Kurapati		PhD Scholar	University of Utah
14	Adithi Kamath	BSMS	Rajendra Kurapati		PhD Scholar	University of Utah
15	Aleena P Benny	BSMS	Dr. Subrata Kundu	-	Brown University, USA	
16	Meenakshi B Onattu	BSMS	Dr. Subrata Kundu	-	Purdue University, USA	
17	Nandha K	BSMS	Dr. Subrata Kundu	-	University of Minnesota, USA	
18	Aditesh Mondal	PhD	Dr. Subrata Kundu	-	Saarland University, Germany	
19	Dhananjay P Nair	BS-MS, Major	Dr. Veera Reddy Yatham		Yes	PhD, Universität Tübingen, Germany.
20	Arshath Varunsha M	BS-MS	Dr. R. S. Swathi		Texas A&M University (PhD)	
21	Sarag K	BS-MS	Dr. R. S. Swathi		University of Wisconsin-Madison (PhD)	
22	Chris John	PhD	Dr. R. S. Swathi		University of Pisa (Post-doc)	
23	Anagha V Nair	BSMS(major)	Dr. Basudev Sahoo		Indiana University Bloomington, USA	PhD Scholar
24	Sreelakshmi	BSMS(major)	Dr. Basudev Sahoo		LIKAT Rostock, Germany	PhD Scholar
25	Shubham Ojha	IPhD	Dr. Basudev Sahoo		Bristol University, UK	PhD Scholar
26	Alvin A. Chungath	BSMS(major)	Dr. Basudev Sahoo		Ohio State University, USA	PhD Scholar
27	Priyanka Pauniker	BSMS	Dr. Adithya Lakshmana		Radboud University, Netherlands	Ph D

Sl. No.	Student Name	Course	Advisor	Higher Education		Employment Details
				Indian Universities	Foreign Universities	
28	Bishal Saha	IPhD	Dr. Adithya Lakshmana		Brown University, USA	Ph D
29	Yadav Sanjay Ramnarayan	Minor Project	Pushpita Ghosh		PhD at Comenius University, Bratislava	PhD
30	Varun C. P	BSMS	Advisor: Keshaba Parida Co-Guide: Jerry A Fereiro		Kings College London, London	
31	K. B Harilal	BSMS	Jerry A Fereiro		University of Twente, Nederland's	
32	D. S. Vasudev	BSMS			Bowling Green State University	
33	Sarah Christopher	BSMS			University of Würzburg	
34	Anupama Babulal	BSMS			University of Michigan	
35	Mr. Cijil Raju	PhD	Prof. K. M. Sureshan		Post Doctoral Fellow at Brandeis University, Boston, Massachusetts, USA	Post Doctoral Fellow
36	Mr. Javed R. Pathan	PhD	Prof. K. M. Sureshan		Post Doctoral Fellow at Washington University in St. Louis, USA	Post Doctoral Fellow
37	Miss Hrudya P P	Integrated MSc. Batch 2018-23	Prof. K. M. Sureshan		PhD Scholar at, Rennes, France	PhD Scholar
38	Miss Ameena Yoonus	Integrated MSc. Batch 2019-24	Prof. K. M. Sureshan		PhD Position at City University of New York, USA	PhD Scholar

Sl. No.	Student Name	Course	Advisor	Higher Education		Employment Details
				Indian Universities	Foreign Universities	
39	Miss Majma K	Integrated MSc Batch 2019-24	Prof. K. M. Sureshan		PhD Position at Michigan State University, USA	PhD Scholar
40	Miss Miridula K	Integrated MSc Batch 2019-24	Prof. K. M. Sureshan		PhD Position at Charles University, Prague, Czech Republic	PhD Scholar
41	Aquil Suhaib	BSMS	Dr. Ajay Venugopal		PhD, University of Chemnitz, Germany	
42	Deepti Sharma	PhD	Dr. Ajay Venugopal		Postdoc, University of Bochum, Germany	
43	Aparna P. K.	BSMS			PhD	North Carolina State University, US
44	Fathima Jinan	BSMS			PhD	IRB, Barcelona
45	Ranit Kumar Mondal	MSC			PhD	Lund University, Sweden
46	Deepthi Damodaran Nambiar	BSMS			PhD	Ohio State University, Columbus
47	Abhin M Vishnu	BSMS			PhD	University of Massachusetts, Massachusetts
48	Aparna Liz Benny	MSC			PhD	University of Pittsburg, US
49	Muhammed Shafeek O. H.	PhD			NMR Facility Manager	University of Arizona, US
50	Allwin Ebenezer S	PhD			Postdoc	University of Birmingham, UK
51	Vidya Jose	BSMS-18	Dr. RR		University of Bristol, UK	
52	Guru Vigklesh Anantharaj	BSMS-18	Dr. RR			Lab Chemist, Amar Equip. Pvt. Ltd. Mumbai, India.

Sl. No.	Student Name	Course	Advisor	Higher Education		Employment Details (Name of Company, Place)
				Indian Universities	Foreign Universities	
53	Vetrivelan Murugesan	PhD	Dr. RR		University of Texas, Dallas, USA	University of Texas, Dallas, USA
54	Pilli Ramadevi	PhD	Dr. RR			
55	Revathi Chandrasekaran	PhD	Dr. RR			
56	Hariharan M	MSC-22	Dr. RR		University of Florida, USA	
57	Bala Surya B	BSMS-18	Dr. RR			
58	Amrutha Rajan	BSMS 18	Prof. K. George Thomas		ETH Zurich	PhD student at ETH Zurich, Switzerland
59	Aksshay N. R.	BSMS 18	Prof. K. George Thomas		University of Illinois at Urbana-Champaign	PhD Scholar, University of Illinois at Urbana-Champaign, USA
60	Abhijith S.	BSMS 18	Prof. K. George Thomas		University of Rochester	PhD scholar, University of Rochester, USA
61	Anjana P.S.	MSc 21	Prof. K. George Thomas		University of Minnesota	PhD scholar, University of Minnesota, USA



SCHOOL OF CHEMISTRY

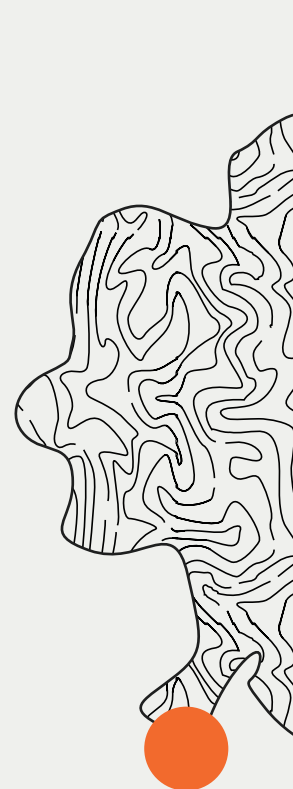
Awards & Recognitions

Sl. No.	Student Name	Course	Advisor	Month & Year	Title of Award/ Recognition	Award/Recognition received for
1	Ms. Aathira Edwin	IPhD	S. Gokulnath	Dec-2023	Best Poster Award at International Conference on Modern Trends in Inorganic Chemistry	Near-IR Electrochromic Dihydroindolo(2,3a) carbazole-Based Macrocycles and Their [b]-Annulated BODIPY Complexes
2	Ms. Aswini Spergen	IPhD	S. Gokulnath	Dec-2023	Best Poster Award at International Conference on Modern Trends in Inorganic Chemistry	Dithienopyrrole based octaphyrins: A new scaffold to unravel proton coupled redox switching, (anti)aromaticity and much more
3	Gayathri K	PhD	Dr. Subrata Kundu	Jan, 2024	Best poster award FSCHM 2024 at IISER Thiruvananthapuram	
4	Amit Behera	PhD	Dr. Veera Reddy Yatham	04-Nov-2022	CSIR-UGC	
5	ALISHA RANI TRIPATHY	PhD	Dr. Veera Reddy Yatham	January 2024.	Best poster award	Best poster award at Frontier Symposium in Chemistry (FS-CHM 2024) IISER TVM from 19-21 January 2024.
6	ALISHA RANI TRIPATHY	PhD	Dr. Veera Reddy Yatham	February 2024,	Best poster award	Best poster award at International IGP conference on "Sustainable Chemistry-2024" from February 20-22, 2024, Kenilworth Resort, Goa.
7	Avishek Kumar Jha	PhD	Dr. Veera Reddy Yatham	August 2023	Best oral presentation award	Best oral presentation award from Organic & Biomolecular Chemistry at the Transcending Frontiers in Chemical Sciences (TFCS-2023), NIT Tiruchirappalli, India, 11-12 August 2023.

Sl. No.	Student Name	Course	Advisor	Month & Year	Title of Award/ Recognition	Award/Recognition received for
8	Megha R	PhD	Dr. R. S. Swathi	October, 2023	Best Poster Award	Received the Best Poster Award at the 26th International Workshop on Quantum Systems in Chemistry, Physics, and Biology (QSCP-XXVI) for the presentation titled "On Assessing the Carbon Capture Performance of Graphynes with Particle Swarm Optimization".
9	Pinku Prasad Mondal	PhD	Dr. Basudev Sahoo	Dec-2023	Best Poster Award at Indo-French Seminar on Catalysis for Sustainability (IFSC)	Regioselective 1,2 alkylboration of Benzylidenecyclopropanes: Access to Csp ³ -Enriched Cyclopropyl Boronic Esters
10	Pinku Prasad Mondal	PhD	Dr. Basudev Sahoo	Feb-2024	Best Poster Award at Inter-IISER NISER Chemistry Meet (IINCM)	Cu-Catalyzed Alkylboration of Alkylidenecyclopropanes with Bis(pinacolato)diboron and Alkyl Iodides
11	Tarpan Maiti	PhD Student	Pushpita Ghosh	2022, 2024	1) PMRF 2) Best Poster Prize	1) Selected for the PMRF in 10th cycle through lateral entry 2) Best poster in the Inter IISER-NISER Chemistry Meet at IISER Kolkata, February 2024
12	Kaustav Mondal	PhD Student	Pushpita Ghosh	2023	PMRF	Selected for the prestigious PMRF in 11th cycle through lateral entry
13	Aswin S	BSMS	Jerry A Fereiro	February 2024	Poster Presentation (First Prize)	Mr. Aswin S, BSMS major project student has been awarded the best poster award (1st Prize) in a National Seminar – Frontiers in Chemical Science, Organized by Department of Chemistry, University of Calicut during 13-15 February 2024.

Sl. No.	Student Name	Course	Advisor	Month & Year	Title of Award/ Recognition	Award/Recognition received for
14	Aswany Gopal	BSMS	Jerry A Fereiro	February 2024	Poster Presentation (Second Prize)	Ms. Aswany Gopal, BSMS major project student has been awarded the best poster award (2nd Prize) in a National Seminar – Frontiers in Chemical Science, Organized by Department of Chemistry, University of Calicut during 13-15 February 2024.
15	Mr. Cijili Raju	PhD	Prof. K. M. Sureshan	April, 2024	Alexander Von Humboldt Research Fellowship	The fellowship sponsors the selected research fellows (from across the globe) for post-doctoral research. The selected also receive individual support from the Humboldt Foundation and its diverse sponsorship portfolio.
16	Guru Vigknes Anantharaj	BSMS-18	Dr. RR	August 2023	Sports citation (IISM 23 captain) Itsav 2023 overall house gold (captain) Inter batch basketball gold medal (captain)	Have received Multiple awards and recognition for the excellent performance in the Sports at IISER-TVM
17	Hariharan M	MSC-22	Dr. RR	August 2023 January 2024	Class Representative	Being a top rank in the batch, Academics have recognized as a class representative of the batch Msc22
18	Vishnu E. K.	PhD	Prof. K. George Thomas	November 2023	Oral Presentation	Oral Presentation, Asian Photochemistry Conference 2023, University of Melbourne, Australia
19	Devika Rajan	PhD	Prof. K. George Thomas	November 2023	Oral Presentation	Oral Presentation, Asian Photochemistry Conference 2023, University of Melbourne, Australia
20	Timi Titus	PhD	Prof. K. George Thomas	November 2023	Best Poster Award	ACS Energy Letters Best Poster Award, Hybrid Halide Perovskite Conference (HyPe-23), IACS Kolkata

Sl. No.	Student Name	Course	Advisor	Month & Year	Title of Award/ Recognition	Award/Recognition received for
21	Timi Titus	PhD	Prof. K. George Thomas	December 2023	Best Poster Award	Best Poster Award, 14th National Workshop on Fluorescence and Raman Spectroscopy (FCS) Mohali
22	Vishnu E. K.	PhD	Prof. K. George Thomas	December 2023	Mihir Chowdhury Student Fellowship Award Lecture, 14th National Workshop on Fluorescence and Raman Spectroscopy (FCS) IISER Mohali	Mihir Chowdhury Student Fellowship Award Lecture, 14th National Workshop on Fluorescence and Raman Spectroscopy (FCS) IISER Mohali
23	Devika Rajan	PhD	Prof. K. George Thomas	January 2024	Best Oral Presentation-SLAM	Best Oral Presentation Award, Frontier Symposium in Chemistry 2024, IISER Thiruvananthapuram
24	Ajaykumar M.P.	PhD	Prof. K. George Thomas	January 2024	Best Poster Award	Best Poster Award, Frontier Symposium in Chemistry 2024, IISER Thiruvananthapuram
25	Livin Paul	PhD	Prof. K. George Thomas	January 2024	Best Poster Award	Best Poster Award, Nanomaterials, and Molecules: From Spectroscopy to Bioimaging (NaMoSBio Conference 2024), IISER Kolkata
26	Elizabeth Mariam Thomas	PhD	Prof. K. George Thomas	February 2024	Marie Sklodowska Curie Fellowship 2024	Marie Sklodowska Curie Fellowship 2024



SCHOOL OF DATA SCIENCE

Awards & Recognitions

Sl. No.	Student Name	Course	Advisor	Month & Year	Title of Award/Recognition	Award/Recognition received for
1	Swetha Rajeevan	i ² Data Sciences major (4 th year)	-	March 2024	Cleared GATE examination in Data Science and Artificial Intelligence with Rank 3506	-
2	Aaqilah A J	i ² Data Sciences major (4 th year)	-	March 2024	Cleared GATE examination in Data Science and Artificial Intelligence with Rank 7106	-
3	Abhishek J Chandran	i ² Data Sciences major (4 th year)	-	March 2024	Cleared GATE examination in Data Science and Artificial Intelligence with Rank 1654	-
4	Abhishek J Chandran	i ² Data Sciences major (4 th year)	-	February 2024	DAAD Scholarship for Summer Internship in University of Rostock, Germany	-
5	Ashwin Nair	i ² Data Sciences major (4 th year)	-	2024	Summer internship and continued masters project in EnCoV of Institut Pascal, a joint venture (UMR) between Université Clermont Auvergne and CNRS, Publication in AAAI 2024 (h5-index: 212)	-
6	Ashwin Nair	i ² Data Sciences major (4 th year)	-	2024	Publication in AAAI 2024 (h5-index: 212)	Nair, Ashwin R; Li, Xingjian; Uddin, Mostofa Rafid; Xu, Min; Towards Molecular Structure Discovery from Cryo-ET Density Volumes via Modeling Auxiliary Semantic Prototypes
7	Jadov Menaka	i ² Data Sciences major (4 th year)	Dr. Alwin Poullose	May 2024	Publication in 2024 Fifteenth International Conference on Ubiquitous and Future Networks (ICUFN) (h-index: 31)	Jadov Menaka, Alwin Poullose; The Power of Visual Storytelling: Analyzing Customer Personalities with Tableau, 2024 Fifteenth International Conference on Ubiquitous and Future Networks (ICUFN), Budapest, Hungary
8	Goutham Raj	i ² Data Sciences major (4 th year)	-	May 2024	Online Internship and continued Masters Project with Prof. Linga Reddy Cenkeramaddi (ACPS Group Leader) Professor, Department of ICT, University of Agder, Grimstad, Norway	

SCHOOL OF EARTH, ENVIRONMENTAL AND SUSTAINABILITY SCIENCES

Student Placements

Sl. No.	Student Name	Course	Advisor	Higher Education		Employment Details
				Indian Universities	Foreign Universities	
1	Sneha Ramakrishnan	BS-MS	N. Anand		University of Alaska Fairbanks	PhD
2	Sreelekshmi T.	BS-MS	N. Anand		Hebrew University of Jerusalem	Got PhD offer.

SCHOOL OF EARTH, ENVIRONMENTAL AND SUSTAINABILITY SCIENCES

Awards & Recognitions

Sl. No.	Student Name	Course	Advisor	Month & Year	Title of Award/Recognition	Award/Recognition received for
1	Ravikiran Hegde	BS-MS	N. Anand	July 2023	IISER-Max Planck Society Internship program	Got selected for IISER-Max Planck Society (IISER-MPG) Internship program at Max Planck Institute for Meteorology

SCHOOL OF PHYSICS

Student Placements

Sl. No.	Student Name	Course	Advisor	Higher Education		Employment Details
				Indian Universities	Foreign Universities	
1	Souradip Paul	IPhD	Dr.M.Suheshkumar Singh		Post-doctoral Fellow, University of Illinois, USA	University of Illinois, USA
2	Nikhil Kalasariya	M.Sc	Prof.Manoj Namboothiry		PhD, The Chinese University of Hong Kong	
3	Albin Saj	BS-MS	Prof.Manoj Namboothiry		PhD, University of Massachusetts, USA	
4	Yousuf Alishan	BS-MS	Prof. Manoj Namboothiry		PhD, Michigan State University, USA	
5	Greeshma L S	BS-MS	Prof.Manoj Namboothiry	Junior Research Fellow, IISc, Bangalore		
6	Vijith K P	PhD	Prof.Manoj Namboothiry			Guest Researcher, NIST USA
7	Athulya K P	PhD	Prof.Anil Shaji			Institute of Mathematical Sciences Chennai.
8	Adithi Ajith	BS-MS	Prof.Anil Shaji		Chapman University, USA	
9	Govind Lal Sidharth	BS-MS	Prof.Anil Shaji		Duke University, USA	
10	Kratika Mazde	BS-MS	Dr.Tanumoy Mandal		Paris Institute of Astrophysics, Sorbonne University, France	
11	Praveen Murali	BS-MS	Dr.Tanumoy Mandal		CRESST experiment at Heidelberg University, Germany	

Sl. No.	Student Name	Course	Advisor	Higher Education		Employment Details
				Indian Universities	Foreign Universities	
12	Rithika Ganesan	BS-MS	Dr.Tanumoy Mandal		University of Tennessee, USA (Will be joining soon)	
13	Adarsh Karekat	BS-MS	Dr.Tanumoy Mandal		University of Caen Normandy, France (Will be joining soon)	
14	Kunika Agarwal	IPhD	Dr.Tanumoy Mandal	JRF at IIT Jodhpur, Rajasthan		
15	Gaurav Seal	BS-MS	Prof.Ramesh Nath		University of Pittsburgh, USA	
17	Sneha Maria Joseph	BS-MS	Prof.Ramesh Nath		University of Pittsburgh, USA	
18	Somesh K	PhD	Prof.Ramesh Nath		LNCMI (CNRS) Toulouse, France	Postdoc position
19	Reshma P Pradeep	BS-MS	Prof.Tuhin Maity		EMPA, University Basel, Switzerland.	PhD Position
20	Aswathi P	BS-MS	Dr.Chandrakala Meena		Alaska University, USA; Charles University and J heyrovsky institute Prague	PhD Position
21	Joseph Saji	Research assistant	Dr.Shabnam Iyyani		Polish Academy of Sciences, Poland	PhD Position
22	Nishil Mehta	BS-MS	Dr.Shabnam Iyyani & Dr.Soumen Basak		Nice University, France	PhD Position
23	Dr. Srikrishna Sagar	Ph.D.	Dr. Bikas C.Das, SoP		NREL, USA	Postdoctoral Fellow
24	Dr. Arka Mukherjee	Ph.D.	Dr. Bikas C. Das, SoP		TU Ilmenau, Germany	Postdoctoral Fellow
25	Aksha G Prince	BS-MS	Dr. Bikas C. Das, SoP		Drexel University, USA	Research Scholar
26	Haritha M	BS-MS	Dr. Shabnam Iyyani		Melbourne University, Australia	PhD Position

Sl. No.	Student Name	Course	Advisor	Higher Education		Employment Details
				Indian Universities	Foreign Universities	
27	Rushikesh Sonawane	MSc	Dr. Shabnam Iyyani	IISER TVM		PhD Position
28	Akash S	BS-MS	Dr. Mathew Arun Thomas		University of Florida, USA	PhD position
29	Akshay A	Project Assistant	Dr. Mathew Arun Thomas		University of Houston, USA (joining soon)	PhD position
30	Rohit V Menon	BS-MS	Dr. Chandrakala Meena		IIT Bombay	Project position
31	Sharang Rajesh Iyer	BS-MS	Dr. Bindusar Sahoo	IIT Kanpur		PhD position
32	Sharon Siby	BS-MS	Dr. Bindusar Sahoo		University of Texas at Austin	PhD position
33	Rayirth Bhatt	MSc	Dr. Bindusar Sahoo	IISc Bangalore		PhD position
34	Jibin Sunil	BS-MS	Dr. Rajeev N Kini		University of Basel	PhD position
35	Aravind Rajeev	BS-MS	Dr. Rajeev N Kini		University of California Riverside	PhD position
36	Anagha U P	BS-MS	Dr. Rajeev N Kini		Arizona State University	PhD position
37	Dileep N P	PhD	Prof M.M.Shaijumon		Purdue University, USA	Postdoctoral Fellow
38	Rohit M M	BS-MS	Prof.M M Shaijumon		Rensselaer Polytechnic Institute, New York, USA	PhD position
39	Sreya B Nambiar	BS-MS	Prof. M M Shaijumon		Université Paul Sabatier, Toulouse, France	PhD position
40	Akshaya Sidharth S	BS-MS	Prof. M M Shaijumon		The Friedrich Schiller University Jena, Thuringia Germany	PhD position
41	Pritish Kumar Behura	MSc	Prof. M M Shaijumon		Brock University, St. Catharines, Ontario, Canada	PhD position

Sl. No.	Student Name	Course	Advisor	Higher Education		Employment Details
				Indian Universities	Foreign Universities	
42	Bhargav Rajbongshi	MSc	Prof. M M Shajjumon	IISER TVM		PhD position
43	Souvik Ghosh	MSc	Prof. M M Shajjumon	IISER TVM		PhD position
44	Sramana Bera	Msc	Dr.Madhu Thalakulam		Iowa state, USA	PhD position
45	Ayisha Ferhana	BS-MS	Dr.Madhu Thalakulam		University of Pittsburgh, USA	PhD position
46	Dwithi Pillai	BS-MS	Dr.Madhu Thalakulam		Weizmann, Israel	PhD position

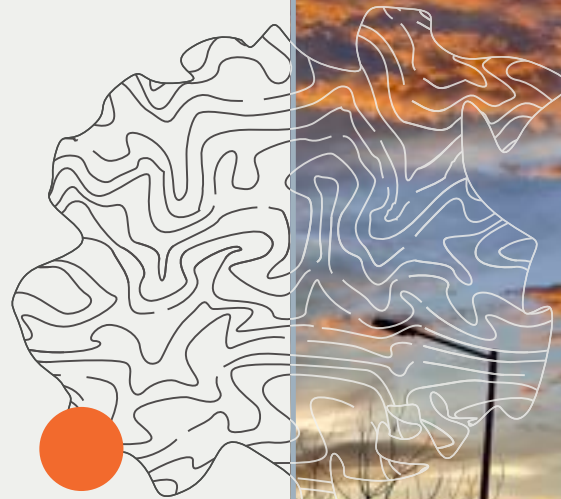


Photo: VINEETH .W, Health Center, IISER TVM

Sl. No.	Student Name	Course	Advisor	Month & Year	Title of Award/ Recognition	Award/Recognition received for
1	Sebin Joseph Sebastian	Int. PhD	Prof. Ramesh Nath	2024-25	Fulbright-Nehru Doctoral Fellowship	International Exchange Program at the Ames National Laboratory, Iowa State University, USA.
2	Sandip Guchhait	Int. PhD	Prof.Ramesh Nath	July 2023	SERB Travel Grant	To perform experiments at Rutherford Appleton Laboratory ISIS, UK.
3	Sebin Joseph Sebastian	Int. PhD	Prof.Ramesh Nath	Sep-October, 2023	Guest Researcher	Visited Max Planck Institute for Chemical Physics of Solids, Dresden, Germany.
4	Manisha Bansal	PhD	Dr.Tuhin Maity	March, 17.-22., 2024	Fully funded Travel Grant	DPG Meeting of the Condensed Matter Section in Berlin-Germany
5	Rohit V Menon	BS-MS	Dr.Chandrakala Meena	August-December, 2023	BIOANTEXC INDO-French fellowship	Internship for some months at French Institutes
6	Puranjay Saha	Ph.D.	Dr.Bikas C. Das	20-23 Nov 2023	Best Poster Award	Annual international conference on "Recent Progress in Graphene and 2D Materials Research" (RPGR 2023) at Bengaluru, India
7.	Navaneeth Krishnan K	Ph.D.	Dr.Bikas C. Das	26 - 29 June 2023	SERB ITS Grant	2D Transition Metal Dichalcogenides 2023, University of Cambridge, UK
8	Sreerag S J	PhD	Dr.Rajeev N Kini	20- 26 April 2023	Best Poster Award	Indo-French Conference in Frontiers in Photonics and Metamaterials 2023, Mahindra University, Hyderabad
9	Navya Biju	PhD	Dr.Rajeev N Kini	25-27 Nov 2023	Best Poster Award	Ultrafast sciences 2023, NPL Delhi
10	Ms. Gudla Vardhini	Ph.D.	Prof.M.M.Shajjumon	26-30 June 2023	Best poster award	ICAM & ICMAT 2023, Singapore

Sl. No.	Student Name	Course	Advisor	Month & Year	Title of Award/Recognition	Award/Recognition received for
11	Vipin Yadav	PhD	Prof.M.M.Shajjumon	Aug 2023	Best poster award	NSEST-2023, Hyderabad
12	Ms. Sreelakshmy K J	PhD	Prof M.M.Shajjumon	19-21 January 2023	Best Flas talk	Frontier Symposium In Physics 2024 , IISER TVM
13	Ms. Sreelakshmy T	Ph.D.	Prof M M.Shajjumon	Aug 2023	PMRF fellowship	
14	Lucky Donald Kynshi	Ph.D	Dr.Madhu Thalaku-lamn	Aug 2023	PMRF fellowship	
15	Parvathy Gireeshan	Ph.D	Dr.Madhu Thalakulam	January 2023	Best Poster Award	Frontier Symposium In Physics 2024 , IISER TVM
16	Roshni Benny	Ph.D	Prof.Manoj A. G. Nam-boothiry	Aug 2023	PMRF fellowship	
17	Manisha Bansal	PhD	Dr.Tuhin Maity	January 2023	Best Poster Award	Frontier Symposium In Physics 2024 , IISER TVM



Photo: VINEETH .W, Health Center, IISER TVM

SCHOOL OF MATHEMATICS

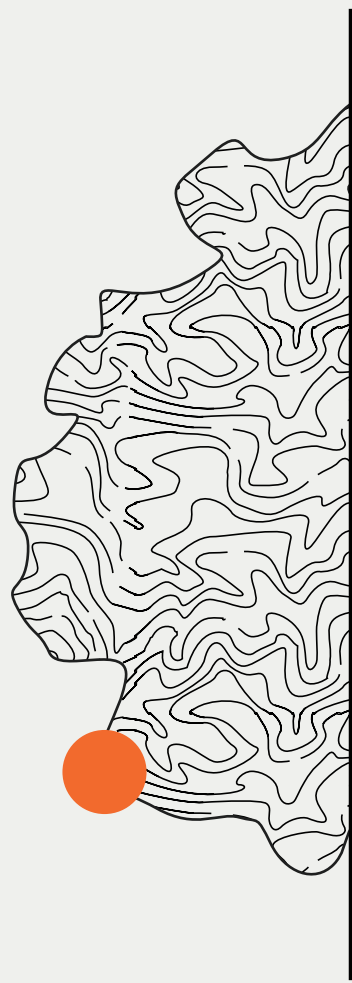
Student Placements

Sl. No.	Student Name	Course	Advisor	Higher Education		Employment Details
				Indian Universities	Foreign Universities	
1	Harihara Maharna	MSc22	Dr. Arun K R		Received acceptance letters for PhD positions from the University of Notre Dame, US; University of Münster, Germany; University of Kansas, USA; Texas Tech University, US; and Michigan Technological University, USA.	University of Notre Dame, USA
2	Shreenidhi S	BS MS 19	Dr. Arun K R		Stony Brook, Rensselaer Polytechnic institute, Virginia Tech, NYU Courant	Rensselaer Polytechnic Institute, NJ, USA
3	Aadhya Krishnakumar	BS-MS 19	Prof Rajeev B		Admitted to New York University for MA in Quantitative Economics	
4	Aditya Chaudhuri	IPHD15	Dr. Saikat Chatterjee		Invited PostDoc at the University of Rostock, Germany. (Exploring Applied Category Theory for modelling networked matter, a joint project with Kiel University, Germany).	
5	Arjun V Nair	BSMS 20	Dr. Dhanya R		Summer internship - CMAP - Ecole Polytechnique, Paris	
6	Abhay Ghodke	BSMS20	Dr. Sheetal Dharmatti	Summer internship at IIT Roorkee		

Sl. No.	Student Name	Course	Advisor	Higher Education		Employment Details
				Indian Universities	Foreign Universities	
7	Rahul Ghosh	Msc21	Dr. Viji Z Thomas		Received admission from Michigan State Univ, Binghamton University, Clemson Univ, Oklahoma state Univ.	Michigan State University, Michigan, USA
8	Suhana Nujum G	BSMS 20	Dr. Saptarshi Bej		Khorana Scholars Program Summer Internship, Scholarship to do Major Thesis at ENS Paris-Saclay	
9	Krishna S Menon	BSMS 20	Dr.Nagaiah		MaRS Scholarship to do summer internship at USI, Switzerland, and a scholarship at University of Oldenburg Germany to do master thesis.	
10	Sinta Maria Siby	BSMS 20	Dr Nagaiah		DAAD-WISE scholarship for summer internship in Germany	
11	Twinkle Maria George	BSMS 20	Dr Shyamal Ghosh	Summer Internship on FEM at BITS Hyderabad.		
12	Adarsh Krishnan	BSMS18	Dr. Sheetal Dharmatti		PhD position offered from Queensland University of Technology, Brisbane, Australia	
13	Harish R	BSMS18	Dr. Dhanya R	Qualified CSIR JRF rank 168, GATE Rank 288. Admission obtained to PhD Program in IIT Delhi and IIT Palakkad.	PhD offer from University of Kansas and University of California, Santa Cruz	Joined University of Kansas
14	Navaneetha E P	BSMS18	Dr. Sudarshan Kumar K	PhD admission to IIT Palakkad		
15	Veena Sri	BS MS 20	Dr. Asha Dond		Masters project at NUS Singapore	

Sl. No.	Student Name	Course	Advisor	Higher Education		Employment Details
				Indian Universities	Foreign Universities	
16	Saptarshi Dutta	BSMS 21	Guide not allotted	Summer Research Fellowship Programme (SRFP) by Indian Academy of Sciences		
17	Yogesh	BSMS 20	Dr. Sheetal Dharmatti	Master's thesis project at IISC		
18	Nikhil Manoj	PHD20	Dr. Sudarshan Kumar K		Selected to NBHM's contingent to attend ICIAM-2023, Waseda University, Tokyo. Presented a paper at ICIAM-2023.	
19	Shankhadeep Mondal	IPHD16	Dr Devaraj P		Invited PostDoc at the University of Central Florida, USA	
20	Ritabrata Jana	PHD20	Dr. Dhanya R		Selected To Deliver Contributed Talk At International Conference on Elliptic and Parabolic Problems: GAETA 2024, Italy And Equadiff 2024, Karlstad, Sweden. Invited for a research visit at LMAP, UMR CNRS 5142 of UPPA , Pau, France.	
21	Sathasivam K	IPHD19	Dr. Viji Z Thomas		Poster Presentation at Ischia Group Theory 2024, Naples, Italy.	
22	Tony Nixon Mavelly	IPHD17	Dr. Viji Z Thomas		Poster Presentation at Ischia Group Theory 2024	
23	Arushi Marwaha	MSc 22	Prof. Rajan	Summer internship at ISI Delhi		
24	Tanisha Talekar	MSc 23	Dr Sarbeswar Pal		Summer Internship - Australian National University- ANU FRT 2024	
25	Sanwaya Koner	MSc 22	Dr Priyanka Majumder	Summer internship at ISI Delhi		

Sl. No.	Student Name	Course	Advisor	Higher Education		Employment Details
				Indian Universities	Foreign Universities	
26	Arighna Pan	IPHD22	Dr. Jyothsna	MTTS 2023 at IIT-M		
27	Subham Nayak		Dr. Asha Dond		Selected to deliver a talk at 10th International Conference on Computational Methods in Applied Mathematics (CMAM-10).	
28	Shrinath Hadimani	PHD20	Dr. Sachindranath Jayaraman		Selected to deliver a talk at "8th ALAMA Meeting: Linear Algebra, Matrix Analysis and Applications", University of Oviedo, Spain.	
29	Hirithik Suresh	BSMS 20	Dr. Nagaiah	PhD Admission IIT Palakkad		
30	Prafulla Kumar Kaushik	PhD	Dr. Saikat Chatterjee			Faculty position at NIT Calicut
31	Soham Gokhale	IPhD	Dr. Utpal Manna			Faculty position at Symbiosis Pune

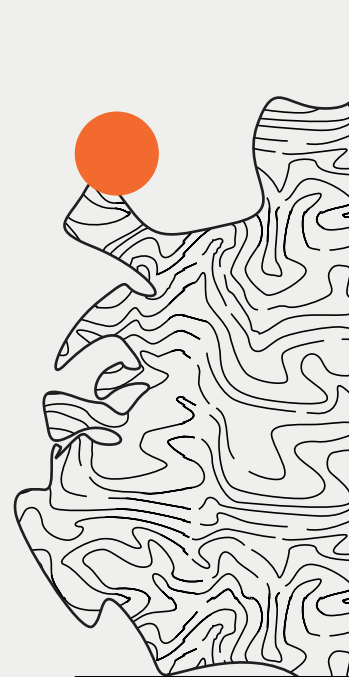


SCHOOL OF MATHEMATICS

Awards & Recognitions

Sl. No.	Student Name	Course	Advisor	Month & Year	Title of Award/Recognition	Award/Recognition received for
1	V Adithya	MSc22	Dr. Viji Z Thomas		Cleared GATE MA 2024 with rank 18. Cleared CSIR-NET Lectureship. PhD offers from IISER Pune, ISI Bangalore.	Joined ISI Bangalore for PhD
2	A Muhammed Ajmal	MSc22	Dr. Sachindranath Jayaraman		Cleared CSIR-NET Lectureship, Cleared GATE MA 2024.	Joined IISER Bhopal for PhD
3	Ojas G Bhagavath	MSc22	Dr Sarbeswar Pal		JRF position at IIT Gandhinagar. Cleared CSIR-JRF. Cleared GATE MA 2024.	
4	Himanshu Kumar	PHD23	Dr. Sachindranath Jayaraman		Cleared CSIR-JRF.	
5	Rishica Harish Arora	BSMS 19	Dr. Sheetal Dharmatti		Cleared CSIR-UGC-JRF.	
6	Ajin Shaji Jose	MSC22	Dr. Saikat Chatterjee		Cleared CSIR-UGC-JRF, PhD offer from TIFR Bombay. Joined TIFR Bombay	
7	Ankur Upadhyay	PHD23	Dr. Nagaiah Chamakuri		Received PMRF Scholarship	
8	THIRUPATHI P	PHD23	Dr. Shrihari Sridharan		Qualified NBHM Fellowship, Cleared CSIR-UGC-JRF	

Sl. No.	Student Name	Course	Advisor	Month & Year	Title of Award/Recognition	Award/Recognition received for
9	Patali Komma	IPHD16	Dr. Viji Z Thomas		Received the prestigious Humboldt Fellowship in Germany.	
10	Ashutosh Santhalia	MSc23	Dr Viji Z Thomas		Cleared GATE 2024, Summer internship offer from IIT Madras	
11	Abhinaya A S	BSMS 19	Dr Viji Z Thomas		Qualified GATE DA 2024	
12	Shuvadeep Mitra	MSc22	Dr Saikat Chatterjee		Cleared GATE(MA) 2024, selected for summer internship at IIT PKD (in Algebraic Geometry) and IISER Bhopal (in Commutative Algebra)	
13	Daniya Saji	BSMS 19	Dr. Saptarshi Bej		Qualified GATE DA 2024	



Academic Programmes

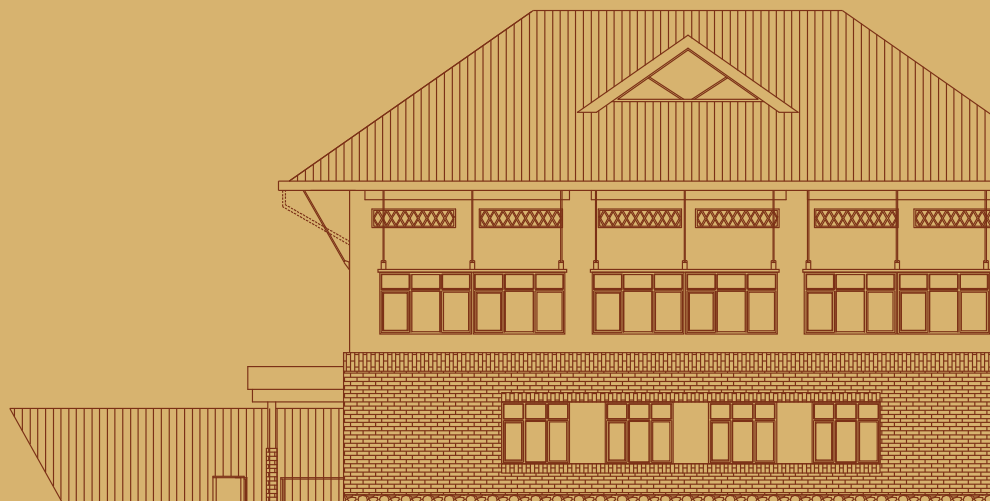


Photo: Vimal VM, Electricals department

ACADEMIC DATA TEMPLATE

From 1st April 2023 to 31st March 2024

The academic programs at IISER Thiruvananthapuram encompass undergraduate, graduate, and postgraduate degree programs, offering a wide range of courses across all schools. The institution offers the following degree programs: the BS-MS degree (in Biology, Chemistry, Mathematics, and Physics), the Integrated and Interdisciplinary BS-MS degree (in Biology, Chemistry, Data Science, Earth and Environmental Sciences, Mathematics, and Physics), the MSc degree (in Biology, Chemistry, Mathematics, and Physics), the Integrated PhD degree (in Biology, Chemistry, Mathematics, and Physics), and the PhD degree (in Biology, Chemistry, Data Science, Earth and Environmental Sciences, Mathematics, and Physics).

BS-MS Programme (Basic Science Stream)

The BS-MS Programme at IISER TVM is tailored to meet contemporary needs with a strong emphasis on interdisciplinary studies. The first 3 semesters focus on foundational courses encompassing natural sciences, mathematics, computation, and language skills for scientific communication. 4th semester onwards, students specialise in one major (Biology, Chemistry, Data Science, Earth and Environmental Sciences, Mathematics or Physics) and one or more minors. A research project is undertaken in the fifth year.

Gender & Category-wise Distribution of ALL BS-MS Students (until 31 March 2024)							
	EWS	GEN	OBC-NCL	PD	SC	ST	Total
Male	65	252	135	6	71	38	567
Female	49	286	224	6	86	32	683
Total	114	538	359	12	157	70	1250

Gender & Category-wise Distribution of BS-MS Students Enrolled in 2023							
	EWS	GEN	OBC-NCL	PD	SC	ST	Total
Male	24	65	39	3	31	12	174
Female	5	76	51	1	16	10	159
Total	29	141	90	4	47	22	333

No of total students enrolled for BSMS in 2023=333

Subsequent to admission in 2023, No. of total students discontinued the program= 14

Final number of the enrolled BSMS Students in 2023=319

Sources of scholarship for ALL BSMS Students (until 31 March 2024)

	No of Students
DST-INSPIRE	266
KVPY	19
Other (Please Specify) (Egrantz, Lakshadweep, NSP, Prathibha, reliance, samunnathi, scb-cs-b, VBG)	183
Total	468

Sources of scholarship for BSMS Students Enrolled in 2023

	No of Students
DST-INSPIRE	62
KVPY	0
Other (Please Specify) (Egrantz, NSP, VBG)	22
Total	84

BSMS - Details of the fifth-year projects carried out during 2023-24

School of Biology				
SI No	Name of Student & Roll Number		Supervisor's Name & Affiliation	Project Title
1	IMS18005	Abyasree Sudharman	Prof. S. Murty Srinivasula	Characterization of ligase activity of RFFL and its variants
2	IMS18006	Adarsh Jay	Dr. Nishant K T	Analyzing the mutation profile of hybrid yeast strain S288c/YJM789 under physical stresses using nextgeneration sequencing
3	IMS18019	Anagha Rajeev	Dr. Sadananda Singh	Minimum and efficient homology requirements for recombination in Escherichia coli
4	IMS18023	Ananthu M	Dr. Ravi Maruthachalam	Characterization of genetic and epigenetic factors that influence haploid induction while identifying haploinsufficient genes in Arabidopsis thaliana & Cytogenetic study of Myristica fragrans

SI No	Name of Student & Roll Number		Supervisor's Name & Affiliation	Project Title
5	IMS18024	Anaswar S R	Dr. Satish Khurana	Understanding adult hippocampal neurogenesis and function upon metabolic alteration
6	IMS18025	Anchita Gopikrishnan	Dr. Satish Khurana	Determining the effect of hyperglycemia on extramedullary hematopoiesis in spleen
7	IMS18028	Ankita Kumari	Dr. Satish Khurana	Effect of hyperglycemia on murine embryonic hematopoiesis
8	IMS18029	Antony John	Prof. Tapas K Manna	To investigate the involvement of NEDD1 in SAS6 interaction with γ TuRC
9	IMS18035	Arunima Mathew	Dr. Satish Khurana	Effect of Metabolic Alterations on NSPCs Proliferation and Differentiation In Vitro
10	IMS18036	Aryadevi. A. S	Prof. Hema Somanathan	Understanding the population structure of the eastern honey bee, <i>Apis cerana</i> through morphometric and molecular approaches
11	IMS18037	Aslam. A. P	Dr. Sandhya Ganesan	Investigating the role of lysosomal transcription factor TFEB in intracellular replication of <i>Coxiella burnetii</i>
12	IMS18043	C Srilaxmi	Dr. Nishant K T	Comparative genomic analysis of meiotic recombination in laboratory and natural <i>S.cerevisiae</i> strains
13	IMS18046	Deepika V	Dr. Ramanathan Natesh	Protein ligand interaction studies of <i>Mycobacterium tuberculosis</i> Mfd Translocation Module
14	IMS18047	Deepthi Dinesh	Dr. Satish Khurana	Understanding SRC/FAK mediated Integrin signaling in the regulation of Sdf-1 α expression in bone marrow niche cells
15	IMS18049	Devika Rag T	Dr. Satish Khurana	Understanding the role of Periostin-Integrin α mediated Sdf-1 α regulation in bone marrow stromal cells
16	IMS18055	Ganga Mohan	Prof. Tapas K Manna	Role of CENP-E in the expansion of fibrous corona at kinetochore
17	IMS18056	Gouri S Nair	Dr. Ravi Maruthachalam	Plant Transformation using TAC Cloning in the bushy mutant of <i>Arabidopsis thaliana</i> & Understanding the Role of SGT1a, SGT1b and Ask1 on Kinetochore Stability in <i>Arabidopsis thaliana</i>
18	IMS18058	Grishma Girish Kulkarni	Dr. V Stalin Raj	Structural modelling and functional studies of Kyasanur Forest Disease Virus (KFDV) envelope protein for understanding viral entry
19	IMS18060	Harisankar C S	Prof. S. Murty Srinivasula	Nuclear localization of CARP1, a cytosolic E3 ligase upon heat stress

SI No	Name of Student & Roll Number		Supervisor's Name & Affiliation	Project Title
20	IMS18063	Harsha. R	Dr. Nisha N Kannan	Elucidating the role of adenosine signaling on sleep in <i>Drosophila melanogaster</i>
21	IMS18066	Indulekha M S	Dr. Jishy Varghese	Role of miRNAs in maintaining physiology via acetylcholine neurons of <i>Drosophila melanogaster</i>
22	IMS18069	Jebin Babu	Dr. Sabari Sankar Tirupati	Computational analysis of molecular and genetic factors affecting bacterial genome organization and stability
23	IMS18080	Leah Susan Jacob	Prof. S. Murty Srinivasula	Understanding the role of CARP1, an E3 ligase in Golgi dynamics
24	IMS18081	Lunavath Jyosthna Naik	Prof. S. Murty Srinivasula	Identification and Characterization of STUB1 Indian variants - a step towards understanding STUB1 associated disease penetration in the Indian population
25	IMS18089	Mohammed Serfas Khan A K	Prof. Hema Somanathan	Foraging ecology of the giant Asian honeybee <i>Apis Dorsata</i>
26	IMS18091	Mohin Sethi	Dr. Sadananda Singh	Molecular understanding of CRISPRi for site selective genome editing
27	IMS18093	Namitha V S	Dr. Jishy Varghese	Elucidating the role of trachea in regulating systemic insulin signaling and fat metabolism in response to nutrient availability
28	IMS18098	Thapron Pranav	Dr. Sadananda Singh	Elucidating Functional Cellular Roles Of Predicted Housekeeping circRNAs
29	IMS18110	Ruchika D	Dr. Ravi Maruthachalam	Understanding the impact of Hypomethylation on haploid induction
30	IMS18121	Sanusha. M.G	Prof. Tapas K Manna	Elucidating the mechanism by which ch-TOG regulates PP1 localization to kinetochores
31	IMS18125	Shaliya P H	Dr. Poonam Thakur	Effect of glycation on the aggregation and toxicity of α -synuclein
32	IMS18129	Shivani R	Prof. Tapas K Manna	Insights into the regulation of STIL by the E3 ubiquitin ligase FBXW7
33	IMS18130	Shreshth Shekhar	Dr. Poonam Thakur	In vivo efficacy of PD180970 in ameliorating Parkinson's disease pathophysiology in an alpha-synuclein based murine model
34	IMS18131	Shubham Divakar	Dr. V Stalin Raj	Generation of stable cell lines expressing SARS-COV-1, SARS-CoV-2, and MERS-CoV Host entry factors
35	IMS18132	Siddharth Kurne	Dr. Satish Khurana	Elucidating the niche of hematopoietic stem cells in the murine fetal liver

SI No	Name of Student & Roll Number		Supervisor's Name & Affiliation	Project Title
36	IMS18133	Siddharth Murali	Dr. Sabari Sankar Tirupati	The Significance of Gene-Strand Bias on Genome Stability and Organisation
37	IMS18134	Siddharth V	Dr. Jishy Varghese	The role of HIF signaling in insulin producing cells (IPCs) of <i>Drosophila melanogaster</i>
38	IMS18135	Silpa Mary Johnson	Dr. Sabari Sankar Thirupathy	Elucidating the role of R loops and DNA Polymerase PolA in collision induced mutagenesis in <i>Bacillus subtilis</i>
39	IMS18139	Sreelakshmi C A	Dr. Jishy Varghese	Elucidating the role of pan-neuronal downregulation of microRNA-100 in growth and metabolism in <i>Drosophila melanogaster</i>
40	IMS18140	Sreelakshmi E H	Dr. Nisha N Kannan	Understanding the evolution of circadian clock in <i>Drosophila melanogaster</i> populations selected for a narrow gate of adult emergence
41	IMS18141	Sreelakshmi Sanam	Dr. Satish Khurana	Mapping of hematopoietic stem cell niche in the fetal and adult murine spleen
42	IMS18142	Sreerag Sukumaran	Dr. Nishant K.T.	Binding pattern of Zip3 in <i>mek1Δhed1Δ</i> double mutant of <i>Saccharomyces cerevisiae</i>
43	IMS18156	Vishnu Pilakkal	Dr. Ravi Maruthachalam	Understanding the role of SGT1 protein on kinetochore stability in <i>A.thaliana</i> & Phenotypic characterisation of bushy mutant
44	IMS18158	Vrinda M	Dr. Jishy Varghese	Investigating the Role of B6, a Neuronal Pentraxin-like Fat Body Protein, in Regulating Metabolism
45	IMS18159	Vyshnavi T Vijayan	Dr. V Stalin Raj	Elucidating the broad tissue tropism of human adenovirus serotype 5 (HADV5) and generation of pADEASY-1_KANAMYCIN shuttle vector
46	IMS18163	Sanjay Ramnarayan Yadav	Dr. Nisha N Kannan	Understanding the interplay between the circadian clock and metabolism in <i>Drosophila</i>
47	IMS18167	Simran Negi	Dr. Nishant K T	Regulation of meiotic recombination in <i>irc20Δ</i> in <i>Saccharomyces cerevisiae</i>
48	IMS18171	Midhun Mohan	Prof. Hema Somanathan	Prey capture behaviour and mortality rate in hunger manipulated <i>Stegodyphus sarasinorum</i> colonies
49	IMS18173	Amulya V Hejjaji	Dr. Satish Khurana	Investigating the Splenic HSC Niche In Murine Hematopoietic System
50	IMS18175	Sruthi Sunil	Dr. Poonam Thakur	Effects of Lipid Membrane composition alterations due to Parkinson's Disease

SI No	Name of Student & Roll Number		Supervisor's Name & Affiliation	Project Title
51	IMS18181	Sandra S Hari	Dr. Sadananda Singh	Role of the Gene QPCTL in the Regulation of Microtubule Dynamics
52	IMS18193	Namitha T J	Dr. Nisha N Kannan	Role of microRNAs in the circadian regulation of locomotor activity-rest rhythm in <i>Drosophila melanogaster</i>
53	IMS18196	Gajula Theja Kumar	Dr. Kamalakannan Vijayan	Investigating upregulated apoptotic pathways in apicomplexan parasites
54	IMS18203	Akash Garhwal	Dr. Ramanathan Natesh	Studies on <i>Mycobacterium smegmatis</i> Gre factor homologue and its mutants
55	IMS18206	Shehna. P. K	Dr. Ramanathan Natesh	Reconstitution of Sigma factor with <i>Mycobacterium tuberculosis</i> RNAP core enzyme
56	IMS18207	Amruta Sahoo	Dr. Ravi Maruthachalam and Co-guide as Raphael Mercier; Max Plank Institute for Plant Breeding Research	Source and Consequences of Aneuploidy
57	IMS18209	Jaya Sharma	Dr. Kamalakannan Vijayan	Developing drugs for prevention against <i>Toxoplasma gondii</i> in humans
58	IMS18212	Arsha Rathnam T	Dr. UllasaKodandaramaiah	Effect of Relative Humidity on Egg Weight Variation in Butterfly <i>Mycalesis Mineus</i>
59	IMS17114	Goutami Priyadarshini Nayak	Prof. Hema Somanathan	Brain Volume Analysis and Morphometric Analysis of Indian Stingless Bees <i>Tetragonula iridipennis</i>
60	IMS17138	Malavika Ajayaghosh	Dr. Nishant K T	Whole Genome Sequencing Analysis of hybrid yeast Mutation accumulation lines subjected to ubiquitous stress and their aneuploidy profile
61	IMS17235	Arya A R	Dr. Ravi Maruthachalam	Characterization of kinetochore protein, DSN1, and investigating its endosperm-specific role in <i>Arabidopsis thaliana</i>

School of Chemistry

SI No	Name of Student & Roll Number		Supervisor's Name & Affiliation	Project Title
1	IMS18002	Abhijith S	Prof. K. George Thomas	InP-based Quantum Dots: Alloying with Gallium Suppresses Blinking
2	IMS18003	Abhinu M S	Dr. Soumen De	Synthesis and studies on a chemically fuelled [2]rotaxane

SI No	Name of Student & Roll Number		Supervisor's Name & Affiliation	Project Title
3	IMS18010	Akhilesh Krishnan. U	Dr Adithya Lakshmanna	Ultrafast excited state structural dynamics of photoacids: a case study of 4-hydroxynaphthaldehyde
4	IMS18012	Aksshay N R	Prof. K. George Thomas	Photoluminescence Intermittency in CdSe/CdS Heteronanostructures: Effect of Plasmonic Field
5	IMS18014	Aleena P. Benny	Dr. Subrata Kundu	Trans-nitrosation as an important route to activate organoselenium compounds
6	IMS18018	Amrutha Rajan	Prof. K. George Thomas	Landscape of charge carrier dynamics in CdSe-CdS heteronanostructures
7	IMS18021	Anagha V Nair	Dr. Basudev Sahoo	Cu-Catalyzed alkylative borylation of alkylidene cycloalkanes using primary alkyl iodides as electrophiles
8	IMS18030	Anupama Babulal	Dr. Reji Varghese	Camptothecin antisense-DNA conjugate for combination cancer therapy
9	IMS18031	Aparna P K	Dr. Vinesh Vijayan	Characterizing the interaction between disparate aggregation prone proteins
10	IMS18032	Aqil Suhaib D R	Dr. Ajay Venugopal	Cationic calcium complexes: Synthesis, structure and applications in homogeneous catalysis
11	IMS18039	Avanija V. B	Prof. K. M. Sureshan	Designed synthesis of chiral helical pseudo-polypeptides via topochemical polymerization
12	IMS18041	Aysha Fasna	Prof. K. M. Sureshan	Synthesis of the 2D Organic Polymer via Thermal- Induced Topochemical Reactions
13	IMS18044	Cheemala Sreemukh Yadav	Dr. Muthukrishnan A.	Computational Analysis of Oxygen Reduction Reaction on Cementite (Fe ₃ C)
14	IMS18050	Dhananjay P Nair	Dr. Yatham Veera Reddy	Synthesis of acrylamides and its application in photo-redox chemistry
15	IMS18053	Fathima Jinan	Dr. Vinesh Vijayan	RNA mediated interaction studies of K19 with TIA1 in condensed phase
16	IMS18054	Ganga. A	Dr. Sivaranjana Reddy	Theoretical studies on the opto-electronic properties of Tetraoxarubyrins
17	IMS18059	Guru Vigklesh Anantharaj	Dr. Ramesh Rasappan	Synthesis of terminal alkynes for highly stereoselective hydroacylation reactions
18	IMS18065	Hrudya P P	Prof. K. M. Sureshan	Topochemical synthesis of 2D covalent polymers
19	IMS18067	Irin Elizabeth Aby	Dr. Sukhendu Mandal	Anion-templated Ag ₁₉ nanocluster protected with bulky alkynyl ligand: Synthesis and structure
20	IMS18068	Janaarthana Babu P M	Dr. Sivaranjana Reddy	Spin-vibronic coupling induced intersystem crossing in Thiolumazines

SI No	Name of Student & Roll Number		Supervisor's Name & Affiliation	Project Title
21	IMS18074	Keerthy.P. S	Prof. Mahesh Hariharan	Graphene induced antiaromaticity modulation of pentalene
22	IMS18078	Krishna K S	Dr. R. S. Swathi	Theoretical studies of noncovalent interactions in fullerene clusters
23	IMS18084	M V Sariga	Dr. Basudev Sahoo	Synthesis & Functionalization of N-Heteroarenes via Visible Light Photoredox-Catalysis
24	IMS18086	Meenakshi B Onattu	Dr. Subrata Kundu	Triphenylphosphine mediated reduction of nitrate at a mononuclear copper(II) site
25	IMS18087	Megha Dinesh	Dr Adithya Lakshmana	Effect Of Viscosity On Structural Dynamics During Bimolecular Photoinduced Electron Transfer
26	IMS18094	Nandha K	Dr. Subrata Kundu	Reactivity of nitrite and nitric oxide at mononuclear copper and zinc sites
27	IMS18104	Rahul Ramachandran M	Dr. Sukhendu Mandal	A Novel Layered Metal Thiolate Material: Synthesis and Characterisation
28	IMS18105	Ramanjaneyulu Nakka	Dr. Pushpita Gosh	Spatiotemporal dynamics of two identical bacterial species growing on a hard agar plate
29	IMS18107	Raseena. K	Dr. GokulnathSabhapathi	Towards a pH-responsive DTP-embedded octaphyrin with potential application in bioimaging
30	IMS18114	Sahla Nasir C P	Dr. GokulnathSabhapathi	Study on structural properties of Pi-extended and core expanded porphyrinoids employing various PAHs
31	IMS18116	Sajib Daimary	Dr. RajendarGoreti	A One Step Process for the Synthesis of Isocoumarin Derivatives by Lateral Lithiation Acylation
32	IMS18122	Sarah Christopher	Dr. Reji Varghese	Construction of circularly polarised luminescent supramolecular polymers from achiral building blocks
33	IMS18137	Sohan D Jadhav	Prof. Mahesh Hariharan	Heavy-Atom Induced Ultrafast Intersystem Crossing in Halogenated Eumelanin Monomers
34	IMS18147	Suraj Gothwal	Dr. Soumen De	Synthetic studies towards corannulene derived molecular tweezer
35	IMS18148	Utham Suresh	Dr. R. S. Swathi	Structural Analysis of Carbon Clusters using Particle Swarm Optimisation with Brenner Potential
36	IMS18152	Varun C P	Dr. Keshaba Nanda Parida	Design, Synthesis and Studies of Organic Molecules for Application in Molecular Electronics

SI No	Name of Student & Roll Number		Supervisor's Name & Affiliation	Project Title
37	IMS18153	Vesaj Singh	Dr. Yatham Veera Reddy	Synthesis of chloroalkanes and their applications in photoredox catalysis and allyl protection of future substrates.
38	IMS18154	Vidya Jose	Dr. Ramesh Rasappan	Synthesis of alkynes and α -bromo carbonyl compounds for cross-coupling reactions
39	IMS18157	Vivek V Dev	Prof. Mahesh Hariharan	Probing the Excited State Dynamics of Aza[7]helicene
40	IMS18162	Marian Michael	Dr. Jerry Alfred Fereiro	Vesicle Fusion Approach for Forming Single Monolayers of Bacteriorhodopsin for Charge Transport Studies
41	IMS18164	Vasudev D S	Dr. Reji Varghese	DNA functionalized metal complexes for targeted chemodynamic cancer therapy
42	IMS18170	K B Harilal	Dr. Jerry Alfred Fereiro	Design and Synthesis of Organic Molecules for Charge Transport studies through Single Molecule Junctions
43	IMS18172	Arya Jayaraj. C	Dr. Rajendra Kurapati	2D Materials/Biopolymer-based Broad-Spectrum Antimicrobial Multilayer Coatings to Thwart the Biofilm Formation on Medical Implants and the Biodegradation Studies of Graphene Oxide
44	IMS18174	Aparna V M	Dr. RajendarGoreti	Studies Towards The Synthesis Of Gabapentin and Selective Intramolecular Aldolizations for Cyclopentene Carboxaldehydes.
45	IMS18182	Anjusha Prakash	Dr. RajendarGoreti	Synthesis of montelukast and sulfate catalysed multicomponent reactions for xanthenes
46	IMS18189	Nikhila A Chandran	Dr. R. S. Swathi	Heavy-Atom Tunneling in Cyclocarbon-Piperidine and Cyclocarbon-Ammonia Complexes
47	IMS18197	Ashley Roby	Dr. Soumen De	Synthetic studies towards chiral porphyrin cage
48	IMS18199	Sona S Rose	Dr. Sukhendu Mandal	Incorporation of Gold Nanocluster in Zr-based Metal–Organic Framework
49	IMS18200	Sreelakshmi	Dr. Basudev Sahoo	Dicarbonyl functionalization of Activated Alkenes with Ketone-derived Dihydroquinazolinones
50	IMS18201	Shifana Sinu. P	Dr. Yatham Veera Reddy	Synthesis of Styrene Derivatives
51	IMS18210	N Aiswarya	Dr. Keshaba Nanda Parida	Novel umpolung strategies for the synthesis of 1,4-dioxane derivatives & their non-linear optical applications

SI No	Name of Student & Roll Number		Supervisor's Name & Affiliation	Project Title
52	IMS18211	Naveen K V	Dr. GokulnathSabapathi	Synthesis, characterization and metalation studies of a carbazole embedded p-benziporphyrinoid
53	IMS17101	Diti Vikram Gaikwad	Dr. Sukhendu Mandal	Mechanistic insight into Pb ²⁺ and Hg ²⁺ ion sensing using Cobalt-based coordination polymer in aqueous phase
54	IMS17131	Keerthi. J. Babu	Dr. Sivaranjana Reddy	A Theoretical investigation of the ES IPT phenomenon in 7-Hydroxymethyl-4-methyl-2-oxo-2H-chromene-8-carbaldehyde

School of Physics

SI No	Name of Student & Roll Number		Supervisor's Name & Affiliation	Project Title
1	IMS18007	Adarsh M Lal	Dr. Deepshikha Jaiswal Nagar	Synthesis and thermal expansion studies on \rightarrow (Al-YBCO)
2	IMS18009	Akash S	Dr. Mathew Arun Thomas	A perturbative closed clockwork fermion model
3	IMS18011	Akshay P	Dr. SoumenBasak	Multi-messenger astronomy using massive black hole binaries
4	IMS18013	Albin Saj P	Dr. Manoj A G Namboothiry	Zero-Dimensional, Iso-Butylammonium Bismuth Iodide As A Lead-Free Perovskite-Inspired Light Absorber
5	IMS18020	Anagha.U. P	Dr. Rajeev N Kini	Origin of negative differential resistance and hysteresis in charge density wave system Sr ₁₄ Cu ₂₄ O ₄₁
6	IMS18022	Anantha Krishnan S	Prof. Anil Shaji	Triangle Network Nonlocality using Neural Network Oracle
7	IMS18033	Aravind Rajeev. S	Dr. Rajeev N Kini	Simulation of phonon dynamics in parabolic cavity
8	IMS18034	Arjun S Nair	Dr. Mathew Arun Thomas	The ALP solution of atomki anomalies and a proposal for its experimental verification
9	IMS18038	Atharv Sawant	Dr. Deepshikha Jaiswal Nagar	Synthesis of single crystals of Bi ₂ Sr ₂ CaCu ₂ O _{8+x} (Bi-2212) superconductors and a study of its physical propertes
10	IMS18040	Ayisha Ferhana	Dr. Madhu Thalakulam	Superconducting coplanar waveguide resonators for spin photon coupling
11	IMS18048	M M Devadevan	Dr. Amal Medhi	A study on the stability of higher order topological insulators to electronic correlations using the slave rotor mean field theory

SI No	Name of Student & Roll Number		Supervisor's Name & Affiliation	Project Title
12	IMS18051	Dharsana P D	Dr. Vinayak B. Kamble	Growth of Bi ₂ Se ₃ thin films by chemical vapour deposition for FET geometry device
13	IMS18052	Dwithi Pillai	Dr. Madhu Thalakulam	Electrostatically doped highly efficient contacts to MoS ₂
14	IMS18062	Haritha M	Dr. Shabnam Iyyani	Detailed Spectroscopy of Photospheric Emission dominated GRB100728A
15	IMS18070	Jerin Chacko	Dr. Manoj A G Namboothiry	Perovskite Light Emitting Diode
16	IMS18071	Jibin N Sunil	Dr. Rajeev N Kini	Simulation of optical properties of TMDC systems
17	IMS18075	Kethavath Hemanth Naik	Dr. Bikas Chandra Das	TiO ₂ Quantum Dots loaded piezoelectric polymer thin-film memristor
18	IMS18076	Kirandas P. S	Dr. Deepshikha Jaiswal Nagar	Study of hydrogen sensing behaviour of Pd, Pd/Mg and Pd/Mg/Pd thin films
19	IMS18077	Kratika Mazde	Dr. Tanumoy Mandal & Co-Guide Dr. Luca Visinelli; Shanghai Jiao Tong University, China	The interplay between the dark matter axion and primordial black holes
20	IMS18079	Krishnanand J	Dr. D. V. Senthilkumar	A novel perspective on collective behavior: A vector based swarmalator model
21	IMS18085	Maanav Srihari	Prof. Anil Shaji	Reinforcement learning for quantum control
22	IMS18088	Midhun Murali	Dr. Madhu Thalakulam	Flip-Chip Integration of Hybrid Quantum Devices and Simulation
23	IMS18090	Mohammed Shafi	Dr. SoumenBasak	Reheating after Cosmic Inflation
24	IMS18092	Mugilan B	Dr. Shabnam Iyyani	Ultra Long Gamma-Ray Bursts and Tidal Disruption Events
25	IMS18096	Nidha Mariyam	Dr. Vinayak B. Kamble	Functional inverse opal photonic crystal fabrication for optical sensing application
26	IMS18099	Prateek Ganesh Hegde	Dr. Tanumoy Mandal	Implications of Perturbative Unitarity in Beyond the Standard Model Systems
27	IMS18100	Praveen Murali	Dr. Tanumoy Mandal & Co-guide Dr. Sayantan Sharma; The Institute of Mathematical Sciences	Applications of Machine Learning in detecting Phase Transitions
28	IMS18109	Rohit M M	Dr. M M. Shaijumon	Modification of NASICON-Type Cathode and Electrolyte for Next-Generation Batteries
29	IMS18112	S Akshaya Sidharth	Dr. M MShaijumon	Iron and Ruthenium Doped Cobalt Molybdenum Suboxide as Electrocatalysts for Oxygen Evolution Reaction (OER)

S No	Name of Student & Roll Number		Supervisor's Name & Affiliation	Project Title
30	IMS18115	Sajana S	Dr. Vinayak B. Kamble	Machine Learning Assisted Gas Sensor Array Fabrication for Analyzing Gas Mixtures
31	IMS18117	Sanah	Dr. Shabnam Iyyani	Thermal Emission in the Prompt and Early X-Ray Afterglow of Gamma Ray Bursts
32	IMS18118	Sanchu P Thomas	Dr. Vinayak B. Kamble	Study of 2D Tellurene Nanosheets for Chemical Sensor Application
33	IMS18119	Sangeeth Sivan	Dr. Bikas Chandra Das	Lead-Free Halide Perovskite Quantum Dots Based Memristor
34	IMS18124	Shahna Mysin. K	Dr. Joy Mitra	Experimental realisation of Metal-Insulator composites
35	IMS18126	Sharang Rajesh Iyer	Dr. Bindusar Sahoo	Black hole thermodynamics and higher derivative corrections
36	IMS18127	Sharon Siby	Dr. Bindusar Sahoo	Hurwitz Numbers, Rooted Trees, and Topologically Massive Higher Spin Gravity
37	IMS18136	Sneha Ramakrishnan	Dr. Anand Narayana Sarma	Observed increase in atmospheric optical turbulence with increasing stability in the nocturnal boundary layer
38	IMS18143	Sreya B Nambiar	Dr. M M Shaijumon	Anode interface stabilization strategies for PVDF-based solid-state electrolytes
39	IMS18146	Suha	Dr. Ravi Pant	Enhancement of Brillouin-induced phase shift in microwave domain
40	IMS18149	Vaishnav V Prem	Prof. Anil Shaji	Security Analysis of One-sided device-independent QKD using a qubit-field state
41	IMS18161	Athulya Thomas	Dr. Bikas Chandra Das	Resistive switching mediated robust memristor application of solution-processed MXene thin-film
42	IMS18165	Akhilan E M	Prof. R C Nath	Rare-Earth based Perfect Triangular Lattice Antiferromagnet, PrTa ₇ O ₁₉ : Synthesis, Structure and Magnetism
43	IMS18166	Eevuri Jagadeswarareddy	Dr. Vinayak B. Kamble	Engineering Thermoelectric Transport in Indium Oxide - Indium Tin Oxide Core-Shell Nanocomposites
44	IMS18176	Greeshma. L. S	Dr. Manoj A G Namboothiry	Liquid Crystal Retarders for Polarimetric Applications in Solar Astronomy
45	IMS18178	Poorvisha C	Dr. Deepshikha Jaiswal Nagar	Magnetic refrigeration using spin 1/2 heisenberg antiferromagnetic chain
46	IMS18180	Mehta Nishil Ripal	Dr. Soumen Basak & Co-guide Dr. Liton Majumdar; NISER Bhubaneswar	Study of Atmospheres of Exoplanets and Biosignatures using the James Webb Space Telescope (JWST)

SI No	Name of Student & Roll Number		Supervisor's Name & Affiliation	Project Title
47	IMS18183	Shreyanshi Singh	Dr. Prasanth Valayamkunnath	Quantifying changes in water cycle intensity over the Indian subcontinent with climate change
48	IMS18188	Sreelekshmi.T	Dr. Anand Narayana Sarma	Satellite observations of atmospheric aerosols over the Western Ghats: seasonal variations and radiative effects
49	IMS18191	Roshin G Vallatt	Dr. Deepshikha Jaiswal Nagar	Quantum criticality study on low dimensional magnets
50	IMS18192	Nihal S Kumar	Dr. Sreedhar B Dutta	Einstein's field equations as equation of state in various models of gravity
51	IMS18194	Anusree Vinod K	Dr. D. V. Senthilkumar	Persistence of an Externally Invaded Multilayer Metacommunity
52	IMS18195	Aiswarya P S	Prof. Anil Shaji	Linking rate based and spiking models: A quest towards biologically relevant neural systems
53	IMS18198	Rajatava Mukhopadhyay	Dr. Tuhin Subhra Maity	Study of magnetocaloric effect in polycrystalline $\text{Eu}_{0.476}\text{Sr}_{0.524}\text{MnO}_3\text{-EuMnO}_3$ composite
54	IMS18202	Nuha Fathima P K	Dr. D. V. Senthilkumar	Modelling the asynchronous dynamics in complex ecological networks using kuramoto oscillators
55	IMS18204	Anagha P	Prof. R C Nath	Synthesis and magnetic properties of Yb based frustrated triangular lattice compound $\text{NaSrYb}(\text{BO}_3)_2$
56	IMS18208	Amol Verma	Dr. Amal Medhi	Thermoelectric Properties of Pristine Graphene And Strain-Induced Graphene
57	IMS17014	Adarsh Karekkat	Dr. Tanumoy Mandal	Dark matter admixed neutron stars with density-dependent nucleon effective mass

School of Mathematics

SI No	Name of Student & Roll Number		Supervisor's Name & Affiliation	Project Title
1	IMS18001	Aaptha Saroja	Dr.Nagaiah Chamakuri	Circadian oscillator bifurcations
2	IMS18061	R Harish	Dr Dhanya Rajendran	Elliptic and Parabolic Equations with Singular Nonlinearity
3	IMS18064	Hrithik Suresh	Dr Nagaiah Chamakuri	Unraveling Superadditivity: Decoding the Mystery using Machine Learning

SI No	Name of Student & Roll Number		Supervisor's Name & Affiliation	Project Title
4	IMS18095	Navaneethae.P.	Dr Sudarshan Kumar K	Optimal entropy solutions for conservation laws with discontinuous flux-functions
5	IMS18102	Priyanka Mohapatra	Dr. Dond Asha Kisan	WENO schemes for solving Hamilton-Jacobi equations
6	IMS18106	Ramkrishna Biswas	Dr. Geetha Thangavelu	On the Characters of Certain Classes of Complex Reflection Groups
7	IMS18111	Runu Rani Gayary	Dr Sachindranath Jayaraman	The Weyr canonical form of a square matrix
8	IMS18120	Sanjay M S	Dr Devaraj P	Convolution Framelets
9	IMS18123	Sarang P S	Prof M P Rajan	Estimation of Truncated Density Parameters using Score Matching
10	IMS18145	Sudhanshu Dimri	Dr. Nagaiah Chamakuri	Preconditioner for Linear Elasticity
11	IMS18177	Adarshkrishnan R	Dr.Dharmati Sheetal and Dr.Dond Asha Kisan	Graded Material Design- A Phase-Field Approach to Single Material Topology Optimization
12	IMS18185	Joglekar Chaitanya Sanjeev	Dr. Viji Z Thomas	The Local and Global Versions of the Kronecker-Weber Theorem
13	IMS18186	Rohit Kumar	Dr Geetha Thangavelu	Gelfand Model for Symmetric Group
14	IMS18190	Akashdeep Singh	Dr. Dharmatti Sheetal	Ordinary differential systems : Boundary and eigen-value problems
15	IMS18205	Sam K Mathew	Dr Saikat Chatterjee	Darboux theorem
16	IMS17077	Asaithambi Madhivadhani	Dr.Dharmati Sheetal & Co-Guide Dr. Sarah Van Ingen Lauer; University of South Florida	A Framework for High-Quality Mathematics Teaching
17	IMS17088	Balaram Vishnu Subramani	Prof M P Rajan	Analysis of Macroeconomic Trends using Vector Autoregressive Models

School of Data Science

SI No	Name of Student & Roll Number		Supervisor's Name & Affiliation	Project Title
	Nil			

No of Students awarded BS-MS Dual Degree in 2023-24=189

Name of the BSMS Students who have received medals for academic performance during the year:

1. Institute Gold Medal with certificate for overall topper of the Institute's 2018 batch

IMS18126	SHARANG RAJESH IYER	PHYSICAL SCIENCES
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2. Best Undergraduate Researcher Medal of with certificate of the Institute's 2018 batch

SI. No	Roll No	Name	Major
1	IMS18137	SOHAN D JADHAV	CHEMICAL SCIENCES
2	IMS18061	HARISH R	MATHEMATICAL SCIENCES
3	IMS18077	KRATIKA MAZDE	PHYSICAL SCIENCES

3. Institute Cultural Medal with certificate of the Institute's 2018 batch

SI. No	Roll No	Name	Major
1	IMS18120	SANJAY M S	MATHEMATICAL SCIENCES

4. Director's Gold Medal with certificate for academic proficiency with highest CGPA of the Institute's 2018 batch

SI. No	Roll No	Name	Major
1	IMS18023	ANANTHU M	BIOLOGICAL SCIENCES

5. Challa Gold Medal with certificate for the best academic performance in School of Chemical Sciences (School Topper) of the Institute's 2018 batch

SI. No	Roll No	Name	Major
1	IMS18122	SARAH CHRISTOPHER	CHEMICAL SCIENCES

6. Gold Medal with certificate for the best academic performance in the respective school (School Topper) of the Institute's 2018 batch

SI. No	Roll No	Name	Major
1	IMS18122	SARAH CHRISTOPHER	CHEMICAL SCIENCES
2	IMS18102	PRIYANKA MOHAPATRA	MATHEMATICAL SCIENCES
3	IMS18062	HARITHA M	PHYSICAL SCIENCES

7. Silver Medal with certificate for the best academic performance in the respective school (School 2nd Topper) of the Institute's 2018 batch

Sl. No	Roll No	Name	Major
1	IMS18135	SILPA MARY JOHNSON	BIOLOGICAL SCIENCES
2.	IMS18018	AMRUTHA RAJAN	CHEMICAL SCIENCES
3.	IMS18145	SUDHANSHU DIMRI	MATHEMATICAL SCIENCES
4.	IMS18112	S AKSHAYA SIDHARTH	PHYSICAL SCIENCES

Integrated and Interdisciplinary Sciences BS-MS Programme(i^2 Science Stream)

This relatively new 5-Year BS-MS programme comprises of 5 distinct streams viz. Biological Sciences, Chemical Sciences, Data Sciences, Mathematical Sciences and Physical Sciences, each centered around a core discipline and its corresponding thematic domains. After completing the foundational courses in the initial two years, students have the flexibility to select one of the five streams to pursue advanced studies in the core discipline and specialize in the associated thematic areas. It also involves a year-long research project in the fifth year.

Gender & Category-wise Distribution of ALL BSMS Students (until 31 March 2024)							
	EWS	GEN	OBC-NCL	PD	SC	ST	Total
Basic Stream							
Male	57	231	117	6	68	30	509
Female	46	256	201	5	75	27	610
Total	103	487	318	11	143	57	1119
i^2 Stream							
Male	8	21	18	0	3	8	58
Female	3	30	23	1	11	5	73
Total	11	51	41	1	14	13	131

Gender & Category-wise Distribution of ALL i^2 BSMS (until 31 March 2024)							
	EWS	GEN	OBC-NCL	PD	SC	ST	Total
School of Biology							
Male	2	4	2	0	0	1	9
Female	1	12	5	0	3	0	21
Total	3	16	7	0	3	1	30

Gender & Category-wise Distribution of ALL i ² BSMS (until 31 March 2024)							
	EWS	GEN	OBC-NCL	PD	SC	ST	Total
School of Chemistry							
Male	1	6	3	0	1	1	12
Female	0	6	6		2	1	15
	1	12	9	0	3	2	27
School of Physics							
Male	0	4	4	0	1	2	11
Female	0	2	5	0	3	1	11
	0	6	9	0	4	3	22
School of Mathematics							
Male	2	1	1	0	1	1	6
Female	1	5	1	0	2	0	9
	3	6	2	0	3	1	15
School of Datascience							
Male	3	6	8	0	0	3	20
Female	1	5	6	1	1	3	17
	4	11	14	1	1	6	37
Total	11	51	41	1	14	13	131

Master of Science (MSc) Programme

The two-year MSc programme is positioned in a manner that bridges the flagship, five-year BS-MS programme of the institute with the PhD programme. The MS programme aims to extend the training in science to bright undergraduate students selected competitively from across the country.

Gender & Category-wise Distribution of ALL MSc Students (until 31 March 2024)							
	EWS	GEN	OBC-NCL	PD	SC	ST	Total
School of Biology							
Male	1	8	6	1	2	1	19
Female	2	9	4	0	4	1	20
	3	17	10	1	6	2	39
School of Chemistry							
Male	0	3	5	0	3	0	11
Female	2	15	3	1	2	0	23
	2	18	8	1	5	0	34

Gender & Category-wise Distribution of ALL MSc Students (until 31 March 2024)							
	EWS	GEN	OBC-NCL	PD	SC	ST	Total
School of Physics							
Male	3	7	6	0	4	1	21
Female	2	9	4	0	3	0	18
	5	16	10	0	7	1	39
School of Mathematics							
Male	3	11	5	0	3	2	24
Female	1	6	5	0	1	0	13
	4	17	10	0	4	2	37
Total	14	68	38	2	22	5	149

Gender & Category-wise Distribution of MSc Students Enrolled in 2023							
	EWS	GEN	OBC-NCL	PD	SC	ST	Total
School of Biology							
Male	1	4	3	1	1	0	10
Female	0	5	3	0	2	1	11
	1	9	6	1	3	1	21
School of Chemistry							
Male	0	1	2	0	2	0	5
Female	0	8	4	1	1	1	15
	0	9	6	1	3	1	20
School of Physics							
Male	2	3	0	0	2	1	8
Female	1	6	4	0	1	0	12
	3	9	4	0	3	1	20
School of Mathematics							
Male	1	6	2	0	2	0	11
Female	1	3	3	0	0	0	7
	2	9	5	0	2	0	18
Total	6	36	21	2	11	3	79

No of total students enrolled for MSc in 2023= 79

Subsequent to admission in 2023, No. of total students discontinued the program=2

Final number of the enrolled MSc Students in 2023=77

Sources of scholarship for ALL MSc Students (until 31 March 2024), if applicable	
	No of Students
INSPIRE	5
Egrantz	1
NBHM	3
Total	9

Sources of scholarship for MSc Students enrolled in 2023, if applicable	
	No of Students
Egrantz	1
Total	1

Integrated PhD (iPhD) Programme

It's a research programme at the end of which, Master of Science and PhD degree are awarded. The first four semesters consist of core and elective courses specialized in one subject (Biology, Chemistry, Physics or Mathematics). Students have option to exit with an MS by research degree after third year or continue with PhD research subject to fulfilling other requirements.

Gender & Category-wise Distribution of ALL iPhD Students (until 31 March 2024)							
	EWS	GEN	OBC-NCL	PD	SC	ST	Total
School of Biology							
Male	0	16	2	0	1	0	19
Female	0	21	4	0	0	0	25
	0	37	6	0	1	0	44
School of Chemistry							
Male	0	20	11	0	4	0	35
Female	1	25	19	0	1	0	46
	1	45	30	0	5	0	81
School of Physics							
Male	1	26	6	0	2	0	35
Female	1	4	2	0	0	0	7
	2	30	8	0	2	0	42

Gender & Category-wise Distribution of ALL iPhD Students (until 31 March 2024)							
	EWS	GEN	OBC-NCL	PD	SC	ST	Total
School of Mathematics							
Male	1	18	6	0	0		25
Female	0	9	2	0	1		12
	1	27	8	0	1	0	37
Total	4	139	52	0	9	0	204

Gender & Category-wise Distribution of iPhD Students Enrolled in 2023							
	EWS	GEN	OBC-NCL	PD	SC	ST	Total
School of Biology							
Male	0	3	0	0	1	0	4
Female	0	4	1	0	0		5
	0	7	1	0	1	0	9
School of Chemistry							
Male	0	2	4	0	3	0	9
Female	1	10	8	0	0	0	19
	1	12	12	0	3	0	28
School of Physics							
Male	0	2	1	0	1	0	4
Female	0	0	0	0	0	0	0
	0	2	1	0	1	0	4
School of Mathematics							
Male	1	2	3	0	0	0	6
Female	0	1	1	0	1	0	3
	1	3	4	0	1	0	9
Total	2	24	18	0	6	0	50

No of total students enrolled for iPhD in 2023=50

Subsequent to admission in 2023, No. of total students discontinued the program= Nil

Final number of the enrolled iPhD Students in 2023=50

Sources of fellowship for ALL iPhD Students (until 31 March 2024)	
	No of Students
CSIR	1
SERB	1
PMRF	12
IISER TVM	190
Total	204

Sources of fellowship for iPhD Students enrolled in 2023	
	No of Students
CSIR	0
SERB	0
PMRF	0
IISER TVM	50
Total	50

Name of the iPhD Students who were awarded PMRF:

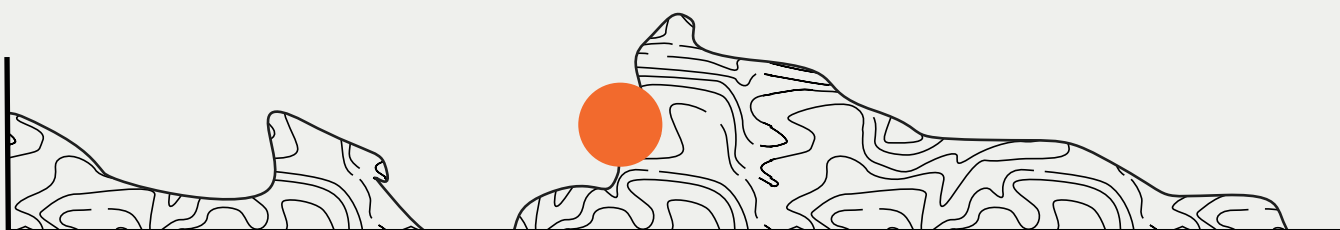
School of Biology	
Name of the Student	Gender
Anjali Variyar	Female
Amamah Farzlin Farnaz	Female
Aswathy Bj	Female

School of Chemistry	
Name of the Student	Gender
Probal Nag	Male
S Aswini	Female
Anshuman Bera	Male
Suvarna Sujilkumar C	Female

School of Physics	
Name of the Student	Gender
Sandip Guchhait	Male
Sebin Joseph Sebastian	Male

School of Mathematics	
Name of the Student	Gender
K. Sathasivam	Male
Rahuldev Ghorai	Male
Sarbani Pramanik	Female

iPhD - Thesis details for students who received dual degree (Masters and PhD) during 2023-24				
School of Biology				
SI No	Name of Student & Roll Number		Research Supervisor's Name	Thesis Title
	Nil			
School of Chemistry				
SI No	Name of Student & Roll Number		Research Supervisor's Name	Thesis Title
1	R Arthi	IPHD13003	Prof Kana M Sure-shan	Synthesis of inositol-based inclusion complexes, structural mimics of inositol and polyinositols.
2	Chris John	IPHD15008	Dr R S Swathi	In Quest of Analytical Modeling Approaches for Gas Adsorption on Two-dimensional Nanomaterials
3	Devika S	IPHD15010	Prof Mahesh Hari-haran	Exciton and Charge Transfer Interactions in Molecular Aggregates
4	Muhammed Shafeeq O. H	IPHD15016	Dr Vinesh Vijayan	Visualizing the Transient Dark States in Biological Systems using Relaxation- Based Solution NMR
5	Shourya Gupta	IPHD15024	Dr Subrata Kundu	Nitrite Reduction at First Row Late Transition Metal Sites: Insights into Ene-diol and Phenol Oxidations



School of Physics				
SI No	Name of Student & Roll Number		Research Supervisor's Name	Thesis Title
1	Arun Kumar Maurya	IPHD13004	Dr. Amal Medhi	Correlated electrons in multi-band systems with Hund's coupling and spin-orbit interaction: A slave-spin mean field theory study
2	Madhu Mishra	IPHD15012	Dr Bindusar Sahoo	Deformation of Supergravity Theory and Black Hole Thermodynamics
3	Shakul Awasathi	IPHD15023	Dr. Sreedhar B. Dutta	Oscillating states of periodically driven Langevin systems
School of Mathematics				
SI No	Name of Student & Roll Number		Research Supervisor's Name	Thesis Title
1	Amrutha P	IPHD15004	Dr Geetha Thankavelu	A combinatorial approach to the representation theory of certain class of Complex reflection groups
2	Debojyoti Bhattacharya	IPHD15009	Dr Sarbeswar Pal	On Brill-Noether loci and arithmetically Cohen-Macaulay line bundles over sextic hypersurfaces in P^3
3	Pankaj Dey	IPHD15018	Prof Utpal Manna	A Study on Generalized Halmos Conjectures and Constrained Unitary Dilations
4	Komma Patali	IPHD16011	Dr Viji Z Thomas	Exponent analogues of Schur's theorem (with) Part II: Existence of non-inner automorphisms of order p in finite p-groups

PhD Programme

The institute offers a vibrant PhD programme in the areas of Biological Sciences, Chemical Sciences, Mathematical Sciences, Physical Sciences and Interdisciplinary areas like Data Science and Earth Environment and Sustainability Sciences. PhD scholars are admitted in 2 sessions (August and January) each academic year.

Gender & Category-wise Distribution of ALL PhD Students (until 31 March 2024)							
	EWS	GEN	OBC-NCL	PD	SC	ST	Total
School of Biology							
Male	2	25	10	0	4	0	41
Female	1	23	10	0	1	0	35
	3	48	20	0	5	0	76

Gender & Category-wise Distribution of ALL PhD Students (until 31 March 2024)							
	EWS	GEN	OBC-NCL	PD	SC	ST	Total
School of Chemistry							
Male	1	21	10	0	7	1	40
Female	0	22	20	0	2	0	44
	1	43	30	0	9	1	84
School of Physics							
Male	6	28	18	0	2	2	56
Female	0	22	5	0	2	0	29
	6	50	23	0	4	2	85
School of Mathematics							
Male	2	6	6	1	0	1	16
Female	1	3	1	0	0	0	5
	3	9	7	1	0	1	21
Centres- CAMRIE/CHPC							
Male	1	7	4	0	1	1	14
Female	0	4	1	0	0	0	5
	1	11	5	0	1	1	19
Total	14	161	85	1	19	5	285

Gender & Category-wise Distribution of PhD Students Enrolled in 2023							
	EWS	GEN	OBC-NCL	PD	SC	ST	Total
School of Biology							
Male	0	6	3	0	1	0	10
Female	1	5	3	0	1	0	10
	1	11	6	0	2	0	20
School of Chemistry							
Male	0	3	4	0	4	0	11
Female	0	5	4	0	1	0	10
	0	8	8	0	5	0	21
School of Physics							
Male	4	4	4	0	0	0	12
Female	0	2	1	0	1	0	4
	4	6	5	0	1	0	16

School of Mathematics							
Male	2	1	4	0	0	1	8
Female	0	1	0	0	0	0	1
	2	2	4	0	0	1	9
Centres- CAMRIE/CHPC							
Male	1	5	4	0	0	1	11
Female	0	3	0	0	0	0	3
	1	8	4	0	0	1	14
Total	8	35	27	0	8	2	80

No of total students enrolled for PhD in 2023=80

Subsequent to admission in 2023, No. of total students discontinued the program=7

Final number of the enrolled PhD Students in 2023=73

Sources of fellowship for ALL PhD Students (until 31 March 2024)	
	No of Students
CSIR	32
DBT	11
ICMR	2
DST-INSPIRE	13
UGC	56
PMRF	26
IISER TVM	144
Sponsored Project	1
Total	285

Sources of fellowship for PhD Students enrolled in 2023	
	No of Students
CSIR	2
DBT	1
ICMR	0
DST-INSPIRE	0
UGC	22
PMRF	2
IISER TVM	53
Sponsored Project	0
Total	80

Name of the PhD Students who were awarded PMRF:

School of Biology		
SI No	Name of student	Gender
1	Kavitha M S	Female
2	Manish R	Male

School of Chemistry		
SI No	Name of student	Gender
1	Swathi Krishna P E	Female
2	Girish Suresh Yedase	Male
3	Alisha Rani Tripathy	Female
4	Pinku Prasad Mondal	Male
5	Amit Pal	Male
6	Avishek Kumar Jha	Male
7	Tarpan Maiti	Male
8	Akanksha Sharma	Female
9	Akash Bisoyi	Male
10	Subham Das	Male
11	Glory James	Female

School of Physics		
SI	Name of student	Gender
1	Manisha Bansal	Female
2	Aiswarya K S	Female
3	Rachit Sharma	Male
4	Vipin Yadav	Male
5	Arijit Paramanick	Male
6	Lucky Donald Lyngdoh Kynshi	Male
7	Roshni Benny	Female
8	Sreelakshmy T	Female

School of Mathematics		
SI	Name of student	Gender
1	Ritabrata Jana	Male
2	Ankur Upadhyay	Male

Centres- CAMRIE/CHPC		
Sl	Name of student	Gender
1	Kaustav Mondal	Male
2	Timi Titus	Female
3	Gopika P B	Female

PhD-Thesis details for students who were conferred with a PhD during 2023-24

School of Biology

SI No	Name of Student & Roll Number		Research Supervisor's Name	Thesis Title
1	Renjith M R	PHD152007	Prof Tapas K Manna	Elucidating the role of interaction of Ska1 with EB1 in regulation of kinetochore-microtubule attachment in human cells
2	Baheerathan M	PHD151003	Prof Hema Somanathan	Visual ecology of pteropodid bats of southern India
3	Jervis Leo Fernandes	PHD151011	Dr Jishy Varghese	Deciphering the role of microRNAs in the physiology of Drosophila melanogaster
4	Resmi Rajeev	PHD151028	Prof Tapas K Manna	Role of transforming acidic coiled-coil 3 (TACC3) in the regulation of microtubule assembly at the centrosomes
5	Rishith Ravindran	PHD151029	Prof S Murty Srinivasula	Discovery of a novel role for an endosomal-associated ubiquitin ligase in the elimination of mitochondria
6	Asmi Jezeera M	PHD161008	Prof Hema Somanathan	Visual ecology of the Indian stingless bee, Tetragonulairidipennis
7	Sagar Salim	PHD171018	Prof Nishant K T	Regulation of Msh5 binding during meiosis in budding yeast
8	Jeswin Joseph	PHD182006	Dr V Stalin Raj	The study of highly pathogenic emerging RNA viruses using recombinant envelope proteins and pseudotyped viruses

School of Chemistry

SI No	Name of Student & Roll Number		Research Supervisor's Name	Thesis Title
1	Manoj B	PHD151013	Prof K George Thomas	Exploration into Light Harvesting and Carrier Dynamics in Indium Phosphide Quantum Dots
2	Shamna M	PHD162011	Prof Sukhendu Mandal	Exploring the synthetic modifications in Zirconium MOFs to immobilize metal nanoparticles for hydrogen evolution reaction.

Sl No	Name of Student & Roll Number		Research Supervisor's Name	Thesis Title
3	Sujith M.	PHD162014	Prof K George Thomas	Chiroptical Properties in Molecules and Nanomaterials: From Ligand-Induced to Exciton- Coupled Chirality
4	Anto James	PHD161005	Dr R S Swathi	Graphynes and Graphyne-Like Assemblies: Modeling and Computation of Intermolecular Interactions
5	Fathima Pilathottathil	PHD161011	Dr Alagiri Kaliyamoorthy	Synthesis of Heteroaryl and Trideuteromethyl Sulfoxides from β -Sulfinyl Esters & Synthesis of Various Acylating Reagents from Carboxylic Acids
6	Harikrishnan. K. S	PHD161012	Dr Reji Varghese	Design and Synthesis of Biomolecular Nano systems for Applications in Sensing, Data Encryption and Catalysis
7	Manju P Maman	PHD161017	Prof Sukhendu Mandal	A Case Study on Cyclohexanethiolate Protected Au ₂₃ Nanocluster Transformation via Ligand Exchange
8	Cijil Raju	PHD172003	Prof Kana M Sureshan	Engineering Supramolecular Interactions for the Synthesis of Non-covalent & Covalent Polymers
9	Deepti Sharma	PHD172004	Dr Ajay Venugopal	Primary and secondary interactions in main group Lewis-acids: consequence on reactivity manifested at antimony centre.
10	Ebin Sebastian	PHD172005	Prof Mahesh Hariharan	Orthogonal Bichromophoric Systems: From Null Exciton Coupling to Symmetry-Breaking Charge Separation
11	Kakarlamudi Akhil Chakravarthy	PHD172007	Dr Vennapusa Sivaranjana Reddy	Theoretical investigation of optical properties of neutral and dication cycloparaphenylenes
12	Venkadesh. B	PHD172011	Dr Ramesh Rasappan	Cross-Coupling Reactions via C-O Bond Cleavage: Silylations and Multicomponent Reactions
13	Amritha R	PHD171002	Dr Alagiri Kaliyamoorthy	Brønsted Base-Mediated 1,6-Conjugate Addition Reaction of Alkyl Azaarenes and Alkynyl Azaareneto para-Quinone Methides
14	Athira T. John	PHD171005	Prof Mahesh Hariharan	Modulating Charge Transport in Angular Naphthothiazoles Through Crystal Engineering
15	Chithra M J	PHD171006	Dr Vennapusa Sivaranjana Reddy	Theoretical insights into the efficient T ₁ state formation mechanism in organic chromophores
16	Isukapalli Sai Vamsikrishna	PHD181012	Dr Vennapusa Sivaranjana Reddy	Ultrafast Excited-state Dynamics of RyleneDiimides

SI No	Name of Student & Roll Number		Research Supervisor's Name	Thesis Title
17	Vetrivelan. M	PHD181026	Dr Ramesh Rasappan	Nickel Catalyzed Silylation via C-O Bond Cleavage and Aldehyde Activation using Metallaphotoredox Catalysis
School of Physics				
SI No	Name of Student & Roll Number		Research Supervisor's Name	Thesis Title
1	Vijay Pathak	PHD141019	Prof Anil Shaji	Quantum master equations for non-Markovian processes and their microscopic understanding
2	Athulya. K. P.	PHD162001	Prof Anil Shaji	Open dynamics and steering of a finite dimensional system coupled to a controllable, infinite dimensional environment
3	Rajiv G Pereira	PHD161021	Dr. Sreedhar B. Dutta	Coarsening and critical dynamics in anisotropically driven non conserved systems
4	Rinsa. S. R	PHD161023	Dr Mayanglambam Suheshkumar Singh	Simultaneous multiple-level magnification. selective plane illumination microscopy (sMx-SPIM): a cost-effective imaging system for biological applications
5	Sandhya. K. M	PHD161024	Dr Bikas C Das	Doping of Semiconductors at Nanoscale to Tune the Electronic and Optoelectronic Properties
6	Arijit Kayal	PHD172001	Prof Joy Mitra	Engineering optical, electrical and electronic properties of 2D van der Waals Materials
7	Litty Thomas Manamel	PHD171011	Dr Bikas C Das	Band Structure Modulation and Emerging Non-Linear Electrical Properties of Solution Processed Two-Dimensional Molybdenum Disulfide
8	Somesh K	PHD171020	Prof Ramesh Chandra Nath	Frustrated Magnetism in Low-Dimensional Antiferromagnets α -HCrO ₂ and α -KVOPO ₄
9	Dileep. N. P	PHD171023	Prof M M Shaijumon	Synthesis of Nanostructured Ternary Bismuth-Antimony Trichalcogenides and their Heterostructures for Energy Conversion
10	Aswathy Sundaesan	PHD182003	Dr Rajeev Kini	Investigation of amplified spontaneous emission and lasing using unique droplet configurations under the microfluidic platform

School of Mathematics				
SI No	Name of Student & Roll Number		Research Supervisor's Name	Thesis Title
1	Ankush Kumar Garg	PHD151025	Dr P Devaraj	A Study on Reconstruction from Local Average and Random Average Samples over Shift-Invariant Spaces

PhD-Thesis details for students who have completed requirements for a PhD during 2023-24				
School of Biology				
SI No	Name of Student & Roll Number		Research Supervisor's Name	Thesis Title
1	Irene Mariam Roy	PHD162004	Dr. Satish Khurana	Understanding the role of integrin signaling in hematopoietic stem cell niche modulation
2	Sajesh Vijayan	PHD171024	Prof Hema Somanathan	Behavioural and visual ecology of the Asian giant honeybee, Apisdorsata
School of Chemistry				
SI No	Name of Student & Roll Number		Research Supervisor's Name	Thesis Title
1	Aditesh Mondal	PHD181003	Dr Subrata Kundu	Reactions of Nitrate, Nitrite, and Hydroxylamine at a Biomimetic Copper(II) Site: Insights into the Formation of Nitric Oxide and Nitrous Oxide
2	Reyno R S	PHD161020	Dr. Rajendar Goreti	Methods For The Preparation of β -Amino- α , β -unsaturated Carbonyl Compounds and Cationic Polyene Cyclizations and Synthesis of Euolutchuol C
3	Ruth Mariam IPE	PHD171017	Dr.Gokulnath Sabapathi	Modulating the Electronic and Structural Properties of meso and Internally Linked Porphyrin-Pyrene Conjugates
4	Meera Johny	PHD171013	Dr. Rajendar Goreti	BF ₃ -Mediated Glycidol Acetal Rearrangements and Silyl Promoted Reactions of Cyclic Anhydrides to Diesters and Amide Esters
5	Sanoop. M. S	PHD161025	Prof K George Thomas	Template-Assisted Chiral Induction: From Structurally Induced Chirality to Exciton-Coupled Chirality

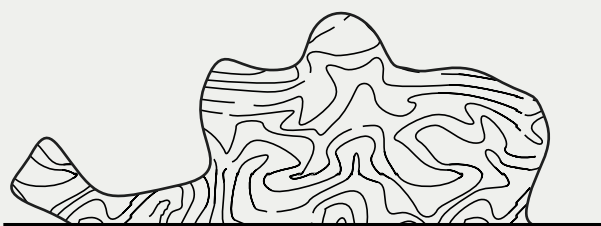
SI No	Name of Student & Roll Number		Research Supervisor's Name	Thesis Title
6	Javed Rahimkhan Pathan	PHD171015	Prof Kana M Sureshan	Synthesis of Various Polyamides Via Topochemical Azide-Alkyne Cycloaddition (TAAC) Reaction
7	Vishnu E K	PHD171026	Prof K George Thomas	Charge Carrier Dynamics in CdSe Nanocrystals: A Single-Particle Spectroscopy Perspective
8	Revathi C	PHD182007	Dr Ramesh Rasappan	Transition-Metal Catalyzed C-Si Bond Formation via Coupling of Silyl Nucleophiles
9	Allwin Ebenezer S	PHD181005	Dr Vinesh Vijayan	Sequence-dependent modulation of conformation and aggregation propensity of R3 Tau repeat
10	Arya Gopal S	PHD182002	Dr. A Muthukrishnan	Unveiling the Real Active Sites of Fe-N-C Catalysts for Oxygen Reduction Reactions: Kinetics and Mechanistic analysis

School of Physics

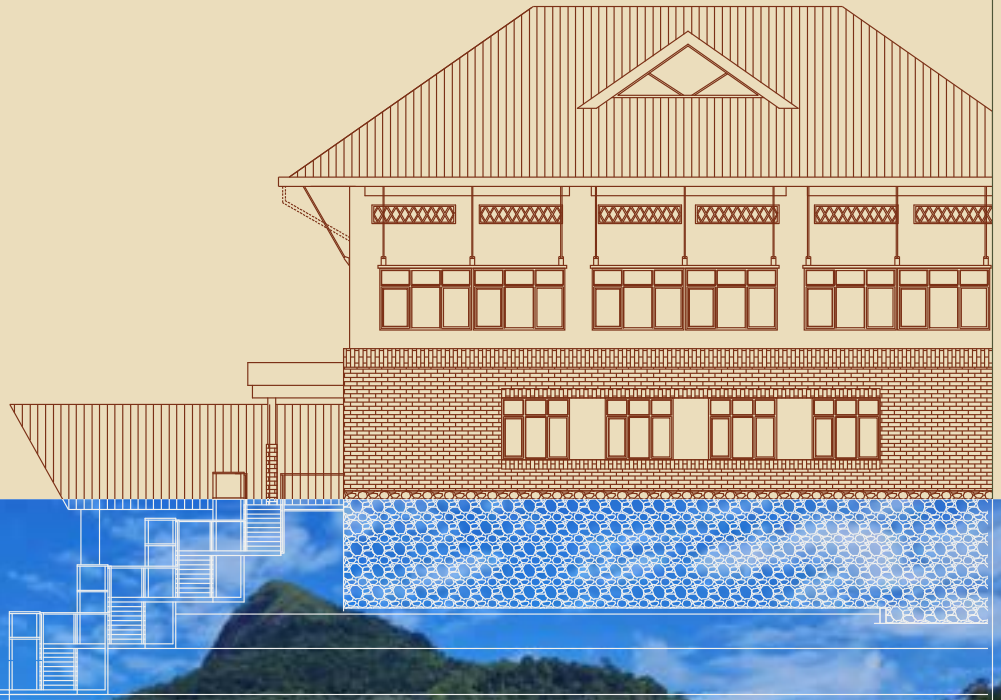
SI No	Name of Student & Roll Number		Research Supervisor's Name	Thesis Title
1	Vijith K. P.	PHD171025	Prof Manoj A G Namboothiry	Photoresponse Studies of Solution-Processed Two-Dimensional Transition Metal Dichalcogenide-Based Devices
2	Arka Mukherjee	PHD171004	Dr Bikas C Das	Exploring Low-Voltage Thin-Film Transistors and Bio-Inspired Synaptic Devices Using Novel Dielectrics
3	Harikrishnan G	PHD171008	Prof Joy Mitra	Optoelectronic and Transport Properties of Nanostructured Hybrids of ZnO-PEDOT:PSS and Ni-TiO ₂

School of Mathematics

S No	Name of Student & Roll Number		Research Supervisor's Name	Thesis Title
	Nil			



Institute Events & Activities

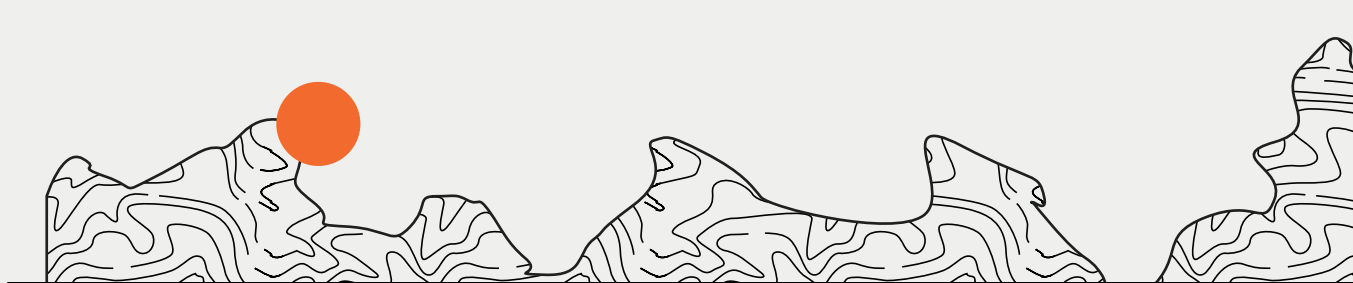


INSTITUTE EVENTS & ACTIVITIES

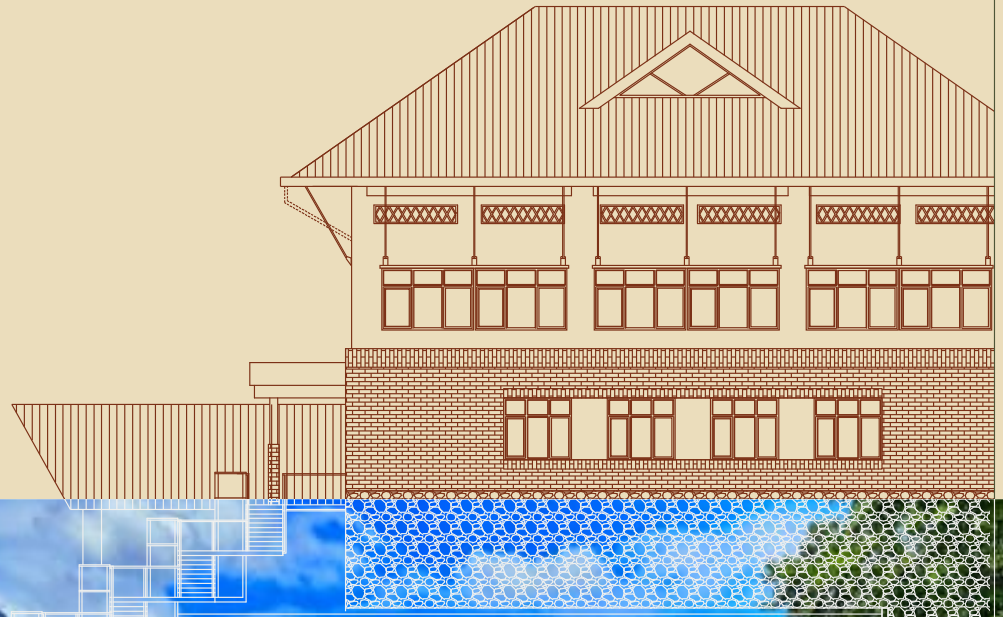
Activities	Description	Date
Annual Foundation School -III (2023), IISER-TVM,from 19 Jun to 15 Jul 2023		2023-07-13
11th Convocation of IISER Thiruvananthapuram	IISER Thiruvananthapuram celebrated its 11th Convocation on Sunday, 23rd July 2023. Padma Bhushan Dr. K Radhakrishnan, Former Chairperson, ISRO & Chairperson of the Standing Committee of the IIT Council was the Chief Guest and delivered the convocation address. Prof. Arvind A. Natu, Chairperson, Board of Governors presided over the function.	2023-07-21
Media brief in connection to NEP 2020	IISER TVM held a media brief on 26th July 2023 in connection with the 3rd anniversary of National Educational Policy 2020.	2023-07-26
Refresher & Preparative Winter School (RPWS - 2023)	Refresher & Preparative Winter School (RPWS - 2023) for 2nd Year M.Sc. Science Students in Biology, Chemistry & Physics will be organized from 03rd to 20th December 2023 at IISER Thiruvananthapuram. Last date for the application is 20th August 2023.Last date for the application is extended till 31st August 2023 Download the Brochure	2023-08-02
Partition Horrors Remembrance Day	IISER TVM celebrated the Partition Horrors Remembrance Day on 14th Aug 2023. Faculty, staff, and students visited the exhibition organized in the library hall.	2023-08-14

Activities	Description	Date
Har Ghar Tiranga Campaign	Azadi Ka Amrit Mahotsav' (AKAM)' is an initiative of the Government of India to celebrate and commemorate 75 years of independence and the glorious history of its people, culture, and achievements. Under the aegis of AKAM, a campaign 'Har Ghar Tiranga' has been launched to encourage the citizens to hoist the National Flag of India in their homes. To mark this momentous occasion, you are encouraged to hoist the flag in your homes from 13th to 15th August 2023. Apart from this, you can also 'Pin a Flag' virtually, along with posting a 'Selfie with Flag'.	2023-08-14
Independence Day celebrations	IISER TVM celebrated the 77th Independence Day of India	2023-08-15
Hindi Book Exhibition as a part of Hindi Fortnight Celebration	The Institute is celebrating Hindi Fortnight from 07 to 14 Sep 2023. As a part of this, the Hindi Book Exhibition will be conducted from 12 Sep 2023 to 13 Sep 2023.	2023-09-11
Valedictory function of Hindi Fortnight celebrations	The Institute is celebrating Hindi Fortnight from 07 to 14 Sep 2023. The valedictory function of Hindi Fortnight celebrations is to be held on 14.09.2023. Eminent Hindi Poet and Satirical Writer, Shri. Vishnu Nagar will be the chief guest.	2023-09-13
Swachhatahiseva, IISER TVM is organizing the cleaning of the nearby areas	Let's come together to celebrate the spirit of cleanliness and hygiene during Swachhatahiseva IISERTVM will be cleaning the nearby places in Kalungu Junction and Market Junction, Vithura, Thiruvananthapuram rural, 10 AM to 11 AM on October 1st, 2023.	2023-09-25
Swachhata Hi Seva™ cleanliness drive at IISER Thiruvananthapuram	IISER Thiruvananthapuram has conducted the #SwachhataHiSeva2023 at Kalungu Junction in Vithura, Thiruvananthapuram, and cleaned the Kalungu and Market Junctions around 1 km from 9.45 AM to 12 PM on 1st October 2023. The Local Panchayath President and Secretary also joined the event along with faculty, staff, and students. We sincerely thank the Media Society of IISER Thiruvananthapuram, and the photographers for covering the event. Media Credits The photographers who covered the event behalf of media society are: Govindram Neware, Mohammad Yasir, Sayali Solanke. X Handles: @grneware19, @WatYasir, @whysayali LinkedIn Profiles: Govindram Neware, Mohammad Yasir	2023-10-01

Activities	Description	Date
Visit by Nobel laureate Prof. Morten P. Meldal	Prof. Morten Peter Meldal, Department of Chemistry, University of Copenhagen, Nobel laureate who was jointly awarded the 2022 Nobel prize in chemistry for the development of click chemistry and bioorthogonal chemistry, visited our campus on 6th February 2024. He inaugurated the Lecture Hall Complex. This was followed by a lecture and an interactive session with the IISER TVM fraternity in the Aryabhatta auditorium. Prof. Medal's talk was followed by an inspiring talk by Ms. Phaedria Marie St. Hilaire on women in science.	2024-02-06
Institute colloquium by Prof. Raghavendra Gadagkar	Prof Gadagkar in an extended discussion session with enthusiastic students after the talk Prof. Raghavendra Gadagkar, CES, IISc Bangalore delivered an Institute Colloquium titled 'Can We Understand an Insect Society?' Colloquium Poster	2024-02-13
India Semiconductor Mission	Shri Rajeev Chandrasekhar, Honourable Minister-of-State for Skill Development and Entrepreneurship and Electronics and Information Technology, Government of India, will visit our campus on 13th March 2024. He will interact with the IISER TVM fraternity. As part of the foundation stone laying of the "India Semiconductor Mission" the following events/activities are organized. Inaugural address – Prof. J. N. Moorthy, Director, IISER TVM Interactive session with Shri Rajeev Chandrasekhar Live-streaming of the address by the Honourable Prime Minister between 10:30 to 11:30 AM Perspectives on India Semiconductor Mission by expert Faculty members Venue: Aryabhatta Auditorium, LHCTime and Date: 9:30 AM on 13-03-2024	2024-03-12



Departmental Activities



DEPARTMENTAL ACTIVITIES

SCHOOL OF BIOLOGY

SEMINARS / TALKS - Talks by National Experts					
Sl No	Date	Title of the talk	Speaker: Name and Affiliation	Brief Comments	Website Link
1	20/07/2023	Gregor Mendel - Life, Experimentation and Further Extension	Professor Maheswaran M Former Professor, Centre for Plant Breeding and Genetics, Tamil Nadu Agricultural	The talk was part of “Pea Party” a mini-symposium conducted on Gregor Johann Mendel’s 201 st birth University	
2	20/07/2023	Meiotic chromosome ends: a means to short chromosome inheritance	Dr. Viji V. Subramanian, Assistant Professor, Department of Biology, IISER Tirupati	The talk was part of “Pea Party” a mini-symposium conducted on Gregor Johann Mendel’s 201 st birth University	
3	20/07/2023	HEIP1 is required for efficient meiotic crossover implementation and is conserved from plants to humans.	Dr. Dipesh Kumar Singh, Postdoctoral Researcher, Raphael Mercier Group, Max Planck Institute for Plant Breeding Research, Germany	The talk was part of “Pea Party” a mini-symposium conducted on Gregor Johann Mendel’s 201 st birth University	
4	25/08/2023	A Deep Dive into Biomolecular Condensates	Dr. Samrat Mukhopadhyay, IISER Mohali		
5	25/08/2023	The Story of Life’s Origin....an Astrobiological Narrative	Dr. Sudha Rajamani, IISER Pune	Dr. Sudha Rajamani gave students useful insights on the emerging field of astrobiology	

SI No	Date	Title of the talk	Speaker: Name and Affiliation	Brief Comments	Website Link
6	31/08/23	Is sustainable low-input, high-output agriculture possible?	Prof. Deepak Pental, Delhi University	Dr. Deepak Pental talked about how new developments like genomics, molecular markers, genetic engineering and genome editing supports conventional plant breeding.	
7	02/09/23	Understanding Human Immunology in the Genomics Era	Dr. Veena S Patil, NII, New Delhi	Dr. Veena S Patil spoke about T cells and how she works on dissecting its developmental lineage, diversity and specificity	
8	02/09/23	Interdisciplinary intellects with multi tasking capability- A gem for bioscience/ biotech industry	Dr. Beena PS, Founder and Director, Omicsgen	Dr. Beena PS spoke about how interdisciplinary thinking and multitasking capabilities is very valuable in the Biotech industry	
9	02/09/23	Standing one's ground during infection: Lessons from our microbial foes	Dr. Sandhya Ganesan, IISER Thiruvananthapuram	Dr. Sandhya Ganesan talked about her work on the sensing of fungal and bacterial pathogens by innate immune cells	
10	02/09/23	The nose knows: antennal control of insect flight	Prof. Sanjay P Sane, NCBS	Dr. Sanjay P Sane described the mechanism behind the flight of an insect.	
11	02/09/23	Of ridley riddles, leatherback voyages and greener pastures: unraveling the biology and conservation of sea turtles in India	Dr. Kartik Shanker, IISc Bangalore	Prof. Kartik Shanker gave a really interactive talk on olive ridleys and green turtles.	
12	19/6/23	Inositol metabolism and traffic control inside a cell.	Krishanu Ray Director, National Brain Research Center (NBRC), Manesar		

SI No	Date	Title of the talk	Speaker: Name and Affiliation	Brief Comments	Website Link
13	28/9/23	Long non-coding RNAs at the synapse: Implications in synapse development and memory.	Sourav Banerjee Professor National Brain Research Center (NBRC), Manesar, Haryana		
SEMINARS/TALKS - Talks by International Experts					
SI No	Date	Title of the talk	Speaker: Name and Affiliation	Brief Comments	Website Link
1	December 4, 2023	Current Advancement in Molecular Neuroscience- Role of Protein Liquid-Liquid Phase separation during Neurodegeneration	Prof Janin Lautenschlager University of Cambridge		
2	4 Jan 2024	Insights into the Structural Basis of Cell-Surface Signaling by the Sigma-Regulator PupR in Pseudomonas caepferum.	Christopher Lee Colbert	Invited talk: Host Dr. Ramanathan Natesh	
3	3 Jan 2024	Canonical and Non-Canonical Roles of the BECN2 Coiled-Coil Domain in Autophagy	Sangita Sinha	Invited talk: Host Dr. Ramanathan Natesh	
4	22 September 2023	Distinct Signaling Processes during Plant reproduction	Prof. Ueli Grossniklaus, Department of Plant and Microbial Biology, University of Zurich, Switzerland Zurich-Basel Plant Science Center, University of Zurich, ETH Zurich, University of Basel, Switzerland		https://www.botinst.uzh.ch/en/research/development/grossnik.html

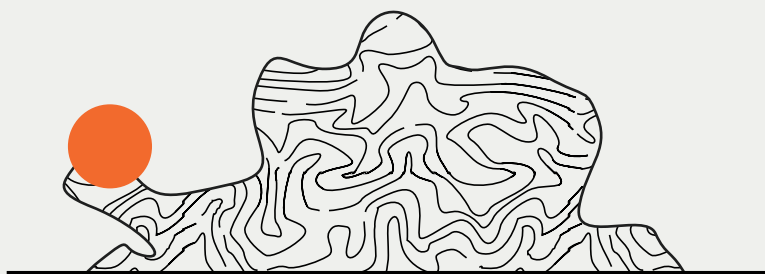
Sl No	Date	Title of the talk	Speaker: Name and Affiliation	Brief Comments	Website Link
5	14 September 2023	Tinkering of meiosis and its application in agriculture	Dr. Dipesh Kumar Singh, Department of Chromosome Biology Max Planck Institute for Plant Breeding Research. Cologne, Germany		
6	10/04/23	Organizing microtubules in space and time	Prof. Elmar Schiebel, Professor and Director Zentrum für Molekulare Biologie der Universität Heidelberg (ZMBH) University of Heidelberg, Germany		https://www.zmbh.uni-heidelberg.de/Schiebel/
7	10/04/23	Sensory Organelle: Primary Cilium Biogenesis and Length Control	Prof. Gislene Pereira, Professor, DKFZ-ZMBH-Alliance German Cancer Research Center University of Heidelberg		https://www.dkfz.de/en/celldivision/Gislene.html
8	02/09/23	Modern Alchemy: ScienceArt is Greater than the Sum of its Parts	Mol Mir, Stowers Institute	Mol Mir gave us an interesting talk about how they combine both science and art and their journey with Science Art.	
9	22/06/23	Novel mechanism and therapeutics to control autoimmunity in type 1 diabetes	Parameswaran Ramakrishnan, Associate Professor, Case Western University, Cleveland, Ohio, United States.		
10	8/06/23	Gene regulation by RNA modifications	Ramesh Pillai, Professor, Dept. of Molecular and Cellular Biology, University of Geneva		

CONFERENCE/COLLOQUIUM/SYMPOSIA – National

SI No	Date	Title	Speaker(s): Name and Affiliation	Brief Comments	Website Link
1	Feb 2-4, 2024	Frontier Symposium in Biology (FS-BIO 2024)	https://conference.iisertvm.ac.in/fsbio2024/	Part of organizing committee	https://conference.iisertvm.ac.in/fsbio2024/
2	9 Feb 2024	IISER TVM - GSKF Biology Symposium	Flyer Attached	Global Science Festival KERALA, Thonakkal, Trivandrum	
3	6-9 December 2023	Indian Drosophila Research Conference (InDRC) 2023	Multiple speakers	The biennial research conference of the Indian Drosophila Research Society, was attended by speakers and participants from institutes across 8 countries	https://www.indrc2023.in/

WORKSHOPS

SI No	Date	Title	Speaker(s): Name and Affiliation	Brief Comments	Website Link
1	7-13 Jan, 2024	South Indian Plants Systems Modelling workshop (SIPSM 2024)	Sanu Shameer, Venkatraman Srinivasan, Deepak Jaiswal, Anirban Guha, Justin McGrath and Yu Wang	I was one of the instructors	https://sites.google.com/iisertvm.ac.in/sipsm2024/technical-sessions
2	29/06/23-30/06/23	Two days research facility training program for Biology PhD students	Prof.Hema Somanathan Professor, SOB, IISER TVM Dr V Stalin Raj Associate Professor, SOB, IISER TVM.	Summer training funded by DST-SERB under the SSR scheme	



Other Activities					
Sl No	Date	Title	Type of Activity	Brief Comments	Website Link
1	26.07.23	Student & faculty visit from Annai Fathima College Of Arts And Science, Madurai	Outreach talk	Attended by 53 students and faculty escorts	none
2	15.09.23	Student & faculty visit from National College, Thiruchirappalli	Outreach talk	Attended by 66 students and faculty escorts	none
3	16 & 19 Dec 2023	Preparative Winter school (RPWS 2023)	Research & teaching talks and lab demonstrations		none
4	22 nd – 31 st January 2024	Advancements in Molecular Technologies and their Applications in Food Safety and Authenticity	Workshop	Part of High-end workshop (KAARYASHALA) under the Accelerate Vigyan scheme, SERB Govt. of India from 22 nd – 31 st January 2024 at ICAR-National Meat Research Institute (formerly ICAR-NRC on Meat), Hyderabad	https://nrcmeat.icar.gov.in/ in the news section
5	Not-applicable	“The science of food authenticity: A practical guide to molecular analysis in livestock products	Book/manual	Contributed to the book/manual titled “The science of food authenticity: A practical guide to molecular analysis in livestock products”	
6	22 march 2024	International conference	conference	Conducted as part of activities under DBT Star college scheme by the Department of Botany of Bharata Mata College, Thrikkakara, Kerala.	
7	17th-18th July 2023.	Annual Bio-Group-India Meeting	Scientific meeting	5th Annual Bio-Group-India Meeting at JNCSAR	
8	10-13 October, 2023	XVI Agricultural Science Congress	Scientific meeting	XVI Agricultural Science Congress by the National Academy of Agricultural Sciences (NAAS), New Delhi and hosted by ICAR-Central Marine Fisheries Research Institute (ICAR-CMFRI)	

SCHOOL OF CHEMISTRY

SEMINARS / TALKS - Talks by National Experts					
SI No	Date	Title of the talk	Speaker: Name and Affiliation	Brief Comments	Website Link
1	17 jan 2024	AI-Enabled Materials Discovery	Dr. Rajeev S. Assary, Group Leader, Molecular Materials, Materials Science Division, Argonne National Laboratory		
2	17-23 January 2024	Potential Energy Surfaces and Chemical Dynamics	Prof. N. Sathyamurthy, INSA Distinguished Professor, IISER TVM	lecture series	
3	09th November 2023	Exploring the Reactivity of (Indole-3/2-yl)pentyn-3-ols: Approaches to Natural carbazoles, Unnatural Dimeric-carbazoles and Cyclopenta[b]indoles	Dr. Beeraiah Baire* Professor, Department of Chemistry, Indian Institute of Technology Madras; Chennai		
4	27/07/2023	Application of Density Matrix Renormalization Group (DMRG) in describing Optoelectronic Properties of Conjugated Carbon-based Molecules	Mousumi Das, Department of Chemical Sciences, IISER Kolkata		
5	25 th July 2023	Growth, Structure and Stability of Nanostructures: Some Insights using Electron Microscopy	Prof. N. Ravishankar, Materials Research Centre, Indian Institute of Science		
6	7th July 2023	Self-assembly of discotic tripeptides: the effect of amide bond orientation and symmetry	Prof. Debasish Halder, IISER Kolkata		
7	23/05/2023	Chiral Amino Acids Derived Privileged Heterocycles and Natural Products: Effort towards Therapeutic Agents	Prof. Gautam Panda, Medicinal and Process Chemistry Division (CDRI), Central Drug Research Institute		

SEMINARS/TALKS - Talks by International Experts					
SI No	Date	Title of the talk	Speaker: Name and Affiliation	Brief Comments	Website Link
1	13-02-2024	Graphene Oxide and Self-assembly of Amino Acids Diversity of Biomedical Applications	Prof. Cecelia Ménard-Moyon (IBMC), University of Strasbourg	Invited Dr. Cecilia to IISER TVM	https://ibmc.cnrs.fr/en/annuaire/cecilia-menard-moyon/
2	13-02-2024	Attributes of Successful Researchers and Great Scientists	Prof. JJ Vittal	CSIT foundation week	https://chemistry.nus.edu.sg/people/jjvittal/
3	11 th January 2024	Reminiscences and reflections: Cages, cavitands and capsules	Prof. V. Ramamurthy, Department of Chemistry, University of Miami, USA		
4	6 th November 2023	Multinary Clusters: A Coordination Chemistry Approach to Chemical Diversity	Dr. Stefanie Dehnen (Professor, Executive Director, Editor-in-Chief Inorganic Chemistry (ACS) Germany		
5	11/07/2023	Thermally activated delayed fluorescence: Excited state engineering	Dr. Rama Dhali from University of Parma, Italy		
6	10 July 2023	Colloidal Lead Halide Perovskite Nanocrystals: from their discovery to precise engineering of collective emissive states	Dr. Maksym Kovalenko and Dr. Maryna Bodnarchuk from ETH Zürich and Empa-Swiss Federal Laboratories for Materials Science and Technology, Switzerland		
7	02/06/2023	Medicinal and Process chemistry applications for sp ² -sp ³ and sp ² -sp ² coupling using the newly developed Pd catalysts	Dr. Thomas J. Colacot R&D Fellow and Director of Global Technology Innovation, Life Science Business, Merck		
8	03/04/2023 & 05/04/2023	From Carbon Dots and Graphene Quantum Dots to HBCs and Beyond, Adaptive Down- and Up-Conversion	Prof. Dirk M. Guldi, Professor of Chemistry Department of Chemistry and Pharmacy, Friedrich-Alexander-Universität Erlangen-Nürnberg Editor-in-Chief Nanoscale & Nanoscale Advances Vice-Dean School of Science, Friedrich-Alexander-Universität Erlangen-Nürnberg.	Lecture Series	

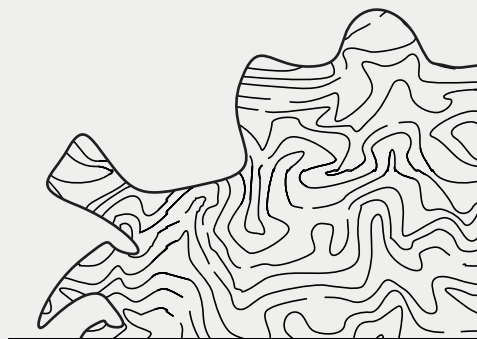
CONFERENCE/COLLOQUIUM/SYMPOSIA – National					
SI No	Date	Title of the talk	Speaker: Name and Affiliation	Brief Comments	Website Link
1	13-02-2024	CSIT Foundation week	Director, Prof. J N Moorthy, Prof. Cecilia Menard and Prof JJ Vittal	CSIT Foundation Week inauguration	
2	02-Nov- 2023	Half-Day Symposium on Chemical Science	Prof G Mugesh (IISc), Prof S Balasubramanian (JNCASR) & Prof Narayan Pradhan (IACS)		
CONFERENCE/COLLOQUIUM/SYMPOSIA – International					
SI No	Date	Title of the talk	Speaker: Name and Affiliation	Brief Comments	Website Link
1	19-21 Jan 2024	FS-CHM			https:// conference. iisertvm.ac.in/ fschm2024/
2	10-13 Dec	Indo French seminar on catalysis for sustainability			https:// conference. iisertvm.ac.in/ ifsc23/
Other Activities					
SI No	Date	Title	Type of Activity	Brief Comments	Website Link
1	19-21 May	VVM national camp	Camp for students		
2	19-21 July	Yusuf Hamied Chemistry camp	Camp for students		
3		Higher secondary school teacher transformation program	Camp for Teachers		
4	03-20 Dec 2023	RPWS	Camp for students		
5	22-25 Jan 2024	A Short Course on Crystallography		lecture series by Prof. T. N. Guru Row	



SCHOOL OF DATA SCIENCES

SEMINARS / TALKS - Talks by National Experts					
SI No	Date	Title of the talk	Speaker: Name and Affiliation	Brief Comments	Website Link
1	24.08.2023	Intelligent Security systems	Dr. Renu M Rameshan, Vehant Technologies	Under the talk series 'Realms of data: from classroom to practical mastery' initiative	
2	04.09.2023	Causality Experiments and ML	Mr. Sudipto Pal, Uber	Under the talk series 'Realms of data: from classroom to practical mastery' initiative	
3	31.10.2023	Time Series analysis and forecasting by example	Dr. Rahul Thekkedath, RBI	Under the talk series 'Realms of data: from classroom to practical mastery' initiative	
SEMINARS/TALKS - Talks by International Experts					
SI No	Date	Title of the talk	Speaker: Name and Affiliation	Brief Comments	Website Link
1	09.01.2024	Low-resource Assessment of Diagnostic Imaging Technologies	Prof. Howard Gifford and Prof. Mini Das, University of Houston	The talk was followed by an informal interaction with the students	
CONFERENCE/COLLOQUIUM/SYMPOSIA – National					
SI No	Date	Title	Speaker(s): Name and Affiliation	Brief Comments	Website Link
1	9.02.2024 to	Frontiers Symposium in Data Science	See Website	This is the first ever conference held at the	FS-DSC Website
WORKSHOPS					
SI No	Date	Title	Speaker(s): Name and Affiliation	Brief Comments	Website Link
1	08.01.2024 to 14.01.2024	Real-Life Data Modeling via Statistical and Machine Learning Tools	<ol style="list-style-type: none"> 1. Prof. P G Sankaran, CUSAT 2. Dr. Arunava Majumdar, IIT Hyderabad 3. Dr. Priyanka Majumdar, IISER TVM 4. Prof. Sanjeev Sabnis, IIT Bombay 5. Dr. Nagaiah Chamakuri, IISER TVM 6. Prof. C Satheesh Kumar, University of Kerala 7. Prof. T. G. Deepak, IIST TVM 	25 selected students from more than 200 applicants attended the workshop. This was the first Workshop organized by the school	

SI No	Date	Title	Speaker(s): Name and Affiliation	Brief Comments	Website Link
			8. Prof. Debasish Sengupta, ISI Kolkata 9. Dr. Rahul Thekkedath, RBI 10. Dr. Shyamal Ghosh, IISER TVM 11. Dr. Muhammed Anvar P, Kannur University 12. Dr. Reji J, IISER TVM 13. Dr. Alwin Poullose, IISER TVM 14. Dr. Saptarshi Bej, IISER TVM		
Other Activities					
SI No	Date	Title	Type of Activity	Brief Comments	Website Link
1	21.12.2023	NONE	Informal interaction session	Students interacted informally with Prof. Alex Pothen, University of Purdue	



SCHOOL OF EARTH, ENVIRONMENTAL AND SUSTAINABILITY SCIENCES

CONFERENCE/COLLOQUIUM/SYMPOSIA – National					
Sl No	Date	Title	Speaker(s): Name and Affiliation	Brief Comments	Website Link
1	09-02-2024	Frontier Symposium in Earth, Environmental and Sustainability Sciences	https://sites.google.com/iisertvm.ac.in/fse-2024/speakers	SEESS conducted its first annual frontiers symposium in earth, environmental and sustainability sciences. Eminent scientists and Professors from the prime institutes presented their research works in this platform.	https://sites.google.com/iisertvm.ac.in/fse-2024

Other Activities					
Sl No	Date	Title	Type of Activity	Brief Comments	Website Link
1	23-July-2023	Inauguration of School of Earth, Environmental and Sustainability School building		The inauguration of the new School building, the School of Earth, Environmental, and Sustainability Sciences (SEESS), was inaugurated by our Convocation Chief Guest, Dr. K. Radhakrishnan, in the presence of the entire IISER TVM fraternity	
2	December 2022-July 2023	Construction of three research labs	Inauguration of three research labs in the SEESS building and commencement of atmospheric observations, instrumentation lab, and modelling lab.		

SCHOOL OF PHYSICS

SEMINARS / TALKS - Talks by National Experts					
Sl No	Date	Title of the talk	Speaker: Name and Affiliation	Brief Comments	Website Link
1	12/04/2023	Variability of our nearest star the Sun and Aditya L1 mission	Prof Dipankar Banerjee, Director of Aryabhata Research Institute of Observational Sciences (ARIES), Nainital, India		
2	25/04/2023	Dark matter from a particle physics perspective	Mr. Shivam Gola, Institute of Mathematical Sciences (IMSc), Chennai, India		
3	29/05/2023	Novel features of direction reversing active Brownian particle	Prof. Sanjib Sabhapandit, Raman Research Institute, Bangalore, India		
4	31/05/2023	The Migdal Effect: Exploring the Low Mass Regime of Dark Matter	Dr. Gaurav Tomar, Chungnam National University, Daejeon, South Korea		
5	09/06/2023	Origin of Mass?	Dr. Prafulla Kumar Behera, Indian Institute of Technology Madras, Chennai, India		
6	20/06/2023	Why Ph.D.? – Breaking the Myths and Misconceptions about Ph.D. and a Guide to Become a Successful Researcher	Prof. Mayank Shrivastava, Indian Institute of Science Bangalore, India		
7	20/06/2023	A Roadmap for Disruptive Applications and Heterogeneous Integration Using Two-Dimensional Materials: State-of-the-Art and Technological Challenges	Prof. Mayank Shrivastava, Indian Institute of Science Bangalore, India		
8	28/06/2023	Dark matter relic density beyond the leading order: A case study	Dr. Nabarun Chakraborty, Indian Institute of Technology Kanpur, India		

SI No	Date	Title of the talk	Speaker: Name and Affiliation	Brief Comments	Website Link
9	23/08/2023	Simulating topological physics with cold atoms.	Ms. Sarika Sasidharan, Okinawa Institute of Science and Technology (OIST), Japan.		
10	04/01/2024	Measures of Multipartite entanglement and their holographic duals	Mr. Vineeth Krishna Talasila, TIFR Mumbai.		
11	11/01/2024	Topological Quantum Field Theories (TQFT) and Higher Categories	Mr. Subrabalan Murugesan, Heriot-Watt University, Edinburgh, Scotland.		
12	16/01/2024	Exploring the power of mathematical modeling: Handshaking between experiment and theory	Dr. Manoj Kumar, Laser Surface Materials Treatment Laboratory of the LMPD, RRCAT, India		
13	29/01/2024	Physics of life: 4D organization of folded DNA and the epigenetic code.	Prof. Ranjith Padinhateer, Indian Institute of Technology Bombay, Mumbai, India.		
14	30/01/2024	Mpemba effect: An anomalous relaxation phenomena	Prof. R. Rajesh, Institute of Mathematical Sciences, Chennai, India.		
15.	27/12/2023	Photoacoustic imaging and Light Sheet Fluorescence Microscopy: Diversified Imaging Technologies for Applications in Diversified Regime	M Suheshkumar Singh, SoP, IISER TVM	Department of Physics, Vivekananda College Madurai, Tamil Nadu	
SEMINARS/TALKS - Talks by International Experts					
SI No	Date	Title of the talk	Speaker: Name and Affiliation	Brief Comments	Website Link
1	26/05/2023	Studying Light-Matter Interactions in Advanced Materials Using Near-Field Spectroscopy	Dr. Bharathi Rajeswaran, Bar-Ilan University, Israel		

SI No	Date	Title of the talk	Speaker: Name and Affiliation	Brief Comments	Website Link
2	03/08/2023	Searches for new Physics in the LHC era	Dr. Dibyashree Sengupta, INFN, Laboratori Nazionali di Frascati, Italy.		
3	23/08/2023	Simulating topological physics with cold atoms.	Ms. Sarika Sasidharan Nair, Okinawa Institute of Science and Technology (OIST), Japan.		
4	07/11/2023	Theory of photon scattering in shearing plasma: Applications to Gamma Ray Bursts (GRBs) and Active Galactic Nuclei (AGN)	Dr. Mukesh Vyas, Bar Ilan University, Israel.		
5	20/12/2023	Complexity of boson sampling in neutral atoms, and its application	Dr. Gopikrishnan Muraleedharan, Macquarie University, Australia.		
6	04/01/2024	Granular Materials: From Quotidian to Astronomical	Prof. Karen Daniels, North Carolina State University, USA.		
7	09/01/2024	On Multiscale Light-Matter Interactions and Bioelectrodynamics	Prof. Mini Das, University of Houston, USA.		
8	10/01/2024	Emerging Materials for Electronics, Energy, and Environmental Applications	Prof. Saikat Talapatra, Professor & Chair, School of Physics and Applied Physics, Southern Illinois University, USA.		
9	24/01/2024	Oscillating states of periodically driven Langevin systems with vanishingly small viscosity”	Dr. Shakul Awasthi, Korea Institute for Advanced Study (KIAS) in Seoul, South Korea.		
10	31/01/2024	Why don't astronomers use SI units?	Prasenjit Saha, University of Zurich, Switzerland.		

CONFERENCE/COLLOQUIUM/SYMPOSIA – International

SI No	Date	Title	Speaker(s): Name and Affiliation	Brief Comments	Website Link
1.	20/05/2023	Photoacoustic imaging (PAI) and Light Sheet Fluorescence Microscopy (LSFM): Diversified Imaging Technologies for Applications in Diversified Regime	M Suheshkumar Singh, SoP, IISER TVM	Lab. Visits @ IISc Mondal Lab., Instrumentation and Applied Physics (IAP), IISc, Bangalore	
2.	29 July, 2023	Photoacoustic Tomography of Molecular Absorption from Organelles to Patients	Prof. Lihong V Wang, California Institute of Technology (CalTech, USA)	Lab Visits @ IISc-IISER TVM	

SCHOOL OF MATHEMATICS

SEMINARS / TALKS - Talks by National Experts

SI No	Date	Title of the talk	Speaker: Name and Affiliation	Brief Comments	Website Link
1	26/03/2024	Frame wavelets of local fields with no dual frame wavelets	Prof. Biswaranjan Behera, Indian Statistical Institute, Kolkata	Seminar	https://maths.iisertvm.ac.in/story/read/seminars-seminar-talk-by-prof-biswaranjan-behra-on-26th-march
2	08/02/2024	Dynamics of nonsingular integral transformations and Diophantine approximation	Prof. S. G. Dani, CEBS Mumbai	Seminar + Interaction with faculty	https://maths.iisertvm.ac.in/story/read/seminars-seminar-talk-by-prof-s-g-dani-cebs-mumbai-on-feb-8th
3	06/12/2023	Mathematical, Statistical, and Computational Studies on Fair Pricing in Financial Market	Dr. Anindya Goswami, Department of Mathematics and Data Science, IISER Pune	Seminar	https://maths.iisertvm.ac.in/story/read/seminars-seminar-talk-dr-anindya-goswami-iiser-pune-on-6th-december
4	03/11/23	Second order well balanced numerical methods for a coupled system modelling the growth of a sand pile	Prof. G. D. Veerappa Gowda, TIFR CAM, Bengaluru	Seminar	https://www.iisertvm.ac.in/seminars/read/seminars-seminar-talk-by-prof-g-d-veerappa-gowda-tifr-cam-bengaluru

SI No	Date	Title of the talk	Speaker: Name and Affiliation	Brief Comments	Website Link
5	24/07/2023	Introduction to Sampling and Reconstruction Problems	Dr. Ankush Kumar Garg, Postdoctoral Fellow at IIT Kanpur	Seminar	https://www.iisertvm.ac.in/seminars/read/seminars-seminar-talk-by-dr-ankush-kumar-garg-iit-kanpur-on-24th-july-2023-at-200-pm
6	06/07/2023	Lack of null controllability of certain linear transport-parabolic coupled systems.	Dr. Debanjana Mitra, IIT Bombay.	Seminar	https://www.iisertvm.ac.in/seminars/read/seminars-seminar-talk-by-dr-debanjana-mitra-from-iit-bombay
7	24/05/2023	Characteristic function of row contractions and colligations	Prof. Santanu Dey, IIT Bombay	Seminar	https://www.iisertvm.ac.in/seminars/read/seminars-seminar-talk-by-prof-santanu-dey-professor-at-iit-bombay-on-24th-may-2023-and-time-1600-hrs
8	12/05/2023	Character degrees of finite groups	Dr. Amrutha P Postdoc fellow at CMI Chennai	Seminar	https://www.iisertvm.ac.in/seminars/read/seminars-seminar-talk-by-dr-amrutha-p-on-12th-may
9	08/05/2023	Word maps on matrix algebras	Prof. Anupam Kumar Singh, IISER Pune	Seminar	https://www.iisertvm.ac.in/seminars/read/seminars-seminar-talk-by-prof-anupam-kumar-singh-iiser-pune-on-8th-may
10	21/04/2023	Optimal Control Problem of Oscillating PDE in a rough domain with curved interface; An asymptotic Analysis	Prof.A.K. Nandakumaran, Indian Institute of Science, Bangalore.	Seminar	https://www.iisertvm.ac.in/seminars/read/seminars-seminar-talk-by-prof-ak-nandakumaran-iisc-on-21st-april
11	17/04/2023	Generalized principal eigenvalues and its applications	DrCatalysis for Sustainability, IISER Pune	CMIT -Talk	https://www.iisertvm.ac.in/seminars/read/seminars-cmit-talk-by-dr-anup-biswas-iiser-pune-on-17th-april-abel-prize-talk

SI No	Date	Title of the talk	Speaker: Name and Affiliation	Brief Comments	Website Link
12	18/04/2023	Peripheral Poisson boundary	Prof. B V Rajarama Bhat, ISI Bangalore	Seminar	
13	14/04/2023	Classical and Random Sampling in Different Function Spaces	Dr. Shivam Bajpeyi, IIT Delhi	Seminar	https://www.iisertvm.ac.in/seminars/read/seminars-seminar-talk-by-dr-shivam-bajpeyi-iit-delhi-on-14-april-2023
14	13/04/2023	PROBLEMS ON A NONCONSERVATIVE SYSTEM IN ELASTODYNAMICS	Dr. Divya J K, Ramaiah Institute of Technology	Seminar	https://www.iisertvm.ac.in/seminars/read/seminars-seminar-talk-by-dr-divya-j-k-ramaiah-institute-of-technology-on-13-april-2023
15	12/04/2023	Generalized Riemann problem for the one-dimensional Chaplygin gas equations with a friction term	Mr. Mayank Singh, IIT Roorkee	Seminar	https://maths.iisertvm.ac.in/story/read/seminars-seminar-talk-by-mr-mayank-singh-iit-roorkee-on-12-april
SEMINARS / TALKS - Talks by International Experts					
SI No	Date	Title of the talk	Speaker: Name and Affiliation	Brief Comments	Website Link
1	20/02/2024	On Two Modeling Issues in Aortic Blood Flow Simulations	Prof. Volker John, WIAS Berlin & Freie University Berlin, Germany	Seminar	https://maths.iisertvm.ac.in/story/read/seminars-seminar-talk-by-prof-volker-john-wias-berlin-freie-university-berlin-germany-on-feb-20th-2024
2	10/01/2024	On the maximum spectral radius of clique trees with a given zero forcing number	Dr. Joyent Anuj Das, postdoctoral research scholar in National Sun Yat-Sen University, Taiwan.	Seminar	https://maths.iisertvm.ac.in/story/read/seminars-seminar-talk-on-10th-jan-by-dr-joyentanuj-das-national-sun-yat-sen-university-taiwan

Sl No	Date	Title of the talk	Speaker: Name and Affiliation	Brief Comments	Website Link
3	12/12/2023	On the Markoff equation $x^2+y^2+z^2=3xyz$	Prof. Michel Waldschmidt from IMJ-PRG, France	Seminar	https://maths.iisertvm.ac.in/story/read/seminars-seminar-talk-by-prof-michel-waldschmidt-from-imj-prg-france
4	26/09/2023	Low Mach number limits and the interaction of incompressible and acoustic flows	Prof. Hervé Guillard, INRIA Centre at Université Côte d'Azur and Université Côte d'Azur, Nice, France	Seminar	https://maths.iisertvm.ac.in/story/read/seminars-seminar-talk-by-prof-herve-guillard-on-26th-september-2023
5	14/09/2023	Virtual Element Method: A Stabilized Galerkin Method on Polytopal Meshes	Prof. N. Sukumar (Uni California Davis)	Seminar	https://maths.iisertvm.ac.in/story/read/seminars-seminar-talk-by-prof-n-sukumar-uni-california-davis-on-14th-sept-2023
6	13/09/2023	Number Theory and Romanticism	Prof. Loic Merel, IMJ-PRG, France	CMIT Talk	https://maths.iisertvm.ac.in/story/read/seminars-cmit-talk-by-prof-loic-merel-imj-prg-france-on-13th-sept-2023
7	12/09/2023	On the conjecture of Harris and Venkatesh	Prof. Loïc Merel, IMJ-PRG, France	Seminar	https://maths.iisertvm.ac.in/story/read/seminars-seminar-by-prof-loic-merel-imj-prg-france-on-september-12th-2023

8	20/07/2023	A quantum classical result on ζ -divergences and some applications	Tiju Cherian John, Wyant College of Optical Sciences The University of Arizona	Seminar	https://www.iisertvm.ac.in/seminars/read/seminars-seminar-talk-by-tiju-cherian-john-university-of-arizona-on-20th-july-at-1400-hrs
9	16/06/2023	Motivic Euler characteristics and the transfer	Professor Roy Joshua, The Ohio State University	Seminar	https://www.iisertvm.ac.in/seminars/read/seminars-seminar-talk-by-professor-roy-joshua-the-ohio-state-university-on-16th-june-at-11-am
10	17/04/2023	Elliptic curves, modular forms, and the associated exponential sums.	Mr. Subham Bhakta, Georg August Universitat Gottingen	Seminar	https://www.iisertvm.ac.in/seminars/read/seminars-seminar-talk-by-mr-subham-bhakta-georg-august-universitat-gottingenon-17-april

CONFERENCE/COLLOQUIUM/SYMPOSIA – National

SI No	Date	Title of the talk	Speaker: Name and Affiliation	Brief Comments	Website Link
1	2-4 JAN, 2024	Frontier Symposium in Mathematics 2024 (FSM 2024)	https://cmit.iisertvm.ac.in/fsmath2024/speakers.html		https://cmit.iisertvm.ac.in/fsmath2024/index.html

CONFERENCE/COLLOQUIUM/SYMPOSIA – International

SI No	Date	Title of the talk	Speaker: Name and Affiliation	Brief Comments	Website Link
1	21-24 Feb, 2024	Latest Advances in Computational and Applied Mathematics-2024 (LACAM-24)	https://conference.iisertvm.ac.in/lacam-24/index.php/speakers/	Organisers- Nagaiah Chamakuri, Asha K Dond, IISERTVM	https://conference.iisertvm.ac.in/lacam-24/

WORKSHOPS					
SI No	Date	Title of the talk	Speaker: Name and Affiliation	Brief Comments	Website Link
1	04-16 Dec, 2023	NCMW - Control Theory for Partial Differential Equation	https://www.atmschools.org/school/2023/NCMW/ctpde	Organised by Dr Dharmatti Sheetal, IISER-TVM Dr. Shirshendu Chowdhury, IISER,Kolkata	https://www.atmschools.org/school/2023/NCMW/ctpde
2	06 Nov, 2023	Compact course on Hamilton-Jacobi Equations	Prof. Veerappa Gowda, TIFR CAM, Bangalore	Series of four lectures-	https://www.iisertvm.ac.in/news/read/news-compact-course-on-hamilton-jacobi-equations-by-professor-veerappa-gowda
3	11-16 Nov, 2023	NCMW - Finite Element Methods for PDEs(2023)	https://www.atmschools.org/school/2023/NCMW/femp/speakers-and-syllabus	Organised by Prof. Neela Narataj, IITB and Dr. Nagaiah Chamakuri, IISERTVM	https://www.atmschools.org/school/2023/NCMW/femp
4	19 Jun -15 July 2023	AFS-III - Annual Foundation School-III (2023)	https://www.atmschools.org/school/2023/AFS-III/afs-iiser-tvm/speakers-and-syllabus	Organised by Dr. Viji Z Thomos, IISERTVM, Dr. Ramesh Kasillingam, IIT Madras	https://www.atmschools.org/school/2023/AFS-III/afs-iiser-tvm
5	3-15 April 2023	NCMW - Elliptic Curves (2023)	https://www.atmschools.org/school/2023/NCMW/ec/speakers-and-syllabus	Organised by Dr. Viji Z Thomos, IISERTVM, Dr. Ramesh Kasillingam, IIT Madras	https://www.atmschools.org/school/2023/AFS-III/afs-iiser-tvm
PHD THESIS DEFENCE and PRE-SYNOPSIS					
SI No	Date	Title of the talk	Speaker: Name and Affiliation	Brief Comments	Website Link
1	26/03/2024	A study of optimal dual frames for erasures	Mr. Shankhadeep Mondal	PHD Thesis Defence	https://www.iisertvm.ac.in/news/read/news-phd-thesis-defence-by-mr-shankhadeep-mondal-on-26th-march

SI No	Date	Title of the talk	Speaker: Name and Affiliation	Brief Comments	Website Link
2	15/02/2024	On Gauge theory and parallel transport in principle 2-bundles over Lie groupoids.	Mr Aditya Chaudhuri	PHD Thesis Defence	https://maths.iisertvm.ac.in/story/read/news-thesis-defence-of-mr-aditya-chaudhuri-on-february-15-2024
3	05/12/2023	A study on mathematical modelling of tumour growth and treatments	Ms. Nanditha	Pre-synopsis talk	https://maths.iisertvm.ac.in/story/read/news-pre-synopsis-talk-by-ms-nanditha-on-5th-dec-2023
4	30/10/23	Dynamics of nonnegative matrices	Mr. Yogesh Kumar Prajapaty	PHD Thesis Defence	https://www.iisertvm.ac.in/news/read/news-phd-thesis-defence-of-yogesh-kumar-prajapaty-on-30th-october-2023
5	25/10/2023	A study of optimal dual frames for erasures	Mr. Shankhadeep Mondal	PRE-SYNOPSIS TALK	https://maths.iisertvm.ac.in/story/read/news-pre-synopsis-seminar-talk-of-shankhadeep-mondal-on-25th-october-2023
6	14/09/2023	On solving nonlinear ill-posed problems with application to parameter identification problems	Ms. Niloopher Salem	Pre-Synopsis Talk	https://apps.iisertvm.ac.in/latest-submission/uploads/107957997217502898986/presynopsis_abstract.pdf
7	13/09/2023	A study on gauge theory and parallel transport in principal 2-bundles over lie groupoids.	Mr. Aditya Chaudhuri	Pre-synopsis talk	https://apps.iisertvm.ac.in/latest-submission/uploads/107957997217502898986/Adityas_Presynopsis(Title_and_Abstract).pdf
8	08/09/2023	ℓ -regular partitions/ multipartitions through the lens of theta functions and Hecke eigenforms	Mr. Abinash Sarma	Pre-synopsis Talk	https://www.iisertvm.ac.in/news/read/news-pre-synopsis-talk-of-abinash-sarma-on-8th-sept-2023
9	01/09/2023	Results on algebraic and arithmetic invariants	Mr. Sunil Kumar Pasupulati	Thesis Defence	https://www.iisertvm.ac.in/files/read/results-on-algebraic-and-arithmetic-invariants-abstract-2023-08-31

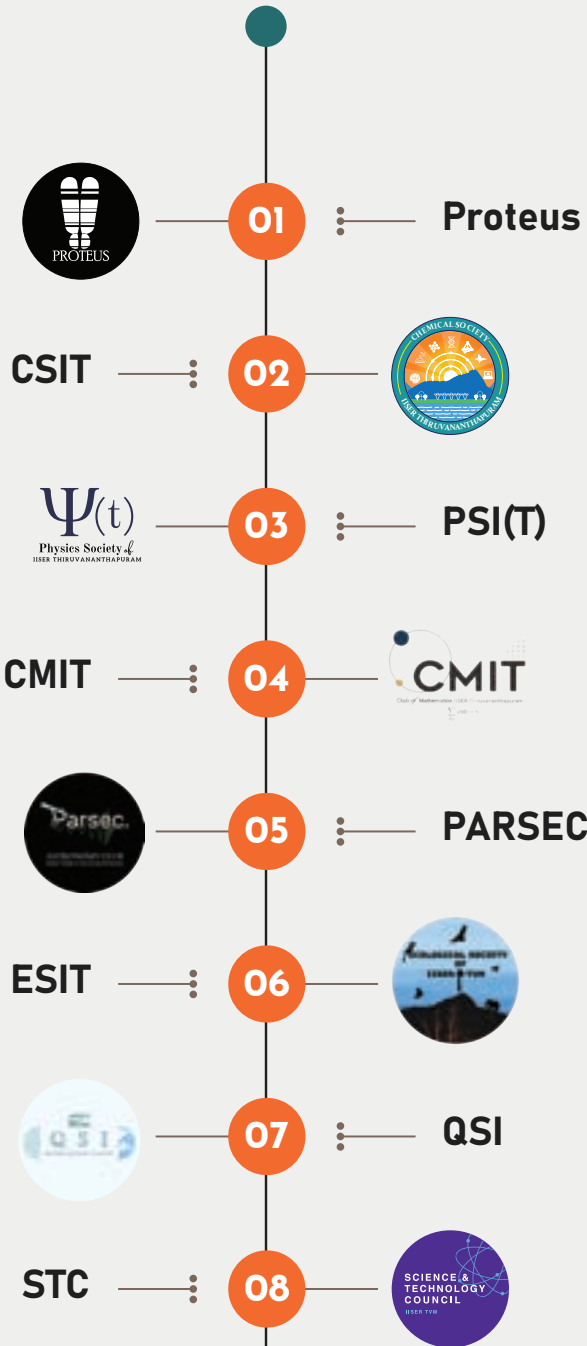
SI No	Date	Title of the talk	Speaker: Name and Affiliation	Brief Comments	Website Link
10	08/05/2023	Exponent analogues of Schur's theorem (with) Part II: Existence of non-inner automorphisms of order p in finite p -groups	Ms. Komma Patali	Thesis Defence	https://www.iisertvm.ac.in/news/read/news-thesis-defence-by-komma-patali-on-8th-may
11	09/05/2023	Stochastic Analysis of Ferromagnetism	Mr. Soham Sanjay Gokhale	Pre-Synopsis Talk	https://www.iisertvm.ac.in/news/read/news-pre-synopsis-talk-by-mr-soham-sanjay-gokhale-on-9th-may
12	18/04/2023	A Study on Generalized Halmos Conjectures and Constrained Unitary Dilations	Mr. Pankaj Dey	Phd Defence	https://www.iisertvm.ac.in/news/read/news-defence-talk-by-pankaj-dey-on-april-18-2023

CONFERENCE/COLLOQUIUM/SYMPOSIA – International

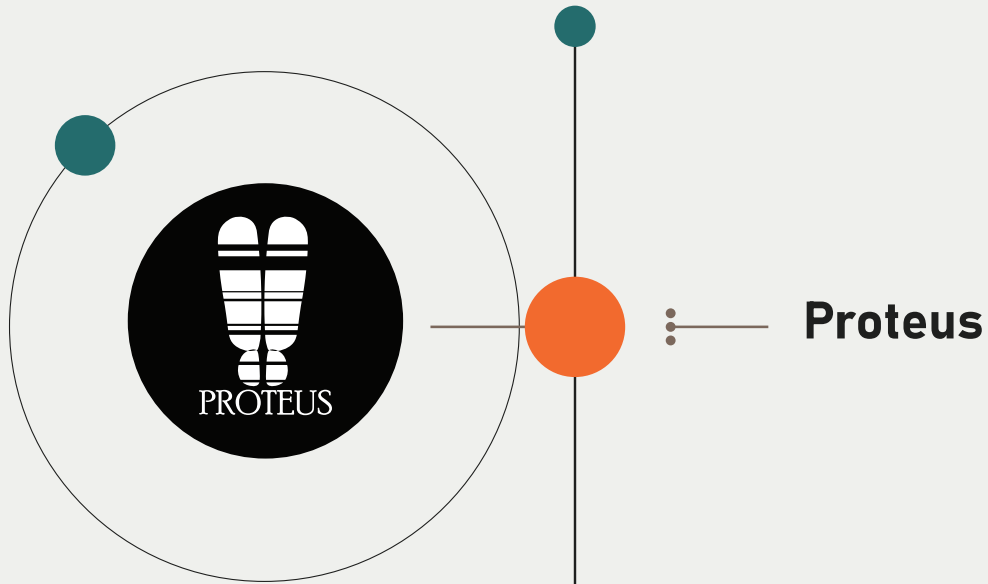
SI No	Date	Title of the talk	Speaker: Name and Affiliation	Brief Comments	Website Link
1	8th January 2024	DST-SoM Computer Lab Inauguration	inauguration by Honourable Director, Prof. J. N. Moorthy.	FIST grant	



Academic Club Activities



Academic Club Activities - 01



CSIT



$\Psi(t)$

Physics Society of
SUN UNIVERSITY

PSI(T)

CMIT



PARSEC

PARSEC

ESIT



QSI

QSI

STC



PROTEUS

The Biology Club of IISER Thiruvananthapuram

Proteus is the Biology club of IISER Thiruvananthapuram, composed of various passionate and enthusiastic individuals who love biology. Our mission is to spread knowledge of the various fields in biology and foster a love for the subject among students. The club conducts various events throughout the academic year and has an annual symposium called Rhetor, four successful editions of which have been completed. The club also runs an outreach program called Shiksha to bring the excitement of biology to schools across India.

ACTIVITIES OF THE CLUB

Faculty Talks/Seminars

S No	Date	Title	Speaker(s) Name and Affiliation	Brief Description
1.	15th February, 2024	The fascinating world of biological macromolecules as seen through the eyes of Protein Crystallography and Single Particle Cryo Electron Microscopy.	Dr. Natesh Ramanathan, Associate Professor, SoB and Centre for High Performance Computing, IISER Thiruvananthapuram	The talk was part of our Faculty Talk Series (FTS) and introduced us to the basic methods in structural biology: Protein Crystallography (PX) and Single Particle Cryo-EM (SPCryoEM). The talk focussed on how these techniques were used to solve protein structures and how these revolutions came about.

Pea Party: Mendel's 201st birth anniversary celebration

S No	Date	Title	Speaker(s) Name and Affiliation	Brief Description
1.	20th July, 2023	Gregor Mendel - Life, Experimentation and Further Extension	Professor Maheswaran M, Former Professor, Centre for Plant Breeding and Genetics, Tamil Nadu Agricultural University, Coimbatore.	Pea Party was a mini-symposium conducted on the 20th of July, 2023 on account of Gregor Johann Mendel's 201st birth anniversary.
2.	20th July, 2023	Meiotic chromosome ends: a means to short chromosome inheritance	Dr. Viji V. Subramanian, Assistant Professor, Department of Biology, IISER Tirupati	The event consisted of three talks conducted via online mode. Prof. Maheswaran M (TNAU) delivered the keynote lecture based on the history and experiments of Mendel and his contribution to laying the foundation of modern genetics.
3.	20th July, 2023	HEIP1 is required for efficient meiotic crossover implementation and is conserved from plants to humans.	Dr. Dipesh Kumar Singh, Postdoctoral Researcher, Raphael Mercier Group, Max Planck Institute for Plant Breeding Research, Germany	Dr. Viji V. Subramaniam (IISER Tirupati) and Dr. Dipesh Kumar Singh (MPIPBR, Germany) were invited to give research talks. Dr. Subramaniam spoke briefly about chromosome inheritance via Meiotic chromosome ends. Dr. Singh spoke extensively about the HEIP and its role in the meiotic crossover implementation.

Apart from this series of online talks, we organized two events as a part of the Pea Party.

1. An article-writing competition about fascinating genes.
2. An illustration competition regarding different creative ways of imagining genes.

Rhetor 4.0: A Pipette Full of Possibilities: What's New in Biology?

S No	Date	Title	Speaker(s) Name and Affiliation	Brief Description
1.	25th August, 2023	A Deep Dive into Biomolecular Condensates	Dr. Samrat Mukhopadhyay, IISER Mohali	Dr. Samrat Mukhopadhyay spoke about how biomolecular condensates formed via liquid-liquid phase separation of IDPs and nucleic acids into membraneless organelles are involved in critical cellular functions and debilitating human diseases. He explained how this plays a role in stop codon mutation of prion protein PrP.
2.	25th August, 2023	The Story of Life's Origin....an Astrobiological Narrative	Dr. Sudha Rajamani, IISER Pune	Dr. Sudha Rajamani gave students useful insights on the emerging field of astrobiology and our current understanding of it. She also highlighted some research from her lab in IISER Pune, COoL Lab.
3.	31st August, 2023	Is sustainable low-input, high-output agriculture possible?	Prof. Deepak Pental, Delhi University	Dr. Deepak Pental talked about how new developments like genomics, molecular markers, genetic engineering and genome editing supports conventional plant breeding. He explained how these modern technologies coupled with better resource management can meet the challenges of sustainability and food security in times where there is drastic increase of population.
4.	2nd September 2023	Understanding Human Immunology in the Genomics Era	Dr. Veena S Patil, NII, New Delhi	Dr. Veena S Patil spoke about T cells and how she works on dissecting its developmental lineage, diversity and specificity by identifying their unique gene expression profile, epigenetic landscape and T cell receptor repertoire using multi-omics approaches at bulk and single cell resolution.
5.	2nd September, 2023	Interdisciplinary intellects with multi tasking capability- A gem for bioscience/ biotech industry	Dr. Beena PS, Founder and Director, Omicsgen	Dr. Beena PS spoke about how interdisciplinary thinking and multitasking capabilities is very valuable in the Biotech industry as it brings unique perspective, enhanced problem solving skills and adaptability.

S No	Date	Title	Speaker(s) Name and Affiliation	Brief Description
6.	2nd September, 2023	Standing one's ground during infection: Lessons from our microbial foes	Dr. Sandhya Ganesan, IISER Thiruvananthapuram	Dr. Sandhya Ganesan talked about her doctoral and postdoctoral work. Her graduate work focused on the sensing of fungal and bacterial pathogens by innate immune cells and activation of the inflammasomes. Her postdoctoral work demonstrated that IFN γ -induced genes, indoleamine ioxygenase 1 (IDO1) and syntaxin 11 (STX11) were required for <i>C. burnetii</i> restriction.
7.	2nd September, 2023	The nose knows: antennal control of insect flight	Prof. Sanjay P Sane, NCBS	Dr. Sanjay P Sane described the mechanism behind the flight of an insect. He described the mechanosensory control of insect flight, mainly by the help of antennal movements and associated Johnston's organs, which control flight related behaviour.
8.	2nd September, 2023	Of ridley riddles, leatherback voyages and greener pastures: unraveling the biology and conservation of sea turtles in India	Dr. Kartik Shanker, IISc Bangalore	Prof. Kartik Shanker gave a really interactive talk on olive ridleys and green turtles. He explained his work as an ecologist and the conundrum faced as hundred thousand ridleys nest each year and lead to decline in sea grass, but several tens of thousands are also killed in mechanised fisheries.
9.	2nd September, 2023	Modern Alchemy: ScienceArt is Greater than the Sum of its Parts	Mol Mir, Stowers Institute	Mol Mir gave us an interesting talk about how they combine both science and art and their journey with Science Art. They showed us their previous projects and shared multiple resources on how to incorporate art into the designs.

Competitions

S No	Date	Title	Brief Description
1.	15th April, 2023	Taskathon	As the name suggests, it's a taskathon, where time, speed, and running matter alongside puzzle-solving. Each 4-person team starts with the 1st and 2nd members finding the hidden 3rd and 4th members. Once united, the team follows clues to reach the final destination.
2.	2nd September, 2023	Pictory	An event part of Rhetor 4.0, a cartoon of a cell and it's organelles with blank dialogue boxes were placed throughout the campus to fill out. Participants could use their artistic and creative writing abilities to come up with clever, pun-filled dialogues.

S No	Date	Title	Brief Description
3.	3rd September, 2023	Bioinformatics Workshop	As part of Rhetor 4.0, a workshop on Next Generation Sequencing was conducted. Dr. Jamshaid Ali, Deputy General Manager for Bioinformatic Operations, RGCB hosted the session. The session consisted of a 1.5 hour theoretical explanation and another 1.5 hour of hands-on session on how to use the Galaxy platform.
4.	9th September, 2023	Crime Scene Investigation	<p>Event of Rhetor 4.0.</p> <p>A fictional storyline was set up where a 4th year PhD student was murdered. The participants were given three hours to go around campus to find clues and piece together what happened on the night of the murder.</p> <p>Results: First Place - Khadeeja Jashim (B21), Aysha Ferzin (B21), Fidha Farha (B21) and Makhsooda N.S (B21) (Prize: Rs. 2000)</p> <p>Second Place: Mullai V R (PhD), Hrithik Kumar (PhD), Chandana Prakash (MSc22) (Prize: Rs. 1600)</p>
5.	14th February, 2024	BioArt 3.0	<p>BioArt, an art competition where students from various colleges submit their illustrations. The theme was “Beauty by Biology”, where artists portrayed all things beautiful according to biology. Scientific illustrator Rafeeqe Mavoor judged the entries.</p> <p>Results: First place - Reshma V Menon, IISER TVM (Prize: Rs. 750) and</p> <p>Second place - Arpita Kalipada Pal, Royal College of Art, Science and Commerce (Prize: Rs. 500)</p>

SOCIAL MEDIA CHANNELS OF THE CLUB



Instagram: <https://www.instagram.com/proteus.iisertvm/>



Twitter: <https://twitter.com/proteusiisertvm>



Facebook: <https://www.facebook.com/proteus.iisertvm>



LinkedIn: https://www.linkedin.com/company/proteus-iiser-tvm?original_referer=



Youtube: <https://www.youtube.com/channel/UCI2xFzOfNma-cW679jgiEOA>



Website: <https://students.iisertvm.ac.in/proteus/>

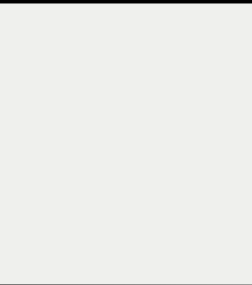
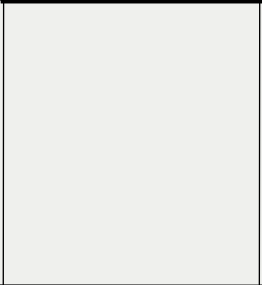
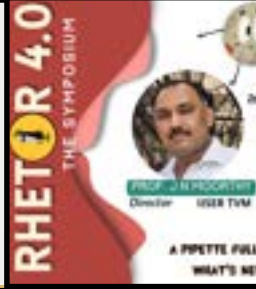
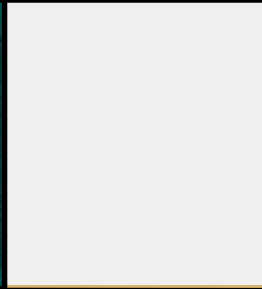
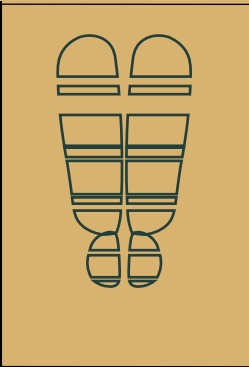
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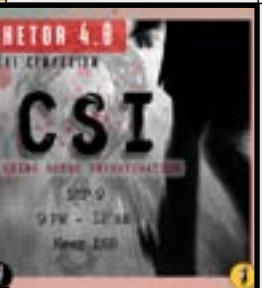
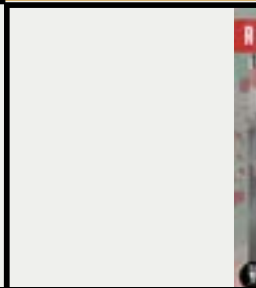
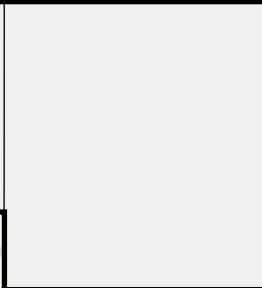
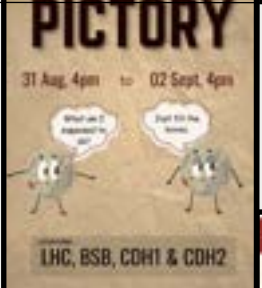
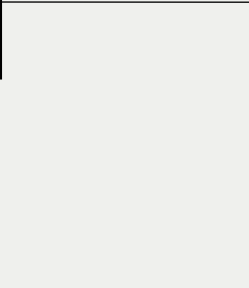
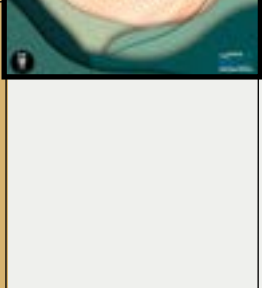
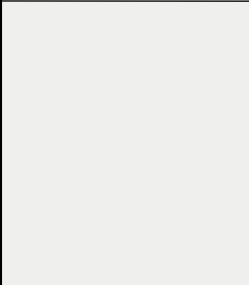
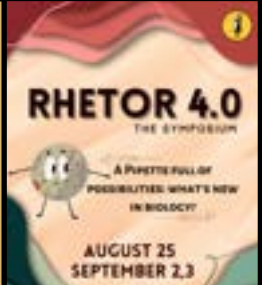
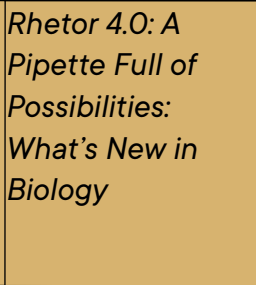
Taskathon



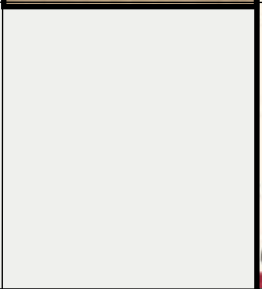
Pea Party:
Mendel's 201st
birth anniversary
celebration



Rhetor 4.0: A
Pipette Full of
Possibilities:
What's New in
Biology



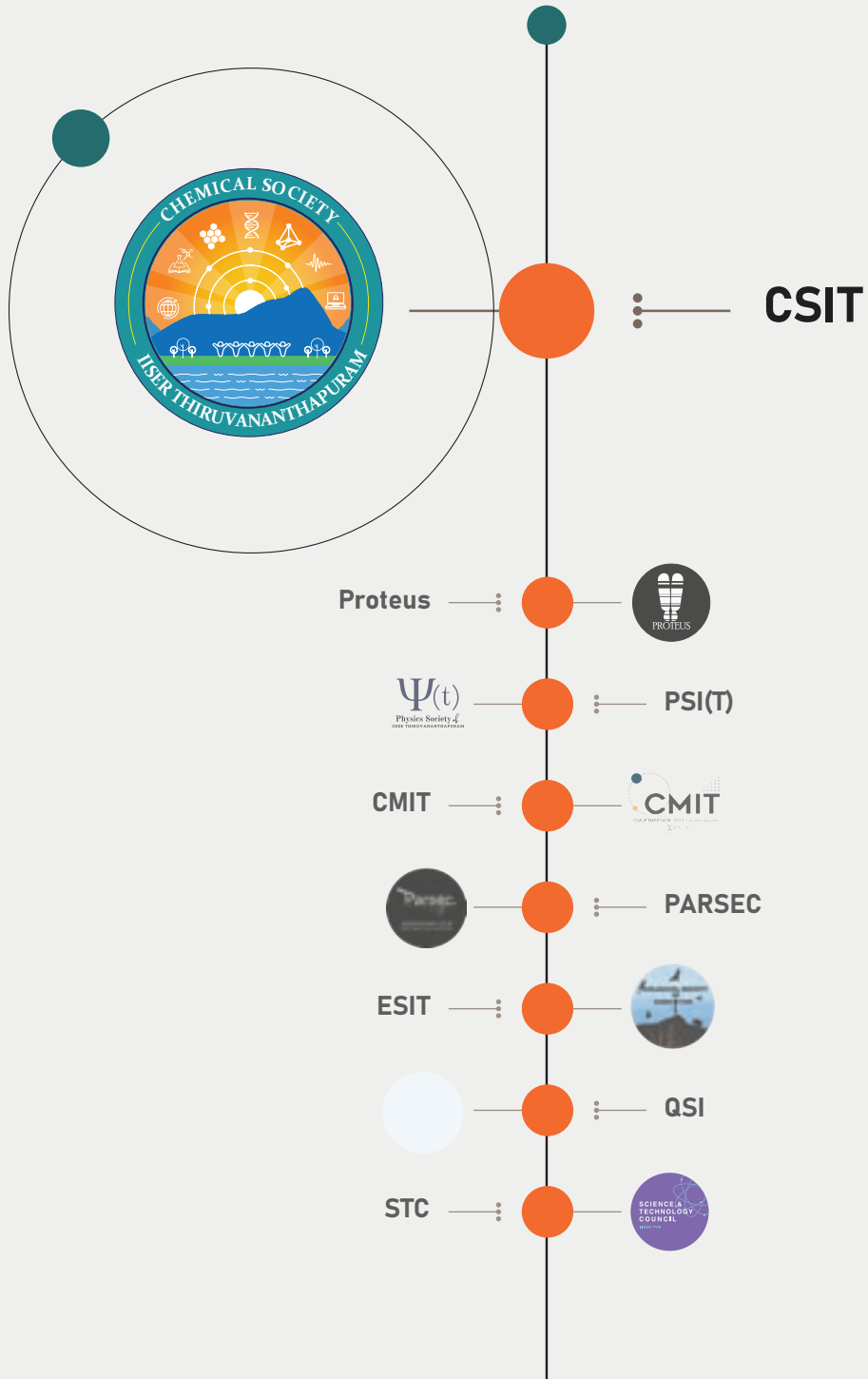
Crime Scene
Investigation



BioArt 3.0



Academic Club Activities - 02



CSIT, Chemical Society of IISER Thiruvananthapuram

The Chemistry Society of IISER Thiruvananthapuram, CSIT, is a student-run club affiliated with the School of Chemistry, IISER Thiruvananthapuram dedicated to the cause of spreading awareness about chemistry and science within the student fraternity as well as society. Founded in the year 2021 by our honourable director Prof. J N Moorthy, CSIT is a group of Chemistry enthusiasts who seek to learn and share knowledge about anything relating to the chemical world with the wider student fraternity, and also have fun in the process. We organize several events towards this end, including but not limited to competitions, talks, workshops and seminars. We also have an active social media presence, which is used to publish catchy informative content, and release a monthly newsletter, 'The Catalyst', and a semester magazine, 'Synthesis', which feature articles regarding Chemical research, interdisciplinary perspectives on science and related areas of interest.

ACTIVITIES OF THE CLUB

Faculty Talks/Seminars				
S No	Date	Title	Speaker(s) Name and Affiliation	Brief Description
1	6 th November, 2023	Talk and live interview	Prof. Stefanie Dehnen, Karlsruhe Institute of Technology	Talk on clusters, followed by a live interview
2	13 th February, 2024	Talk	Prof. Cecelia Ménard-Moyon (IBMC)	Graphene Oxide and Self-assembly of Amino Acids Diversity of Biomedical Applications
3	13 th February, 2024	Talk	Prof. Jagadese J Vittal, National University of Singapore	Attributes of Successful Researchers and Great Scientists
4	14 th February, 2024	Talk	Prof. M M Shaijumon, IISER TVM	Innovations in Next Generation Batteries
5	15 th February, 2024	Talk	Dr. Subrata Kundu, IISER-TVM	Bio(in)organic Activation of Small Molecules Modelling Bioregulatory Routes for NO and H ₂ S Signalling
6	16 th February 2024	Talk	Dr. Sandhya Ganesan, IISER TVM	Cellular Avengers: Lessons we learn from host defenses against intracellular bacterial pathogens

Student Talks				
S No	Date	Title	Speaker(s) Name and Affiliation	Brief Description
1	9 th December 2023	Review Session	Ananthakrishna P and S Karthick, BS MS B21	A concept review session on basic organic chemistry, focusing on aromaticity and stereochemistry
2	11 th November 2023	Designing workshop	Ashin Vinod, BS-MS B22	The workshop covers the use of software tools such as Adobe InDesign, Canva, and Illustrator to create and edit publication designs. The workshop suits anyone interested in publication design, whether beginners or professionals. The workshop aims to help participants develop their skills and confidence in general design and inspire them to create original and expressive designs.

Competitions				
S No	Date	Title	Brief Description	
1	25 th January 2023	Chemscribble	Think Pictionary meets Breaking Bad. The other teammates guess structures while their fellow buddy draws while the clock ticks. Join us in teams of 2-3 and prepare for hilarious misinterpretations, explosive laughter, and an occasional Eureka moment!	
2	28 th January 2024	Quizone	Step into the arena of knowledge! This quiz will test your mettle against fellow brainiacs. Answer intriguing questions, claim the crown of chemical kings and queens, and bask in the glory of pure, triumphant nerdiness!	
3	1 st February 2024	Platonium 1.0	Channel your inner fighter, grab a random topic from the bowl, and prepare to clash! Defend your point with logic, defend your opponent's arguments with precision, and leave the audience in awe of your debating skills when asked follow-up questions.	
4	3 rd February 2024	Chem-Mystery, the treasure hunt	This hunt throws you into a whirlwind of riddles, cryptic clues, and hidden mysteries, all wrapped around the wonders of chemistry. Solve your way through, enter the thrilling world of escape rooms, and if you attain victory, claim the ultimate treasure!	

Screening Sessions

S No	Date	Title	Comments
1	27 th January 2024	Oppenheimer	Oppenheimer is a 2023 epic biographical thriller film written, directed and co-produced by Christopher Nolan. The film chronicles the career of Oppenheimer, with the story predominantly focusing on his studies, his direction of the Manhattan Project during World War II, and his eventual fall from grace.

Other Activities

S No	Date	Title	Brief Description
1	15 th January 2024	Release of Synthesis	Introducing, 'Synthesis, Volume 2, Issue 1: Varsha 2023'. Our magazine aims to spread the gospel of chemistry to every nook and cranny of the institution, while in w collaboration with the other disciplines, honouring our interdisciplinary roots here at IISER Thiruvananthapuram.
2	4 th August 2023	Bienvenue	Departmental mixer welcoming new members of the School of Chemistry

SOCIAL MEDIA CHANNELS OF THE CLUB



Instagram: https://www.instagram.com/csit_iisertvm/



Twitter: https://twitter.com/csit_iisertvm?lang=en



Facebook: <https://www.facebook.com/Chemical-Society-of-IISER-Thiruvananthapuram-104994191543163/>



LinkedIn: <https://in.linkedin.com/in/chemical-society-of-iiser-thiruvananthapuram-csit-0284b7203>



Youtube: <https://youtube.com/channel/UCgHjXttavtCJSwvsQp8M6-Q>

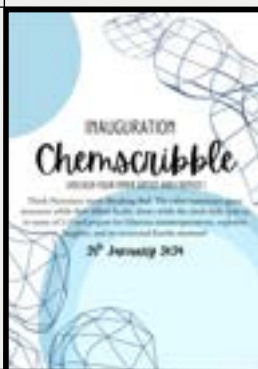


Website: <https://students.iisertvm.ac.in/proteus/>



Discord: <https://discord.gg/bcchpytE>

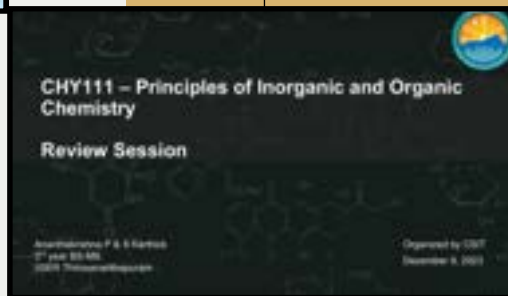
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Chemscribble



4th FOUNDATION WEEK



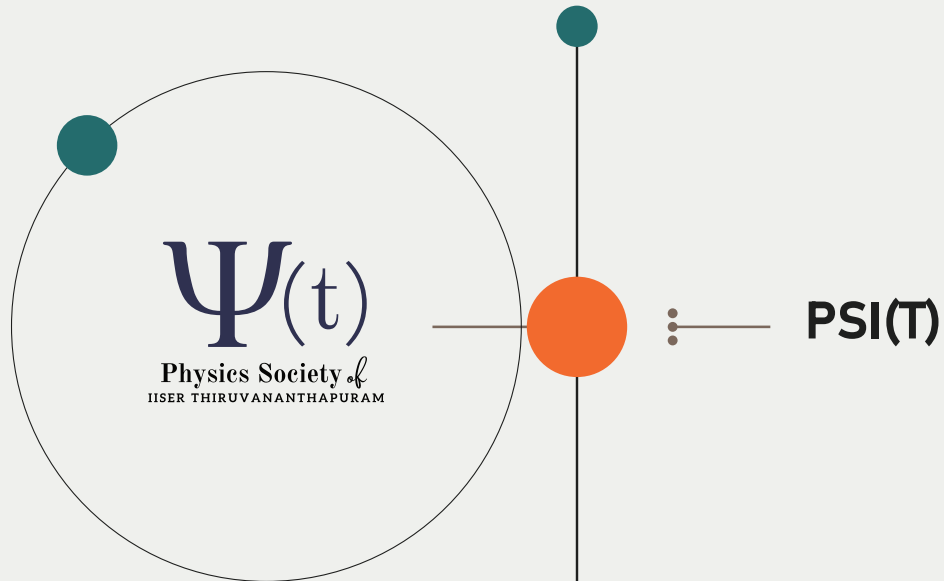
SYNTHESIS



Research Talk



Academic Club Activities - 03



PSI(T), *Physics Society of IISER Thiruvananthapuram*

PSI(T) is a student run club affiliated to the School of Physics, IISER Thiruvananthapuram. The club provides a platform to the physics enthusiasts to explore, share, and innovate. The club organizes various diverse events, including symposiums, talk series by faculty and students, peer discussions, weekly screenings, outreach events and various online and offline competitions (quiz, illustrations, writing etc), fostering growth and collaboration among its members. Boasting a growing participation rate and a strong online presence over all social media platforms, PSI(T) is dedicated to nurturing curiosity and passion in the field of physics through innovative approaches.

ACTIVITIES OF THE CLUB

Faculty Talks/Seminars				
S No	Date	Title	Speaker(s) Name and Affiliation	Brief Description
1	19/04/23	Career Opportunities after Masters in Physics	Dr. Vinayak B. Kamble, School of Physics, IISER Thiruvananthapuram	The talk was centered around the various career opportunities available to graduates and post graduates in Physics or in general science.
2	12/01/24	PSI(T) 4th Foundation week Talk series #1 Science Education and the importance of Visuospatial Thinking	Dr. Shamin Padalkar, TISS Mumbai	The talk explores science education's evolution, x
3	15/01/24	PSI(T) 4th Foundation week Talk series #3 Building International Research Software Collaborations in Physics.(Online)	Dr. David Lange, Princeton University	The talk explores multinational collaborations in physics research, emphasizing the need for advanced software alongside hardware. It delves into challenges and successes in experimental high-energy physics, highlighting collaborative efforts in research software development.
4	17/01/24	PSI(T) 4th Foundation week Talk series #4 Realizing the dream of Lab to Land: CO2 lasers from ISP to ISRO	Dr. Manoj Kumar, RRCAT Indore	The lecture showcases successful refurbishment stories of CO2 lasers at India Security Press and Vikram Sarabhai Space Centre, reducing operational costs and promoting indigenous technology. Dr. Manoj Kumar also demonstrated a 80 kW CO2 laser. The talk was attended by students and faculties of the institute.

S No	Date	Title	Speaker(s) Name and Affiliation	Brief Description
5	18/01/24	PSI(T) 4th Foundation week Talk series #5 Evolution of Modern Science in India	Prof. Sreerup Ray-chaudhuri, TIFR Mumbai	This talk provides a non-technical overview of modern science in India. It covers the introduction of scientific methods during the colonial period, contributions of Indian scientists, and post-independence growth of scientific institutions. The talk was attended by students and faculties of the institute.
6	26/03/24	Baryon Number Violation	Dr. Mathew Arun Thomas, School of Physics, IISER Thiruvananthapuram	The talk delved into the theoretical challenges regarding the exact symmetry of baryon number in nature. It explored how the Standard Model treated baryon number as an accidental symmetry of the Lagrangian and discussed Dr. Mathew's field of research.

Student Talks

1	16/05/23	Flash Talk: International Day of Light	Vishnu E K, (PhD, SoC) Diksha Pandey, (PhD, SoC) Kanad Pathak, (PhD, SoP) Seth Mathew V, (PhD, SoP) Aiswarya K S, (PhD, SoP) Muhammed Raees A, (PhD, SoP) Silpa S, (PhD SoP)	A small one-day student talk series was conducted on the eve of International Day of Light. Each student was allotted a time of 8+2 min to present their talk. The session was chaired by Dr. Rajeev Kini and Dr. Vinayak Kamble of School of Physics, IISER Thiruvananthapuram.
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Alumini Talks

1	13/01/24	PSI(T) 4th Foundation week Talk series #2 Large-Area Mechanical Exfoliation of 2D Materials on Metallic Substrates and the Underlying Physics (Online)	Mr. Satyam Sahu, PhD student, J. Heyrovsky Institute of Physical Chemistry, Czech Republic	The talk explored metal-assisted exfoliation, a method for producing large-area monolayers of 2D materials. It discussed factors influencing exfoliation, effects of underlying metals, and the process of transferring flakes to substrates. Additionally, ongoing research activities were briefly highlighted.
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Competitions			
S No	Date	Title	Brief Description
1	03/09/23	Pictionary	This was a fun activity arranged for the batch 23 students serving as a both ice breaking session and club orientation for the new batch.
2	10/09/23	Physics Trivia Quiz	A physics trivia quiz was conducted for the students of the school of physics. Teams of 1-3 members were allowed to participate.
3	13/01/24	Boltzmann Brains 5.0	A physics trivia quiz was conducted as a part of the 4 th foundation week program. Teams of 1-2 were allowed to participate.
<p>Winner- Tathagata Sarkar (iPhD15)</p> <p>Runner up- Eldho Sam and Nikhil Raju Manjooran (B22)</p> <p>A prize pool of INR 1500 was awarded to the winners.</p>			
4	18/01/24	Rebus Quiz	A physics picture-based quiz was conducted as a part of the 4 th foundation week program. Teams of 1-2 were allowed to participate.
<p>Winner- Nikhil Raju Manjooran and SV Roshini (B22)</p> <p>Runner up- Ruchi Arya and Kasi Promod (B21)</p> <p>A prize pool of INR 1000 was awarded to the winners.</p>			
5	30/01/24	Illustration Competition (Online)	Cancelled due to lack of participations
6	30/01/24	Sci-fi story writing Competition (Online)	Cancelled due to lack of participations

Screening Sessions			
S No	Date	Title	Comments
1	17/06/23	Prometheus (2012)	
2	20/08/23	Rocket Boys	Session 1, Episodes 1 & 2
3	27/08/23	Rocket Boys	Session 1, Episodes 3 & 4

S No	Date	Title	Comments
4	03/09/23	Rocket Boys	Session 1, Episodes 5 & 6
5	10/09/23	Rocket Boys	Session 1, Episodes 7 & 8
6	12/10/23	Rocket Boys	Session 2, Episodes 1 & 2

Peer Discussions

S No	Date	Title	Brief Description
1	17/08/23	Quantum - From a different perspective and its several marvelous features unraveled with exciting applications and theoretical models	The discussion covered the concepts like different interpretations of certain concepts, phenomena of entanglement, historical notions, the famous EPR paradox and intriguing games between two parties in the quantum world and the different outcomes of those games.
2	16/01/24	To spin or not to spin (Harshdeep Chhabra, BSMS 21)	The discussion delved into the enigmatic concept of spin, likening it to a paradoxical ball that was neither a ball nor spinning. It elucidated fermions' half-integer spin through a qualitative, introductory topological lens. Terms like $SO(3)$ and $SU(2)$ were demystified, shedding light on their relevance to electrons.

Other Activities

S No	Date	Title	Brief Description
1	9/07/23	Exam Review	A course review session was conducted for the B22 for their Electromagnetism course. The session was hosted by Puranjay Saha, PhD at SoP.
2	16/07/23	Exam Review	A second course review session was conducted for the B22 for their Magnetostatics course. The session was hosted by Arun M, PhD at SoP.
3	06/08/23	Club orientation for MSc	A club orientation as conducted for the newly admitted MSc and IPHD students, to explain them the working and activities of the club.

S No	Date	Title	Brief Description
4	14/12/23	PSI(T) Outreach program at Kerala University of Digital Sciences, Innovation, and Technology, Thiruvananthapuram	An outreach program was conducted by the club regarding the “Futuristic research and Investigation: opportunities to explore for an Aspiring Researcher”. The session was hosted by some of the PhD students from the club and the School and Dr. Shabnam Iyyani from SoP.
5	12/01/24	PSI(T) 4 th Foundation week inauguration	The Inaugural session of the PSI(T) foundation week was hosted in the presence of the student body and the faculties of the school. The Director of the Institute Prof. J N Moorthy was invited as the chief guest who addressed the gathering followed by a being awarded with a memento by the HoD Dr. Deepshikha Jaiswal.
6	13/01/24	One day teachers training program in Collaboration with INYAS.	The club conducted a “ <i>One-day Workshop on High school Teachers Training for Effective Teaching Methods in School level Astrophysics to Introduce teachers to the pedagogy of astronomy covered at school level</i> ” in collaboration with INYAS and IISER Thiruvananthapuram. The program consisted of a lectures and interactive sessions.
7	11/03/24	Merchandise	The club released its official PSIT merch for sale. It included 2 tshirts capturing the essence of physical phenomena in form of creative illustrations.

SOCIAL MEDIA CHANNELS OF THE CLUB



Instagram: @psitiiser



Twitter: @psit_iisertvm



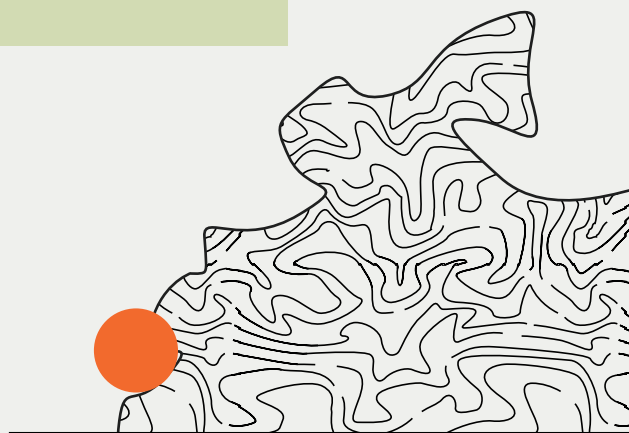
Facebook: Physics Society of IISER Thiruvananthapuram



Youtube: Physics Society, IISER-TVM



Website: <https://students.iisertvm.ac.in/psit/>



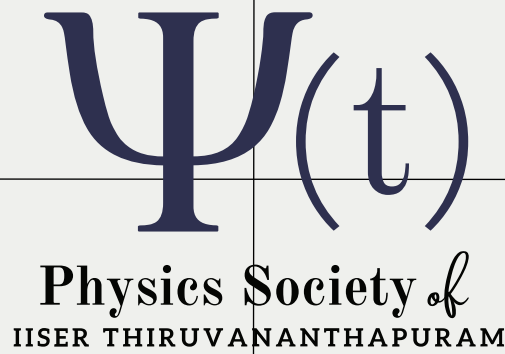
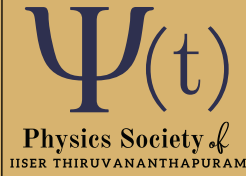
Posters



Outreach Program



#flashtalk



Career Opportunities



One-day Workshop

Program Schedule
Saturday, 13th January, 2024

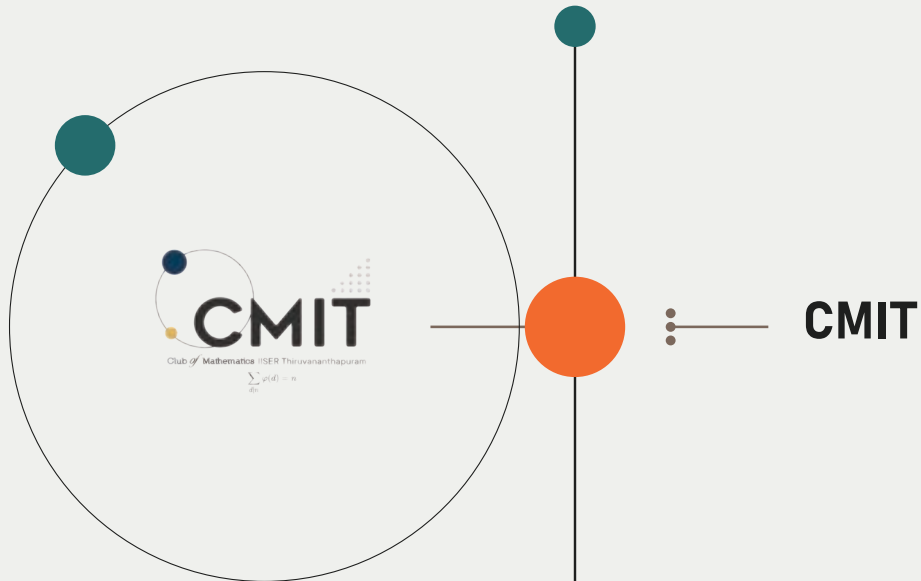
- 10:00 am - 10:30 am: Inaugural Address by Prof. J. N. Mourly, The Director, IISER TrivM
- 10:30 am - 10:45 am: Introduction to IISER TrivM
- 10:45 am - 11:00 am: Tea Break
- 11:00 am - 11:00 pm: Interactive Session by Dr. Shantanu Padalkar, IISER TrivM
- 1:00 pm to 2:00 pm: Lunch
- 2:00 pm to 2:30 pm: Lecture by Dr. Shantanu Iyyan, IISER TrivM
- 2:30 pm to 3:00 pm: Lecture by Dr. Anush Bhaskar, IISER TrivM
- 3:00 pm to 3:30 pm: Closing function and certificate distribution followed by High Tea

Speakers
Dr. Shantanu Padalkar, Dr. Anush Bhaskar, Dr. Shantanu Iyyan, Dr. Vinayak Kamble

Coordinator
Dr. Vinayak Kamble

4th Foundation week

Academic Club Activities - 04



CMIT, Club of Mathematics of IISER Thiruvananthapuram

The Club of Mathematics -IISER TVM is a student-run club aiming to bring together ignited minds to build a strong math community. We encourage a mathematical environment for active discussions and constructive debates in mathematics. Activities at the club cover many things ranging from **Faculty Talks** and **Student Talks** to events like **Integration Bee, Pie Day**, and our **annual foundation week Sⁿ**. For the fashion geeks out there, CMIT also has its math merch!

ACTIVITIES OF THE CLUB

Faculty Talks/Seminars				
S No	Date	Title	Speaker(s) Name and Affiliation	Brief Description
1.	11 04 2023	Decoding the Mysteries of Binary Computations and Musical Harmony in Ancient India	Mr. Ganesh Dharmadhikari, IIT Gandhinagar	In this talk we discussed some exciting examples of conversion of binary to decimal and vice-versa with the help of pratyayas in Pingala's Chandahsastra and some poetic examples and moved into combinatorial methods in Indian music and later discussed a few ancient Indian examples on combinatorics from Lilavati and Sangitaratnakarah.
2.	17 04 2023	Generalized principal eigenvalues and its applications	Dr Anup Biswas, IISER Pune	This talk was based on generalized principal eigenvalues its immense application in the theory of partial differential equations and in Fisher-KPP equation.
3.	13 09 2023	Number Theory and Romanticism	Prof. Loic Merel, IMJ-PRG, France	This talk reviewed the correspondence between the romantic movement born in Germany in the late 18 th century and the golden age of number theory in that country from Gauss to the Second World War.

S No	Date	Title	Speaker(s) Name and Affiliation	Brief Description
4.	14/12/2023	Experience as a mathematician	Prof. Michel Waldschmidt, IMJ-PRG, France	In this talk, Prof. Michel shared his experience as a mathematician, from the start of his research with Jean Frensel to publishing papers.
		About the deterministic primality test	Dr. Akhilesh, Asst. Prof. at KSOM	Dr. Akhilesh talked about the deterministic primality test, which can be used to determine whether a number is prime or not with absolute certainty.
5.	8/2/2024	Dynamics of nonsingular integral transformations and Diophantine approximation	Prof. S.G. Dani, CEBS Mumbai	In this seminar, Prof. Dani talked about the action of the semigroup of $n \times n$ nonsingular integral matrices on the space of n -vectors and also their p -tuples with $p < n$.
Student Talks				
1.	7 11 2023	Infinitude of Primes		This is a discussion mainly focused on the prime numbers and the proof that there are infinitely many primes. It is also about paving the way for new areas of research by the method of reproving.
2.	15/3/2024(1 st part) 19/3/2024(2 nd part)	A Remarkable Tale- The proof of FLT		For the Pi week 2024, a student talk was held on the proof of FLT (Fermat's last theorem).

S No	Date	Title	Speaker(s) Name and Affiliation	Brief Description
Alumni Talks				
1.	20/1/2024	Exploiting Schrodinger's cat; Experience of a mathematician in industry after BSMS	G Ananthakrishna	This was a career guidance session done in collaboration with the Placement and Career Promotion Cell of IISER TVM. Ananthakrishna graduated in 2022 with a BSMS degree in Mathematics, and now he is working as a Research Engineer at TCS. In this session, he talked about quantum algorithms for scientific computation, its relevance in industry and how being a mathematician helped him.
Panel Discussions				
1.	14 10 2023	What After Math?	<p>Joyentanuj Das (iPhD B16) doing Post-Doc at NSYSU, Taiwan</p> <p>Kalin Krishna(B16) Doctoral student at the University of Gottingen, Germany</p> <p>G Ananthakrishna (B17) Research Engineer at TCS</p> <p>Anand Chavan (B17) Doctoral student at Jagiellonian University, Krakow, Poland</p> <p>Madhivadhani Asaithambi (B17) Senior Research Assistant-Mathematics Education, Tata Institute of Social Sciences</p>	The aim of this discussion is not only to expand the understanding of the topic but also to provide valuable insight into the real-world applications of math. Through this discussion we want to inspire and inform the academic journey of the fellow students. The program was held in connection with S ⁵ celebrations.

S No	Date	Title	Speaker(s) Name and Affiliation	Brief Description
			Chaitanya Joglekar (B18)	
			Doctoral student at Binghamton University, NY	
			Aakash Gupta (iPhD B20)	
			Looking for PhD position in Mathematics Education with focus on communication of abstract mathematical ideas	

Competitions

S No	Date	Title	Brief Description
1.	11/2/2024	Axiomatica 3.0	This was a quiz competition which was organized in collaboration with QSI (Quizzing Society of IISER TVM). This contest is mainly held for the junior batches to help overcome the so-called Math phobia.
2.	14/3/2024	π - bytes	These competitions were held in connection with Pi Week 2024. Participants have to memorize as many digits of Pi as possible. 1 st prize was Rs.200 and 2 nd prize was Rs.100.
		Freehand Bourbaki	It was a freehand circle drawing competition where the circleness of the circle decided the winner.
3.	18/3/2024	Pi-oximity	For Pi Week 2024, we held the competition Pi-oximity, where participants had to approximate the value of Pi using any method. 1 st prize was Rs.500 and 2 nd prize was Rs.250.
4.	26/3/2024	Pi-uiz 5.0	This quiz competition was held in connection with Pi Week 2024, collaborating with QSI (Quizzing Society of IISER TVM). Prizes worth Rs.1500 were given to the winners.
5.		Meme contest	These are the online competitions held in connection with Pi Week 2024. Participants had to submit a meme related to mathematics which shows their creativity. Prizes worth Rs.400 were given to the winners.

S No	Date	Title	Brief Description
		Strokes	Strokes is the CMIT's yearly math themed art contest. This year's theme was Hyperbolic Tessellation. Digital or Paper artwork had to be submitted. Prizes worth Rs.1500 were given to winners.
		π -liner	Participants had to make original puns on π . Prizes worth Rs.300 were given to the winners.
6.	31/3/2024	Epiphany 4.0	In connection Pi week 2024, Epiphany 4.0 was organized which is the math themed treasure hunt. This was conducted via Discord. 1 st prize was Rs.3141 and 2 nd prize was Rs.1570.

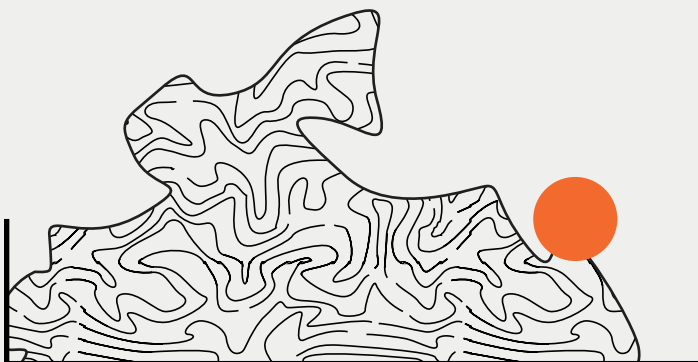
Screening Sessions			
S No	Date	Title	Comments
1.	24 05 2023	Secrets of the Surface: The Mathematical Vision of Maryam Mirzakhani	This is a documentary that examines the life and mathematical work of Maryam Mirzakhani, an Iranian immigrant to the United States who became a superstar in her field.
2.	9 07 2023	Moneyball	This movie demonstrates the tremendous role that mathematics plays in professional sports (Moneyball).
3.	8 11 2023	N is a Number: A Portrait of Paul Erdos	It is a biographical documentary on the coolest, sharpest mathematician Paul Erdos: his crazy career, personal life, witty jokes, and much more specifically Erdos number.
4.	10/2/2024	A Trip to Infinity	It is a documentary film that explores the concept of infinity and its implications for the universe. This film talked about what is infinity and how it works.
5.	20/2/2024	The Imitation Game	This movie is about the life of Alan Turing, the British cryptanalyst during WWII who is regarded as the father of Computer Science.
7.	17/3/2024	π	As a part of Pi Week 2024, we screened the movie π .

Peer Discussions

S No	Date	Title	Brief Description
1.	22 08 2023 (part 1) 30 08 2023 (part 2)	The prime time show in the world of p-adics	The main aim of this discussion led by Sunil Kumar Pasupulati, Bharat Krishna S and Sathasivam K was to construct infinitely many number systems, namely the p-adic numbers (one for each prime p) other than the most familiar number systems. We explored its features and its difference from real world.
2.	5 09 2023	From Realities to Abstractions: Deriving Mathematical Notions via Real	This discussion gave a different perspective for looking at real numbers. Also, it answered to the significance of numbers in algebra and existence of more than one kind of real numbers.
3.	14/2/2024	Exploring the margins of Fermat's book	In this discussion, a simple proof for Fermat's last theorem was discussed and looked at why it didn't work for other values of n.

Other Activities

S No	Date	Title	Brief Description
1.	5 07 2023	Review series	The review series was conducted to help the students to go through their syllabus in depth and beyond. It also provided a platform for the doubt clearance of students.
2.	10 09 2023	S ⁵ celebration Outreach program for school students	It was a full-day gigantic event where students from different schools joined us at our institute and participated in various activities and competitions.
3.	16/3/2024	Hands-on Session	As a part of Pi Week 2024, a graphing session was conducted which helped students to graph a function.



SOCIAL MEDIA CHANNELS OF THE CLUB



Instagram: @cmitiisertvm



Twitter: Club of Mathematics, IISER Thiruvananthapuram



Facebook: Club of Mathematics, IISER Thiruvananthapuram



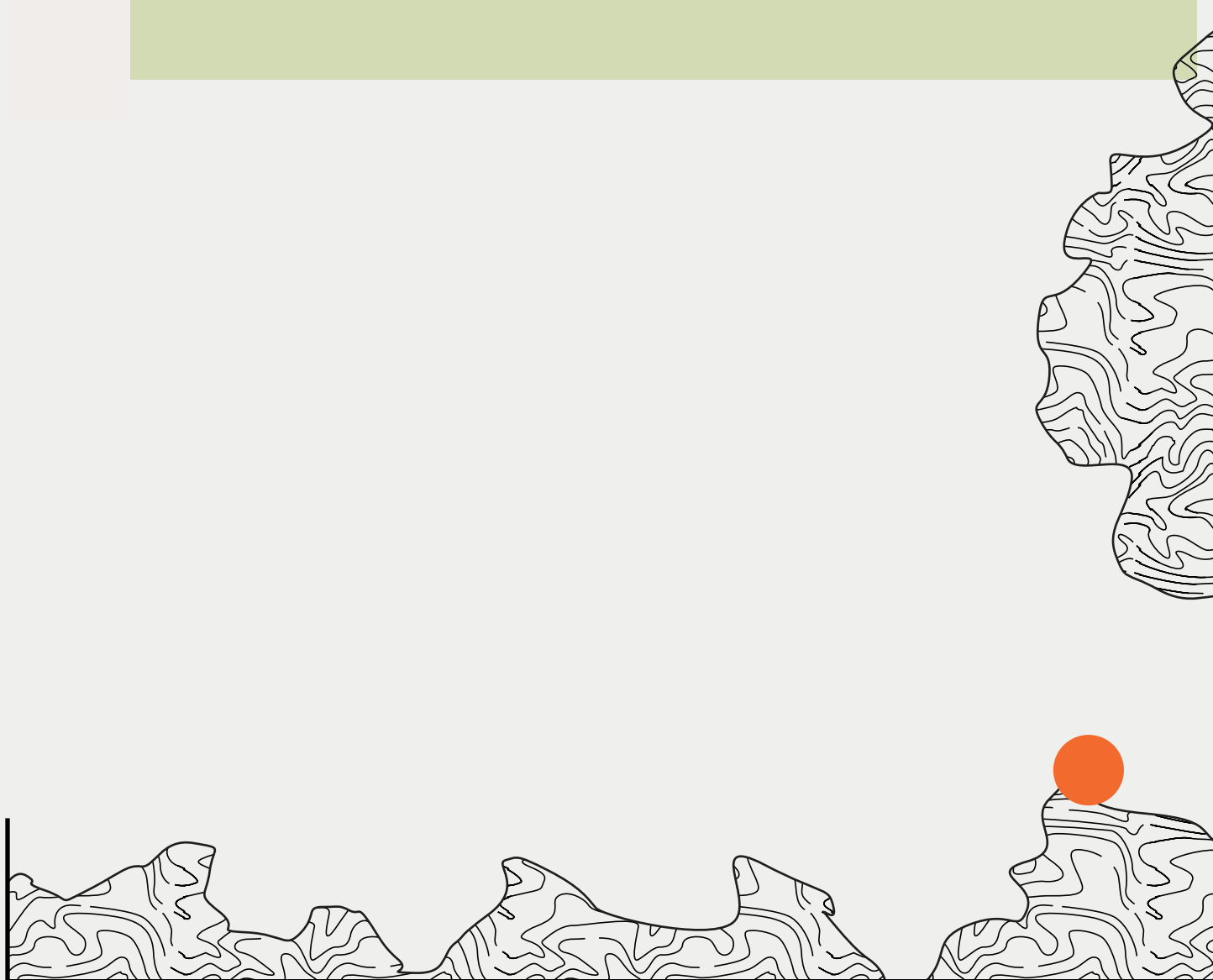
LinkedIn: Club of Mathematics, IISER Thiruvananthapuram



Youtube: Club of Mathematics, IISER TVM



Website: <https://cmit.iisertvm.ac.in/>



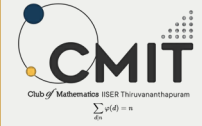
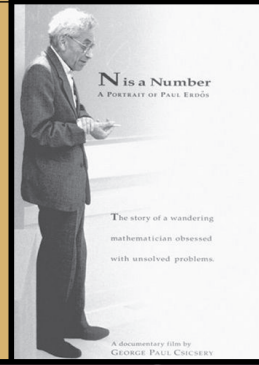
Posters



Taskathon



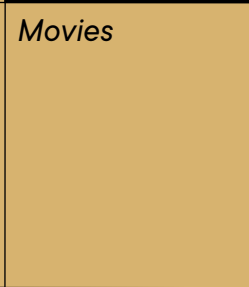
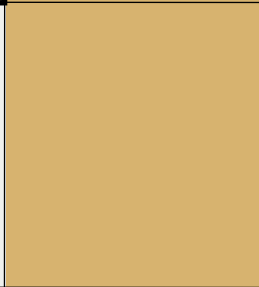
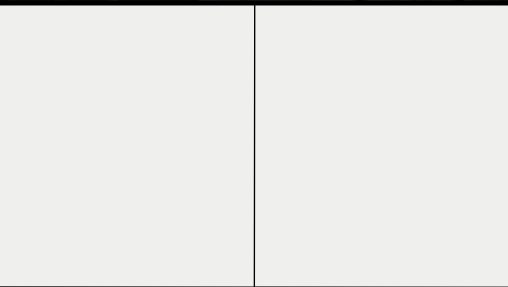
Movies



S⁵ Celebrations



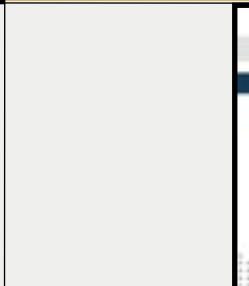
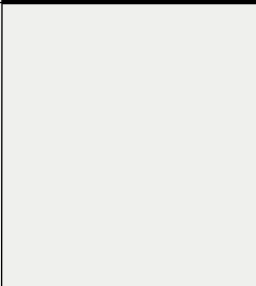
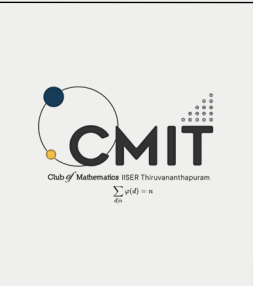
Frontier Symposium 2024



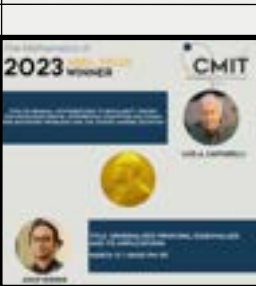
Movies



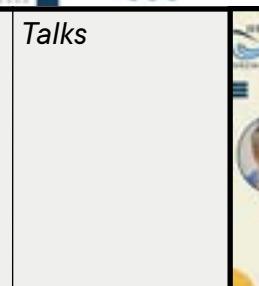
Pi Week 2024



pi - uiz



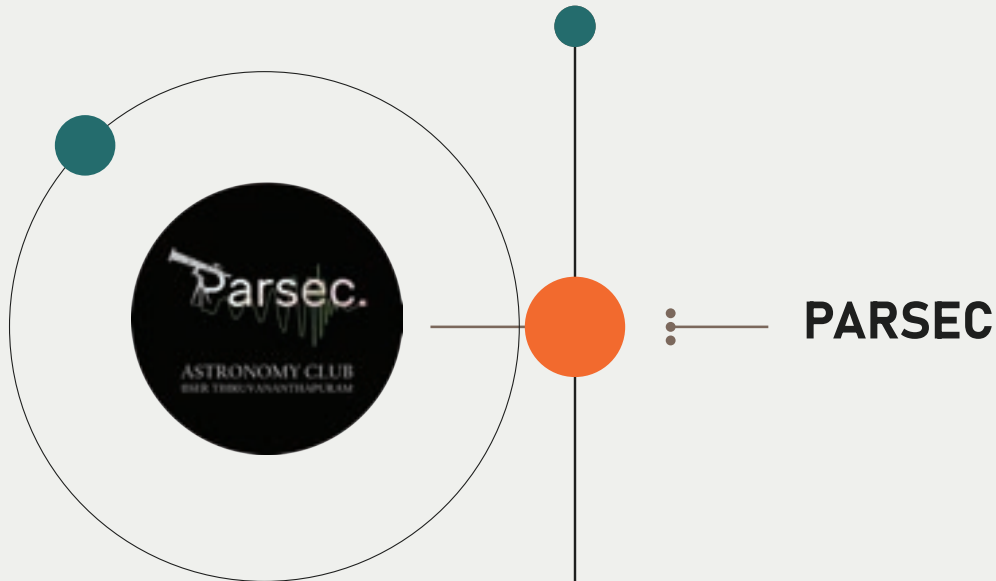
Abel Talks



Talks



Academic Club Activities - 05



PARSEC, Astronomy club of IISER TVM

PARSEC is the Astronomy club of IISER TVM. The members of this club hail from diverse academic backgrounds but are bound together by a shared passion for astronomy. Our primary goal is to cultivate discussions on Astronomy and Astrophysics and to encourage more and more students to pursue these two exciting fields. What makes our club unique are the frequently conducted telescope sessions, where we introduce students to stargazing and teach them how to handle a telescope and locate celestial objects. We also organize events, including outreaches, movie/documentary screenings, merchandise sales, peer discussions, and fun activities like quizzes and treasure hunts. Parsec provides an open and conducive environment for astronomy enthusiasts from all batches to intermingle, exchange insights and socialize.

ACTIVITIES OF THE CLUB

Competitions			
S No	Date	Title	Brief Description
1.	18/08/2023	Spatium Scientia 2.0	The club organised an annual space-themed quiz. Teams of 1-2 members participated in the event. 1st Position: Tony Nixon Mavely iPHD17 & Bharath Krishna S iPHD21 2nd Position: Siddharth M R BSMS - 22 & Athira Chandrashekharan BSMS - 22
2.	06/09/2023	Hunting the Heavens	The club organised an offline treasure hunt for the students on campus. Teams of 1-3 members participated in the event. The treasure hunt proceeded as the teams solved astronomy related puzzles and riddles which were spread to different locations on campus.
Screening Sessions			
S No	Date	Title	Comments
1.	13/04/2023	Documentary screening "Good night Oppy"	
2.	22/08/2023	Chandrayaan III landing	The soft landing of Chandrayaan III was live-screened on the billboard. The entire institute, including the students and faculties joined to witness the historical moment with everyone.
3.	02/11/2023	Movie screening "First Man"	

S No	Date	Title	Comments
4.	16/11/2023	Documentary screening <i>"How the Universe Works- S09 E10"</i>	
5.	07/02/2024	Documentary screening <i>"Cosmos: A Personal Voyage- S01 E03"</i>	

Other Activities

S No	Date	Title	Brief Description
1.	19/08/2023	Telescope session	A telescope session was conducted by the club at night. The session included identifying deep sky objects in the night sky, identifying star clusters etc.
2.	24/08/2023	Club Orientation	A club introduction and orientation session was organised for the newly joined MSc and i-PhD students to brief them about the inner workings of the club activities.
3.	29/10/2023	Telescope session	A telescope session was organised to view the lunar eclipse. Students and volunteers gathered to witness and capture the event.
4.	30/10/2023	Club Orientation	A club introduction and orientation session was organised for the newly joined BSMS batch 23 students to brief them about the workings of the club activities. New volunteers were added to be part of club activities.
5.	07/11/2023	Telescope Hands-on session	A hands-on session was organised for the newly joined batch of students. The session included a briefing about how to assemble, operate and disassemble the telescope. Juniors were taught to handle the telescope and observe the night sky.
6.	02/03/2024	Astro Camp at JNV Thiruvananthapuram in collaboration with SnT Council	The club organised an overnight Astro camp at the JNV Thiruvananthapuram in collaboration with the SnT council. The students were introduced to star gazing, astronomical folklore and a telescope session to observe the deep sky objects.

SOCIAL MEDIA CHANNELS OF THE CLUB

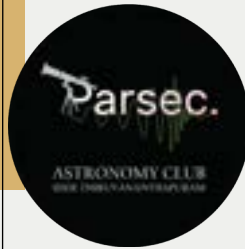


Instagram: @parseciisertvm



Twitter: @parsec_iisertvm

Posters

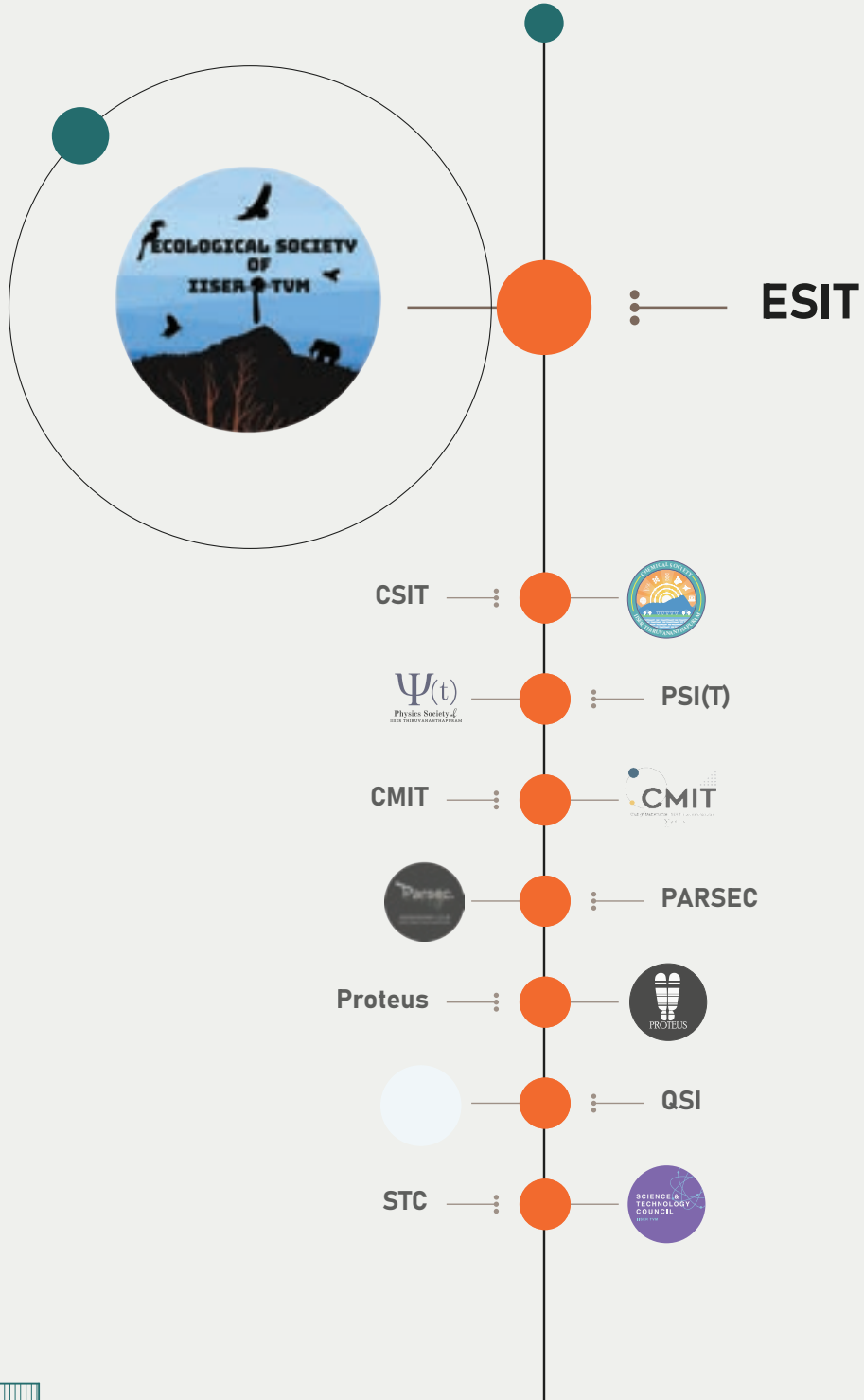


Spatium Scientia



Quest

Academic Club Activities - 06



ESIT, Ecological Society of IISER TVM

A club of ecology enthusiasts who create awareness about the natural world and the importance of sustainability among our campus community. Focussing on nature education we conduct numerous events like quizzes, documentary screenings, nature walks, species identification workshops, wildlife bingos, clean-up drives, etc. ESI is not just an ecological science-based club but a group of people who are passionate about nature, climate change and the environment as a whole.

ACTIVITIES OF THE CLUB

Faculty Talks/Seminars				
S No	Date	Title	Speaker(s) Name and Affiliation	Brief Description
1.	21/10/2023	What the plant!	Ms. Sayee Girdhari, Mr Md Nizar, Season Watch Project Coordinators, Nature Conservation Foundation	An in person tree identification workshop was conducted by the mentioned speakers. Identification of species up to family level was discussed followed by an in person tree walk. Student response was excellent with more than 30 people joining for both the workshop alone.
2.	21/10/2024	Tree Walk	Ms. Sayee Girdhari, Mr Md Nizar, Season Watch Project Coordinators, Nature Conservation Foundation	In person tree Walk followed by a tree identification workshop around the campus to learn more about trees and fun facts about them. Student response was excellent with over 60 students joining in over two sessions.
3.	28/02/2024	Discovering Bryophytes Workshop	Ms Abhirami Ravichandran, NCBS and Mr	An in person workshop about collection, preservation and

S No	Date	Title	Speaker(s) Name and Affiliation	Brief Description
			Shrikant Gund, BASE Consultancy, Pune	identification of Bryophytes was conducted. The workshop had a 1 hour field element where students got to collect Bryophyte specimens and then learn to preserve and identify them under the speaker's guidance. Student response was excellent with over 30 students joining in.
4.	05/02/2024	Green Talkies	Prof Harini Nagendra, Director of Research Centre, Azim Premji University	Online talk conducted as a part of Annual Celebration of ESI, Wildlife Week by an esteemed speaker on Urban Ecology and Socioecology on Indian Cities.
5.	10/02/2024	Green Talkies	Dr Rohit Naniwadekar, CEROS Group Leader, Nature Conservation Foundation	In person talk conducted as a part of Annual Celebration of ESI, Wildlife Week by an esteemed hornbill conservationist on hornbill seed dispersal, importance and conservation of hornbills across South-East Asia
6.	10/02/2024	Green Talkies	Ms Niharika Rajput, Wildlife artist at	Online Talk conducted as a part of Annual Celebration of ESI,

S No	Date	Title	Speaker(s) Name and Affiliation	Brief Description
			PaperChirrup, NatGeo Explorer	Wildlife Week by an esteemed Nature Educator on Visual communication in Nature Education.
7.	11/02/2024	Nature Jour- naling Work- shop	Ms Abhisheka K Gopal	In person workshop conducted as a part of Wildlife Week an esteemed Nature Educator about personal journaling of nature around us. Awareness about tiny mentionable details was also dis- cussed.
8.	27/01/2024	Snake Aware- ness Work- shop	Kerala Forest Department	An in person workshop on Snake Awareness was conducted in Malayalam for Security, Staff and students. Response was excellent with around 15 security staff and many stu- dents attending the workshop.
9.	07/04/2024	Animal First Aid workshop	Dr Julie B, Senior Veterinary Consultant, Adonai Companion Animal Care, TVM; and Dr Jacob Alexander, Zoo Veterinarian	An in person Animal First Aid workshop was conducted where speakers talked about do and don'ts in the context of animal first aid for animals ranging from bird to cats and dogs to wild boars. Stu- dent response was excellent with around 20 students joining in.

Student Talks

1.	21/05.2023	Ter- rarium Work- shop	Mr Sachin Bhaskar, PhD, IISER TVM	A hands-on workshop conducted for the students of IISER TVM where they were guided by an expert botanist towards building a terrarium of their own. Response from the student communi- ty was excellent with over 30 students joining for the session in person.
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S No	Date	Title	Speaker(s) Name and Affiliation	Brief Description
2.	27/08/2023	Critter Chatter	Mr Aarul Jain, BSMS20, IISER TVM	Speaker discussed their summer internship experience on Mammal Seed Dispersal at NCF
3.	27/08/2023	Critter Chatter	Ms Akhila S, BSMS20, IISER TVM	Speaker discussed their summer internship experience on Microbial Ecology at IISc
	10/11/2023	Critter Chatter	Ms Navya P, BSMS20, IISER TVM	Speaker discussed their summer internship experience on Mechanics of Insect Flight at NCBS
4.	12/01/2024	Critter Chatter	Ms Vishwathiga J, BSMS19, IISER TVM	Speaker discussed their summer internship experience on Community Ecology at University of Bern
5.	12/01/2024	Critter Chatter	Mr Sushal Gowda, BSMS21, IISER TVM	Speaker discussed their summer internship experience on Orchid Ecology at North Eastern Hill University
6.	23/02/2024	Critter Chatter	Mr Ravikiran Thalikal, BSMS22, IISER TVM	Speaker discussed their summer internship experience on Evolutionary Ecology of Butterflies as Vanasiri Lab, IISER TVM
7.	12/04/2024	Critter Chatter	Ms Shreya Venkatesan, BSMS19, IISER TVM	Speaker discussed their summer internship experience on Guppy Fish Behaviour at Australian National University

Competitions

S No	Date	Date	Brief Description
1.	21/01/2024	RvF	As a part of Wildlife Week 2024. An extensive treasure hunt was conducted all around the campus. The event saw heavy

participation with around 60 students taking part.

2.	06/02/2024	Ecology and Wildlife Quiz	As a part of Wildlife Week 2024. In collaboration with QSI a quiz was conducted.
3.	04/02/2024 to 12/02/2024	Wildlife Week Bingo	Bingo sheets with species found on the IISER TVM campus were made and presented as an offline contest. A 6x6 sheet was to be completed within the given time.
4.	04/02/2024 to 12/02/2024	Nature Photography Competition	As a part of Wildlife Week 2024. Open to all college students, a photography competition was conducted.

Screening Sessions

S No	Date	Title	Comments
1.	12/05/2023	Fantastic Mr Fox	Movie Screening
2.	09/06/2023	We Bought a Zoo	Movie Screening
3.	07/07/2023	Rio	Movie Screening
4.	25/08/2023	The Lorax	Movie Screening
5.	13/10/2023	Dancing with the Birds	Documentary Screening
6.	09/02/2024	Chasing Corals	Documentary Screening

Other Activities

S No	Date	Title	Brief Description
1.	Throughout the year	Camera Trap	We set up camera traps at a few locations in the campus to record the wildlife around the institute.
2.	Throughout the year	Moth Documentation Project	We set up moth screens to document the moth diversity on and around campus.
3.	Throughout the year	iBMS Project	We go on frequent walks to document the butterfly population changes through seasons and years on campus.
4.	Throughout the year	Bring Your Own Mug Campaign	A campaign in collaboration with SWC was conducted encouraging students to bring their own mugs to have beverages at cafes and talks to reduce paper cup waste.

S No	Date	Title	Brief Description
5.	Multiple sun- days through- out the year	Nature Walks	A walk around the campus to rediscover the biodiversity and the species richness of the campus.
6.	16/02/2024 to 19/02/2024	Campus Bird Count	A student organised campus bird count in collaboration with eBird and BirdCountIndia
7.	20/10/2023	Stall at Anvesha	ESI Stall to display the camera trap data
8.	20/10/2023	Stall at Anvesha	A moth screen demonstration with games and Nature Education material.
9.	27/01/2024	Jawaharlal Nehru Tropical Botanic Gar- den and Research Insti- tute Visit	Conducted a visit to a botanical garden in Palode, arranged a commute and visit for more than 60 students.

SOCIAL MEDIA CHANNELS OF THE CLUB



Instagram: @esi_iisertvm



Twitter: @esi_tvm



Substack: <https://substack.com/@esiiisertvm>



LinkedIn: Ecological Society of IISER TVM

Posters



Palode Botanical Garden Visit



Terrarium Workshop



Discovering Bryophytes Workshop



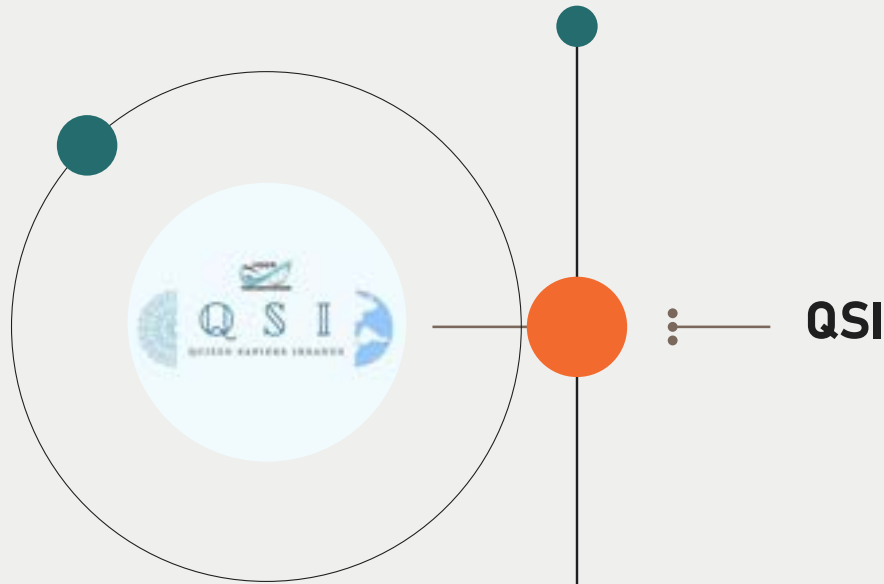
Nature Journaling workshop Group outdoors



Movie



Academic Club Activities - 07



QSI, Quizzing Society of IISER TVM

The club is a constant in life on campus, from hosting Put Funda during Ishya to Utsuk and Jigyasa during Anvesha, and everything in between (including collaborations with other clubs). They are always up for hosting a quiz on anything under the sun and, sometimes, beyond it as well. And their WhatsApp group is always abuzz with questions and conversations about everything.

ACTIVITIES OF THE CLUB

Quizzes			
S No	Date	Title	Brief Description
1	11/04/2023	Into the Quizverse of Madness	A Marvel quiz hosted by Tony
2	12/04/2023	Be There or Be Square	Informal quiz hosted by Abhinav, Joel, Ira, Rithika
3	16/04/2023	Mindsweep	Hosted an international solo written quiz for KQA
4	16/04/2023	Megawhats	Hosted a national quizzing championship for KQA
5	14/05/2023	QFI Invitational	Hosted a preliminary qualification to the QFI Invitational QFiesta quiz festival
6	14/05/2023	ZQL Solo Written Quiz	Hosted a solo written quiz for Zephyr Quiz League
7	18/05/2023	Harry Potter Quiz	Rerun of the Harry Potter Quiz by Athulya and Divya from Batch 12, hosted by Harish Adithya and Roshni
8	23/06/2023	Queer Science Quiz	A science quiz in collaboration with Mazhavil
9	30/06/2023	Queer Fiction Quiz	A fiction quiz in collaboration with Mazhavil
10	10/08/2023	General Quiz	Beginning of semester general quiz
11	13/08/2023	Bharat, Ek Quiz: Inter-Collegiate Quiz Competition	An India quiz to celebrate the 76th year of our Independence open for all college students.
12	13/08/2023	Bharat, Ek Quiz: Inter-School Quiz Competition	An India quiz to celebrate the 76th year of our Independence open for all school students.
13	20/08/2023	Friendly Quiz 1	A general independence day quiz conducted along with IIST, at IIST
14	24/08/2023	A True Love's Quiz	An informal fairytale quiz hosted by Samyukta
15	31/08/2023	Welcome To The Internet	A popculture, art, science and etymology quiz hosted by Roshini
16	04/09/2023	Licence To Quiz	A James Bond Quiz
17	12/09/2023	Hindi MELA Quiz	A quiz related to music, entertainment, literature and arts for Hindi diwas hosted by Gokul
18	07/10/2023	Cleanliness Quiz	A quiz for Swachhata Hi Seva (SHS) cleanliness drive
19	20/10/2023	Utsuk	A school quiz conducted by the members of QSI on the open day of Anvesha
20	22/10/2023	Jigyasa	The official open general quiz of Anvesha, hosted by QSI. The Quizmaster for Jigyasa was Major Chandrakant Nair aka Captain

S No	Date	Title	Brief Description
21	02/11/2023	CricMania 2.0	A cricket quiz hosted by Gokul
22	05/11/2023	Nullius in Verba	The second friendly quiz conducted along with IIST
23	08/11/2023	IICM Selection Trials	A general quiz for the IICM team selection
24	14/01/2024	Kodambakkam Area	A Kollywood quiz as part of the Pongal celebrations
25	6/02/2024	What on Earth!? 3.0	A Wildlife quiz in collaboration with ESI (Ecological Society) as a part of Wildlife Week 2024 celebrations
26	11/02/2024	Axiomatica 3.0	General Math quiz in collaboration with CMIT(Club of Mathematics) with special focus on participation of BSMS 23
27	20/03/2024	Science Day Quiz	Interdepartmental science quiz held to commemorate National Science Day hosted by Jyothishko, Parikshit and Kalyani
28	23/03/2024	Put Funda	The official open general quiz of Ishya, hosted by QSI. Quizmaster : Major Chandrakant Nair aka Captain.
29	23/03/2024	OQL Quiz	Online Quiz League(OQL) Individual Championship Quiz hosted in IISER TVM. Written quiz proctored by Adithya V.
30	26/03/2024	Pi-Uiz 5.0	Math quiz in collaboration with CMIT(Club of Mathematics) on International Pi Day during their Pi-Week celebrations
31	29/03/2024	Informal	Few sets compiled by Adithya V from leftover OQL questions
32	02/04/2024	Life is Beautiful	A general quiz
33	06/04/2024	Cinema Quiz	Informal quiz on all things cinema hosted by Harish Adithya and Roshini
34	13/04/2024	Farewell Quiz 2024	General quiz created and hosted by students from various courses graduating from IISER TVM in 2024. Streamed on Google Meet for alumni.

SOCIAL MEDIA CHANNELS OF THE CLUB

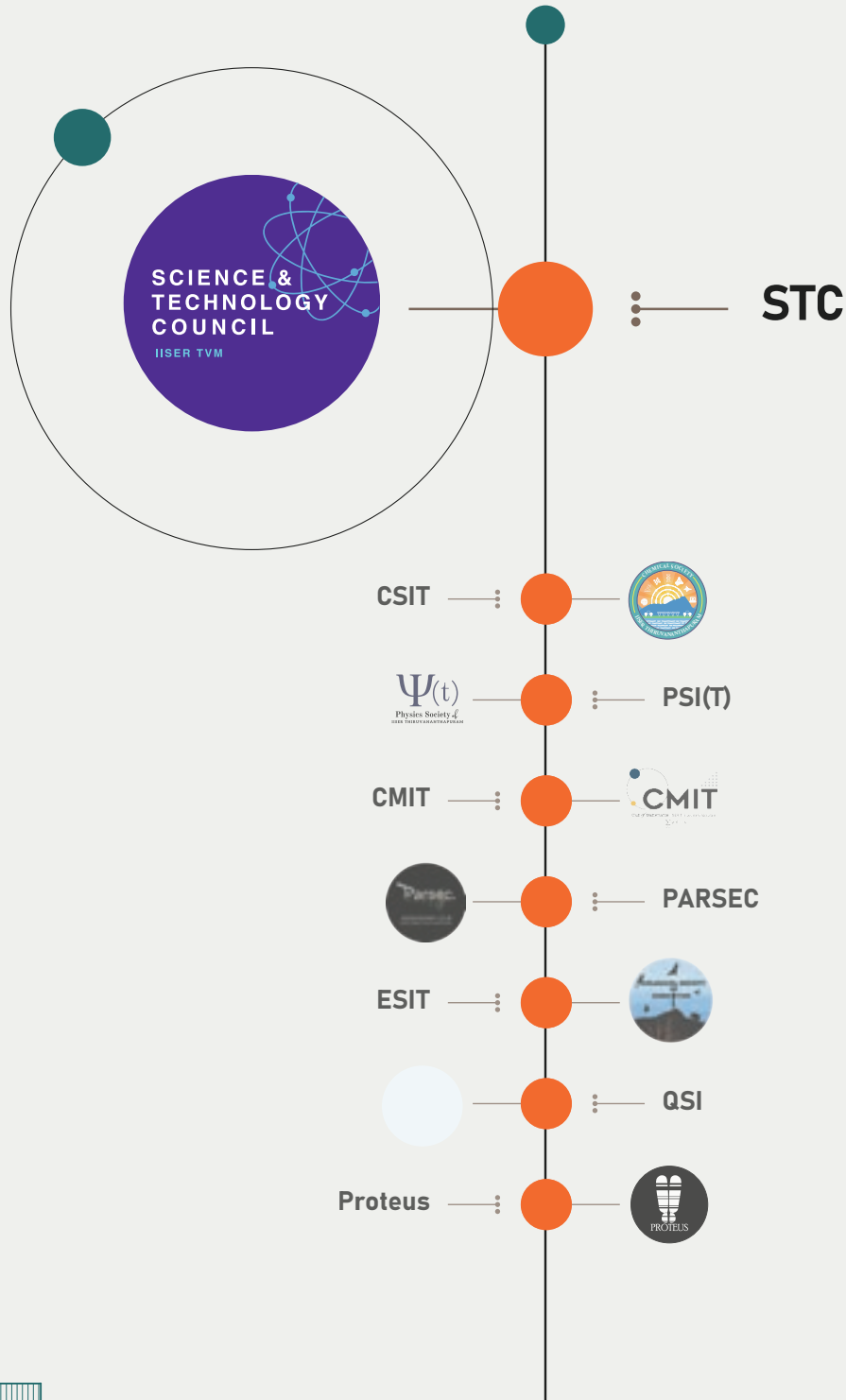


Instagram: @qsi_iisertvm



With Major Chandrakant Nair at Jigyasa '24

Academic Club Activities - 08



S&T, Science and technology council

Science and Technology Council (S&T) council is a body of elected student representatives at IISER TVM. The council functions under the guidance of Prof Utpal Manna (Dean, Student Affairs), Dr Jishy Varghese, Dr Nisha Kanan and Dr Sreedhar Dutta. The council is responsible for organizing various science themed events in the campus including Anvesha, the annual science fest of IISER TVM. Apart from this the council coordinates activities between various other clubs, and also contributes to the growth of the scientific community outside IISER by conducting outreach programs in schools and public spaces to raise awareness and generate curiosity. Clubs like Coding Club, Ecological Society, Parsec-Astronomy Club, and Quizzing Society, and the Exhibit A Magazine function under the guidance of the S&T council. This year the council provided its assistance to the institute in managing and setting up the Science Pavilion at GSKF and is currently involved with setting up the institute's Science Activity Centre - Crucible.

ACTIVITIES OF THE CLUB

S No	Date	Event Title	Brief Description
1		Café Scientifique	<p>Café Scientifique is a brand new initiative started by the council where we invite our institute's faculty to have an open discussion with students on topics ranging from scientific to general. Till now, we have conducted 5 Cafe Scientifique events. The response from both faculty and students was very positive. The event is usually held in one of the institute's cafes, and we encourage both faculty and students to bring along their colleagues/friends so the discussion will have various points of view, which helps keep it healthy and enlightening. Till now, we have invited the following faculties -</p> <p>Dr Alwin Poullose - 1/9/23</p> <p>Dr Jerry A. Fereiro - 8/9/23</p> <p>Dr Amrutha Swaminathan and Dr Vijay Jayaraman - 12/1/24</p> <p>Dr Ramiz Reza - 19/1/24</p> <p>Dr Tuhin Maity - 7/2/24</p>
2	27-01-24 to 14-02-24	Science Pavilion at GSKF	<p>Our institute participated in the prestigious Global Science Fest Kerala 2024, hosted by the Kerala government in Trivandrum. The event drew in over 500 visitors daily, spanning from local schools to the general public, keen to explore the diverse array of stalls and exhibits. At our Science Pavilion, showcasing projects from Anvesha 2023, our students had the opportunity to engage with a broad audience, both scientific and lay, over the course of two immersive weeks. With 16 dynamic exhibits on display, we provided a platform for knowledge exchange and interactive learning.</p>

S No	Date	Event Title	Brief Description
3	18-03-24	Study Abroad with WISEup Communication	Ms. Neha Agrawal, an Academic Communication Expert and founder of Wiseup Communications, conducted a seminar on studying abroad, providing attendees with comprehensive guidance on securing dream admissions. Drawing from her experience as an Alumnus of NTU Singapore, she highlighted the importance of building a strong application profile, selecting the right universities based on program fit, understanding the intricacies of the application process, and mastering the art of crafting quality Statements of Purpose (SOPs) and Letters of Recommendation (LORs). Attendees gained invaluable insights and practical strategies to navigate the study abroad journey with confidence and increase their chances of success.
4	20-10-23	Anvesha Inauguration	<p>The Annual Science Fest of IISER Thiruvananthapuram, ANVESHA: A Prism of Possibilities</p> <p>This year, ANVESHA opened its doors to the general public, welcoming over a 600 school students and visitors. The event began with the arrival of the Director, Prof. J N Moorthy, who inaugurated the fest by lighting the lamp. Prof. Moorthy then addressed the IISER Thiruvananthapuram community, school students, and the public, setting the tone for the day.</p> <p>The schedule included various events and activities designed to foster scientific inquiry and creativity.</p>
5	22-10-23	Contraption (Anvesha)	One of the most fun activities conducted during Anvesha '23. With a majority of first-year students participating, contraption provides a creative environment for students to build a chain reaction out of usual household stuff.
6	11/12/23	Bhartiya Bhasha Utsav Brochure	Compiled a brochure on the Nobel Prizes awarded for 2023, translated into 9 Indian languages (Malayalam, Hindi, Tamil, Telugu, Kannada, Bengali, Assamese, Marathi, and Odia)
7	10/01/24	Inside Insight	We were honored to host a Q&A session with our esteemed alumnus, Subrabalan M., known as Subri, who is pursuing a Ph.D. in Mathematical Physics at Heriot-Watt University. Subri shared his experiences and insights, offering our students a unique opportunity to learn from his expertise and reflect on his transformative years at IISER TVM. The session provided valuable understanding of the academic and research journey, with thoughtful questions and high engagement ensuring an enlightening experience for all attendees.

Outreach conducted by the Council

S No	Date	Title	Brief Description
1	20/10/23	Institute Open Day	The annual Open Day, organized by Anvesha, attracted over 600 participants. Attendees had the opportunity to explore various projects and initiatives across departments, engaging with researchers and faculty members. Noteworthy features included Entanglement lectures covering diverse topics of interest, and hands-on experiences in departmental labs, fostering meaningful exchanges. The event aimed to promote public engagement with academic and scientific endeavors, providing attendees with valuable insights and experiences.
2	09-23 to 11-23	Outreach Program of IISER TVM	IISER TVM conducts a half day outreach program, in which as part of Anvesha we organized small experiments and hands-on experience for the visitors.
3	02-03-24	Astro-camp at JNV	On March 2nd, our team, alongside PARSEC - The astronomy club of IISER TVM and Science and Technology Council of IISER TVM, hosted an astrocamp at JNV, Vithura. With 8 student volunteers, we engaged 450 residential students from class 6th-12th, coinciding with the 2nd anniversary of the institute's telescope. The camp featured sessions on celestial navigation, constellation stories, and telescope observations, culminating in early morning sightings of Venus and Moon. Feedback from students and teachers was positive, reinforcing the importance of inspiring young minds and fostering scientific curiosity through such interactions.

Talks conducted by the Council

S No	Date	Title	Speaker	Brief Description
1	20-10-23	Entanglement Public Lecture Series # 1 The tale of Phosphorus, the devil's element	Dr Bhavya Panthalil	Dr. Bhavya Panthalil delivered a captivating talk during the Entanglement lecture series of Anvesha'23, focusing on the profound impact of anthropogenic activities on aquatic ecosystems. Exploring the journey of phosphorus from mythical origins to modern-day environmental concerns, Dr. Panthalil highlighted the unintended consequences of nutrient pollution, particularly eutrophication, and discussed innovative mitigation strategies. The lecture, tailored for school students and the general public, shed light on the intricate dynamics of biogeochemistry and the urgent need for sustainable practices to safeguard coastal waters and estuaries.

S No	Date	Title	Speaker	Brief Description
2	20-10-23	Entanglement Public Lecture Series # 2 Why and How do we study Sun- Aditya L1 mission	Dr Nitin Yadav	In her lecture, Dr. Nitin Yadav emphasized the Sun's pivotal role as the central and most massive object in our Solar System, crucial for sustaining life on Earth and affecting space weather. She highlighted the need for high-resolution observations to understand solar phenomena like solar flares and coronal mass ejections, which impact communication and power grids. Dr. Yadav also discussed the Aditya-L1 mission by ISRO, outlining its payloads and goals to enhance our understanding of the Sun and improve space weather prediction and mitigation strategies.
3	06/11/23	Nobel Lecture Series '23 #1 On the Physiology and Medicine Nobel	Dr V Stalin Raj, School of Biology, IISER Thiruvananthapuram	The 2023 Nobel Prize in Physiology and Medicine was awarded to Katalin Karikó and Drew Weissman. "for their discoveries concerning nucleoside base modifications that enabled the development of effective mRNA vaccines against COVID-19". In the lecture, Dr Stalin provided insights into the world of virology and vaccine research and the works of Dr Karikó and Dr Weissman in particular. The lecture had a wide audience ranging from first-year undergraduates to the faculties of the institute.
4	06/11/23	Nobel Lecture Series '23 #2 On the Physics Nobel	Dr Krishnendu Gope, School of Physics, IISER Thiruvananthapuram	The 2023 Nobel Prize in Physics was awarded to Pierre Agostini, Ferenc Krausz, and Anne L'Huillier "for experimental methods that generate attosecond pulses of light for the study of electron dynamics in matter". In the lecture, Dr Gope provided insights into the field of attosecond physics and the work leading to the Nobel in the field. The lecture had a wide audience ranging from first-year undergraduates to the faculties of the institute.

5	07/11/23	Nobel Lecture Series '23 #3 On the Economic Sciences Nobel	Prof. Vinoj Abraham, CDS Thiruvananthapuram	The 2023 Nobel Prize in Economic Sciences was awarded to Claudia Goldin “for having advanced our understanding of women’s labor market outcomes.” In the lecture, Prof. Abraham highlighted the key aspects of women’s labor market and the Nobel-winning work of Dr. Goldin. The lecture had a wide audience ranging from first-year undergraduates to the faculties of the institute.
6	08/11/23	Nobel Lecture Series '23 #4 On the Chemistry Nobel	Prof. K George Thomas, School of Chemistry, IISER Thiruvananthapuram	The 2023 Nobel Prize in Chemistry was awarded to Moungi G. Bawendi, Louis E. Brus and Aleksey Yekimov “for the discovery and synthesis of quantum dots.” In the lecture, Prof. Thomas provided a brief scientific importance of the discovery. He also provided a historical account leading to the discovery. The lecture had a wide audience ranging from first-year undergraduates to the faculties of the institute.
7.	13/02/24	International Day for women and girl in Science	Dr Nandita Jayaraj	On February 13th, commemorating the International Day of Women and Girls in Science, we hosted an online talk by Nandita Jayaraj. She discussed the gender gaps in Indian STEM, the complexities surrounding these issues, and insights from her book “Lab Hopping,” co-authored with Aashima Dogra. Nandita, an independent science journalist and co-founder of TheLifeOfScience.com, a feminist science media platform, provided a compelling analysis of the current state and challenges in achieving gender equality in STEM fields.

Competitions conducted by the Council

S No	Date	Title	Brief Description
1	24/10/23	Crime Scene Investigation	<p>One of the biggest online events designed by the Anvesha '23 crew, participants registered in teams of 2-4 people to solve the top-secret crime.</p> <p>WINNER: "KV & Company", Irin Mariyam Joseph, Lekshmi MP, Akhil K, Adwaith K V (B19)</p> <p>RUNNER: "Puzzle Masters", Shakthidhar V, Suvetha V, Raphael G Sankey, Kiran Thomas (B22)</p> <p>SPECIAL MENTION: "I am Team", Pratham (B19), Shivam (B19), Ilaksha (B21), Kalyani (B21)</p>

S No	Date	Title	Brief Description
2	25/10/23	Integration bee	<p>Participants are invited to sharpen their pencils and prepare for an exhilarating challenge in integration techniques. The event started with the Integration Bee for Real functions, followed by the Integration Bee for Complex functions. The winner was given the esteemed title of Grand Integrator of IISER Thiruvananthapuram, 2023.</p> <p>WINNER: Pranit Sai (B20)</p> <p>RUNNER: Harish Adhitya (B22)</p>
3	22/10/23	Black box	<p>Blackbox is an intriguing game that puts your skills to the ultimate test in a mission to guess and arrange a circuit based on given input and output signals.</p> <p>WINNER: Karan & Akash (PhD)</p> <p>RUNNER: Aswin PR & Visesh (B21)</p>
4	20/10/23	Utsuk	<p>The general school quiz of Anvesha, hosted by QSI.</p> <p>Winners- Vaishnav Dev & Adithyan V (Govt Model HSS for Boys, Attingal)</p> <p>First Runners Up- Ajay Krishne & Christy (St Thomas School)</p> <p>Second Runners Ups- Ihsan S Shyju & Sreesanth C R (St Thomas School)</p>
5	22/10/23	Jigyasa	<p>The general open quiz of Anvesha, hosted by QSI. The Quizmaster for Jigyasa was Major Chandrakant Nair, aka Captain.</p> <p>Winners- Zaman, Sarath & Leo</p> <p>First Runners Up- Rakesh TP, Tony & Bharath (IISER TVM)</p> <p>Second Runners Ups- Abdul Vahid, Jameer & Akhil Gosh tied with Jithin, Shibir Azad & Balu</p>

S No	Date	Title	Brief Description
6	23/10/23	Error 404	<p>A competitive coding battle conducted on hackerrank and hosted by our students.</p> <p>Winner- Ashutosh Kumar (B19)</p> <p>Runner- Aryan Bhatia (B21)</p>
7	15/10/23	Inquisitio	<p>Team Inquisitio organized the fifth edition of the online intercollegiate treasure hunt, Inquisitio 5.0, as part of the Anvesha fest.</p> <p>Winners- "This Mind Empty - Yeet" - Shahnaz Nazzar (B21), Samyukta Anand (B21), Pranit Sai (B20)</p> <p>First Runners Up- "En-tangled" - Nivedha Baskaran (B22), Harshdeep Chhabra (B21)</p> <p>Second Runners Up- "Epsilon-Alpha" - Akshar N Kumar (B22), Hari Govind K J (B22), Sidharth M R (B22)</p>
8	21/10/23	Speak Up	<p>Participants presented a 5 minute talk on the topic assigned to them by a random lot.</p> <p>Winner- Shreya Venkatesan (B19)</p> <p>Runner- Siraj T M (B21)</p>
9	21/10/23	BAHFest	<p>A comedic science competition that showcases humorous and deliberately ridiculous scientific theories. Participants present their satirical hypotheses with a humorous twist, often involving bizarre explanations for real-world phenomena.</p> <p>Winners- "Aurora Borealis", Harshwin M (B22), Akriti Kumari (B22)</p> <p>Runners- "Sigma Fraud", Ananthakrishna P (B21), Shreenidhi S, Rishica Arora (B19)</p>

S No	Date	Title	Brief Description
10	15/10/23	Treasure Hunt	<p>In this event, teams of 3 took a path all around campus trying to find agents, get clues and crack the final puzzle. It involved everything from cracking ciphers to solving crosswords.</p> <p>Winners -"Puzzle Masters", Shakthi, Suvetha, Raphael (B22) tied with "Hunt...", Aparna G R, Yashwanth Raju R S (B22)</p> <p>Special Mention - "Ds of D Block", Arnav Lakhdive (B21), Parth Manoj (B21), Aarul Jain (B20)</p>
11	20/10/23- 21/10/23	Informals	<p>No fest is truly complete without games, and in the spirit of Anvesha, we curated a selection of scientific games that offered both entertainment and educational value. These interactive activities were designed to engage both students and visitors, adding an extra layer of excitement to the event.</p>
12	14/10/24	Potpourri	<p>'Potpourri' is a mixture of crosswords, riddles and brain teasers placed in front of you to use that extra gyri in your brain. This event welcomes participants individually or in groups of two to show off their skills in solving mind-boggling puzzles of various types.</p> <p>Winner: 'I am team' (Shivam Bhangara and K Pratham (B19))</p> <p>Runner up: 'The winning team' (Samyukta (B21) and Pranit Sai(B20))</p> <p>Special mention: Nivedha and Aathira KE</p>
13	20/10/23	Aficionados - Science Expo	<p>The Science Expo, with the support of other academic clubs, provided a platform for individuals to exhibit their creative flair and passion for science. Participants from diverse disciplines contributed physical and theoretical exhibits to captivate and astonish the audience. They were encouraged to think innovatively and push the boundaries of scientific exploration, aiming to engage and inspire the curious attendees.</p> <p>Biology</p> <p>Winners - "Spikes", Abhijith S, Abhinav Yukth S, Anagha P, Aswin P R, Krishnendu E S, Niranjana B R, Sreyas Lal H, Aryaraj (B21)</p> <p>Runners -"Stress Vs Memory", Shaktidhar V, Shriya Dhar, Suvetha V (B22) and 78 volunteers from (B23)</p> <p>Special mention- "Neural Circuits", Priyadharshini S, Megha Manoj Menon, Meera Joshi, Samhita Rayana (B22)</p>

Chemistry

Winners - “Chemical Garden”, Avani Kulkarani, B Avandira, Aditya C (B22)

Runners - “Protein Delivery”, S V Roshini, Rosmy Geo, Aaleena Sabu Koshy, Siddharth MR (B22)

Special mention - “Quantum Dots”, Garvit Sonewala, Khushi Tiwari (B22)

Mathematics

Winners - “Oscilloscope Imaging”, Aryan Bhatia, Anuthi Tiwari (B21)

Runners - “Ecosystem Modelling”, Abhinav Joshi, Abhinav Girish (B23)

Special Mention - “NonLinear Dynamics” Harish Adithya G, Gowri S Nair (B22)

Physics

Winners - “Quantum Entanglement”, Harshdeep Singh Chhabra (B21), Abhijit S (B21), Harshita Dalvi (B23)

Runners - “Fusor”, Patatra Chowdhuri, Arundhati Indu Valsaraj, Arundhati Chaudhari, Anvitha Bhat, Krtin Prabhu (B22)

Special mention- “Hyperloop”, Shaktidhar V, Raphael Gajetan, N Abhinandan Mishra, Nandhu C K, Rohith Mathew Titus, Nikhil Raju Manjuran (B22)

Data Science

Winners- “Real time Sign Language Classification”, C H Praharsa, Keerthana A R (B21)

Workshops conducted during Anvesha

Sr No	Date	Title	Speaker(s) Name and Affiliation	Brief Description
	21/10/2023	What the plant!	Ms. Sayee Girdhari, Mr Md Nizar, Season Watch Project Co-ordinators, Nature Conservation Foundation	An in person tree identification workshop was conducted by the mentioned speakers. Identification of species up to family level was discussed followed by an in person tree walk. Student response was excellent with more than 30 people joining for both the workshop alone.
	21/10/2024	Tree Walk	Ms. Sayee Girdhari, Mr Md Nizar, Season Watch Project Co-ordinators, Nature Conservation Foundation	In person tree Walk followed by a tree identification workshop around the campus to learn more about trees and fun facts about them. Student response was excellent with over 60 students joining in over two sessions.

SOCIAL MEDIA CHANNELS OF THE CLUB



Instagram: @anveshaiiser



Twitter: @SciTech_iiser



Posters



ANVESHA INAUGURAL DAY



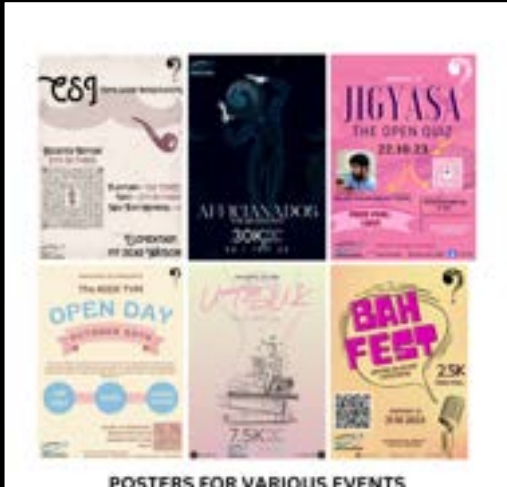
AFICIANADOS THE EXPO



ANVESHA'23 CONTRAPTION



EVENTS CONDUCTED DURING ANVESHA



POSTERS FOR VARIOUS EVENTS



Cultural Council Activities

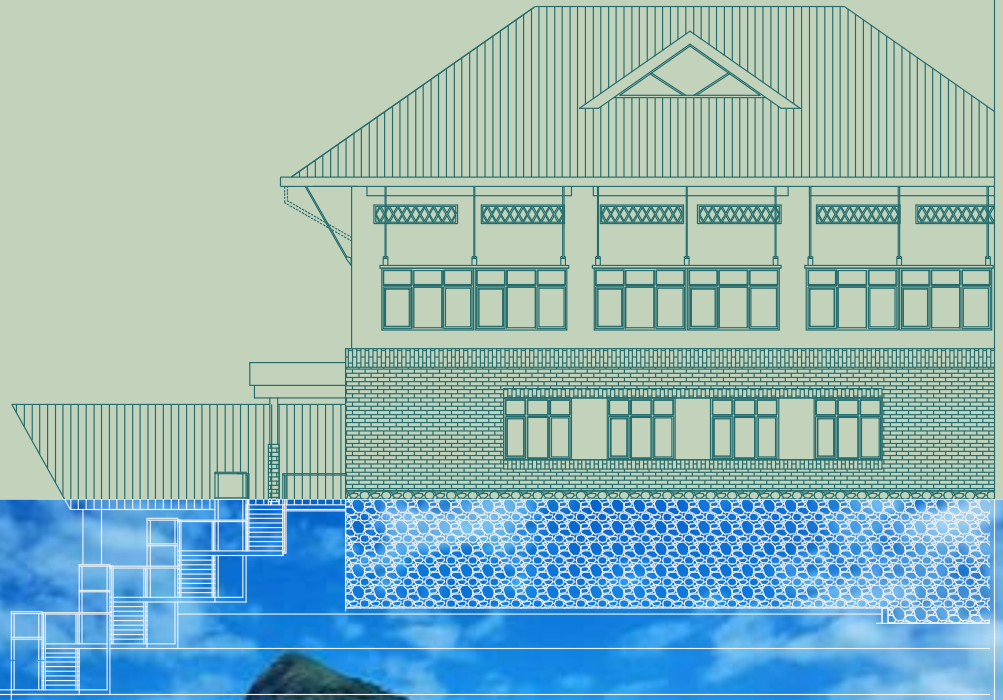


Photo: Vimal VM, Electricals department

CULTURAL COUNCIL, IISER Thiruvananthapuram

Faculty in charge: Dr Rajeev Kini, Dr Satish Khurana, Dr R S Swathi

Secretary: Adithya Janardhanan (BS-MS 2020)

The Cultural Council is a student-elected representative body under the Student Affairs Council that provides a platform to nurture and unveil the talents of the IISER TVM community. Since its inception in 2019, the Cultural Council has grown to encompass eight major sub-societies and three sub-clubs that actively engage students in a plethora of art and literary events, thereby promoting a vibrant campus atmosphere.

The Cultural Council is responsible for organising Ishya - the institute's grand annual cultural fest during the Vasanth semester. Ishya is coming up to be one of Trivandrum's sought-after fests, hosting a wide variety of exciting events and competitions. The council also represents IISER TVM at cultural fests and competitions conducted by other institutes and at the Inter-IISER Cultural Meet.

The council, all its sub-societies and Ishya have an active online presence on various social media platforms (links are provided below).

- Cultural Council: [Facebook](#) and [Instagram](#)
- [Dance Society](#)
- [Music Club](#)
- [Movie Club](#)
- [Literature and Fine Arts Society](#) (Sub-clubs: Book Club & Oratory Club)
- [Sopanam Magazine](#)
- [Media Society](#)
- [Theatrics Society](#)
- [Humanities Collective](#) (Sub-club: [Mazhavil- Pride Club](#))
- Ishya: [Facebook](#), [Instagram](#) and [YouTube](#)

Following is a comprehensive report on the various activities conducted by the sub-societies under the council during the 2023-24 term.

DANCE SOCIETY:

Spokesperson: Majma K (BS-MS 2019) & Gayathri Binu (BS-MS 2021)

The Dance Society is a platform for people who start dancing and grooving to the slightest rhythm anytime, anywhere. Please find the month wise activities listed out here:

1. September:

- Dance society dedicated a performance at the Teachers' day celebration on September 5th held at Aryabhata.
- On 6th September, Arshia M K (B20-Subhead, Dance Society) conducted a dance session to teach the choreo of the song "Kalapakkara".
- A Lavani dance session was conducted by Riya Shende on 7th September.
- Dance society performed for Hindi diwas dance on

14th September.

- On 22nd September, Ganesh Chaturthi special dance reel was posted on Dance Society Instagram page.



3. November:

- As announced the Diwali reel series commenced on 1st November. We upload dance reels by DMC members as well as a few entries each day.
- On November 5, Mayuri Dutta of B22 conducted a dance session of Bengali dance. Later the month, IICM

4. December:

- There were no activities other than the IICM dance practise during the 1 month Endsem vacation in December. Our Dance society team bagged the 1st position in Group Dance and Synchro dance at IICM conducted at Mohali.



2. October:

- To introduce the new batch B23 to the dance society, an orientation and dance session (Tose Naina Milake) was held on October 13.
- Dance society did a flashmob at MOT on 15th October as a part of Anvesha promotion. On the same day dance society performed at the open mic conducted by EBSB.
- A reel series for Diwali was announced in the Dance Society Instagram page on 18th October.
- Auditions for the IICM dance team was conducted by Abhishek R B on 26th October at CDH3.



5. January:

- For the new semester, Dance society commenced its activities with a post about the Desigroove merch release on 8th January.
- The appreciation post series dedicated to passing out B19 IICM Dance Society members started on 11th January.
- On 20th January Dance Society performed for the



- open mic conducted by the Music Society.
- Merch promotion dance video by Mayuri(B22) and Aashlesha(B22) was released on 24th January in the Dance Society Instagram page.
- B23 members of Dance Society performed dance on 26th January Republic Day.

- On 21 March, the inauguration day of Ishya 2024, a Cultural performance by the Dance Society was held.
- On 26 March, the Alumni series ' Classic cha cha ' was announced.

6. February:

- Disco deewane-Dance society conducted an open mic at CDH2 on 4th February.
- Dance Society collaborated with Mazhavil club and announced an online dance challenge on February 15, which was a part of Ishya 2024.
- Dance society exhibited a flashmob at CDH2 in collaboration with TedX on 20 February.



7. March:

- On 12 March, Ishya promotion reel was posted.
- On 13 March, started to post story series on well known dancers in India, and announced the merch mega offer winners.
- On 16 March, Ishya outreach flashmob was done in Lulu Mall.

8. April:

- The Alumni series is ongoing on Instagram.
- DMC of Dance Society had a last meeting on 7th April. Feedback for DMC 2023-24 received.

MUSIC CLUB:

Spokesperson: Sandra T R (BS-MS 2020), Alvin Antony Chungath(BS-MS 2019), & Sreerag N V (BS-MS 2021)

The Music Club is a place for music enthusiasts of all genres and styles. Let it be Western pop, Indian classical or Folk songs.

Addition and Repair of Music Instruments:

In response to the growing demands and aspirations of our student body and recognizing the evolving needs of the music club, a significant expansion of our instrument collection was done. This expansion was aimed at enriching the musical experience for our members and enhancing the diversity of musical performances within our community.

The following outlines the comprehensive upgrades and additions made to our instrument inventory: Semi-acoustic Guitar, Violin, Cajon, Drum Sticks, Keyboard Cover and Stand, Clap-box Cover and Guitar Cover.

Moreover, recognizing the importance of maintaining our existing inventory, we undertook necessary repairs,



notably addressing issues with the Tabla, ensuring its optimal performance and longevity.

MELOVERSE'- OPEN MIC (January 20):

The Music Club hosted an engaging open mic event in front of the indoor stadium on 20th January 2024, offering a platform for gifted individuals to display their talents.

The program was infused with a vibrant atmosphere of entertainment, featuring a delightful blend of songs, dances, and games that captivated the audience's attention throughout the event. Each element added its own unique charm to the event, creating a dynamic and engaging experience for everyone involved.

The event proved to be a remarkable success, allowing participants to shine while fostering deeper connections.



Weekly Jamming Sessions:

- As a part of our first monthly jamming session, we conducted our orientation for the newly arrived batch, instructing them about the running of the Music Club and advising all the rules and regulations we have been following for proper conduct of the

club on September 10th.

- A jamming session was conducted on October 14th. Many students showed up and enjoyed this day. The best achievement for us was that people demanded more jamming sessions.
- On January 6th, the Music Club hosted a lively jamming session that filled the music room with an electrifying atmosphere. Members eagerly collaborated, infusing the space with a dynamic blend of excitement and melody.
- On March 15th, we enjoyed a delightful outdoor jamming session in the cakeworld amidst nature.



Formal on-stage performances:

Teachers' Day Performance (September 5)

The Music club celebrated the auspicious occasion of Teacher's day celebration in IISER TVM. The music club came together and put on a marvellous display of medleys.



Performance at the Pongal celebration (January 14)

The Music Club showcased its musical prowess in an enchanting performance during the Pongal celebration. Members delivered a captivating array of melodies, contributing to the festive ambiance and spreading joy among the audience.

Hindi Diwas Performance (September 14)

As a part of Hindi Diwas program organised by the institute, The Music club displayed a soulful performance and various people took part in the cultural events, showcasing solo and group performances.



Republic day performance (January 26)

The Music Club's performance for the Republic day Celebration was a stirring tribute to our nation's values and unity. Members through their musical talents, conveyed a sense of patriotism and pride, leaving a lasting impact on the audience.

Foundation Day Performance (October 31)

The members of our Music club had a beautiful song performance on this day. Significant participation from the new batch (B23) was seen.



Performance for the Dance Society Open Mic (February 4)

The Music Club performed a collective performance at the dance society open mic - 'Disco Deewanee' on 4th February 2024. The performance featured a diverse selection of carefully curated songs to match the open

mic's theme.lasting impact on the audience.



Performance on TEDx event (March 10)

IICM Mehfil team delivered a captivating classical performance at the inaugural TEDx talk.



INTER IISER CULTURAL MEET

Auditions (November 2)

With the much-awaited IICM a month away, the IISER TVM Music Club decided to organize an audition for the Battle of Bands, Mehfil, and Duet Song categories. The event saw much student participation, and everyone performed skillfully, showcasing their talent and potential. After much deliberation, the judges were able to finalize the students who would go on to represent our institute in the IICM 2023.

Inter IISER Cultural Meet (IICM) Music Competitions:

The IISER TVM Music Club participated in IICM 2023 held at IISER Mohali, showcasing talent in Battle of Bands, Mehfil, and Duet categories. Their performances impressed the audience with energy, creativity, and skill.



OPEN STORY CHALLENGE

Keralappiravi - Open Story Challenge

The Keralappiravi Special Open Story Challenge was a resounding success, bringing together music enthusiasts to celebrate the beauty and diversity of Malayalam music.

Christmas Open Story Challenge

Provided a platform for members to showcase their creativity through music.



THYAGARAJA ARADHANA

The music club organized the 'Thyagaraja Aradhana,' a jubilant commemoration of the esteemed Carnatic music composer, Thyagaraja on 11th February 2024. The event marked a profound celebration of classical Indian music

and paid homage to one of its greatest luminaries. One of the highlights of the Aradhana was the group rendition of the Pancharatna Kritis, a set of five compositions revered for their melodic intricacy and devotional fervor.



ISHYA

Outreach

With the arrival of Ishya, our music enthusiasts actively participated in various outreach programs held at Mall of Travancore and Lulu Mall. Their exceptional talents garnered widespread appreciation from the audience.



Promotional Video

The Music Club unveiled a promotional video for Ishya 2024, aptly reflecting the theme of "order out of chaos."



Performance on ISHYA Opening ceremony (March 21)

During the ISHYA 24 inaugural ceremony, the Music Club showcased yet another mesmerizing performance with a blend of Carnatic and Hindustani classicals, complemented by an enthralling presentation of Kathak and Bharathanatyam accompanying the vocals.

Music Reels and Instagram handle

Throughout various occasions, including Christmas, Pongal, the Meloverse, Ishya, and several jamming



sessions, our Music Club Instagram handle has been consistently active, showcasing our vibrant musical community. We have engaged our audience with captivating reels, capturing the essence of each event and celebration. From festive cheer to creative collaborations, our reels have served as a dynamic platform for sharing our passion for music and fostering a sense of unity among our followers.

● **MOVIE CLUB:**

Spokesperson: Poorna Gomathisankaran (IPhD 22)

The Movie Club of IISER TVM (Indian Institutes of Science Education and Research, Thiruvananthapuram) serves as an ideal haven for cinephiles, offering a diverse range of activities tailored to suit the interests of movie enthusiasts. The club organizes regular movie screenings held in the seminar halls and on billboards across the campus, providing an immersive cinematic experience for students. These screenings feature a variety of films spanning different genres, cultures, and eras, catering to the eclectic tastes of the student community. Moreover, the club goes beyond mere screenings by incorporating fun activities such as trivia contests, discussions, and themed events related to the movies being showcased. This holistic approach ensures that members not only enjoy watching films but also engage in lively interactions and deepen their appreciation for cinema. The enthusiastic participation and positive reception from students highlight the club's success in fostering a vibrant film culture within the campus community.

1. Weekly Movie Screening: The club screened movies on weekends from a variety of genres and languages bringing inclusivity to all cultures around the globe.

Date	Movie
2nd September 2023	The Usual Suspect
9th September 2023	Kalyanaraman
16th September 2023	Asteroid City
14th October 2023	Kadai Vivasayi

2. Special Movie Screening: The club also screened movies on days of national and international significance to increase awareness. Special screenings were also done during festival celebrations as part of the festivities. Bingo Night in collaboration with Mazhavil and Review writing competitions were also conducted.

Event	Date	Movie
Halloween	5th November 2023	Sinister
Pongal	13th January 2024	Ghilli

3. Quiz: A quiz competition was conducted on 6th April 2024 in collaboration with the Quizzing Society (QSI) at LHC Venus about "All things Cinema".

LITERATURE AND FINE ARTS SOCIETY (ISLA):

Spokesperson: Siraj T M (BS-MS 2021)

The IISER Society of Literature and Fine Arts is a cozy society that has two sub clubs under it; namely The Book Club and The Oratory Club as well as the literature club proper, this diversity lends it a great portfolio with a palette of events to showcase.

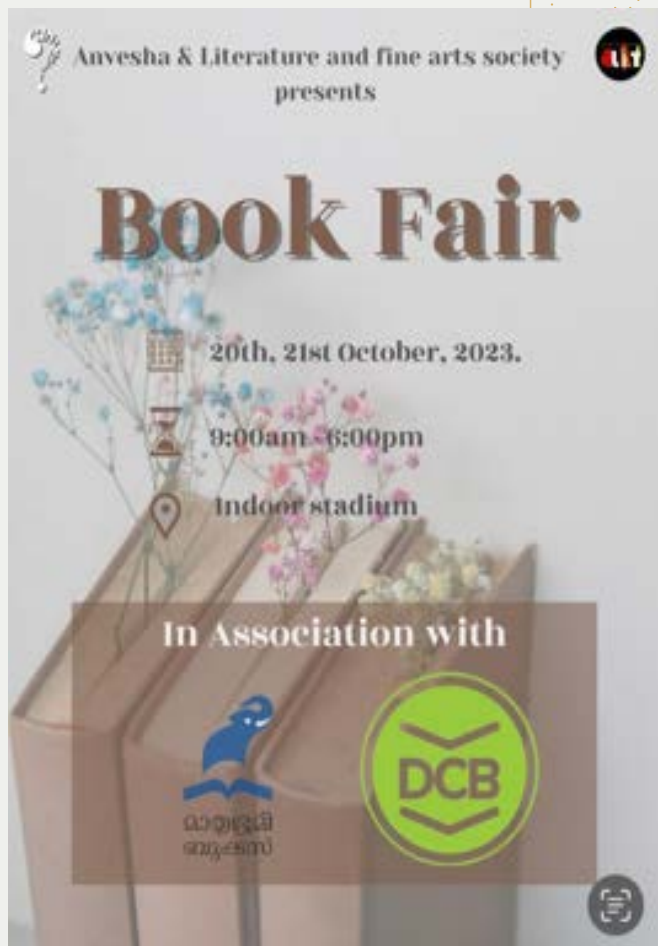
Book fair :

On 20th and 21st of October, 2023, under the aegis of the Book Club a book fair was held in the Indoor Stadium. In

collaboration with the Anvesha, the annual science fest of IISER TVM, this fair received a great turn out.

Hindi Diwas:

To commemorate the day Hindi was chosen as the official language of the central government, ISLA, in collaboration with EBSB, conducted Hindi Diwas with



a multitude of programs in order to appreciate further the beauty of the most widely spoken language in the country.

The Events conducted are as follows:

- Geet-Mala:** Solo Singinig Competition on Sept 7th

- **Vaktavya:** Speech Competition on Sept 8th
- **Vaad-Vivaad:** Debate Competition on Sept 9th
- **Geet-Mala:** Group Singing Competition on Sept 10th
- JAM Competition as well on Sept 10th
- **Kaavya:** Poetry Competition on Sept 11th
- **Mela:** Quiz Competition on Sept 12th

IICM auditions:

IICM Auditions in the form of Short Story Writing was held on 28th October while JAM, Poetry writing and Debate competitions were held on 29th October,

TARKA 1.0

Under the Oratory Club, Tarka 1.0 a debate competition with its own indigenously developed format was held.



● SOPANAM: THE MAGAZINE

The official campus magazine of IISER TVM, currently hosts a dedicated team of 24 members and a sub club for the Sopanam Podcast with five members, who are toiling with the ideation and execution of a prospective podcast club exclusively to capture the amazing life at IISER. The team mainly invests the entire year for the annual edition of the magazine, with collecting articles and artworks from the community and curating them into a masterpiece magazine.

RECRUITMENT DRIVE:

We launched a drive to recruit new members to the team and received around 55 responses. We selected 10 new members to the different teams ranging from content, editor, designer, illustrator, podcast, etc.

HALLOWEEN CELEBRATIONS 2023:

Team Sopanam organized the halloween celebrations of 2023 at the indoor stadium on November 4th from 9.43pm. We presented an evening with great pomp

Spokesperson: Krishna S Menon (BS-MS 2020)

and show, with many fun games and never-before competitions. We had a ramp walk event, cackling competition, and games like lock and key, ring throw, ping pong ball, and a stall exclusively for face-painting. We decorated the whole indoor stadium to create the spooky vibe, and even set up a mock ouija board, and photo booth to set the mood for the night. The open mic was also welcomed by the student community in good spirits and we had a huge turnout for the event.



SOPANAM 2023 YEARLY MAGAZINE

The 2023 edition of the annual magazine will be published in the first week of August 2024. This edition

is a compilation of year-long efforts of our amazing team of designers, editors and illustrators. This edition, like every other, has four different parts called- Mindspace, Vistas, Offbeat, and Time capsule. The surprise part of this edition is titled 'Professors unscripted'. Our writers engage in an impromptu conversation with our dear professors, who casually shared interesting bits from their life, and our editors curated them into fun articles and our designers put in their bit with their caricatures.

The final editing and proofreading of the magazine is all done and it is waiting for the release as soon as the campus reopens after summer break. The sudden preponement of exams and conclusion of the academic year resulted in the clash of release dates for the team.

● MEDIA SOCIETY:

Spokesperson: Boney M (BS-MS 2020) & Angel C J (BS-MS 2022)

Media Society is a community of creative folks enthusiastic about Photography, Video Production, Animation, and Design thinking. We conducted several programs for the betterment of the society and its members. The following is a list covering details of major activities and the involvement of the media society for the year 2023-24.

- **Photography Info-Series:** Weekly posts on the history and types of photography, as well as photographic techniques, were shared on the club's Instagram page
- **Photography Competitions:** Different Photography competitions were organised by the club to showcase the photography skills of the student community. All the entries were shared on the club's Instagram page. A major two amongst are,
 1. **Cliktember:** A month-long photography event held in September 2023 that featured different themes daily. Participants showcased their talent through various unique and creative images of IISER TVM. The event was a success, with stunning photographs submitted every day.
 2. **India through my lens:** As part of Republic Day celebrations a creative photography competition was conducted where participants submitted photos reflecting their vision for the country.
- **IICM-23:** Media soc. had actively participated in the Inter IISER cultural meet held mid december at IISER Mohali. A team of 3 lead by Aswin S accompanied by Aivin and Boney.
- **Creative Photography Workshop by Virendra Adikari (14th January 2023):** A hands-on workshop on Creative photography was successfully organized by , an esteemed photographer with experience of taking more than 300 workshops. Taught students basics of creative photography which was followed by an enthralling night of astrophotography & light painting session.
- **Weekly Workshops and Training Sessions:** Weekly workshops were conducted by members of the Media Society having expertise in the field of Photography, Videography and Editing to train the budding and enthusiastic students, equipping them with new techniques.
- **Event Coverage:** over the years, the Media Society

members have played an integral role in covering various events on campus. This includes Frontier Symposiums 2023-24 (Biology, math, Chemistry), Chromosome Stability Conference 2022, EMBO India Workshop 2023, festival celebrations (Onam, Diwali, Pongal), Spicmacay performances, Republic Day and Independence Day celebrations. The media team also extensively covered the college fests Anvesha 2023 , IISM 23, Ishya 2024.

- **IISM 23:** Media soc. successfully did the coverage of Inter IISER sports meet held at IISER TVM during the winter break of '23. Various reels, Promo videos, daily highlights, and various resources were updated in an effective manner.
- **Ishya 24:** Apart from covering events and making

promo videos, we did a live photo printing stall, where we printed more than 200 copies of photographs and it turned out to be a huge success.

- **Promotional contents:** The Media soc. was active in making promotional stuffs in form of videos and posts during Anvesha, IISM, Ishya and other formal and informal events. We also collaborated with Dance soc., Music soc., Theatrics soc., in making various promotional videos and other contents.

Those were the major activities the media team involved mainly for the year 2023-24. Many students from various batches have involved, participated and improved their skills in various fields of camera and films. Media soc. 23-24 consist of a team lead by Aivin as Head assisted by Greeshma and Kabilan as Vice Heads.

● THEATRICS SOCIETY:

Spokesperson: Farzana K S (BS-MS 2020) & Soyam Gupta (MSC-2022)

Theatrics Society intends to nurture the theatre skills of the students of IISER Thiruvananthapuram.

INDEPENDENCE DAY MIME:

The Independence Day mime, a cornerstone event hosted by the Theatrics Society, ignited a sense of national pride and unity within our community. Through stirring performances and poignant narratives, the event served as a powerful reminder of the struggles and sacrifices that paved the way for our freedom. Awakenning the inner patriot in each audience member, the mime brought to life the spirit of independence and resilience, fostering a deeper appreciation for our shared heritage and values. The Theatrics Society's commitment to commemorating this significant day through the art of theatre entertained and inspired reflection and gratitude for our country's journey toward liberty and self-determination.

stage performance titled "Hindi Dwas," which eloquently celebrated the significance of the official language, Hindi. This production artfully depicted the emotional connection between a grandfather and his grandson, underscoring the profound importance of preserving one's mother tongue. Through poignant storytelling, "Hindi Diwas" highlighted the cultural richness inherent in linguistic diversity and emphasized the broader value of embracing multiple languages to foster understanding and unity within our community. This performance served as a poignant reminder of the enduring power of language to bridge divides and unite us in shared experiences and heritage.

HINDI DIWAS DRAMA:

The Theatrics Society of IISER TVM presented a stirring

IGEM OUTREACH:

For the 2023 iGem team, Oasys, the Theatrics Society, organized a compelling street play to destigmatize mental health issues and promote awareness. This

impactful performance at the University College junction on September 15th, 2023, resonated deeply with audiences, shedding light on individuals' challenges and the importance of seeking support. Breaking the Silence, the street play courageously tackled taboo topics surrounding mental well-being, encouraging open dialogue and empathy within the community. Through powerful storytelling and poignant performances, the Theatrics Society effectively challenged misconceptions and advocated for greater understanding and support for those struggling with mental health issues.

ANVESHYA OUTREACH:

In connection with Anvesha, our talented team presented a captivating street play at the Mall of Travancore, taking the audience on a journey through themes of love, conflict, and the complexities of the human soul. The play served as an engaging medium to showcase the wonders of scientific discovery, inviting the audience to embark on a journey through the marvels of innovation and curiosity. The street play ignited a passion for science through captivating performances and interactive storytelling and inspired the community to embrace the spirit of inquiry and exploration. This initiative by Anvesha not only entertained but also educated and empowered individuals to appreciate the boundless possibilities of scientific exploration.

SCRIPT WRITING COMPETITION:

This unique opportunity for the creative minds behind every successful drama garnered an overwhelming response from aspiring playwrights across the community. The Script Writing Competition, organized by the Theatrics Society, provided a platform for budding writers to showcase their talent and craftsmanship. Participants delved into diverse themes, crafting compelling narratives that captivated audiences and enriched our cultural landscape. Through this event, the Theatrics Society continued its mission of nurturing emerging talent and fostering a vibrant theatre scene within our community. The competition not only celebrated the art of storytelling but also encouraged collaboration and innovation within the theatrical community.

IICM (INTER IISER CULTURAL MEET):

During the Inter IISER Cultural Meet (IICM) from December 18th to December 20th, 2023, held at IISER Mohali, the Theatrics Society participated in two categories: stage play and monodrama. Their stage play performance was met with resounding applause and praise from both the audience and judges, who commended their creativity, storytelling, and overall execution. In the monodrama category, Diya Francis delivered an exceptional solo performance that captivated the audience with her emotional depth and authenticity, earning her the first prize and widespread admiration. IICM Auditions, expertly conducted by Mr. Abhishek Rangaprabhath, provided an exceptional platform for participants to display their theatrical skills in stage play and monodrama. These auditions attracted a plethora of talent, demonstrating a wide range of emotive prowess and dramatic interpretations. The event was a preliminary round, selecting the finest performers to represent the institute at the prestigious Inter IISER Cultural Meet. This initiative highlighted individual talents and fostered a sense of community and artistic exchange among the participants. The commitment to excellence displayed during these auditions promises an exhilarating competition at the main event, setting a high standard for performance and creativity.

Stage Play:

At the Inter IISER Cultural Meet (IICM), the Theatrics Society presented a riveting stage play that garnered high praise from spectators and judges alike. Their performance, marked by impeccable acting and innovative storytelling, resonated deeply with the audience, leaving a lasting impact. Judges commended the team's dedication, creativity, and attention to detail, acknowledging their ability to engage and captivate the audience throughout the production. Monodrama In the monodrama category of the Inter IISER Cultural Meet, Diya Francis of the Theatrics Society delivered a captivating solo performance that earned her the first prize and widespread acclaim. Diya's portrayal of her character was characterized by raw emotion and authenticity, drawing the audience into the poignant narrative. Judges praised Diya's talent, noting her

ability to convey a range of emotions and captivate the audience with her powerful delivery and nuanced interpretation, making her performance a highlight of the event.

REPUBLIC DAY DRAMA:

Yet another masterpiece from the Theatrics Society, the Republic Day Celebrations, served as a poignant reminder of the values enshrined in our preamble - "Sovereign, Socialist, Secular, Democratic, Republic." Through stirring performances and artistic expressions, the event embodied the spirit of unity in diversity, echoing the ideals of our nation's founding Fathers. From patriotic plays to soul-stirring musical renditions, the celebrations showcased the rich tapestry of Indian culture and heritage. The Theatrics Society's commitment to promoting patriotism and fostering a sense of national pride was evident in every aspect of the event, leaving a lasting impression on all who attended. As we commemorated the birth of our republic, the Republic Day Celebrations served as a testament to the power of art in inspiring, enlightening, and uniting us as a nation.

DHANAK SECOND-RUNNER UP:

Compared to previous years, this year witnessed a surge in the number of individuals demonstrating their talents beyond our campus, reflecting the growing interest and skill in mime. The Theatrics Society's participation in Dhanak, the Inter-Collegiate Mime Competition hosted by IIST, showcased our commitment to excellence in performance arts. Amidst stiff competition, our team's dedication and skill earned us the prestigious title of second runner-up. This achievement not only highlights the prowess of our performers but also underscores the Theatrics Society's role in nurturing and promoting theatrical talent within and beyond our institution.

ISHYA - INTRA COLLEGE CULTURAL FEST:

Promo Video

There's no better way to kick off ISHYA '24 than with a captivating promo video from the esteemed Theatrics

Society. Under the theme "OrderOutOfChaos," the Ishya cultural meet embraced creativity and exploration, inviting participants to unravel the complexities of order and chaos through various artistic expressions. The Theatrics Society's contribution to the event showcased the power of theatre in reflecting and dissecting societal themes, provoking thought and sparking meaningful conversations. With stunning visuals and evocative storytelling, it invited audiences to contemplate the harmonious interplay between structure and disorder, challenging conventional perspectives and sparking anticipation for the cultural meet. As a prelude to the event, the promo video served as a compelling testament to the society's creativity and vision, setting the stage for a thought-provoking and transformative experience at ISHYA '24.

Drama competition

What's life without drama? Day 0 welcomed a plethora of passionate artists showcasing their unique talents at the Ishya Drama competition. The nail-biting competition drew in performers from all walks of life, each bringing their own flair and creativity to the stage. With captivating performances that ranged from poignant dramas to uproarious comedies, the event illuminated the diverse storytelling traditions within our community, opening Pandora's box of emotions for both participants and audiences alike. The Ishya Drama competition served as a celebration of the transformative power of theatre, uniting audiences and performers in a shared appreciation for the art form.

Monodrama competition

Captivating the audience with compelling solo performances, the Monodrama Competition showcased individual performers' extraordinary versatility and skill. This competition saw participants tackle the challenging task of portraying multiple characters and emotions single-handedly, holding the audience spellbound with their dramatic abilities. Each performance was a testament to the power of solo storytelling, where raw emotion and nuanced expression took centre stage. The event not only provided a unique platform for artistic expression but also celebrated the depth of talent within

the IISER community. It reinforced the importance of monodrama as a vital and dynamic theatrical art form.

Ishya Cultural

Ever thought about the world through the eyes of the animals and insects at IISER? Well, our ingenious playwrights certainly did! "Praniyugam," presented by the Theatrics Society, offered a thought-provoking exploration of life from a different perspective. Through captivating performances and imaginative storytelling, the cultural drama illuminated the interconnectedness of all living beings and invited audiences to reflect on their relationship with the natural world. The production showcased Society's commitment to pushing artistic

boundaries and fostering meaningful dialogue through theatre. "Praniyugam" not only entertained but also challenged perceptions and inspired a deeper appreciation for the beauty and complexity of the world around us.

FUTURE DIRECTIONS

- Plans are underway to establish a dedicated space specifically for the Theatrics Society.
- Additionally, the purchase of several collar microphones is on the agenda, and they will be held as assets of the Cultural Council to facilitate the seamless execution of future events.

● **HUMANITIES COLLECTIVE (HCIT):**

Faculty in charge: *Dr Harilal Madhavan*

Spokesperson: *Subith G (PhD-2021) & Jacob Cherry Sam (BS-MS 2020)*

The Humanities Collective (HCIT) is a vibrant community that promotes lively discussions among students through talks and seminars. It encompasses the LGBTQIA+ pride club at IISER TVM- Mazhavil.

Events:

"Drug Abuse among youth: Problem Management and Prevention" in Collaboration with the Student Welfare Council.

Date: 17th October 2023

The Humanities Collective of IISER TVM organised a significant event titled "Drugs Decoded",

aimed at addressing the prevalent issue of drug abuse among youth, focusing on prevention and rehabilitation strategies. The event was inaugurated by the esteemed Director of IISER TVM, Prof. J.N. Moorthy, and featured Mr Rishiraj Singh, IPS, as the chief guest. Drug abuse remains a critical societal concern with far-reaching implications for individuals and communities. Recognizing the urgency to address this issue, the Humanities Collective of IISER TVM organized "Drugs Decoded" to raise awareness, foster dialogue,

and explore effective measures for prevention and rehabilitation. The event commenced with an opening address by Prof. J.N. Moorthy, who emphasized the importance of understanding the complexities of drug abuse and the collective responsibility to combat it. Mr Rishiraj Singh, a distinguished retired Indian Police Service (IPS) officer with extensive experience in various capacities, including as the Director General of Prisons and Correctional Services of Kerala, delivered the keynote address. Drawing from his rich expertise, Mr. Singh provided invaluable insights into the multifaceted nature of drug abuse, its societal impacts, and the challenges in prevention and rehabilitation efforts. His address underscored the need for holistic approaches involving law enforcement, education, and community engagement to address the root causes of drug abuse effectively. Throughout the event, participants engaged in thought-provoking discussions, addressing various aspects of drug abuse, including its prevalence, underlying factors, and the role of stakeholders in prevention and rehabilitation. Attendees could pose

questions and share their perspectives, enriching the discourse with diverse viewpoints and experiences.

The event underscored the importance of raising awareness, fostering collaboration, and adopting holistic approaches to address this societal challenge.

Magazine Release and Talk on Women's Rights Movement Throughout History.

Date: 9th February 2024



organisers, highlighting the magazine's mission to foster critical thinking and dialogue on pertinent societal issues. In his address, Babu Ramachandran commended the initiative of the Humanities Collective and emphasised the importance of platforms like Mithril in promoting informed discourse and understanding of socio-political movements. Babu Ramachandran is a renowned chief broadcast journalist at Asianet News who is celebrated for his creativity, deep knowledge, and unbiased storytelling. His popular show "Vallathoru Katha" has captivated audiences with its engaging narratives on history and social issues. He praised the theme of the inaugural issue, noting the significance of exploring the history and evolution of women's rights movements. The discussion was thought-provoking and gave attendees valuable insights into the complexities of gender equality struggles across different periods and cultures. The magazine promises to be a beacon of intellectual engagement and social awareness, providing a platform for diverse voices to contribute to meaningful discourse.



HCIT hosted the inaugural release of our much-anticipated magazine, Mithril. The event was graced by Babu Ramachandran, Chief Broadcast Journalist at Asianet News, who inaugurated the magazine. The magazine 'Mithril', the brainchild of the Humanities Collective, was conceived a year prior to provide a platform for individuals passionate about socio-political discourse to express their views and insights. The first issue of Mithril focuses on the theme of "contemporary feminist movements throughout history." The event commenced with an introduction to Mithril by the

● EK BHARAT SHRESHTHA BHARAT (EBSB) ACTIVITIES:

Spokesperson: Swathi Sreeram (BS-MS 2020) & Shajiya Shahanas P A (BS-MS 2020)

The Ek Bharat Shreshtha Bharat (EBSB) Club of IISER Thiruvananthapuram is an initiative that aims to enhance interaction and promote mutual understanding between people of different states/UTs of India.

OCTOBER:

We conducted the club's first event, the "Meri Maati Mera Desh" campaign initiated by the Ministry of Youth Affairs and Sports, Govt. of India on 13th Oct, 2023. Honorable Director, Prof. J.N. Moorthy administered the Panch Pran pledge to affirm our commitment to our beloved nation, and as part of the Vasudha Vandhan program, saplings and soil were handed over to a representative of the panchayat.

We conducted the club's first open mic on 15th Oct 2023, centered around the theme "Bharathasya Varnaaha." The Instagram handle of the EBSB club was also started on the same day.



NOVEMBER AND MARCH:

In collaboration with the Student Welfare Council, we conducted two blood donation drives, Prayati 5.0 and Prayathi 6.0 on 1st Nov 2023 and 18th March 2024

respectively.

Planned events:

1. Yathra Diaries
2. Every Month Culture of a state- Its highlight some online quiz or games



● CULTURAL AWARDS

Students were felicitated with Cultural Awards by Prof. J N Moorthy, Director IISER TVM, under the different categories on 26th January 2024 (Republic Day).

- **Niharika P V (BS-MS 2019)** was awarded the **Cultural Roll of Honour** for her exceptional and consistent achievements and critical involvement in event organisation and management for various events of the council.

- **Cultural Citations** were awarded to the following graduating students (BS-MS 2019) for consistently demonstrating notable performances in cultural activities taking into account their accolades and contributions.

1. Akash S Kumar
2. Anagha J
3. Anagha K P
4. Arya P
5. Bhavya R
6. Gayathri V
7. Indulekha. V
8. Jibin Thomas
9. Naeema C A
10. Sayanthana Benny
11. Sreelakshmi P

- The **Cultural Hall of Fame** medals were awarded to the following graduating students (BS-MS 2019) in recognition of their contributions to event organisations, management and volunteering in different editions of ISHYA, IICM and other cultural events/club activities

1. Aan Ruth
2. Alvin Antony C
3. Aswin S
4. Athulya P S
5. Basil B Aliyas
6. Deepthi Damodaran Nambiar
7. Hruidya C. Babu
8. Joel J Parakadavil
9. Josy Joseph
10. Kaushik Babu Nambiar
11. Kiran Raj

12. Majma K
13. Pratheek Malol
14. Ravikiran Hegde
15. Shahma Subair

- **Certificates of Appreciation** were awarded to the following students who have worked dutifully for specific events or those who have made notable contributions and/or received accolades.

1. Merina Tony
2. Rutika Sansaria
3. Shreya Venkatesan
4. Shrutika Sansaria
5. Sona V Suresh
6. T Sandeep

- **The cultural color** was awarded to the following students (1st to 4th year) to encourage the young and upcoming talent considering the prizes they have won in the competitions conducted over the last year.

1. Ajinkya Uike
2. Akshay Unni
3. Anugreha M
4. Aswathy Sunil
5. Athul George
6. Diya Francis
7. Gayathri Ialson
8. Gayathri S kumar
9. Jerin Abraham George
10. Malavika K A
11. Meenakshy A S
12. Nandhana T S
13. Nandu C K
14. Nayana Harilal
15. Paarth Manoj
16. Renuka Manoj
17. ano Field S S
18. Subith G
19. Vyshnavi K V

● IICM (INTER IISER CULTURAL MEET) 2023

Inter-IISER Cultural Meet (IICM) is the joint annual cultural festival of all seven IISERs, IISc Bangalore and CEBS Mumbai. IICM 2023 was hosted by IISER Mohali from 18th to 20th December, packed with a plethora of cultural activities and competitions, ranging from Dance, Music, Art, Literature, Dramatics, and Design.

Various sub-societies conducted auditions, and a 68-member contingent was selected to represent IISER TVM in various competitions at the fest. Our talented team showcased outstanding performances in almost all arenas and exhibited immense team spirit, winning the First Runner-Up title for a second consecutive year at IICM 2023. We sincerely acknowledge participants and team managers for all their sincere and consistent efforts, from building the team to winning the title.



● ISHYA 2024 (21ST - 24TH MARCH 2024)

Order Out of Chaos

Ishya 2024 was the greatest the campus had yet witnessed, with the celebrations spanning across four main days, 21st to 24th of March 2024. This edition of Ishya was themed around capturing the true essence, from chaos to order: witnessing the mesmerizing transformation to order from chaos. Team Ishya, under the Cultural Council, pulled out a grand Ishya edition within a short preparation time with huge support from hundreds of volunteers working under different departments.

Ishya Launch, Ishqya & Informals

Ishya '24 was officially announced on 17th February, revealing this year's logo with an open mic event and games. Ishqya, Valentine's week was celebrated in collaboration with the pride club, Mazhavil, in all its sweetness and love, which included the duet dance competition.

Book Fair

Ishya'24 organised its second Book Fair at the Lecture Hall Complex lounge on 18th and 19th March. ISLA organized the Book Fair in collaboration with Premiere Books. The events received overwhelming support and participation from the student and faculty community alike.

Merchandise

This edition of Ishya saw a fantastic range of merchandise with detailed and thought-out designs that reflected the theme of Ishya 24. The merchandise included bookmarks, badges and stickers in addition to the enamel pin and varsity jacket, not to mention the tote bags. The merchandise received a great response from the student community, faculty, staff, alumni, and even the general public, as the merchandise was delivered outside IISER upon request.

Outreach & Promotion

This year, Ishya reached out to a broader audience on all its social media platforms. Creative promotional video covers were released by the Dance Society, Theatrics Society,, Music Club and Ishya Media team,

capturing the essence of spring. A flash mob as well as a musical concert was performed at Mall of Travancore and Lulu Mall by the members of Dance and Music club respectively

Off-stage Events

Ishya '24 came with a truckload of individual and group events on both online and offline platforms. Online events included Lumera Obscura (photography contest) and Avant Garde (short film competition).

Offline events included Put funda (open general quiz)



and Bon-Mot (intercollegiate debate). Several literary, art, and gaming events were conducted before the main days of Ishya. Mehfil included JAM (Just A Minute-Extempore) and Mushaira (Poetry recital) competitions. Alekhya (creative arts events) included Painting, Pencil

drawing, Graffiti, Mehendi design, Origami, Face painting and Calligraphy. Syaahi (literary events) comprised Essay writing, Short Story writing, and Poetry writing in three different languages (English, Hindi, and Malayalam). Gaming events included CS GO, COD, VALORANT, ROCKET LEAGUE and FIFA PC. The competitions were conducted in multiple venues on campus.

Main days: On-stage Events

The main days of Ishya featured the much anticipated on-stage events, pro-shows. All events on the main stage were live-streamed through Ishya's YouTube channel for everyone far and near to enjoy the shows and not miss out on them. This year, besides external participants,



the IISER TVM campus welcomed the public audience to witness the exciting on-stage competitions and pro-shows.

Ishya '24 was inaugurated by Prof. J. N. Moorthy, Director, IISER TVM, on 21st March 2024, at Aryabhata Hall in the Lecture Hall Complex. The inauguration ceremony included elegant performances from the dance society and music club under the council, cultural programs, and Drama and Stand-Up Comedy competitions.

The 22nd and 23rd of March were power-packed with nail-biting competitions happening on the magnificent main stage at the Indoor Stadium. The on-stage intra-collegiate events included Tarang (group dance competition), Rawaaz (Fashion show), Aalap (Duet singing competition), Mime, Ishya unplugged (Acoustic cover competition). A number of cultural programmes from students and faculties on all main days added colour and vibrance to the celebrations. Inter-college events included Awaaz (solo singing competition), and Mudra (group dance competition). These competitions received huge participation from colleges across the country. Accommodation and transport facilities were arranged for all external participants.

Pro-Shows

The 43 miles, did not forget to win everyone's hearts to the fullest with their enthralling pro-show on the night



of 24th March. And night ended with performance of the Maestro herself, Gowrylekshmi which was enjoyed by the students, faculties and visitors alike. The tickets to the

shows sold out in great numbers, and the performances swayed the crowd.



Sponsors

This edition of Ishya was made possible with the support of our benevolent sponsors.

Title sponsor: State Bank of India (SBI)

Production Partner: Epoch Markers

Event Sponsors:

- Crescent Labs
- SK Biosystems
- Premiere Books
- Canara Bank
- Kerala Lottery
- Kerala Travancore Event Planners
- Rohini International
- Tattoo tattva

Food Partners:

- Pizza Hut
- KFC
- Nestle
- Kofi Club
- Poykayil Bakery

Acknowledgment

Ishya '24 received overwhelming participation and

support from the student community. This year, team Ishya had over 300 volunteers working with around 50 coordinators across 17 departments. We thank all the participants, volunteers, coordinators, and Student Affairs Council members for making this a grand success.

Team Ishya received great support from the Director, Prof. J. N. Moorthy; Deputy Director, Prof. S. Murty Srinivasula; Dean of Student Affairs, Prof. Utpal Manna; Student Welfare Coordinator, Dr. Jishy Vargheese; Faculty in-charge, Dr Rajeev Kini, and all faculties and staff of IISER TVM. We would like to thank them wholeheartedly for their help and support.

We would like to thank all our sponsors and partners for their trust in us and the mutual benefits earned through this Ishya. We also thank our beloved alumni for their kind-hearted support in the successful completion of Ishya 2024.



STUDENT WELFARE COUNCIL ACTIVITIES

Activities from 1st April 2023 to 31st March 2024

The Student Welfare Council (SWC) at IISER Thiruvananthapuram is dedicated to enhancing the well-being of students through a variety of activities. Our efforts focus on addressing both academic and non-academic concerns through effective communication between the student community and the administration, ensuring a supportive and healthy campus environment for all students. SWC supervise the functioning of the student-run mess in collaboration with the Mess Committee, organise awareness sessions on critical topics, collaborate with the institute Health Center to organise medical testing and blood donation camps and help manage the institute shuttle service.

● ACTIVITIES OF THE CLUB

S No	Date	Event Title	Brief Description
1	13-06-2023	Poster making and slogan writing competition for World Blood Donor Day	A poster making and slogan writing competition was held aligning with the aim of World Blood Donor Day to raise awareness of the importance of blood and plasma donation.
2	14-06-2023	World Blood Donor Day Celebration	World Blood Donor Day was celebrated in the institute as part of the “Raktadan Amrit Mahotsav” under “Azadi ka Amrit Mahotsav” celebrations.
3	15-06-2023	Prayati – The Blood Donation Camp	A Blood Donation Camp was organised in the institute’s Health Center. All collected donations were contributed to Govt. Medical College Thiruvananthapuram.
4	15-09-2023	Thyroid Screening & Blood Test Camp	A Thyroid Screening and Blood Test Camp was organised in the institute’s Health Center with the help of DDRC Lab Vithura to provide thyroid and blood testing services at discounted rates.
5	17-09-2023	Talk on Importance of Mental Health	Dr. Krishnan S, the Head of the Psychiatry Department at Government Medical College Thiruvananthapuram, shed light on the significance of mental health, strategies for maintaining mental well-being, and the resources available to students for support. The talk was organised in collaboration with the iGEM 2023 team.
6	26-09-2023	Health Screening Camp	A Health Screening Camp was organised in the institute’s Health Center with the help of the Kerala Institute of Medical Sciences (KIMS) Thiruvananthapuram to provide the following services free of cost: a) Blood pressure test b) Blood sugar test c) ECG (Referred by Doctor) d) Cardiology Consultation e) Dietician Counseling
7	17-10-2023	Talk on: Drug Abuse Among Youth: Problem Management and Prevention	A talk and discussion on the topic Drug abuse among youth: Problem management and prevention by Mr. Rishiraj Singh (retired I.P.S. officer) was conducted in collaboration with Humanities Collective of IISER TVM (HCIT). The talk enlightened the students about the significance of drug abuse awareness and the role they can play in combatting the crisis.
8	29-10-2023	First Aid cum BLS Training & Well Woman Program	The program was conducted with the help of NABH-accredited SP Fort Hospital Thiruvananthapuram. First Aid and Basic Life Support Training was provided to the students to equip them to handle health emergencies. An interaction session with the gynaecologist was held to discuss women’s health and well-being and solve students’ queries.

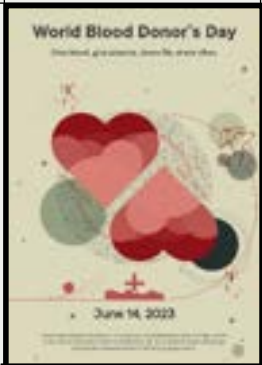
S No	Date	Event Title	Brief Description
9	1-11-2023	Prayati – The Blood Donation Camp	A Blood Donation Camp was organised in the institute’s Health Center in collaboration with the institute’s Ek Bharat Shreshtha Bharat (EBSB) team. All collected donations were contributed to Govt. Medical College Thiruvananthapuram.
10	4-11-2023, 20-11-2023	Blood Test Camp	Blood Test Camps were organised in the institute’s Health Center with the help of DDRC Lab Vithura to provide blood testing services at discounted rates.
11	16-01-2024	HIV, HBV, HCV test camp	The camp was organised with the help of Govt. District Hospital Thiruvananthapuram in the institute’s Health Center to provide HIV, HBV, HCV testing services free of cost.
12	27-01-2024	Snake Awareness Session for Campus Staff	A snake Awareness session was organised in collaboration with the Ecological Society of IISER-TVM (ESI). A team from the Kerala Forest Department conducted the session for the campus security staff to acquaint them with snake handling and associated emergencies. The session was also open to students and other staffs.
13	11-02-2024	Safe Sex and Sexual Hygiene Session	An interactive session on Safe Sex and Sexual Hygiene was conducted to foster open and constructive conversations about crucial topics related to sexual health. Dr. Edwin Peter, a renowned Sexuality Educator, founder of the Sex Education Kerala (SEK) Foundation, and the Resident Medical Officer at MOSCMM, Kunnamkulam, provided expert insights and guidance, shedding light on commonly misunderstood aspects of sexual health.
14	18-03-2024	Prayati – The Blood Donation Camp	A Blood Donation Camp was organised in the institute’s Health Center in collaboration with the institute’s Ek Bharat Shreshtha Bharat (EBSB) team. All collected donations were contributed to Govt. Medical College Thiruvananthapuram.

SOCIAL MEDIA CHANNELS OF THE CLUB



Instagram: [@karuna_iisertvm](https://www.instagram.com/karuna_iisertvm) (Instagram handle of Karuna – The animal Welfare Club of IISER TVM (An SWC Initiative))

Posters



Poster making



Talk on Importance of Mental Health



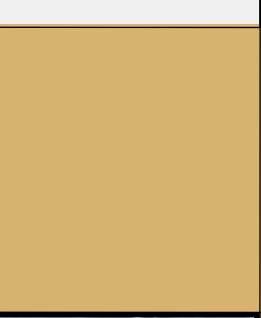
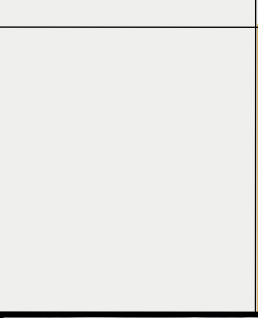
Talk on: Drug Abuse Among Youth: Problem Management and Prevention



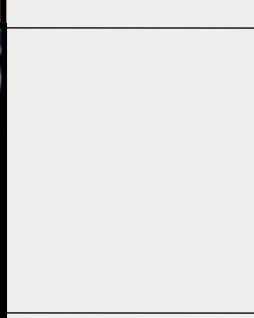
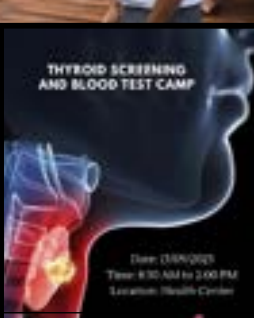
First Aid cum BLS Training & Well Woman Program



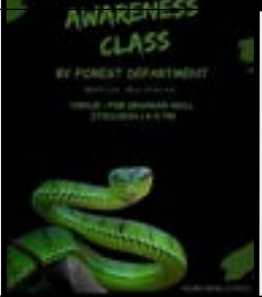
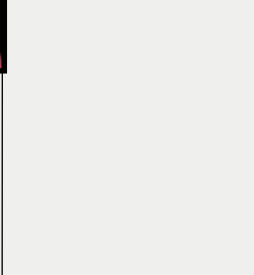
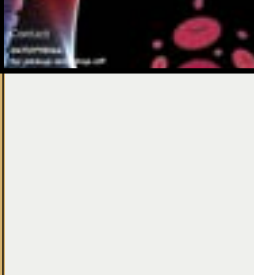
World Blood Donor Day



Thyroid Screening & Blood Test Camp

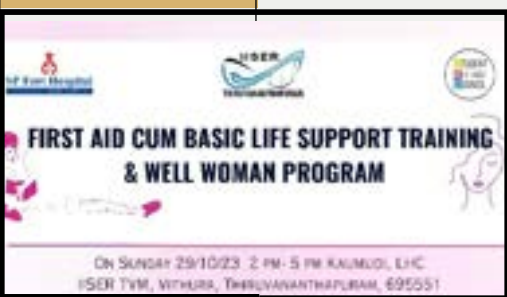


Talk on Importance of Mental Health



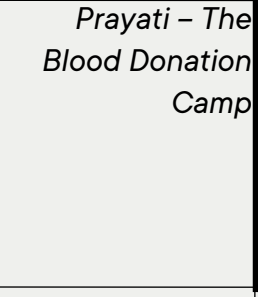
Snake Awareness Session for Campus Staff

First Aid cum BLS Training & Well Woman Program

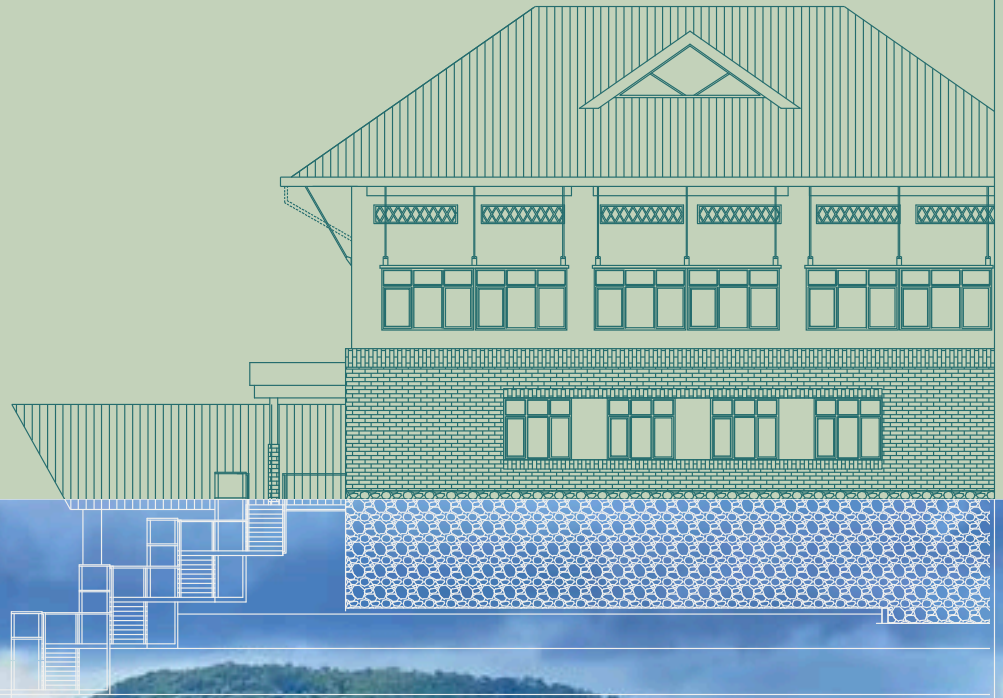


Talk on: Drug Abuse Among Youth: Problem Management and Prevention

Prayati - The Blood Donation Camp



Sports Council Activities



SPORTS COUNCIL REPORT 2023-24

OVERVIEW:

The IISER TVM Sports Council functions under the guidance of Prof. Utpal Manna (Dean of Student Affairs), Dr. Sudarshan Kumar K (Faculty In-charge), Dr. Arun Raj J R (Physical Education Instructor) and Goutham Raj (Sports Secretary). The council comprises members elected by the students during the elections for the Student Affairs Council '23. The elected members are:

- Goutham Raj (B20)
- Justin Prasad (B20)
- Yaswanth O S(B21)
- Nanda Nair (B21)
- Manav Murali (B21)
- Aishwarya K (B20)
- Joshy K Oommen (B20)
- Ajas M Khader (B20)
- Kiran Raj (B19)
- Mridula K (B19)
- Sharun S (Msc 22)
- Anshuman Bera (I PhD 19)
- Sangram Satpathi (I PhD 20)



FOOTBALL:

This report provides a comprehensive overview of the football activities, achievements, challenges, and future plans for the football community at IISER. The objective is to highlight the progress made over the past year, identify areas for improvement, and outline strategic initiatives for the upcoming year.

JOGO BONITO 4.0

The Fours Open Futsal tournament of IISER for both men and women embraces the concept of the beautiful game. This is the fourth edition of Jogo Bonito since its inception and this tournament has now become the most awaited football event for both participants and spectators alike.

The champions for this edition are **Lucy FC (Men's)** and **Old Monkeys (Women's)**.



VOLLEYBALL:

Renowned for its finesse and grace, volleyball has etched itself into the fabric of IISER's sporting culture. The inaugural week of September witnessed the electrifying Inter IISER volleyball tournament, showcasing the prowess of six men's teams and three women's teams in a battle for supremacy. Amidst a sea of competition, TEAM A ascended to victory in the men's division, while TEAM B secured a commendable runner-up position. Similarly, in the women's category, TEAM A clinched the coveted title, with TEAM B trailing closely behind.

Transitioning to the vibrant month of February, the Inter-batch volleyball tournament unfolded, welcoming ten formidable men's teams and six determined women's teams to vie for glory. In a display of skill and resilience, Laccadives VC Batch 20 emerged triumphant in the men's division, while



Only Digs Batch 23 showcased their mettle as worthy runners-up. Parallely, Pushpa VC Batch 21 demonstrated their dominance in the women's category, securing the championship title, with My Rina Batch 19 securing a commendable runner-up position.

CRICKET:

IISER CRICKET LEAGUE (ICL)

The IISER Cricket League (ICL) commenced in the first week of February. The matches were held at Kathipara and were played with leather balls, attracting participation from five competitive teams. Throughout the tournament, players showcased their cricketing prowess, engaging spectators with thrilling displays of skill and strategy. After a series of intense matches, the IISER Titans emerged triumphant and became champions of the ICL.



BASKETBALL:

The Indian Institute of Science Education and Research (IISER) hosted its vying 3v3 basketball

tournament from January 18th to January 24th, 2024. This much-anticipated event brought together students,

faculty, and staff in a spirit of sportsmanship and camaraderie. The tournament featured a series of exciting matches, showcasing the talent and enthusiasm of the IISER Ballers. Six men's and six women's teams registered for the 3v3 basketball tournament, and a total of 30 games were conducted from 18th to 24th January 2024.

Hoopers 20 and ദാമോദരൻ ഉണ്ണികൃഷ്ണൻ ദിശ്മൻ ഇടക്കൊച്ചി - DUDE won the championship in the tournament in the men's and women's category respectively.



KABADDI:

IISER KABADDI LEAGUE

The spirit of sportsmanship and camaraderie reverberated through the indoor stadium of IISER during the IISER Kabaddi Tournament. The tournament, held on the 5th of February, 2024, showcased the raw power and strategic prowess of four formidable teams: Seven Wolves, Paltan Panthers, Elite Warriors, and Thommanum Makkalum. In a thrilling finale, Seven Wolves, led by the indomitable Captain Vikas from Batch 21, faced off against the tenacious Paltan Panthers, led by the charismatic Captain Sachin from Batch 22. The match was a spectacle of skill, agility, and determination, as both teams fought fiercely for victory. However, it was Seven Wolves who emerged triumphant, showcasing their dominance with a resounding victory of 15 points over Paltan Panthers. The match not only highlighted the exceptional talent of the players but also the strategic brilliance of the captains in leading their teams to glory.

GIRLS' FRIENDLY KABADDI MATCH

In a bid to encourage female participation in sports and prepare for the upcoming IISM, a girls' friendly kabaddi match was also organized. The match was a testament to the growing enthusiasm and skill among female athletes at IISER. The match was played with great fervor and showcased the immense talent and potential of the players. Such initiatives play a crucial role in promoting gender equality in sports and nurturing a culture of inclusivity and sportsmanship. Overall, the Inter-IISER Kabaddi Tournament was a resounding success, highlighting the passion and dedication of the players and organizers alike. It served as a testament to the vibrant sporting culture at IISER and set the stage for future sporting events to come.



OPEN CARROMS TOURNAMENT:

With the aim of promoting carrom and selecting the IISM institute team, the Carroms club hosted an Open Carroms Tournament during the first week of

September '23. Prakash Abhi emerged as the champion of this tournament. Vipul Dilip and Ananya were the first and second runners-up, respectively.

ITSAV '23:

The annual sports meet of IISER TVM, ITSAV this year was a sight to behold with the significant influx of new talents and the exhibition of talent and vigor on the field. The tournament went on for a month due to the unforeseen weather conditions and subsequent need for rescheduling multiple games. The rulebook was set according to the IISM rulebook as part of the council's effort to scout for talents who have the potential to perform in IISM. This year we were able to include tennis, which can be seen as a major step to building a tennis-playing community at our institute.

for IISM were effective, and we were able to use the statistics of this tournament to select players and build our IISM team at the earliest.

This year, we were able to successfully set up a system where each student is sorted into one of the four houses (Alpha, Bravo, Charlie, and Delta) throughout their period on the campus. Sorting was performed using a random generator, and the upcoming batches will be sorted similarly.

The delayed formation of the committee and the interruptions due to rain were the main obstacles faced by the council, and we aim to take measures to overcome or reduce their impact this year.

Bottom line: the council's efforts to scout for talents



IISM 23:

The scenic campus of IISER Thiruvananthapuram (IISER TVM) came alive with the spirit of competition and camaraderie during the Inter-IISER Sports Meet (IISM) 2023. Held from December 23rd to 30th, 2023, the event witnessed a week of exhilarating

sporting action, bringing together student athletes from various IISER institutes across the country. The official inauguration ceremony on December 23rd marked the commencement of IISM 2023. The esteemed Prof. Jarugu Narasimha Moorthy, Hon. Director of IISER TVM, graced

the occasion, setting the tone for a week of intense competition. Athletes, brimming with sportsmanship and competitive spirit, embarked on a series of matches across various sporting disciplines.

The foundation of this successful event lay in meticulous organization. A dedicated team, spearheaded by Professor Utpal Manna, Dean of Student Affairs, formed the core committee, providing overarching guidance. The smooth execution of various logistical aspects was ensured by the executive committee, comprising Dr. Sudarshan Kumar K (Faculty In-charge, Sports), Dr. Arun Raj J.R (Physical Education Instructor), Goutham Raj (Sports Secretary), and Justin Prasad (General Secretary). Further contributing to the success were the three main pillars of the organizing team: the Invitation and Institutional Affairs Committee, Technical Committee, and Food and Accommodation Committee. The Invitation and Institutional Affairs Committee, under the leadership of Dr. Priyanka Majumder, Abhimanyu S M, and Joel J Parakadavil, diligently supervised every aspect of content creation, transportation, hospitality, women's welfare, healthcare, and grievance resolution. The Technical team, coordinated by Dr. Mathew Arun Thomas, Dr. Kamalakannan Vijayan, Lakshmi A S, and Kaushik Babu Nambiar, meticulously planned and oversaw every detail in event management, scheduling, sponsorship, rulebook and guidelines, certificate distribution, social media handling, volunteer management, merchandise, decoration, and coordination of the Opening and Closing Ceremonies. The remarkable arrangements made for the food and accommodation of the participants were safe in the hands of the Food and Accommodation Committee, managed by Dr. Shyamal Ghosh, Dr. Bhavya P S, Nidhin Ravi, Pooja S, and Dheeraj Ramesh. The unwavering dedication of 85 volunteers deserves special mention. Their tireless efforts and enthusiasm played a crucial role in ensuring a seamless experience for all participants throughout the event.

The culmination of IISM 2023 arrived on December 29th with the closing ceremony. Prof. Aravind A Natu,

Chairman, Board of Governors, IISER TVM, along with the Director and other distinguished guests, presided over the ceremony. After a week of fierce competition, IISER Bhopal emerged victorious, securing a commendable 10,800 points. IISc Bangalore followed closely behind with 10,280 points, while the host institute, IISER TVM, secured a well-deserved third place with 8,860 points.

IISM 2023 transcended the realm of mere competition. It served as a remarkable platform for fostering camaraderie and a sense of sportsmanship among student athletes. The collaborative effort of the organizing team, faculty members, volunteers, and the enthusiastic participation of student athletes made IISM 2023 a resounding success. The memories created and the spirit of sportsmanship undoubtedly leave a lasting legacy.

The awards won by our institute are :

GOLD

1. Table Tennis (Womens)
2. Badminton Mixed
3. Volleyball (Womens)

SILVER

1. Table Tennis Singles (Womens)
2. Table Tennis Mixed Doubles
3. Badminton (Mens)
4. Basketball (Mens)
5. Football (Mens)

BRONZE

1. Badminton (Womens)
2. Kabaddi (Womens)
3. Kho Kho (Mens)
4. Chess

Athletics Overall - SILVER

Individual events under Athletics:

- S Athul K (long jump men's) - GOLD
- Karan Singh (1500m men's) - GOLD

- Karan Singh (5000m men's) - GOLD
- Aswin Das (10000m men's) - SILVER
- Jadov Menaka (5000m women's) - SILVER
- Papul P (100m men's) - SILVER
- 4x400m relay men's - SILVER
- 4x400m relay women's - SILVER
- Jadov Menaka (1500m women's) - BRONZE
- Vishnu Gopala (Triple jump men's) - BRONZE
- Majma K (800m women's) - BRONZE
- Devanath M (200m men's) - BRONZE
- 4x100m relay men's - BRONZE
- 4x100m relay women's - BRONZE



INTERBATCH TOURNAMENTS:

FOOTBALL

The Interbatch Football Tournament was conducted during the month of August in connection with the National Sports Day. All games were held at the Kathipara Ground and the standard rules were followed. Active participation was observed from all batches including senior students and the PhDs.

Batch 20 emerged as the Champions.

BASKETBALL

The nail-biting Inter-batch basketball tournament was held from the 4th to the 12th of April 2024. Four men's and three women's teams registered for the game, accounting for a total of nine matches played. The table-toppers were chosen as the champions. Standard FIBA rules were followed throughout the game. Some of the notable games of the tournament were between Batch 20 and Batch 22 in both men's and women's categories, and Batch 21 vs Batch 22, which also grabbed the audience's attention.

The campus well-received the tournament, with positive feedback highlighting the event's organization and high competition. It provided

a valuable break from academic routines and strengthened bonds among students from different batches. The success of this year's tournament has set a high benchmark for future events, with suggestions for expanding the event to include more teams from newer batches and PhD students.

21 Jump Street (Batch 21) and B20 Hoop Hopes (Batch 20) emerged as the champions in the Inter-batch tournament in the men's and the women's categories, respectively, defeated by no team.

KHO KHO

The Inaugural Inter-batch Kho Kho Tournament took place from January 22nd to January 30th, 2024, showcasing remarkable talent and sportsmanship among the participants. The tournament saw enthusiastic participation, with six men's and six women's teams registering for the competition. Pool-based matches were played, and the pool toppers moved on to semi-final knockouts. Following standard Kho Kho rules, the tournament featured several notable matches that captivated the audience. Particularly thrilling were the matches between Batch 21 and Batch 23 in men's and Batch 20 and MSc+IPhD in women's categories. The final game between batches 21 and 23 moved on to sudden death, an edge-of-your-seat thriller for the audience. Another gripping encounter

between Batch 20 and 22 garnered significant attention and excitement among the spectators.

The tournament was well-received across the campus, with positive feedback praising the event's excellent organization and high level of competition. It offered a refreshing break from the academic routine, fostering camaraderie and strengthening bonds among students from different batches. The success of this year's event has set a high standard for future tournaments, with many suggesting the inclusion of more teams from newer batches and PhD students. In the end, Batch 21 triumphed as the men's champions. Similarly, Batch 20 emerged as the women's champions, showcasing exceptional skill and teamwork.

played in T-20 format with tennis balls. All the matches were held at the Kathipara Ground.

Team MSc+IPhD emerged as the champions.

THE LAST DANCE (FAREWELL MATCHES)

- KHO KHO
- FOOTBALL
- CRICKET
- BASKETBALL



CRICKET

The Interbatch Cricket Tournament was held during the month of August. The matches were

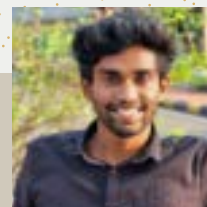
SPORTS AWARDS ' 24:

ROLL OF HONOUR



MRIDULA K

SPORTSPERSON OF THE YEAR



T SANDEEP

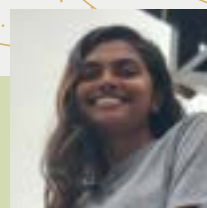


VISHNU GOPALA T

CITATIONS



KIRAN RAJ



SHAHMA S



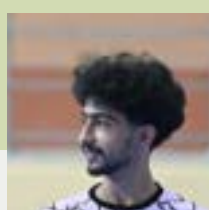
ASWIN S



PRAVEENA K



MAJMA K



VAISHAKH S



ASWIN DAS



JYOTHILAKSHMI



PAPUL PEGA



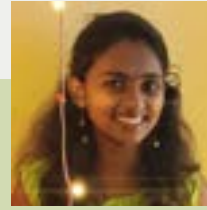
ANAND AJAYAN



ARAVIND A



TIRTHONKHOR



**AMUDA
MANIKANDAN**



ANUPAMA KRISHNA



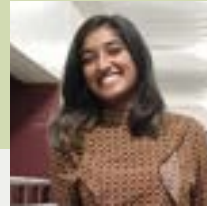
PREETHI G



NANDANA THILAK



NAMITHA NAIR



FATHIMA NILOOFAR

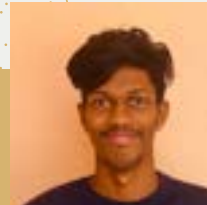
SPORTS COLOUR



RISHAAN HAASIB



AKSHARA M



AKSHAY SUNDAR



AVINASH HARI



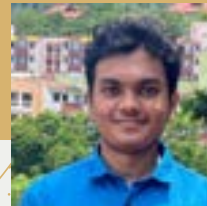
VIDHYA G



GOUTHAM RAJ



JADOV MENAKA



MADALA VIKAS



NANDA NAIR



NEHAL B



NANDANA RAJEEV



PAARTH MANOJ



SEBIN JOSEPH



SOORYAGAYATHRI



SRAVAN NAIK



VYSHNAVI K V

EMERGING PLAYERS

SPORTS COLOUR (SPECIAL MENTION)

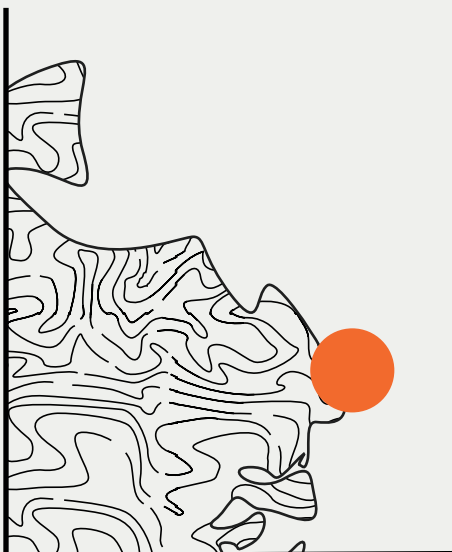
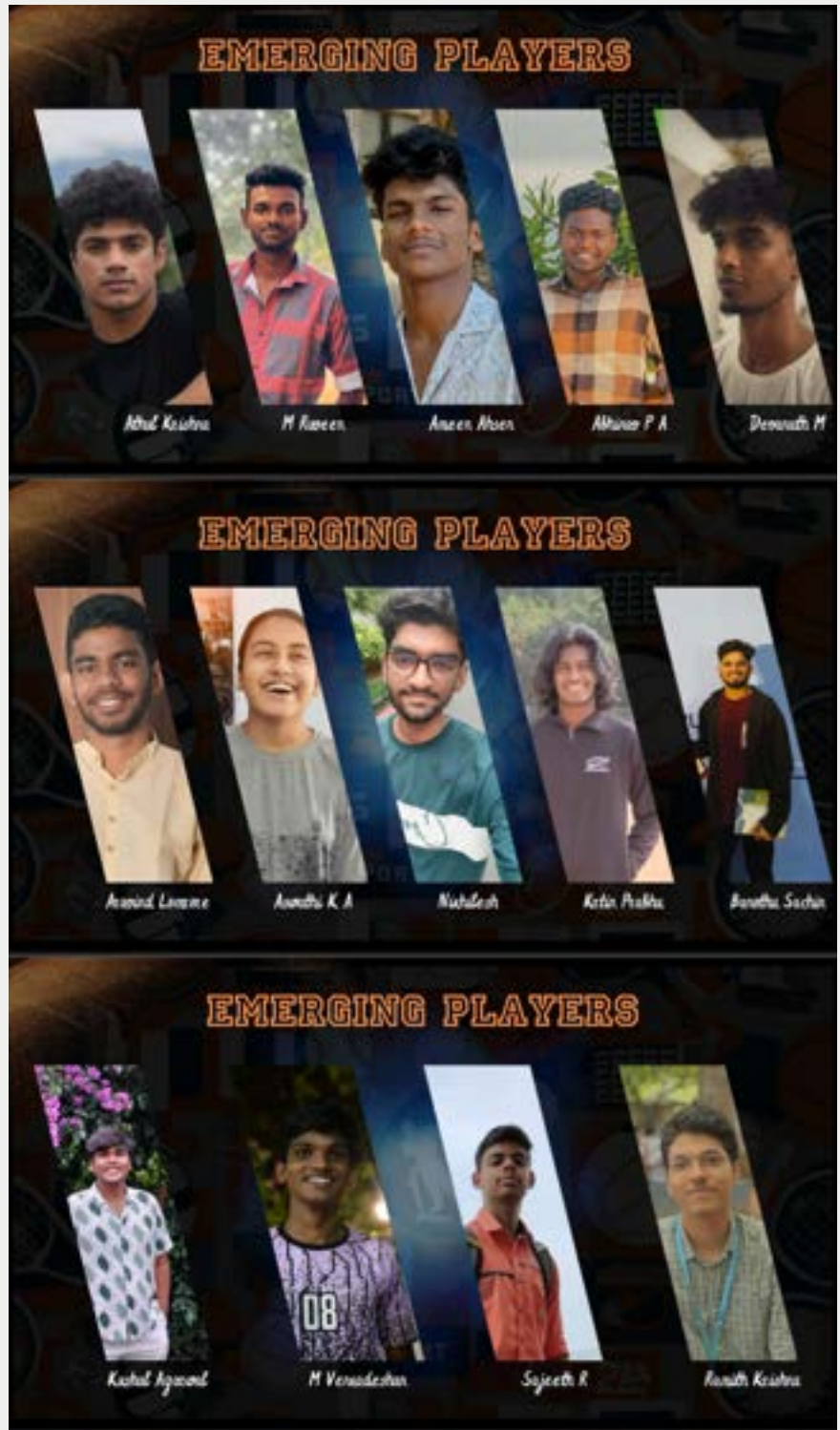
1. JAGANNATHAN V
2. PRASHANTH PACHAURI

CITATIONS (SPECIAL MENTION)

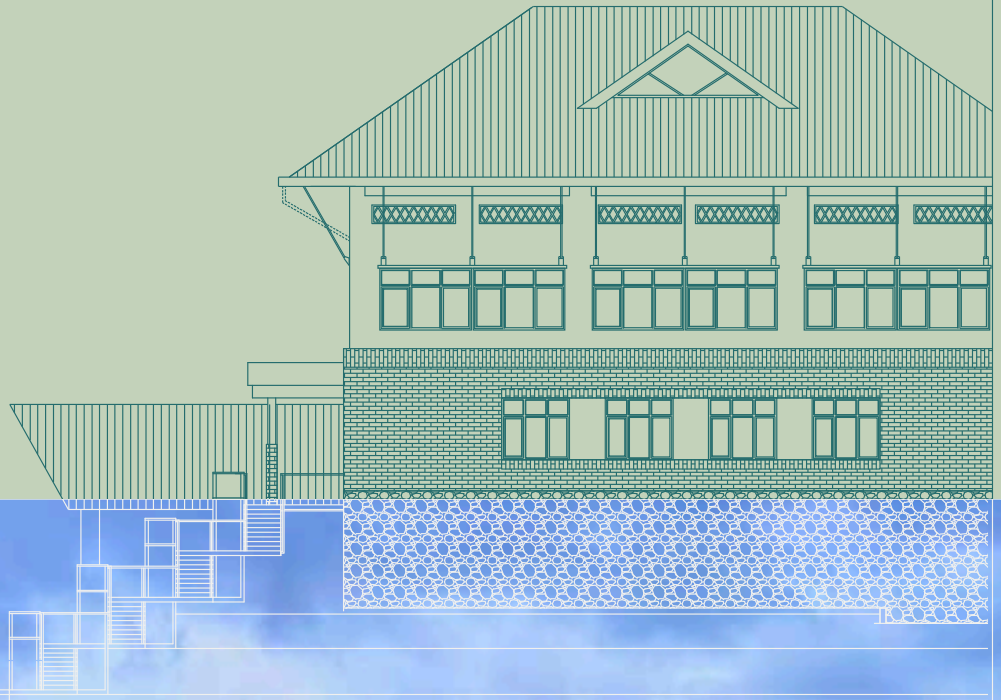
1. NAEEMA C
2. PHIL RAJU ABRAHAM
3. SANDRA ANN LITTO
4. SOUMYADEEP SARKAR
5. ANANTHA PADMANABHAN B M
6. ATHULYA P S
7. ABIN KRISHNA K S

SPORTS STREAK

1. MUHAMMED RAEES A
2. KARAN SINGH
3. JOSHY K OOMMEN
4. ROSHA D'CRUZ



Centers



CAMRIE *Centre for Advanced Materials Research with International Engagement*

The Centre for Advanced Materials Research with International Engagement, CAMRIE, is one among its many initiatives to leverage the expertise and knowledge of the existing faculty members across the disciplines for solving emerging scientific challenges of bigger nature in advanced materials research, in collaboration with global researchers. Stationed at IISER TVM, the Centre aims to accelerate and exploit international networking with interdisciplinary approach. Currently there are 20 faculty members associated with the centre from various other schools, and a total 16 students are registered for the Ph.D. program under CAMRIE. Ph.D. students work in truly interdisciplinary areas, in collaboration with international research groups. The centre is actively looking forward to collaborating in various interdisciplinary areas including Energy materials & Devices, Biomaterials and Bioengineering, smart and adaptive materials, computational materials science, etc.



Picture: CAMRIE common research laboratory

CENTER FOR HPC *High Performance Computing*

The Center for High-Performance Computing (Center for HPC) at the Indian Institute of Science Education and Research, Thiruvananthapuram (IISER-TVM) stands as a premier interdisciplinary core facility dedicated to advancing scientific computing and research in parallel algorithms. Established in 2021, the Center serves as a hub for cutting-edge research across diverse fields of science and technology, leveraging the power of high-performance computing (HPC) to address complex and computationally intensive problems.

Mission and Objectives

The primary mission of the Center for HPC is to foster innovation and excellence in scientific research by providing state-of-the-art computing resources and expertise. The Center aims to facilitate high-impact research across a broad spectrum of disciplines, including but not limited to physics, chemistry, biology, engineering, and data science. By offering advanced computational tools and support, the Center empowers researchers to tackle sophisticated problems, develop novel algorithms, and gain deeper insights into their respective fields.

Organizational Structure

The Center for HPC is home to a dynamic team of 13 associated faculty members drawn from various schools within IISER-TVM. These faculty members bring a wealth of expertise and contribute to a collaborative research environment that spans multiple disciplines. Additionally, the Center supports 7 full-time Ph.D. students and 9 final-year BS-MS project students, who actively engage in research and development activities. This diverse and talented group forms the backbone of the Center's research endeavors and contributes to its vibrant academic community.

Infrastructure and Facilities

A cornerstone of the Center is the Padmanabha HPC cluster, which has been operational since 2019. This high-performance computing infrastructure is supported by a generous contribution from faculty members through the FAST scheme funded by the Ministry of Human Resource Development (MHRD) and the IISER-TVM administration. The cluster is instrumental in providing computational power to over 120 users, including undergraduate and graduate students, who utilize its resources for their research projects.

The Padmanabha cluster is equipped with:

1. CPU Cluster: Over 88 nodes, each featuring 28 cores, totaling 2464 cores. Each node is outfitted with 128 GB of system memory, ensuring substantial computational and memory resources for demanding simulations and data processing tasks.

2. GPU Nodes: 3 nodes dedicated to high-performance graphical processing, which are essential for accelerating computational workloads in fields such as machine learning, data analysis, and complex simulations.

User Access and Support

The Center for HPC operates as an open-access facility for IISER-TVM faculty, researchers, and students. All users benefit from the computing resources at no charge, reflecting the Center's commitment to supporting academic and research excellence. The Center provides comprehensive support and guidance, helping users to effectively harness the cluster's capabilities and achieve their research objectives.



Picture: Computing facility at Padmanabha cluster at IISER Thiruvananthapuram

Research Impact and Future Directions

Since its inception, the Center for HPC has played a crucial role in advancing research at IISER-TVM by enabling high-performance computational studies and fostering interdisciplinary collaborations. Looking forward, the Center aims to further enhance its infrastructure, expand its research initiatives, and continue contributing to breakthroughs in science and technology. The ongoing development of the Padmanabha cluster and the integration of emerging technologies will ensure that the Center remains at the forefront of high-performance computing and scientific research.

Activities carried out by the Facility

S No	Date	Event Title	Brief Description (Max 100 words)
1	7th-8th Oct 2023	Two-Day Workshop on Python Programming - From Basics to Advanced!	<ol style="list-style-type: none"> 1. Python Basics and Intermediate Concepts 2. Object Oriented Programming 3. Parallel computing basics.

DST-IISER TVM *IC-MAP on storage*

DST-IISER TVM IC-MAP on Storage is one of the three MAP consortiums set up by DST and Mission Innovation. The centre headed by Prof. M M Shaijumon, IISER TVM (Admin PI) and Yogesh Sharma, IIT Roorkee (Lead PI) commits to the accelerated development of solid-state battery technologies providing high power and energy densities, safety, and longevity.

The consortium consisting of a core team of 16 researchers from 15 partnering institutes, aims to accelerate the development of Solid-State Battery technology using Machine learning and Artificial Intelligence through automated processes. The project is supported by Mission Innovation, a global initiative catalyzing a decade of action and investment in research, development and demonstration to make clean energy affordable, attractive and accessible for all.

During the last one year, a couple of electrochemical work stations have been installed in the centre for the testing of solid-state lithium batteries. Regular visits of consortium members are conducted during the past year. We conducted internal review meetings of the consortium twice in the last year. The work being carried out under the centre has been presented in various national and international meetings during the last year.



Picture: Electrochemical testing facility for Solid-state battery studies



Picture: Photograph of proof-of-concept demonstration of a working solid-state battery device fabricated in the lab



Picture: Visit of Nobel laureate, Prof. Morten P. Meldal, to the centre

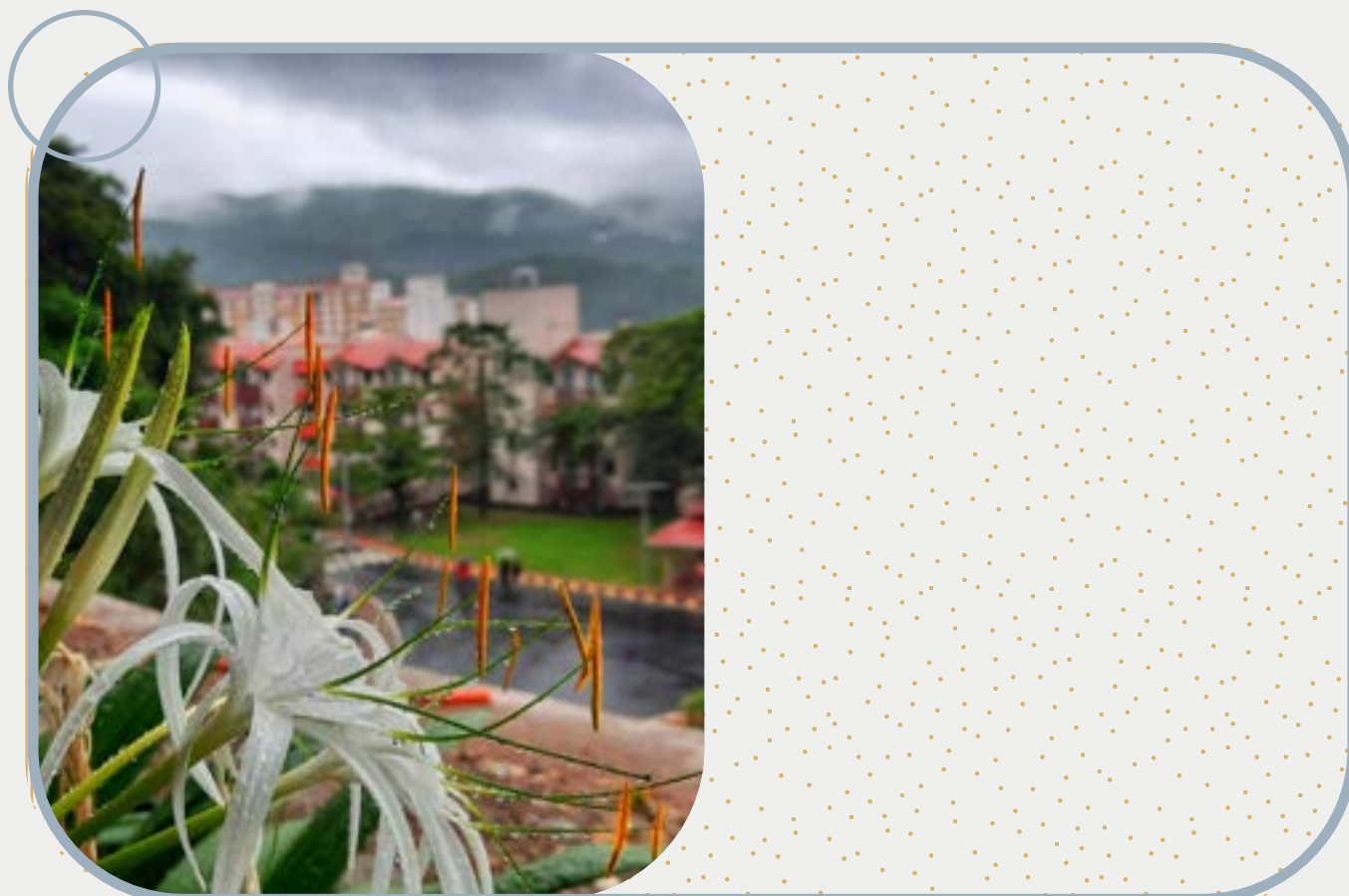
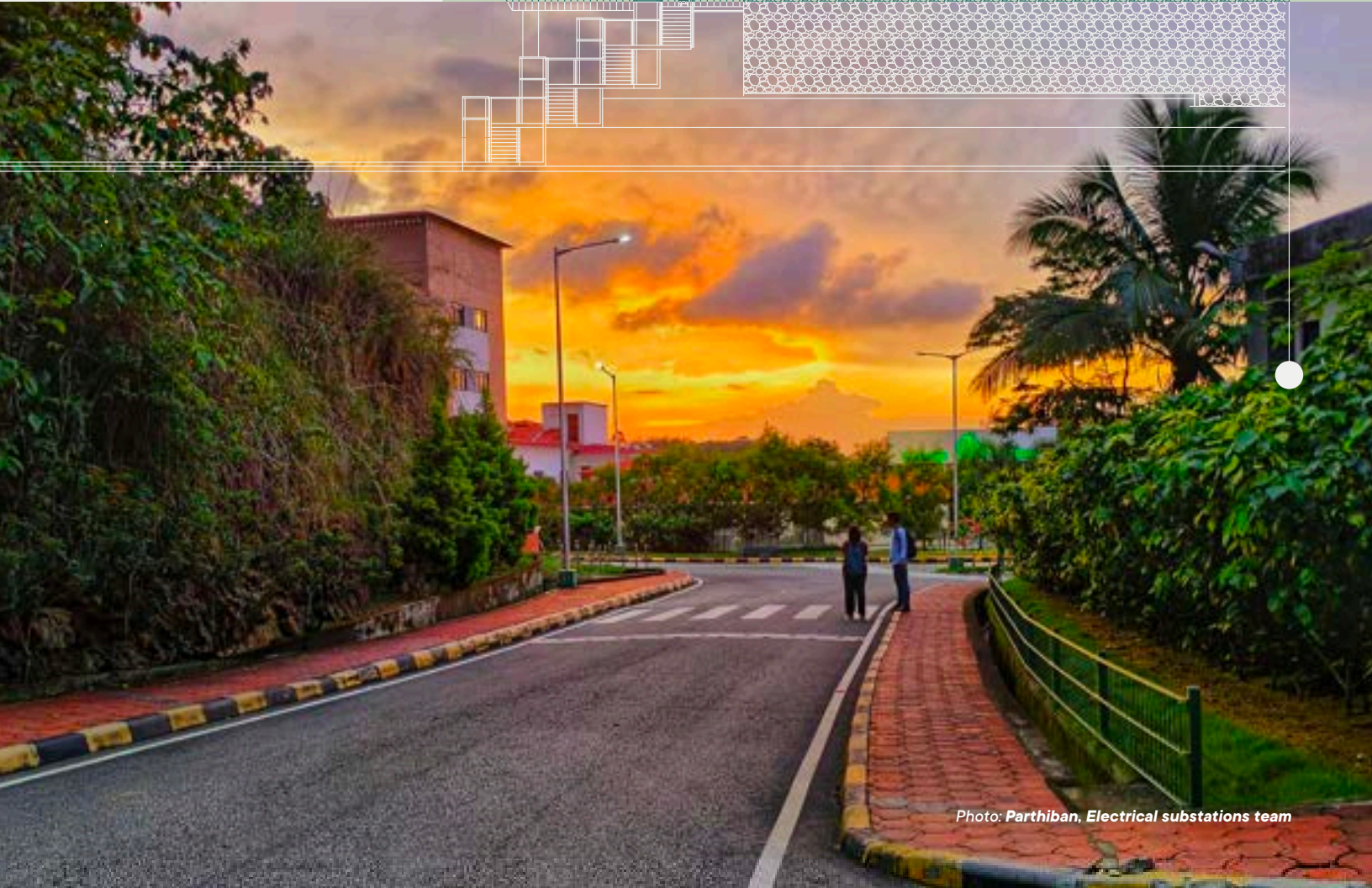


Photo: **Vimal VM, Electricals department**

Ancillary Facilities



CENTRAL LIBRARY

BRIEF INTRODUCTION OF THE CENTRAL LIBRARY IN IISER TVM

The central library of the institute supports the academic and research needs of the Institute community. The state of the art library facilitates access to online and print resources to its users. Reputed international journals and online resources in science and allied areas have been made available. The library is providing most of the resources in electronic format which facilitate 24x7 e-library.

The library's extensive online collection from more than 50 international scientific publishers and societies includes full-text e-journals, databases, e-journal archives, video journals, e-books, bibliographic and review databases, etc. Online full-text resources from major publishers including AACR, ACS, AIP, AMS, Annual Reviews, APS, ASM, Company of Biologists, Elsevier, Jove, JSTOR, Optica Publishing Group, OUP, Royal Society Publishing, RSC, SIAM, Springer Nature, Wiley etc. are prominent among them.



Training Program on "Research smarter with Web of Science and EndNote"

Number of journals published by IOP, Cambridge University Press, Institute of Statistical Science, Institute of Mathematical Statistics, University of Miami, Institute

of Mathematics Polish Academy of Sciences, and De Gruyter etc. were added to the library collection during this period. Jove subscription has been upgraded to Jove Unlimited and started subscription to the Edzter – an online newspaper and magazine portal during this period.



Exhibition of Hindi Books organized by the Central Library and the Official Language Implementation Committee.

Major bibliographic databases including, Web of Science, SciFinder, MathSciNet, etc. are also made available. Apart from the online resources, the library possesses print books, CD ROMs, thesis, etc. in core and allied subjects. OpenAthens remote login facility has been extensively utilized by the faculty and student community for off-campus access to the online resources.

The library provides 'Drillbit' and 'Turnitin' web-based plagiarism detection and originality checking services. Library also provides access to the 'Grammarly' online grammar checking tool. The library is equipped with advanced RFID based self-service kiosk, which provides self-check-in and check-out of books.

IISER Thiruvananthapuram made read and publish agreement with Royal Society of Chemistry (RSC), and the Company of Biologists during this period.

Working hours of the Library was extended till 12 a.m. during examination period. Subscription to six print newspapers, introduction of the Digital Archive to preserve the historical moments of the institute, free book exchange and take away facility, book delivery facility for physically challenged users were started during this period. An extensive training series namely “Re-Search-360” was also initiated for increasing the usage of the online resources.

External Collaborations

IISER Thiruvananthapuram library has membership/affiliation in major library consortium/ network including e-ShodSindhu Consortium, IISER Library Consortium, and the Developing Library Network (DELNET). IISER Thiruvananthapuram hosted the 16th meeting of the IISER Library consortium at IISER Thiruvananthapuram on 8-9 February 2024. Dr. Sainul Abideen P, Deputy Librarian, IISER TVM has been nominated as the Coordinator of the IISER Library Consortium.

Activities carried out by the Central Library			
S No	Date	Event Title	Brief Description (Max 100 words)
1	22nd June 2023	Training Program on "Research Smarter with Web of Science and EndNote"	Speaker: Dr. Subhasree A Nag, Solution Consultant, Calrivate
2	2nd & 3rd August 2023	Group-based library orientation sessions for the MSc., IPHD, and PhD	Speaker: Dr. Sainul Abideen P, Asst. Librarian, IISER Thiruvananthapuram
3	14th August 2023	Poster Exhibition in connection with the Partition Horrors Remembrance Day	Inauguration: Prof S. Murty Srinivasula
4	30th August 2023- 1st Sept 2023	Group-based library orientation sessions for the BSMS Batch 23 students	Speaker: Dr. Sainul Abideen P, Asst. Librarian, IISER Thiruvananthapuram & Aswathi
5	12th & 13th September 2023	An Exhibition of Hindi Books jointly organized by the central library and the Official Language Implementation Committee.	Inauguration: Prof. J.N Moorthy, Director, IISER Thiruvananthapuram
6	11th October 2023	Online Author Workshop in collaboration with Wiley	Speaker: Yateendra Joshi , Master Editor, BELS, USA
7	4th January 2024	Group-based library orientation sessions for newly joined PhD	Speaker: Dr. Sainul Abideen P, Deputy Librarian, IISER Thiruvananthapuram
8	8-9 February 2024	16th Meeting of the IISER Library Consortium	Librarians from all ISERs attended the meeting.

IT SECTION

IT Section manages the following:

- Audio Visual support for 8 class rooms and Auditorium of Lecture Hall Complex, 3 Seminar Halls and department class rooms
- 1Gbps Internet leased line provided by National Knowledge Network (NKN) and two 1Gbps Internet leased line provided by BSNL
- Local Area Network of the campus
- Email Service for faculty, staff and students
- Wireless access points installed in all the hostel rooms and Academic Area
- High Performance Computing cluster (Padmanabha)
- IP Phones and IP Cameras
- Software and Hardware installation, Trouble shooting
- Computer Labs

HEALTH CENTRE

The Health centre operates **round the clock all 365 days** and provides both outpatient and inpatient services. Staffed with two doctors, four nurses and four nursing assistants, the centre's features include Consultation rooms, in-patient/ isolation wards, observation room, minor surgical unit and pharmacy. It is adequately equipped with essential medications, injections, IV fluids, consumables as well as relevant medical & surgical instruments/ equipment inclusive of ECG, patient monitors, oxygen concentrators/cylinders, Glucometer, Pulse oximeters, Defibrillator etc. Service with compassion and care, promotion of healthy life style, prevention of communicable diseases, alleviation of suffering and facilitating faster recovery from illnesses by thorough evaluation, diagnosis and rendering of appropriate care, is our motto and practice.

An ambulance service is available 24X7 and is used in case of emergencies, referrals. Psychiatrist and psychologist services are also provided. Said services are accessible within campus, thrice a week.

Gynaecologist services are provided once a week,

thrice a month, in Health Centre.

Group health insurance coverage for all students is provided. The Institute through health centre, has established agreements with two medical colleges. Informal tie ups with several other hospitals in the district is also present. This has been done to ensure that, prompt emergency/specialist is provided to those in need.

Programs conducted:

During the period 1/4/23 to 31/3/24, institute Health centre conducted voluntary blood donation drives, conducted a comprehensive First Aid and Basic Life Support training, a well woman program, Vaccination for children of inmates of staff quarters etc. All these were done in association with Student Welfare council and in partnership with various institutions-Trivandrum medical college, Sree Chithra Thirunal Institute of cardiovascular and Neuro sciences, SP Fort Hospital, Govt Hospital-Vithura etc.

It also extended medical coverage to all institute events throughout the year.

S No	Date	Activity
1	29 th October 2023	First Aid & Basic Life Support Training and Well Woman program

This program was conducted in association with SP Fort Hospital, TVM & Student Welfare Council. It involved presentation of BLS, CPR techniques and Heimlich manoeuvre. A practical demonstration of first aid for snake bites, choking, drowning, Road traffic accidents, heart attack, burns, chemical burns was also done. A few of the participants also got benefited by practising all the above on mannequins and selectively on volunteers.



COUNSELLING CENTRE

Mental health continues to be an increasingly urgent issue that needs to be addressed and here at the IISER Trivandrum Counseling center, we offer mental health services to the students in order to reduce their psychological problems and distress and enhance their mental health, well-being, and quality of life. Student mental health services are not only needed to support the psychological wellbeing of students, they are also an important part of academic success and retention. The center consists of a psychologist (Dr. Neelima Gopinath) and a psychiatrist (Dr. Mary P R) who provide effective counseling services to students who come to them with a wide range of problems.

Overall, the student turnover was good for the last one year (April 2023- March 2024) and also student satisfaction seems to be adequate as majority of students

are coming for regular follow-ups. Students are aware of the centre and is willing to come forward seeking help. In total, 191 students (M- 85 , F-106) came for counselling in the specified period. There were 133 new students and 58 students who had already come before had to be seen again. Some of them had to be seen more number of times as per their requirement. This past year 465 counselling/psychotherapy sessions was conducted. There were in total 129 BSMS students, 38 Ph.D./ IPh.D. students, 17 MSc students and 7 others that included Post Doc, Project students etc. Out of the total 133 new students, 29 have been referred to the psychiatrist for further evaluation and treatment.

As per the statistics of students who consulted the psychiatrist there were in total 67 students and 270 sessions were conducted. Detailed case files are being

maintained for every student who comes for counselling / psychiatric consultation with at most confidentiality.

The predominant problems faced by students were stress related to academic and non-academic issues, relationship problems, adjustment issues and sleep disorders. Primary psychiatric illnesses are also detected in few of the students. Students are given supportive counselling, psychotherapy, stress management programs as well as medication in indicated cases. Emergency situations are also handled as and when required.

Among the 67 students who consulted the psychiatrist 52 % of them were having acute stress and adjustment disorders, 25 % were with depressive disorders and mood disorders, 5 % presented with psychosis and the rest

were having ADHD, OCD, sleep disorders etc.

In the beginning of the semester an orientation program was conducted for the new comers in which the importance of counselling were briefed. Also a brochure for counselling centre has been send to the students so as to give them an overall idea about the functioning of the centre and how they can make use of the facilities being provided to them. Mails regarding how to handle stress, exam anxiety and other relevant materials are send to them regularly.

A counselling centre Facebook page and Instagram page made with the idea to share information that promote mental health and bring awareness among students has been well received and more students are aware of our services and it has helped reduce stigma in seeking help.

PROJECT ENGINEERING OFFICE

The Project Engineering unit is dedicated to maintaining campus infrastructure and ensuring the seamless operation of campus amenities. During the financial year 2023-2024, the unit has undertaken several significant works aimed at enhancing infrastructural facilities for the campus community. This following are the key developments and improvements implemented over the past year.

Lecture Hall Complex Inauguration

- The new Lecture Hall Complex was inaugurated by a Nobel Laureate, marking a significant milestone in enhancing academic facilities on campus.

New Facilities and Modernizations

- **Earth Environmental and Sustainable Sciences (EESS):** EESS was established in our primary school building consisting of office space, labs, cabins etc. and the school has been started function in this building.
- **Data science:** Office space and Labs are set up in the Biological Science Building to start a new school and functioning of the school has been started
- **Lounges:** New lounges have been established in the

School of Physics (SoP) and the School of Biology (SoB), providing comfortable spaces for relaxation and discussions.

- **Teaching Labs:** An I² teaching lab was set up in the Common Instrumentation Facility, and a Chem-Bio Lab was established in the School of Chemistry, supporting advanced research and education.
- **Seminar Halls:** New chairs have been procured and installed in the Seminar Halls of the School of Physics and the School of Biology as part of the modernization efforts.
- **Container Coffee Shop:** A new coffee shop has been set up near the academic area, offering a convenient refreshment option for students, faculty, and staff.

Office Furnishings

- The offices of Purchase, Academic, Finance, and Engineering Project sections have been furnished to improve facilities for the staff community.

Infrastructure Improvements

- **Shotcrete Application:** Shotcreting was done near the Academic area to mitigate the risk of landslides.
- **Reservoir Capacity Enhancement:** Run off soil that

had reduced the reservoir's capacity was removed to restore and increase its capacity.

- **Masonry Retaining Wall:** Constructed near the Library building to protect against earth movement and landslides.
- **Concrete Road and Footpath:** A new concrete road with a footpath and side drain was constructed from the main road to the Lecture Hall Complex and road behind School of Physics, ensuring safe and easy pedestrian access.
- **Protective Handrails:** Installed along roadsides within the campus to enhance pedestrian safety.
- **Sheet Roofing:** Provided over the terraces of Ponmudi and Mukurthy hostels and the Indoor Stadium.

Water Management and Energy Efficiency

- **HDPE Pipe Installation:** Laid from the stream at the upper portion of the campus to the Water Treatment Plant to collect raw water by gravity, reducing the need for pumping and conserving electricity.

- **Solar Street Lighting:** Installed near the Lecture Hall Complex, School of Physics, and Administration building to promote energy efficiency and sustainability.

Residential Area Enhancements

- **Park:** In addition to the existing children's park, a new park was constructed in the residential area to provide a recreational space for residence community.
- **Kitchen Cabinets:** Furnished in the residential quarters to improve living conditions for the residents.

The Project Engineering unit has made substantial progress in enhancing campus facilities and infrastructure throughout the financial year 2023-2024. These improvements are expected to significantly benefit the campus community by providing modern amenities, improving safety, and promoting sustainability.

HOSTEL & STUDENTS' CO-OPERATIVE MESS

HOSTELS

IISER Thiruvananthapuram has eleven halls of residences, namely- A, B, C, D & E- blocks, Eravimala, Sispara, Mukurthi, Pushpagiri, Agasthya and Ponmudi. Of these 11 hostels, six are girls' hostels, and the rest are boys' hostels. Students are usually accommodated in a double or triple-sharing type of accommodation. Senior most PhD/iPhD students are accommodated in single rooms. Every hostel has washing machines, water purifiers, and some recreational facilities. High-

speed internet access is available in every room in the halls of residences. Hot water for the shower is also available. The institute operates buses connecting the hostels and different parts of the campus at frequent intervals. The elected hostel secretaries, along with two representatives from each hall of residence, liaise with the administration, facilities, and service section to ensure a smooth residential experience for all students.

STUDENTS' CO-OPERATIVE MESS

The Student Cooperative Mess is a not-for-profit, student-run organisation formed in 2013 to provide quality food to students at affordable prices.

The SCoM is divided into the Mess Supervision Committee (1 year tenure) and the Daily Supervision Committee (4 months x 3). The SCoM currently looks after the smooth functioning of three CDHs (CDH-1, CDH-2 & CDH-3) and two cafes (i-café & j-café) and has generated employment for around fifty-six staff from

different parts of the country.

Six members from the SWC and six volunteers with experience in DAC constitute the MSC and help ensure the smooth functioning of SCoM.

Apart from serving regular meals, the SCoM helps organise special meals for students for festive and special occasions with the help of volunteers from the general student body.

Special meals served by SCoM (2023 – 24)			
S No	Date	Event Title	Brief Description (Max 100 words)
1.	23/7/2023	11th Convocation day	Special lunch was served for the students in CDH-1. For the graduating students and their family (1000+ people) lunch was served in CDH-2
2.	26/8/2023	Theythaka'23	In view of the Onam celebration, traditional Onam sadhya of Kerala was prepared and served to all the staff and students
3.	19/9/2023	Ganesh Chaturthi	Special dinner served with some traditional dishes of Maharashtra and Andhra Pradesh
4.	24/10/2023	Diwali Celebration 2023	Special dinner was served
5.	23/12/2023	IISM 2024	As part of IISM, the mess provided nutritious meals for seven consecutive days to contingents from various parts of the country. A grand dinner was also served on the last day
6.	10/3/2023	TEDxIISERTVM	Special lunch was served to the attendees of the TEDx program
7.	14/1/2024	Pongal'24	Traditional Tamil cuisines were served.
8.	18/2/2024	Saraswati Puja 2024	Special lunch served in traditional Bengali style.
9.	27/3/2024	Rang barse: Holi	Special lunch consisting of delicacies from the northern part of India were served.

Miscellaneous Activities (2023 – 24)

S No	Date	Event Title	Brief Description (Max 100 words)
1.	12/9/2023	Sustainability project - Get tea and coffee in your own mug	As part of the project, students were instructed to bring their own mug for getting tea, coffee, or other beverages to encourage sustainable habits.
2.	8/5/2023	Implementation of Tea line in i-café & j-café	The concept of having another line in the café is to exclusively serve tea, coffee, packed items, evening snacks, bottled drinks, and other ready-made items. This is intended to avoid overcrowding and improve the accessibility of items in the café
3.	11/3/2024	Sehari and Iftar arrangements for fasting students	Early morning breakfast (Sehri) and evening snacks (Iftar) were served to fasting students as part of the Ramadan month.

SOCIAL MEDIA CHANNELS OF THE CLUB



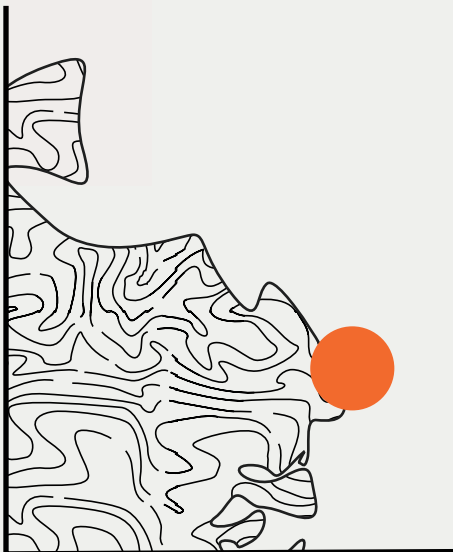
Instagram: @icafeiisertvm



Whatsapp: <https://chat.whatsapp.com/J0mcBJ1Va3U4oqJwagaSCm>



Website (intranet): mess.iisertvm.ac.in





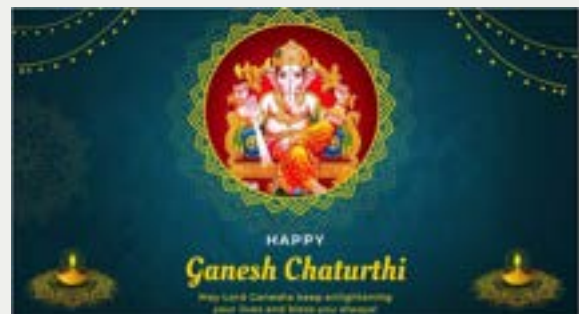
Theythaka'23: Onam Sadhya



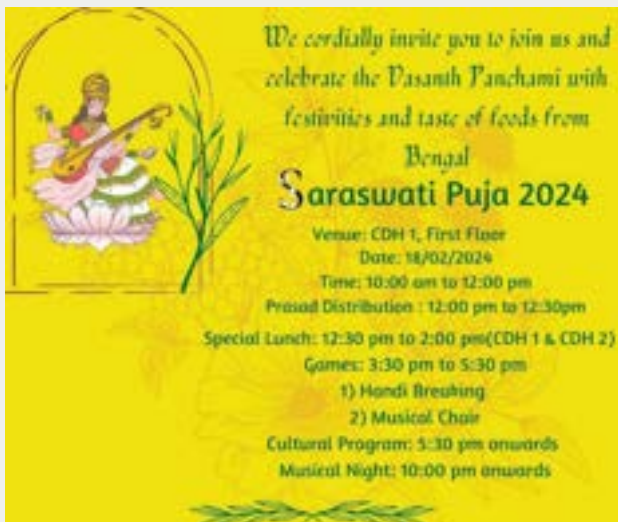
Pongal'24: Special Lunch



Snippet of IISM special dinner



Ganesh Chaturthi: Special Dinner

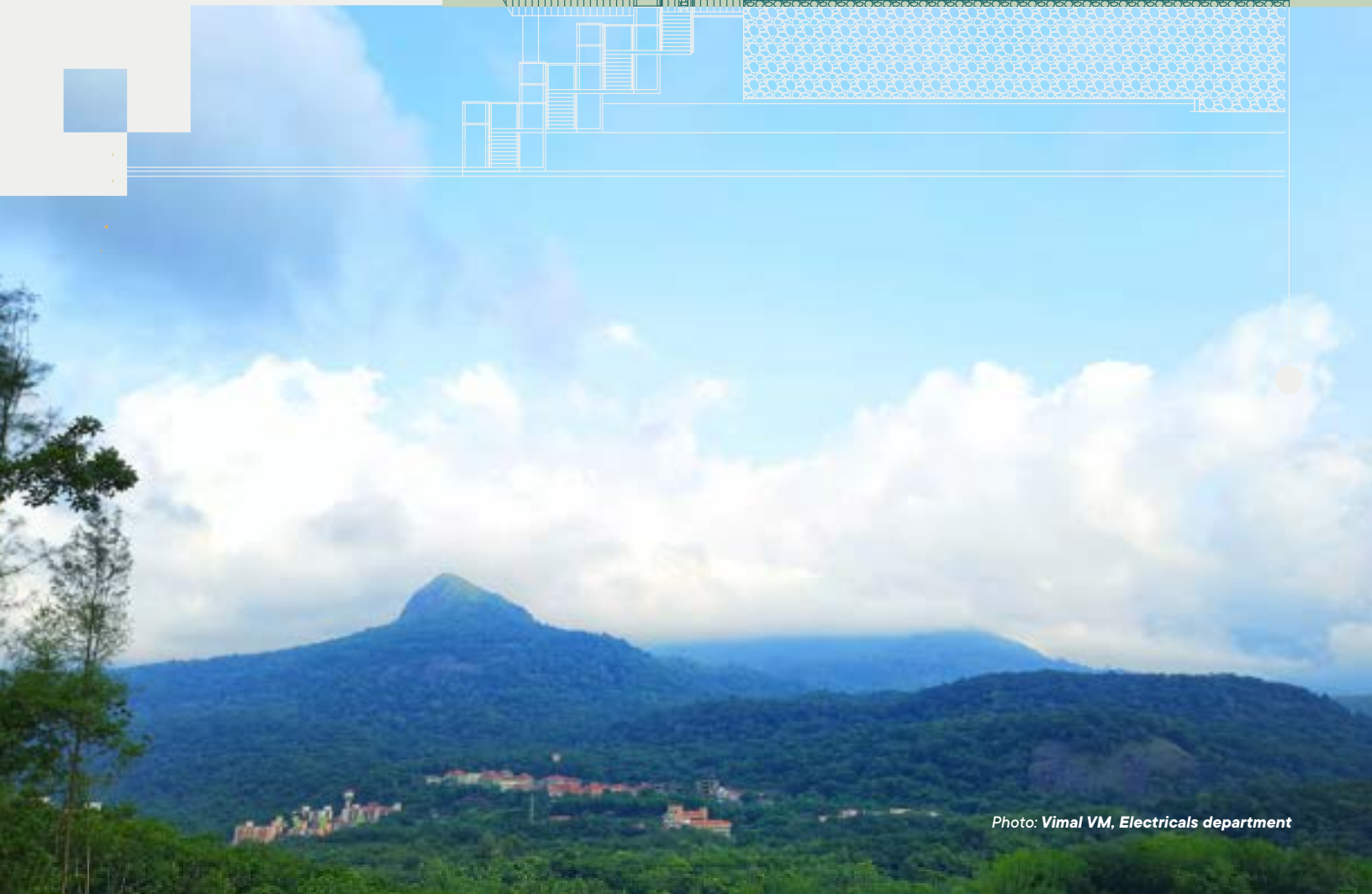
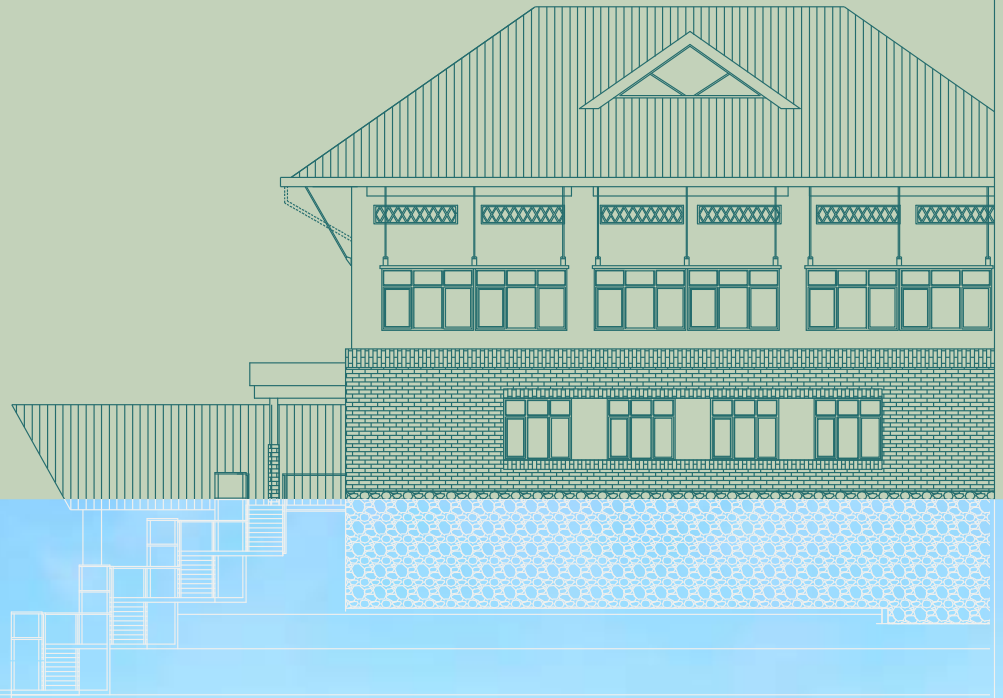


Saraswati Puja 2024: Special lunch



Sustainability project: Get tea and coffee in your own mug

Right to Information (RTI)



RIGHT TO INFORMATION (RTI)

Right to Information has been recognized as a fundamental right under Article 19(1) of the Constitution. The Right to Information Act, 2005 empowers citizens to obtain information from any 'Public Authority'. All Public Authorities are mandated to provide timely responses to any queries from citizens on the functioning of the Public Authority. The main objective of the RTI Act is to empower citizens, promote transparency and accountability in the working of the Government, and make democracy work for people in the real sense.

The Government of India has an online portal, the RTI Request & Appeal Management System (RTI-MIS) through which an applicant can seek information on any Public Authority. IISER TVM is registered with the RTI-MIS. An applicant can obtain information about the Institute either through this online portal or by sending a request directly to the Public Information Officer, IISER Thiruvananthapuram, Maruthamala P.O, Vithura Grama Panchayath, Thiruvananthapuram - 695551. The Institute also files the statutory returns of RTI applications, details of appeals received and appeals disposed, on a quarterly basis.

The Institute has systematically implemented the proactive suo-moto disclosure, as per the guidelines under Section 4 of the RTI Act 2005, issued by the Government of India, Ministry of Personnel, Public Grievances and Pensions, Department of Personnel and Training, vide O.M. No. 1/6/2011-IR, dated 15.04.2013. This is available on the Institute website under the link https://www.iisertvm.ac.in/pages/rti_act. Training Institutes under each Ministry/ Department/ Public Authority are authorised to conduct third-party Transparency Audits of proactive suo-moto disclosures of Public Authorities. The Third-party transparency audit of the proactive suo-moto disclosure of IISER TVM was conducted by Prof. Virender Kumar Bharti, Nodal Officer, RTI Cell, Indian Institute of Mass Communication, New Delhi.

IISER TVM, received a total of 178 RTI queries in the financial year 2023-24, of which 167 queries were resolved in the first instance, 9 were resolved after the first appeal and 2 queries were rejected in line with the provisions of the RTI Act.

Table I - Month-wise details of RTI queries received in the financial year 2023-24

Student Talks													
Section	Apr 2023	May 2023	Jun 2023	Jul 2023	Aug 2023	Sep 2023	Oct 2023	Nov 2023	Dec 2023	Jan 2024	Feb 2024	Mar 2024	Total
Academics	3	6	5	3	5	1	2	2	2	5	9	5	48
Academics/ DOFA	-	-	-	-	-	-	-	-	1	-	-	-	1
HR	1	5	4	3	1	7	2	4	9	4	5	4	49
DOFA	-	1	4	4	5	2	1	2	1	5	5	2	32
Finance	-	2		1	-	-	-	1	1	-	-	-	5
Purchase	-	-	-	-	-	-	-	1					1

Academics/ Finance	-	-	-	-	-	-	-	-	-	-	1		1
Academics/ DOSA	1	2	-	-	-	1	-	-	-	-	-	-	4
HR/ DOFA	-			2	-	-	-	-	2		2		6
DoSA/PE	-	4	-	-	-	-	2	-	-	-	-	-	6
DoSA/Finance	-	1	-	-	-	-	-	-	-	-	-	-	1
Project Office	-	1		1									2
R&D	1		1	-	-	-	-	-	1	-	-	-	3
HR/PE	-	-	-	-	1	-	-	-	-	-	-	-	1
HR/DoFA/ Academics	-	1	-	-	-	-	-	-	-	-	-	-	1
Internal Committee	-	-	-	-	-	-	1	-	-	-	2	-	3
Acad/DoSA/ DoFA/HR	-	-	-	-	1	-	-	-	-	-	-	-	1
Finance/PE/ Acad/DoSA	-	-	-	-	-	-	1	-	-	-	-	-	1
HAC	-	-	-	-	-	-	-	-	1	-	-	-	1
Rejected	-		1	-	-	-	-	-	-	-	1	-	2
Total	6	23	15	14	13	11	9	10	18	15	24	11	169
Grand Total													

Table II - Month-wise details of RTI appeals received in the financial year 2023-24

Student Talks													
Section	Apr 2023	May 2023	Jun 2023	Jul 2023	Aug 2023	Sep 2023	Oct 2023	Nov 2023	Dec 2023	Jan 2024	Feb 2024	Mar 2024	Total
HR	1	-	-	-	2	-	-	-	1	1	-	1	
Academics		1	-	-	-	-	-	1	-	-	-	-	
HR/Project office	-	-	-	-	-	-	1	-	-	-	-	-	
Total	1	1			2		1	1	1	1		1	9
Grand Total													

Faculty Info

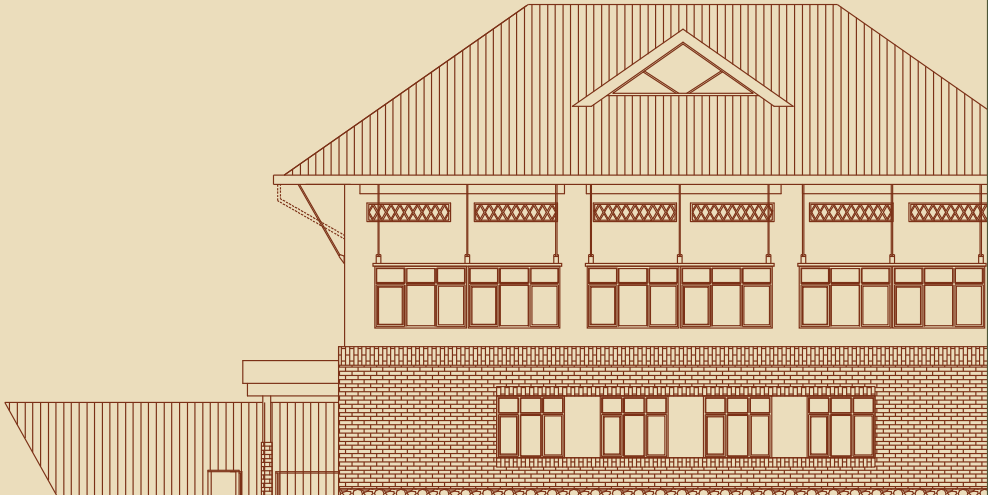


Photo: Anusha S, Media Society, IISERTVM

FACULTY INFORMATION

Faculty Strength

Faculty	Mode of Engagement	Numbers
	Regular Faculty	103
	Contractual Faculty	02
	Emeritus Professor	02
	Visiting Professor	
	Adjunct Professor	
	Ad Hoc Faculty	03

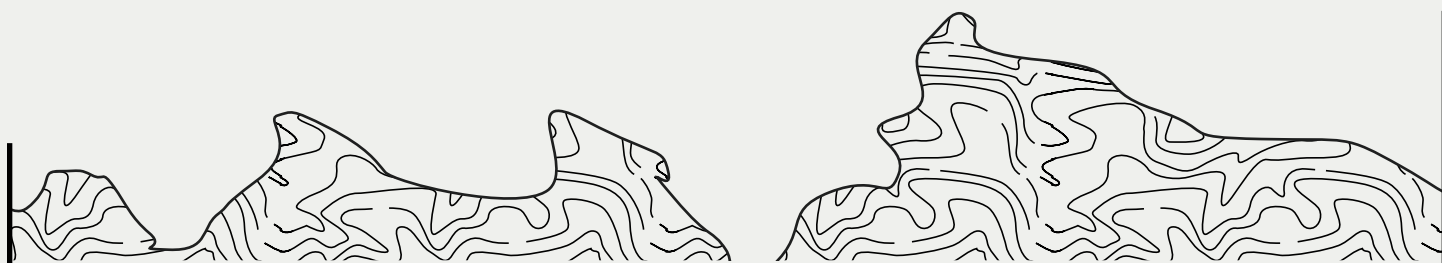
Faculty Positions

Position	Departments	Numbers
Professors	School of Biology	04
	School of Chemistry	04
	School of Mathematics	02
	School of Physics	05
Associate Professors	School of Biology	06
	School of Chemistry	12
	School of Mathematics	10
	School of Physics	11
Assistant Professor – Grade I	School of Biology	12
	School of Chemistry	09
	School of Mathematics	07
	School of Physics	12
	School of Data Science	04
	School of Earth Environmental and Sustainability Sciences	05
Assistant Professor – Grade II	School of Data Science	02



SCHOOL OF BIOLOGY

Sl. No.	Name of Faculty	Designation
1	Prof. Hema Somanathan	Professor
2	Prof. S Murthy Srinivasula	Professor
3	Prof. Tapas Manna	Professor
4	Dr. Nishant KT	Professor
5	Dr. Ullasa Kodandaramaiah	Associate Professor
6	Dr. V Stalin Raj	Associate Professor
7	Dr. Ramanathan Natesh	Associate Professor
8	Dr. Ravi Maruthachalam	Associate Professor
9	Dr. Jishy Varghese	Associate Professor
10	Dr. Satish Khurana	Associate Professor
11	Dr. N Sadananda Singh	Assistant Professor (Grade I)
12	Dr. Sabari Shankar Thirupathy	Assistant Professor (Grade I)
13	Dr. Nisha N Kannan	Assistant Professor (Grade I)
14	Dr. Poonam Thakur	Assistant Professor (Grade I)
15	Dr. Sandhya Ganesan	Assistant Professor (Grade I)
16	Dr. Kamalakannan Vijayan	Assistant Professor (Grade I)
17	Dr. Nishana Mayilaadumveettil	Assistant Professor (Grade I)
18	Dr. Sanu Sameer	Assistant Professor (Grade I)
19	Dr. Amrutha Swaminathan	Assistant Professor (Grade I)
20	Dr. Vijay Jayaraman	Assistant Professor (Grade I)
21	Dr. Bandan Chakarborty	Assistant Professor (Grade I)
22	Dr. Yashraj Chavhan	Assistant Professor (Grade I)

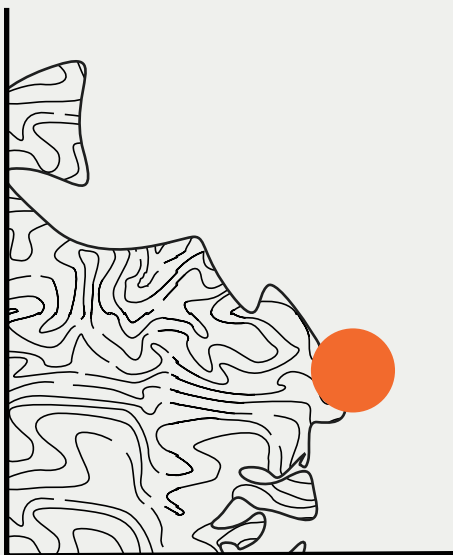


SCHOOL OF CHEMISTRY

Sl. No.	Name of Faculty	Designation
1	Prof. K George Thomas	Professor
2	Prof. Kana M Sureshan	Professor
3	Prof. Mahesh Hariharan	Professor
4	Prof. Sukhendu Mandal	Professor
5	Dr. R.S. Swathi	Associate Professor
6	Dr. Reji Varghese	Associate Professor
7	Dr. Vinesh Vijayan	Associate Professor
8	Dr. Ajay Venugopal	Associate Professor
9	Dr. A Thirumurugan	Associate Professor
10	Dr. Alagiri Kaliyamoorthy	Associate Professor
11	Dr. Ramesh Rasappan	Associate Professor
12	Dr. Gokulnath Sabapati	Associate Professor
13	Dr. V. Sivaranjana Reddy	Associate Professor
14	Dr. Rajendra Goreti	Associate Professor
15	Dr. Subrata Kundu	Associate Professor
16	Dr. A Muthukrishnan	Associate Professor
17	Dr. Basudev Sahoo	Assistant Professor (Grade I)
18	Dr. Soumen De	Assistant Professor (Grade I)
19	Dr. Veera Reddy Yatham	Assistant Professor (Grade I)
20	Dr. Y. Adithya Lakshmana	Assistant Professor (Grade I)
21	Dr. Rajendra Kurapati	Assistant Professor (Grade I)
22	Dr. Pushpita Ghosh	Assistant Professor (Grade I)
23	Dr. Jerry Alfred Fereiro	Assistant Professor (Grade I)
24	Dr. Ramaraj Ayyappan	Assistant Professor (Grade I)
25	Dr. Ravi Yadav	Assistant Professor (Grade I)

SCHOOL OF MATHEMATICS

Sl. No.	Name of Faculty	Designation
1	Prof. M.P. Rajan	Professor
2	Prof. Utpal Manna	Professor
3	Dr. P. Devaraj	Associate Professor
4	Dr. Sachindranath Jayaraman	Associate Professor
5	Dr. Shrihari Sridharan	Associate Professor
6	Dr. Viji Z Thomas	Associate Professor
7	Dr. Dharmatti Sheetal	Associate Professor
8	Dr. K R Arun	Associate Professor
9	Dr. Saikat Chatterjee	Associate Professor
10	Dr. Sarbeswar Pal	Associate Professor
11	Dr. Srilakshmi K.	Associate Professor
12	Dr. Geetha Thangavelu	Associate Professor
13	Dr. Dond Asha Kisan	Assistant Professor (Grade I)
14	Dr. Dhanya Rajendran	Assistant Professor (Grade I)
15	Dr. Sudarshan Kumar K	Assistant Professor (Grade I)
16	Dr. Chamakuri Nagaiah	Assistant Professor (Grade I)
17	Dr. Mohammed Ramiz Reza	Assistant Professor (Grade I)
18	Dr. Samya Kumar Ray	Assistant Professor (Grade I)
19	Dr. Jyothsna S.	Assistant Professor (Grade I)



SCHOOL OF PHYSICS

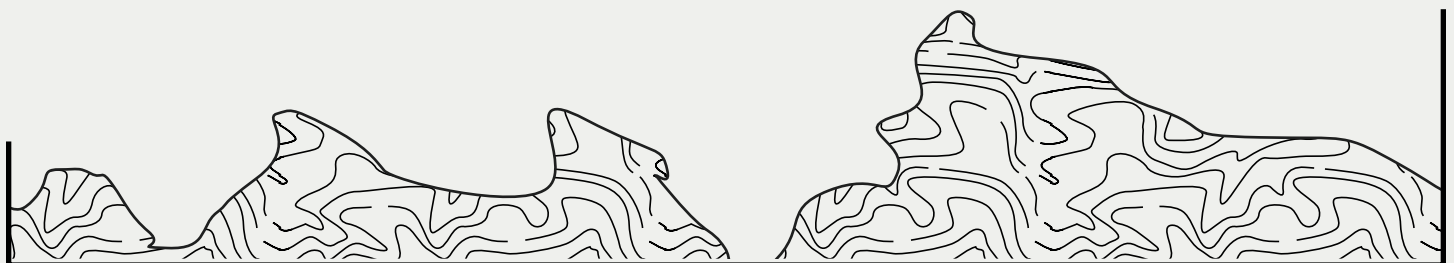
Sl. No.	Name of Faculty	Designation
1	Prof. Anil Shaji	Professor
2	Prof. R. C. Nath	Professor
3	Dr. Joy Mitra	Professor
4	Dr. MM Shaijumon	Professor
5	Dr. Manoj AG Namboothiry	Professor
6	Dr. Rajeev N. Kini	Associate Professor
7	Dr. Madhu Thalakulam	Associate Professor
8	Dr. Bindusar Sahoo	Associate Professor
9	Dr. Soumen Basak	Associate Professor
10	Dr. Somu Kumaragurubaran	Associate Professor
11	Dr. Deepshika Jaiswal Nagar	Associate Professor
12	Dr. Amal Medhi	Associate Professor
13	Dr. Ravi Pant	Associate Professor
14	Dr. Bikas C. Das	Associate Professor
15	Dr. M Suheshkumar Singh	Associate Professor
16	Dr. DV Senthilkumar	Associate Professor
17	Dr. Sreedhar B Dutta	Assistant Professor (Grade I)
18	Dr. Tuhin Subhra Maity	Assistant Professor (Grade I)
19	Dr. Tanumoy Mandal	Assistant Professor (Grade I)
20	Dr. Vinayak B. Kamble	Assistant Professor (Grade I)
21	Dr. Shabnam Iyyani Syamsunder	Assistant Professor (Grade I)
22	Dr. Pramitha M	Assistant Professor (Grade I)
23	Dr. Debashis Saha	Assistant Professor (Grade I)
24	Dr. Nitin Yadav	Assistant Professor (Grade I)
25	Dr. Chandrakala Meena	Assistant Professor (Grade I)
26	Dr. Souvik Paul	Assistant Professor (Grade I)
27	Dr. Krishnendu Gope	Assistant Professor (Grade I)
28	Dr. Mathew Arun Thomas	Assistant Professor (Grade I)

SCHOOL OF DATA SCIENCE

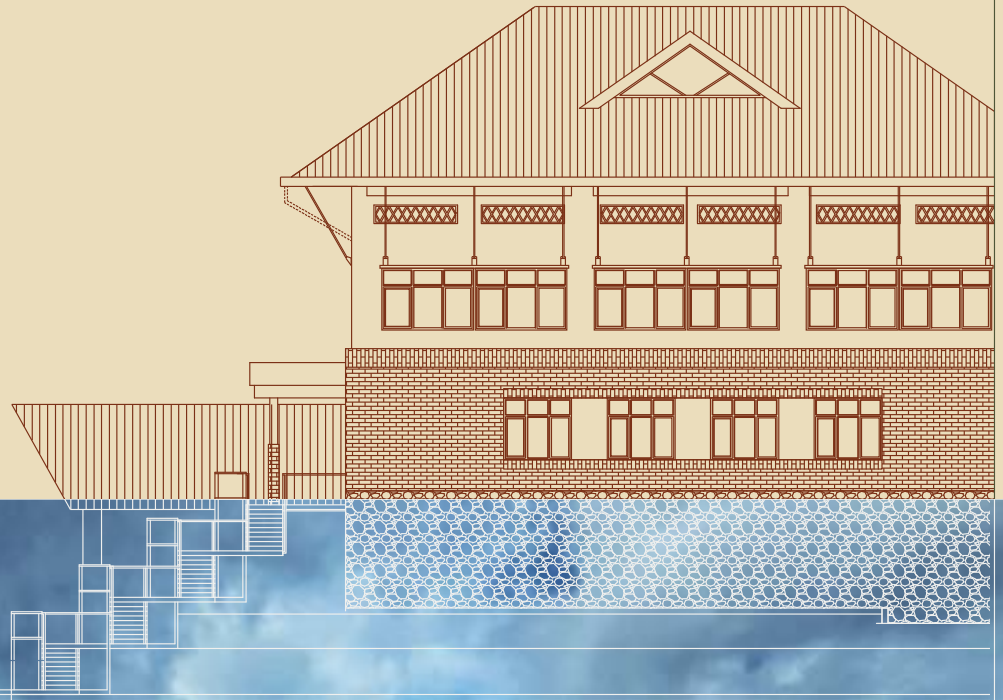
Sl. No.	Name of Faculty	Designation
1	Dr. Priyanka Majumder	Assistant Professor (Grade I)
2	Dr. Shyamal Ghosh	Assistant Professor (Grade I)
3	Dr. Raji Susan Mathew	Assistant Professor (Grade I)
4	Dr. Mainak Adhikari	Assistant Professor (Grade I)
5	Dr. Alwin Poullose	Assistant Professor (Grade II)
6	Dr. Saptarshi Bej	Assistant Professor (Grade II)

SCHOOL OF EARTH ENVIRONMENTAL AND SUSTAINABILITY SCIENCES

Sl. No.	Name of Faculty	Designation
1	Dr. Prasanth V.	Assistant Professor (Grade I)
2	Dr. Bhavya PS	Assistant Professor (Grade I)
3	Dr. Anand N.	Assistant Professor (Grade I)
4	Dr. Vishnu S Nair	Assistant Professor (Grade I)
5	Dr. Ashutosh Pandey	Assistant Professor (Grade I)



Administrative Personnel Info



ADMINISTRATIVE & SUPPORT PERSONNEL

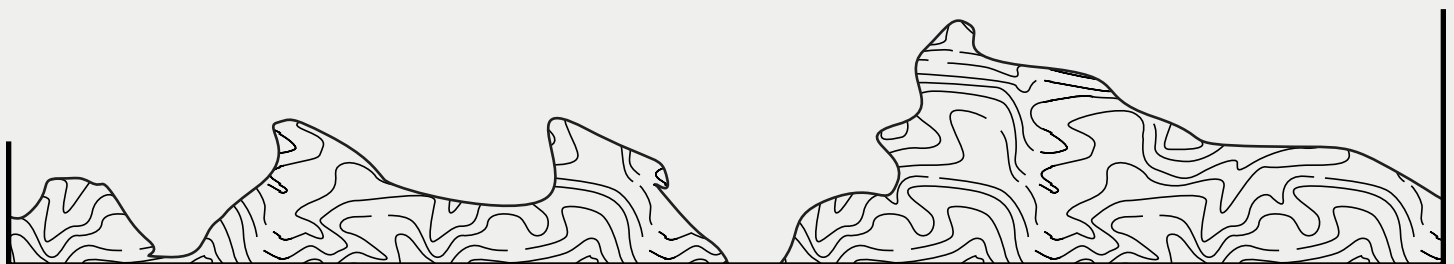
Sl. No	Name of the Official	Designation
01	Prof. Mahesh Hariharan	Registrar
02	Shri. Siva Dutt V K	Superintending Engineer
03	Shri. B V Ramesh	Deputy Registrar (Finance & Accounts)
04	Shri. Hariharakrishnan S	Deputy Registrar (Administration)
05	Shri. Sudin B Babu	Deputy Registrar (Purchase & Stores & Faculty Affairs)
06	Dr. Sainul Abideen P	Assistant Librarian upto 26.09.2023 Deputy Librarian from 27.09.2023
07	Shri. Priji E Moses	Assistant Executive Engineer (Civil)
08	Shri. Sreehari S	Assistant Executive Engineer (Electrical)
09	Smt. Nimi Joseph Chaly	Assistant Registrar (Research & Development)
10	Shri. Satya Srinivas Naraharisetti	Assistant Registrar (Student Affairs)
11	Dr. Goldwin Hemalatha M	Medical Officer
12	Dr. Thiraviam P	Medical Officer
13	Smt. Divya V J	Technical Officer
14	Shri. P Y Sreekumar	Scientific Officer (IT)
15	Shri. Anvar Sadath	Assistant Registrar
16	Shri. Ashkar K	Assistant Librarian
17	Shri. Arun Raj J R	Physical Education Instructor
18	Smt. Darli K G	Private Secretary
19	Smt. Navya Paul	Senior Technical Assistant
20	Shri. Vijesh K	Senior Technical Assistant
21	Shri. Krishna Kumar A	Senior Technical Assistant
22	Shri. Sangeeth M	Senior Technical Assistant
23	Shri. Jins Joseph	Nurse
24	Smt. Athulya Thomas	Nurse
25	Smt. Nafeessa C K	Library Information Assistant
26	Shri. Jayaraj J R	Library Information Assistant
27	Shri. Alex Andrews P	Technical Assistant

28	Shri. Adarsh B	Technical Assistant
29	Shri. Anilkumar P R	Technical Assistant
30	Shri. Naveen Sathyan	Technical Assistant
31	Smt. Sandhya P S	Technical Assistant
32	Shri. Aneesh A	Technical Assistant
33	Smt. Nithya Rani	Technical Assistant
34	Smt. Lekshmi Thampi	Technical Assistant
35	Smt. Deepthi P	Technical Assistant
36	Smt. Lekshmi Devi L	Technical Assistant
37	Smt. Sarika Mohan	Junior Technical Assistant upto 12.10.2023 Technical Assistant from 13.10.2023
38	Shri. Packiya Rajan	Junior Technical Assistant upto 12.10.2023 Technical Assistant from 13.10.2023
39	Shri. Praveen Peter	Junior Engineer (Civil)
40	Shri. Ashinraj D	Junior Engineer (Civil)
41	Shri. Sarath Kumar R	Junior Engineer (Electrical)
42	Shri Havas Mohammed	Junior Engineer(HVAC)
43	Smt. Mini Philip	Personal Assistant
44	Smt. Veena P	Personal Assistant
45	Shri. Ajith Prabha	Superintendent
46	Shri. Satheesh Raghavan	Superintendent
47	Shri. Arun Raghunath	Superintendent
48	Shri. Manoj M T	Accountant
49	Smt. Sruthi U.A	Junior Hindi Translator
50	Smt. Suja V R	Office Assistant (Multi Skill)
51	Smt. Vidya Senan I	Office Assistant (Multi Skill)
52	Smt. Archana P R	Office Assistant (Multi Skill)
53	Smt. Beena N K	Office Assistant (Multi Skill)
54	Shri. Muruganandam A	Office Assistant (Multi Skill)
55	Shri. Rajesh A P	Office Assistant (Multi Skill)
56	Shri. Rakesh M V	Office Assistant (Multi Skill)
57	Smt. Sruthi R Balu	Office Assistant (Multi Skill)
58	Shri. Anil Prakash M	Office Assistant (Multi Skill)
59	Shri. Pradeep Kumar C	Office Assistant (Multi Skill)
60	Shri. Santhosh B S	Office Assistant (Multi Skill)

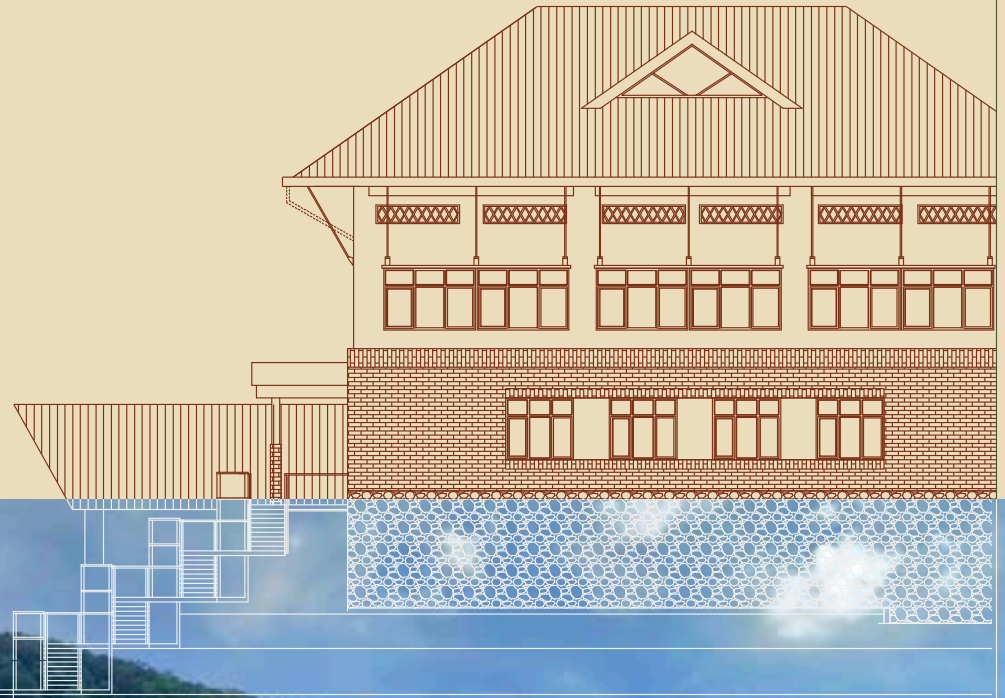
61	Shri. Nagarjuna Paidisetty	Office Assistant (Multi Skill) (resigned on 23.02.2024)
62	Shri. Vivek V G	Junior Technical Assistant
63	Shri. Pradeep Kumar G T	Junior Technical Assistant
64	Shri. Nibith Kumar K P	Junior Technical Assistant
65	Ms. Lakshmi C	Junior Technical Assistant
66	Shri. Muthukumaran A	Junior Technical Assistant
67	Ms. Amritha Sivan	Junior Technical Assistant
68	Smt. Lincy Varghese	Junior Technical Assistant
69	Ms. Aathira S	Junior Technical Assistant
70	Shri. Subin S	Junior Technical Assistant
71	Shri Adersh V	Junior Technical Assistant
72	Ms. Ansumol Cherian	Junior Technical Assistant
73	Shri Regin G	Junior Technical Assistant
74	Shri. Arun Kumar M	Attendant –Electrical
75	Shri. Ratheesh C	Attendant –Plumber
76	Shri Akhil B	Attendant –Plumber
77	Shri Pankaj Kumar Jha	Attendant –Electrical

CONSULTANTS AND CONTRACTUAL OFFICERS

Sl. No	Name of the Official	Designation
01	Shri. Santhosh Kumar	Assistant Security Officer
02	Shri. Sunil Kumar	Assistant Security Officer



CARE and UBA



COLLECTIVE ACTION FOR RURAL EMPOWERMENT (CARE) UNNAT BHARAT ABHIYAN (UBA)

BRIEF INTRODUCTION TO CARE UBA

IISER Thiruvananthapuram joined the UBA program, the flagship program of MoE, as a participating institution in 2015, and in 2019, the institute became the regional coordinating institution under the UBA program. Currently, the RCI is leading 53 participating institutions functioning in Kerala's four (Thiruvananthapuram, Kollam, Pathanamthitta, and Alappuzha) districts under the strong leadership of the nodal officer, Prof. M.P. Rajan. In the past, UBA IISER TVM received the best-performing institute award from Gol and continues its best efforts to contribute to social development as envisioned by the UBA mandate. UBA IISER TVM has five adopted villages, namely, Vithura, Thennoor, Aryanad, Vellanad, and Tholicod. UBA Cell regularly conducts meetings with Panchayath, Block Panchayath, Kudumbasree, Icds, and Haritha Karma Sena about possible activities and collects suitable opinions from the higher authorities. As a result of these meetings, around 16 programs were conducted in the adopted villages during 2023-24. Basically, UBA concentrates on the field of Educational, Social, Health, and Women empowerment areas. These programs are conducted primarily in the areas of tribal settlements, schools, colleges, Kudumbasree units, Panchayath, icds, etc.

UBA Cell of IISER TVM has a strong group of student volunteers group. Around 200 students are members of the group. These student members act as tutors and volunteers for UBA's academic and social activities. Apart from conducting the regular activities as a participating institute, as an RCI, UBA IISER TVM regularly monitors the progress of other institutes under us and sends various reports to UBA IIT Delhi, the national coordinating institute of UBA as per the mandate of NCI.

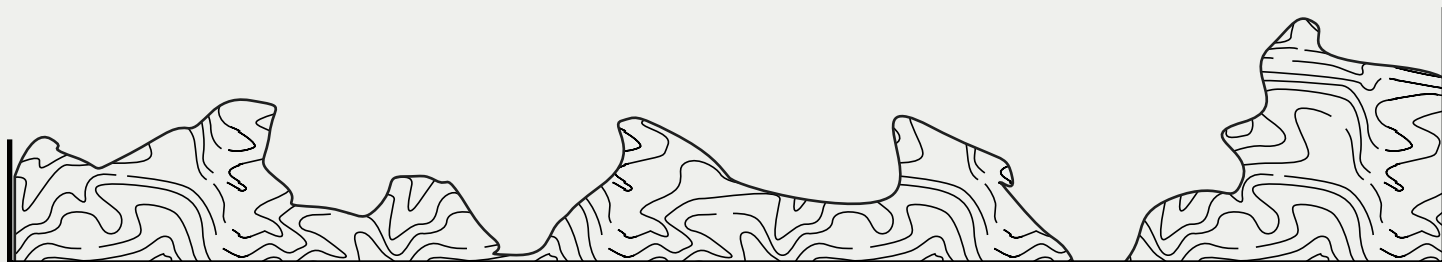
Some of the important activities carried out during 2023-24 by UBA IISER TVM are given below

Activities carried out by the UBA			
S No	Date	Event Title	Brief Description
1	13-04-2023	Breast cancer screening camp at the Anappara Tribal settlement.	The UBA cell of IISER Thiruvananthapuram, in association with KIMS Hospital, conducted a breast cancer screening camp at the Anappara tribal settlement. The major objective of the program is to raise awareness of the prevention of breast cancer and the importance of early detection.

S No	Date	Event Title	Brief Description
2	26-05-2023	Medical camp at the Kottoor tribal settlement.	The UBA cell, in association with the Indian Medical Association, conducted a medical camp at the Kottoor tribal settlement of Aryanad village. Our medical camps aim to educate and mobilize communities to help prevent the spread of major diseases, reduce the incidences and complications from non-communicable diseases.
3	26-05-2023	Cleaning of water bodies.	The UBA cell, along with the student community of the institute, has conducted a cleanliness drive in nearby villages. The team has also cleaned up streams, small ponds etc.
4	29-05-2023	Coaching /Skill development program	The program basically focused on the rural tribal students in the community Through providing coaching classes for school students for competitive exams, entrances, and skill development training. The program is completely run by the UBA student volunteers.
5	13,14 -06-2023	Brainstorming and interactive meetings with Regional Coordinating Institutes and expert groups.	IISER Thiruvananthapuram participated in the two days of brainstorming and interactive meetings with regional coordinating institutes and subject expert Groups. In the meeting the role of technology dissemination in UBA –CSIR collaboration, discussion on future action plans, consultations with subject expert Groups, challenges faced by regional coordinating institutes, and sharing of best practices
6	6-07-2023	Cloth bag unit by SHGS	UBA reviewed the progress of the cloth bag unit for SHGS set up at Vithura Panchayath. After a discussion with Panchayath, it is decided that the unit will be run by the HKS team of Panchayath to reduce the use of single-use plastics in Vithura village. The UBA team established the cloth bag unit in association with Vithura Panchayath a few years back with the idea of creating a plastic-free Grama Panchayath with the help of SHG.
7	24-07-2023	Computer training and digital literacy program for women in adopted villages.	The UBA cell of IISER Tvm, in collaboration with the Bharat Sevak Samaj, conducted a computer training and digital literacy program for women in adopted villages. Training will be conducted by experienced experts in the field of computers and digital literacy.

S No	Date	Event Title	Brief Description
8	08-08-2023	Conducting Gram Sabha	The RCIs are required to conduct Gram Sabha to find out the specific development needs of the adopted villages and to understand the people's elected representative's perspective on the major development issues that stunt the development of the village. The Gram Sabha meeting gives an overview of the development activities initiated in the current financial year. It also discussed the major activities that needed to be undertaken by the next financial year.
9	16-08-2023	Awareness class on emergency life support for the members of Kudumbasree .	As part of the objective of the UBA cell of IISER, Tvm conducted an emergency life support class and a training program for the people of Vithura panchayath. The major objective of the class and training was to save lives, prevent further injury, and promote recovery.
10	02-09-2023	Green Vithura Plastic free Vithura campaign.	The plastic-free Vitura is a flagship programme of CARE. Green Vithura was initiated and supported by the Vithura Gram panchayath and NSS units of the school located in the village. The program has a wider goal of making Vitura a completely plastic-free eco-friendly village. There was a rally conducted by the UBA team with the support of Vitura Higher Secondary School to give awareness on reducing the use of plastic to protect the environment.
11	02-11-2023	Training program for teachers based on science and work experience festival.	To train and equip teachers to make them capable of grooming students for work experience festivals and social science festivals, a special program was conducted at the school in association with Insight for Innovation. This increased the student's participation in the school for the science festival.
12	18-11-2023	Medical Camp at Maruthamala Adhivasi colany	The UBA cell, in association with the Indian Medical Association, conducted a medical camp at the Maruthamala Adhivasi settlement of Vithura village. Our medical camps aim to educate and mobilize communities to help prevent the spread of major diseases and reduce the incidences and complications from non-communicable diseases.

S No	Date	Event Title	Brief Description
13	26-11-2023	Adolescent awareness class and Adolescent health program for school students.	The Adolescent health program focused on improving the health of young people. The objective was to provide accurate knowledge to students about the process of growing up with HIV and substance abuse and to develop healthy attitudes and responsible behavior towards the process of growing up.
14	05-01-2024	Digital literacy campaign	Participating institutes agreed to initiate the implementation of the framework with a digital literacy campaign in Thiruvananthapuram. Field-level implementation and collaboration with Gramapanchayath and local libraries to be managed by PIs.
15	16-02-2024	Science Awareness Workshop	Marg Darshan is an initiative focused on improving the quality of education in the adopted villages. The students of IISER TVM have taken the sessions.
16	22-02-2024	Provided Artificial leg.	UBA IISER TVM, in association with KIMS Hospital, provides artificial legs to 12 rural people. Using the Jaipur foot, below-knee amputees will be able to sit, run, squat, walk, and swim with ease.
17	18,19-03-2024	Participation in the two-day workshop for regional coordinating institutes.	A special session on the development of the tribal courses was undertaken where experts with immense experience in the tribal domain shared their experience and knowledge with the RCIs under UBA to develop the course.



Pictures



Breast cancer screening camp at the Anappara Tribal settlement



Awareness class on emergency life support for the members of Kudumbasree



Coaching /Skill development program

Cloth bag unit by SHGS



Provided Artificial leg



Green Vithura Plastic free Vithura campaign

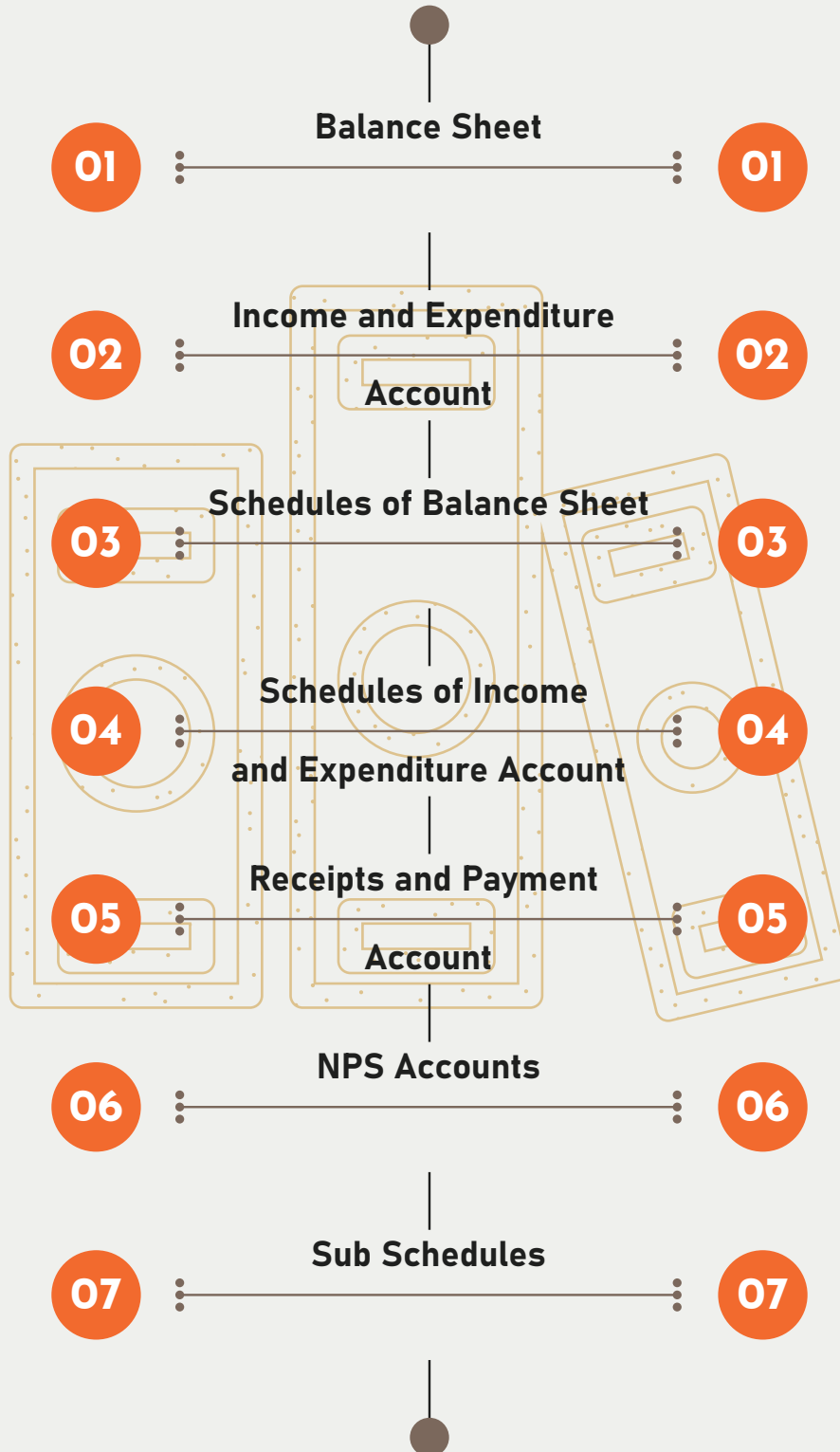
Medical camp at the kottoor tribal



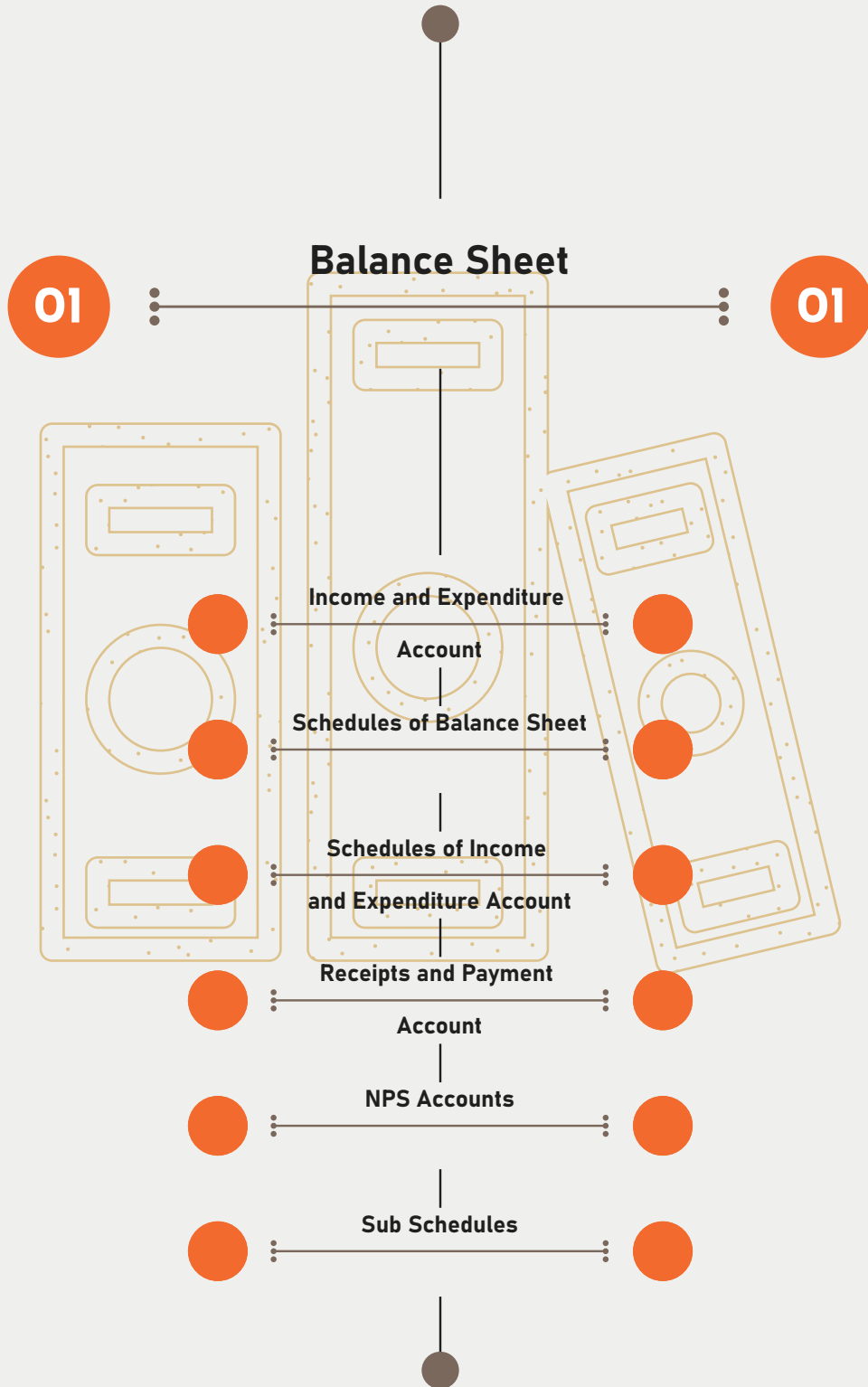
Brain storming and interactive meeting with Regional Coordinating Institutes and expert groups



Annual Accounts



Annual Accounts



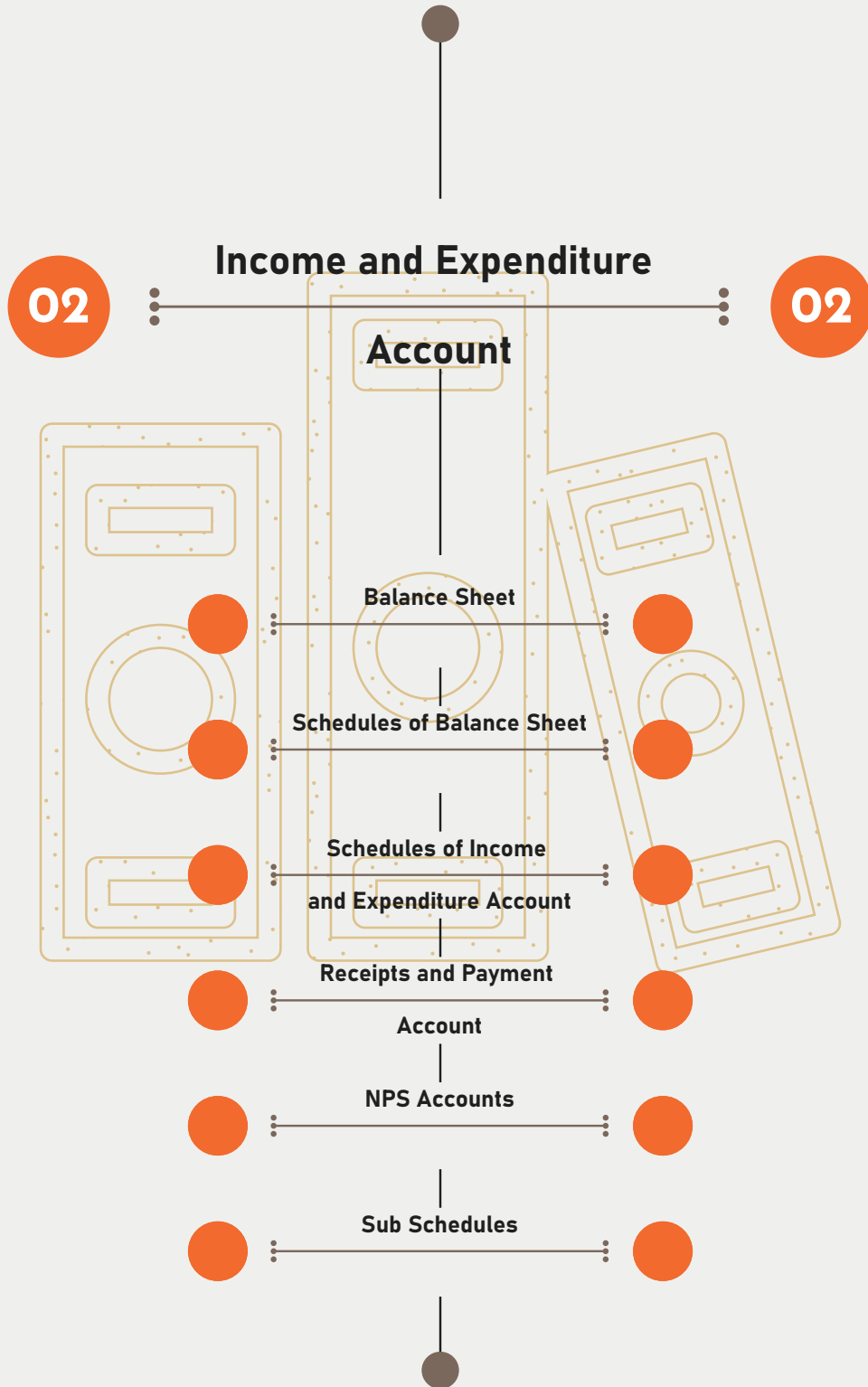
INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH THIRUVANANTHAPURAM

BALANCE SHEET AS AT 31ST MARCH 2024

Amount in ₹

SOURCES OF FUNDS	Schedule No	2023-24	2022-23
UNRESTRICTED FUND			
CORPUS/ CAPITAL FUND	1	9,68,83,08,615	9,42,90,70,392
DESIGNATED/ EARMARKED FUNDS	2	14,98,777	-
CURRENT LIABILITIES AND PROVISIONS	3	78,85,25,703	72,37,90,492
UNSPENT BALANCE OF EXTERNAL PROJECTS	3A	16,20,35,479	20,74,39,538
SPONSORED FELLOWSHIPS & SCHOLARSHIPS	3B	47,85,788	1,77,08,361
UNSPENT BALANCE OF GRANT - MHRD	3C	33,58,80,692	2,58,16,506
TOTAL		10,98,10,35,054	10,40,38,25,289
APPLICATION OF FUNDS			
FIXED ASSETS	4		
TANGIBLE ASSETS		8,31,84,36,146	8,28,38,27,975
INTANGIBLE ASSETS		3,86,06,264	3,03,13,173
CAPITAL WORK-IN-PROGRESS		2,28,85,679	1,70,39,982
INVESTMENTS FROM EARMARKED / ENDOWMENT FUNDS	5		
LONG TERM INVESTMENT			
SHORT TERM INVESTMENT			
INVESTMENT - OTHERS	6		
CURRENT ASSETS	7	2,17,12,20,134	1,79,63,90,796
LOANS, ADVANCES & DEPOSITS	8	42,98,86,831	27,62,53,361
TOTAL		10,98,10,35,054	10,40,38,25,288
SIGNIFICANT ACCOUNTING POLICIES	23		
CONTINGENT LIABILITIES AND NOTES TO ACCOUNTS	24		

Annual Accounts



**INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH
 THIRUVANANTHAPURAM
 INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED
 31ST MARCH 2024**

Amount in ₹

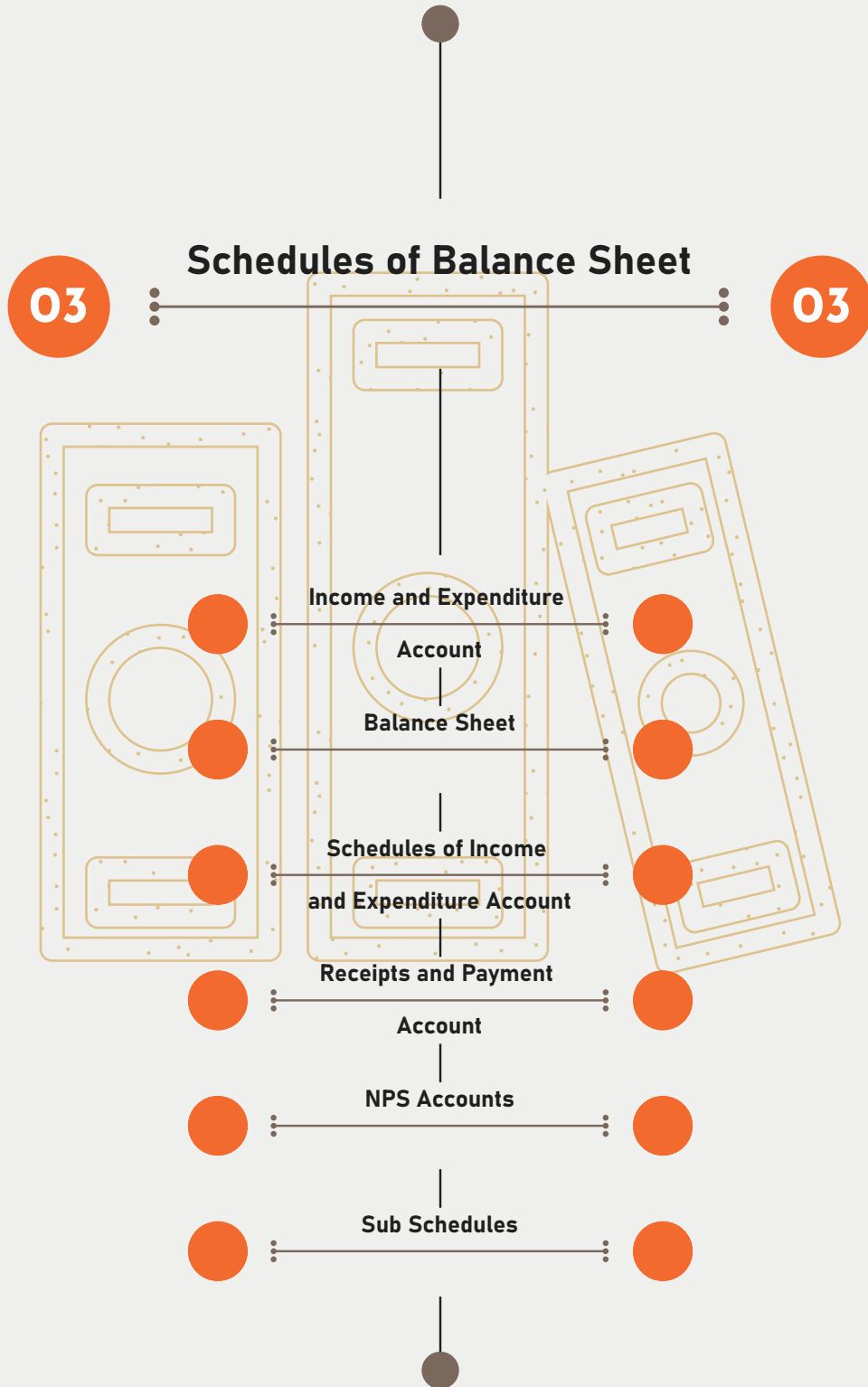
PARTICULARS	Schedule No	2023-24	2022-23
INCOME			
Academic Receipts	9	11,50,65,386	9,51,10,866
Grants & Subsidies	10	95,79,29,600	82,58,32,561
Income from Investments	11	-	-
Interest Earned	12	-	-
Other Income	13	11,41,91,051	7,46,89,859
Prior Period Income	14	-	29,189
TOTAL (A)		1,18,71,86,037	99,56,62,475
EXPENDITURE			
Staff Payments & Benefits	15	40,78,15,209	33,46,45,150
Employees Retirement and Terminal Benefits	15A	1,91,52,397	1,41,18,130
Academic Expenses	16	21,65,42,730	18,62,16,893
Administrative & General Expenses	17	25,46,15,060	21,42,62,271
Transportation Expenses	18	93,49,883	74,48,984
Repairs & Maintenance	19	6,81,08,370	8,26,50,489
Finance cost	20	14,98,348	6,08,774
Other Expenses	21	-	-
Depreciation	4	43,01,29,526	43,91,92,385
Prior Period Expenses	22	-	-
TOTAL (B)		1,40,72,11,523	1,27,91,43,076
Balance being excess of Income over Expenditure (A-B)		(22,00,25,486)	(28,34,80,601)

PARTICULARS	Schedule No	2023-24	2022-23
Transfer to/ from Designated Fund			
Building Fund			
Others (Specify)			
BALANCE BEING SURPLUS/(DEFICIT) CARRIED TO CAPITAL FUND		(22,00,25,486)	(28,34,80,601)
Significant Accounting Policies	23		
Contingent Liabilities & Notes on Accounts	24		



Photo: Vimal VM, Electricals department

Annual Accounts



**INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH
THIRUVANANTHAPURAM
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31ST MARCH 2024**

SCHEDULE 1- CORPUS/CAPITAL FUND:

Amount in ₹

	2023-24	2022-23
Balance as at the beginning of the year	9,42,90,70,392	8,80,36,63,253
Add: Contributions towards Corpus/Capital Fund		
Add: Grant from UGC, Government of India and State Government to the extent utilised for capital expenditure	33,58,06,213	83,65,24,180
Add: Assets purchased out of Earmarked funds		
Add: Assets purchased out of sponsored projects, where ownership vests in the institution	14,27,29,421	7,42,18,757
Add: Assets donated/ gifts received		
Add: Other additions	7,28,075	(18,55,197)
Add: Excess of income over expenditure transferred from income and expenditure account	(22,00,25,486)	(28,34,80,601)
Total	9,68,83,08,615	9,42,90,70,392
Less: Deficit transferred from the income and expenditure account		
BALANCE AT THE YEAR-END	9,68,83,08,615	9,42,90,70,392

**INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH
THIRUVANANTHAPURAM
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31ST MARCH 2024**

SCHEDULE 2-DESIGNATED/ EARMARKED FUNDS

Amount in ₹

	FUND-WISE BREAK UP				TOTAL	
	Fund AAA	Fund BBB	Fund CC	Endowment Funds	2023-24	2022-23
A						
a) <u>Opening balance of the funds</u>						
b) <u>Additions to the Funds:</u>						
c) Income from investments made on account of funds						
d) Accrued interest on investments of the funds						
e) Interest on savings Bank Account						
f) Other additions (specify nature)						
TOTAL (A)	NIL	NIL	NIL	NIL	NIL	NIL
B						
Utilisation/Expenditure towards objectives of funds						
i. Capital Expenditure						
ii. Revenue Expenditure						
TOTAL (B)						
CLOSING BALANCE AS AT THE YEAR-END (A-B)	NIL	NIL	NIL	NIL	NIL	NIL
Represented by						
Cash and bank balances						
Investment						
Interest accrued but not due						
Total						

**INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH
THIRUVANANTHAPURAM
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31ST MARCH 2024**

SCHEDULE 2 (A)-ENDOWMENT FUNDS

Amount in ₹

(1) Sl. No.	(2) Name of the Endowment	(3) Opening Balance		(4) Additions during the year		(5) Expenditure on the object during the year		(6) Closing Balance		(12) Total
		Endow-ment	Accu. Interest	Endow-ment	Interest	Endow-ment	Accu. Interest	Endow-ment	Accu. Interest	
1	Prof. M.V George Memorial Lecture Fund			13,50,000	2,41,435			1,48,777	14,98,777	13,50,000
	Total			13,50,000	2,41,435			1,48,777	14,98,777	13,50,000



**INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH
THIRUVANANTHAPURAM
SCHEDULES FORMING PART OF BALANCE SHEET AS AT
31ST MARCH 2024**

SCHEDULE 3- CURRENT LIABILITIES AND PROVISIONS

Amount in ₹

Particulars	Sub Sch No.	2023-24	2022-23
A. CURRENT LIABILITIES			
1. Deposits from staff			
2. Deposits from students			
3. Sundry Creditors:			
a) For Goods & Services	1	10,60,111	
b) Others	2	10,39,10,419	9,94,61,160
4. Deposits Others (including EMD, Security Deposits)	3	4,61,77,324	5,36,79,678
5. Statutory Liabilities(GPF,TDS,WC TAX, CPF, GIS,NPS) :			
a) Overdue			
b) Others	4	93,48,740	76,17,746
6. Other current Liabilities	5	48,32,12,950	43,68,60,204
a) Salaries			
b) Receipts against sponsored projects			
c) Receipts against sponsored fellowships and scholarships			
d) Unutilised Grants			
e) Grants in advance			
f) Other Funds			
g) Other liabilities			
Total (A)		64,37,09,544	59,76,18,788
B. PROVISIONS			
1. For Taxation			
2. Gratuity			
3. Superannuation/Pension			
4. Accumulated Leave Encashment	6	14,48,16,159	12,61,71,704
5. Trade Warranties/Claims			
6. Others (Specify)			
Total (B)		14,48,16,159	12,61,71,704
Total (A+B)		78,85,25,703	72,37,90,492

**INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH
THIRUVANANTHAPURAM
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31ST MARCH 2024**

SCHEDULE 3 (a)-ENDOWMENT FUNDS (Sponsored Projects)

Amount in ₹

(1) Sl. No	(2) Name of the Project	(3) Opening Balance 2022-23		(5) Receipts / Recoveries during the year	(6) Total	(7) Expenditure during the year		(8) Closing Balance 2023-24	
		Credit	Debit			Recurring	Capital	Credit	Debit
1	ACRON-AMR-DR SANDHYA GANE-SHAN-ACORN-AMR/2023/003	-	-	6,61,535	6,61,535	5,97,991	-	63,544	-
2	BHARAT PETROLEUM CORPORATION LIMITED (BPCL)-DR M M SHAJUMON	-	-	8,68,359	8,68,359	1,23,781	-	744,578	-
3	CEFIPRA-DR K GEORGE THOM-AS-6908-2	-	-	26,93,720	26,93,720	3,00,004	-	23,93,716	-
4	CHANAKYA FELLOWSHIP-MR A V N S MEGHANATH	-	-	62,061	62,061	-	-	62,061	-
5	CHANAKYA FELLOWSHIP-MR SUBHAM DAS	-	-	99,298	99,298	-	-	99,298	-
6	CMNPFD-DR ASWATHI K-KSHEC-A1/144(C)/CMNPF.Contingency Fund/195	63	-	1,75,001	1,75,064	1,75,039	-	25	-
7	CMNPFD-DR HIJAS K M-KSHEC-A1/144(C)/CMNPF.Contingency Fund/195	55	-	1,76,750	1,76,805	1,75,021	-	1,784	-
8	CMNPFD-DR NEEMA P-KSHEC-A1/144(C)/CMNPF.Contingency Fund/195	1,75,034	-	1,713	1,76,747	1,74,530	-	2,217	-
9	CSIR- DR TAPAS K MANNA-37(1688)/17-EMR-II	-	81,722	1,310	(80,412)	-	-	-	80,412
10	CSIR-CCMB-DR RAVI MARUTHACHA-LAM-31-2(281)/2018-19/Budget	7,49,851	-	22,699	7,72,550	38,826	-	7,33,724	-

Sl. No	Name of the Project	Opening Balance 2022-23		Receipts / Re-coveries during the year	Total	Expenditure during the year		Closing Balance 2023-24	
		Credit	Debit			Recurring	Capital	Credit	Debit
11	CSIR-DR ALAGIRI KALIYAMUR-THY-02/0487/23/EMR-II	-	-	94,529	94,529	84,832	-	9,697	-
12	CSIR-DR BASUDEV SA-HOO-02/0480/23/EMR-II	-	-	3,57,761	3,57,761	1,31,250	-	2,26,511	-
13	CSIR-DR RAMESH RASAPAN-02(0409)/21/EMR-II	76,362	-	93,711	1,70,073	1,35,461	-	34,612	-
14	CSIR-DR SHADAK ALEE-03(1457)/19/EMR-II	2,49,416	-	(2,49,416)	-	-	-	-	-
15	CSIR-DR SOUMEN DE-01/3137/23/EMR-II	-	-	56,589	56,589	56,250	-	339	-
16	CSIR-DR SUBRATA KUNDU-01(3025)/21/EMR-II	5,40,615	-	1,05,747	6,46,362	58,215	4,99,730	88,417	-
17	CSIR-DR SUKHENDU MAN-DAL-01(3024)/21/EMR-II	12,739	-	67,269	80,008	1,20,787	-	-	40,779
18	CSIR-DR VEERA REDDY YATHAM-02/0466/23/EMR-II	-	-	75,759	75,759	-	4,99,411	-	4,23,652
19	CSIR-DR VENNAPUSA SIVARANJANA REDDY-01/3109/23/EMR-II	-	-	5,93,429	5,93,429	-	-	5,93,429	-
20	CURE PARKINSON'S TRUST-DR POO-NAM THAKUR	-	-	4,09,145	4,09,145	-	-	4,09,145	-
21	DBT -IISC-MOHAMMED AIYAZ	42,400	-	-	42,400	-	-	42,400	-
22	DBT-DR ANAND RAMAIAAN SANTHASEE-LA-DBTRA/2023-24/N/NIPGR/31	-	-	7,59,068	7,59,068	4,53,565	-	3,05,503	-
23	DBT-DR ANIRBAN GUHA-BT/RLF/Re-en-try/08/2021	19,98,000	-	24,76,232	44,74,232	25,93,750	-	18,80,482	-
24	DBT-DR HEMA SOMANATHAN-BT/PR39693/FCB/125/96/2020	-	-	10,33,628	10,33,628	2,77,560	8,06,068	-	50,000
25	DBT-DR HEMASOMANATHAN-BT/PR12720/COE/34/21/2015-A1	39,574	-	(39,574)	-	-	-	-	-
26	DBT-DR HEMASOMANATHAN-BT/PR12720/COE/34/21/2015-A2	41,190	-	(41,190)	-	-	-	-	-

Sl. No	Name of the Project	Opening Balance 2022-23		Receipts / Re-coveries during the year	Total	Expenditure during the year		Closing Balance 2023-24	
		Credit	Debit			Recurring	Capital	Credit	Debit
27	DBT-DR N SADANADA SINGH-BT/ PR46677/AAQ/1/960/2022	-	-	39,59,319	39,59,319	2,59,319	37,00,000	-	-
28	DBT-DR N SADANANDA SINGH-BT/RLF- RE-ENTRY/17/2015	25,404	-	979	26,383	5,428	-	20,955	-
29	DBT-DR NISHANT K T-BT/PR41371/ BRB/10/1958/2020	-	4,83,017	14,76,129	9,93,112	9,86,917	-	6,195	-
30	DBT-DR RAJENDRA KURAPATI-BT/ PR48101/BCE/8/1808/2023	-	-	8,47,945	8,47,945	9,76,420	-	-	1,28,475
31	DBT-DR RAJENDRA KURAPATI-BT/RLF/ Re-entry/24/2020	8,52,258	-	(23,901)	8,28,357	8,13,037	-	15,320	-
32	DBT-DR REJI VARGHESE-BT/PR30172/ MNT/28/1593/2018	10,596	-	(10,596)	-	-	-	-	-
33	DBT-DR SATISH KHURANA-BT/ PR30459/MED/31/449/2021	-	15,26,346	42,00,535	26,74,189	22,88,587	3,73,577	12,025	-
34	DBT-DR SRINIVASA MURTY-BT/ PR21325/BRB/10/1554/2016	94,460	-	4,793	99,253	63,275	-	35,978	-
35	DBT-DR STALIN RAJ-BT/PR32565/ MED/29/1554/2020	6,430	-	1,94,336	2,00,766	2,00,766	-	-	-
36	DBT-DR STALIN RAJ-EU-INF/15/RV/19- 20	77,208	-	1,97,101	2,74,309	7,01,895	-	-	4,27,586
37	DBT-DR SWATHY DEVIREDDY-BT/RLF/ Re-entry/54/2022	11,95,657	-	24,72,735	36,68,392	26,21,543	-	10,46,849	-
38	DBT-DR TAPAS K MANNA-BT/HRD/ NWB/38/2019-20(7)	8,599	-	(8,599)	-	-	-	-	-
39	DBT-DR TAPAS K MANNA-BT/PR30271/ BRB/10/1740/2018	2,32,863	-	(23,626)	2,09,237	-	-	2,09,237	-
40	DBT-DR TAPAS KUMAR MANNA-NEW	-	-	2,827	2,827	3,03,203	-	-	3,00,376
41	DBT-DR ULLASA K-BT/PR12720/ COE/34/21/2015-A3	13,994	-	(13,994)	-	-	-	-	-
42	DBT-DR ULLASA K-BT/PR27535/ NDB/39/600/2018	-	2,64,425	11,363	(2,53,062)	-	-	-	2,53,062

Sl. No	Name of the Project	Opening Balance 2022-23		Receipts / Re-coveries during the year	Total	Expenditure during the year		Closing Balance 2023-24	
		Credit	Debit			Recurring	Capital	Credit	Debit
43	DBT-DR ULLASA K-BT/PR7713/NDB/39/261/2013	1,20,477	-	-	1,20,477	-	-	1,20,477	-
44	DBT-DR VIJAY JAYARAMAN-BT/RLF/Re-entry/44/2022	-	-	13,50,000	13,50,000	81,093	-	12,68,907	-
45	DBT-DR YUGANDER ARRA-RLF/HRD/35/02/2006	-	-	27,72,000	27,72,000	-	-	27,72,000	-
46	DRDO-DR RAMESH CHANDRA NATH-DLJ/JC/1025/1/73	7,24,910	-	9,329	7,34,239	6,92,482	-	41,757	-
47	DST-DR A MUTHUKRISHNAN-DST/TMD/HFC/2K18/24	264	-	4,99,476	4,99,740	4,99,740	-	-	-
48	DST-DR ANIL SHAJI-DST/ICPS/QuST/Theme-4/2019/SUMMER	13,07,980	-	40,579	13,48,559	-	-	13,48,559	-
49	DST-DR ANIL SHAJI-QUEST/Theme-4/2019/GENERAL	79,80,114	-	8,90,734	88,70,848	14,25,434	1,49,860	72,95,554	-
50	DST-DR DEEPSHIKA JAISWAL NAGAR-DST/TMD/HFC/2K18/37	-	1,79,933	10,94,571	9,14,638	8,97,582	-	17,056	-
51	DST-DR DEEPSHIKA JAISWAL NAGAR-DST/TMD/IC-MAP/2K20/02	75,92,425	-	1,75,602	77,68,027	8,67,195	-	69,00,832	-
52	DST-DR K GEORGE THOMAS-DST/NM/TUE/EE-01/2019	1,69,11,511	-	(2,38,731)	1,66,72,780	5,34,492	1,52,28,106	9,10,182	-
53	DST-DR M M SHAIJUMON-DST/TMD/HFC/2K18/136	-	2,91,212	12,22,043	9,30,831	9,30,831	-	-	-
54	DST-DR M M SHAIJUMON-DST/TMD/IC-MAP/2K20/01	16,13,828	-	20,84,853	36,98,681	23,56,688	9,23,223	4,18,770	-
55	DST-DR MADHU THALAKULAM-DST/ICPS/QuST/Theme-4/2019/General	6,78,06,513	-	46,112	6,78,52,625	13,66,064	5,06,82,965	1,58,03,596	-
56	DST-DR MANOJ A G NAM-BOOTHIRY-DST/TMD/IC-MAP/2K20/03	23,25,538	-	20,14,089	43,39,627	9,98,508	21,50,970	11,90,149	-
57	DST-DR NAGAI AH CHAMAKURI-NS-M/R&D-HPC-2021	3,776	-	25,86,959	25,90,735	15,45,569	-	10,45,166	-
58	DST-DR PRAMITHA M-IN-SPIRE/04/2020/001105	1,774	-	12,22,582	12,24,356	1,44,863	10,77,667	1,826	-

Sl. No	Name of the Project	Opening Balance 2022-23		Receipts / Re-coveries during the year	Total	Expenditure during the year		Closing Balance 2023-24	
		Credit	Debit			Recurring	Capital	Credit	Debit
59	DST-DR T SHYAMALA-DST/WOS-B/AFE-20/2021	18,270	-	8,46,325	8,64,595	8,55,065	-	9,530	-
60	DST-DR TAMIL SELVI-SR/WOS-A/CS-105/2016(G)	8,009	-	242	8,251	-	-	8,251	-
61	DST-INSPIRE FACULTY AWARD-DR CHANDRAKALA MEENA	-	1,11,879	3,093	(1,08,786)	1,67,400	2,05,000	-	4,81,186
62	DST-INSPIRE FACULTY AWARD-DR SRI-LAKSHMI K-2013/MA-23	24,202	-	732	24,934	-	-	24,934	-
63	DST-INSPIRE FACULTY -DR ANAND NARAYANA SARMA	5,036	-	14,45,096	14,50,132	8,90,079	6,58,285	-	98,232
64	DST-INSPIRE FACULTY-DR DHANYA RAJENDRAN	4,109	-	(4,109)	-	-	-	-	-
65	DST-INSPIRE FACULTY-DR GOKULNATH SAPABATHI	-	1,07,172	-	(1,07,172)	-	-	-	1,07,172
66	DST-INSPIRE FACULTY-DR MATHEW ARUN THOMAS	23,457	-	11,10,595	11,34,052	8,30,677	3,14,116	-	10,741
67	DST-INSPIRE FACULTY-DR NITIN YADAV	-	-	6,09,560	6,09,560	1,47,160	4,62,400	-	-
68	DST-INSPIRE FACULTY-DR PRASANTH V	-	-	6,67,312	6,67,312	66,572	6,00,740	-	-
69	DST-INSPIRE FACULTY-DR SHABNAM IYANI	2,745	-	5,67,660	5,70,405	1,72,500	3,94,361	3,544	-
70	DST-INSPIRE FACULTY-DR VINAYAK KAMBLE	96,694	-	(96,694)	-	-	-	-	-
71	DST-SCHOOL OF BIOLOGY-FIST PROGRAM-SR/FST/LS-II/2018/217	4,73,887	-	15,532	4,89,419	-	-	4,89,419	-
72	DST-SCHOOL OF CHEMISTRY-FIST PROGRAM-SR/FST/CSII-042/2016	1	-	(1)	-	-	-	-	-
73	DST-SCHOOL OF MATHEMATICS-FIST PROGRAM-SR/FST/MS-II/2021/102	-	-	63,12,060	63,12,060	-	63,12,060	-	-
74	DST-SCHOOL OF PHYSICS-FIST PROGRAM-SR/FST/PS-II/2018/54	46,44,129	-	(6,42,375)	40,01,754	-	39,84,616	17,138	-

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		Credit	Debit			Recurring	Capital	Credit	Debit
75	DUPONT YOUNG PROFESSOR PRO-GRAM-DR RAVI MARUTHACHALAM	9,89,826	-	26,156	10,15,982	80,540	-	9,35,442	-
76	EICL-DR M M SHAIJUMON	1,58,609	-	3,176	1,61,785	66,000	-	95,785	-
77	GE INDIA INDUSTRIAL PVT LTD PROJ-ECT-DR RAJEEV N KINI	3,93,037	-	2,949	3,95,986	26,666	-	3,69,320	-
78	IBRO-DR AMRUTHA SWAMINATHAN	-	-	10,31,028	10,31,028	-	-	10,31,028	-
79	ICAR-DR RAVI MARUTHACHA-LAM-NASF/GT-7024/2018-19	1,89,128	-	(1,89,128)	-	-	-	-	-
80	ICAR-NASF-DR RAVI MARUTHACHA-LAM-NASF/BGAM-9021/22-23	6,956	-	5,30,117	5,37,073	5,32,428	-	4,645	-
81	ICMR-DR KAMALAKANNAN VIJAYAN-R.12015/04/2023-HR/ E-Office: 8225172	-	-	23,80,250	23,80,250	11,51,237	9,00,000	3,29,013	-
82	ICMR-DR KARTHIK CHANDIRAN-12015/02/2023-HR	-	-	33,35,594	33,35,594	21,40,944	1,79,183	10,15,467	-
83	ICMR-DR NISHANT K T-Myco/Ad-hoc/1/2022-ECD-II	20,50,744	-	39,897	20,90,641	10,55,974	9,50,000	84,667	-
84	ICMR-DR RAMANATHAN NATESH-Dis-covery/IIRP/SG-0865/2023	-	-	4,27,000	4,27,000	45,423	-	3,81,577	-
85	ICMR-DR SATISH KHURANA-EMDR/SG/9/2023-4618	-	-	46,85,083	46,85,083	13,41,422	2,49,924	30,93,737	-
86	ICMR-DR STALIN RAJ-EM/DEV/IG/3/1280/2023	-	-	1,61,17,434	1,61,17,434	10,43,026	-	1,50,74,408	-
87	IHUB-ANANTHA KTISHNAN	-	-	74,400	74,400	74,400	-	-	-
88	IHUB-MR GYANESHWAR BHOI	-	-	6,40,080	6,40,080	-	-	6,40,080	-
89	I-HUB-MS AYISHA FERHANA	-	-	390	390	-	-	390	-
90	IKS INTERNSHIP 2022- DR SANDHYA GANESAN	1,106	-	(1,106)	-	-	-	-	-

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		Credit	Debit			Recurring	Capital	Credit	Debit
91	ISRO-DR DEEPSHIKA JAISWAL NAGAR-DS-2B-13012 (2)/42/2017	29,325	-	(29,325)	-	-	-	-	-
92	ISRO-DR DEEPSHIKHA JAISWAL NAGAR./19012/35/2016-II	50,226	-	(50,226)	-	-	-	-	-
93	ISRO-DR K M SURESHAN-ISRO/RES/3/861/20-21	-	79,007	7,59,361	6,80,354	9,51,971	-	-	2,71,617
94	KLDB COLLABORATIVE PROJECT-DR N SADANANDA SINGH	4,73,926	-	29,171	5,03,097	-	-	5,03,097	-
95	KSCSTE-DR ARUN KUMAR G-75/202/KSCSTE	-	-	2,53,789	2,53,789	2,46,110	-	7,679	-
96	KSCSTE-DR SANDREA MOUREEN FRANCIS-159/2021/KSCSTE	44,750	-	1,036	45,786	29,067	-	16,719	-
97	KSHEC-SANGEETHA VARMA V M-KSHEC-A1/144/CMNPF 2nd Batch -Mode II/Contingency Fund/206/2022-23	-	-	40,000	40,000	-	-	40,000	-
98	MoE- DR RAMANATHAN NATESH-STARS/APR2019/BS/729/FS	15,742	-	8,74,829	8,90,571	8,70,750	-	19,821	-
99	MoE-DR A MUTHUKRISHNAN-MoE-STARS/STARS-2/2023-0368	-	-	12,93,193	12,93,193	2,93,193	10,00,000	-	-
100	MoE-DR AJAY VENUGOPAL-STARS/APR2019/CS/250/FS	565	-	8,19,863	8,20,428	8,15,524	-	4,904	-
101	MoE-DR ALAGIRI KALIYAMOORTHY-MoE-STARS/STARS-2/2023-0828	-	-	5,14,094	5,14,094	2,14,094	3,00,000	-	-
102	MoE-DR DEBASHIS SAHA-MoE-STARS/STARS-2/2023-0809	-	-	260	260	23,872	-	-	23,612
103	MoE-DR JERRY A FERREIRO-MOE-STARS/STARS/1/2023-0635	-	-	18,17,311	18,17,311	2,51,357	15,65,954	-	-
104	MoE-DR JISHY VARGHESE-MoE-STARS/STARS-2/2023-0108	-	-	7,96,573	7,96,573	6,05,159	1,73,460	17,954	-
105	MoE-DR K M SURESHAN-MoE-STARS/STARS-2/2023-0222	-	-	7,68,154	7,68,154	2,68,306	4,99,848	-	-

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		Credit	Debit			Recurring	Capital	Credit	Debit
106	MoE-DR M M SHAJUMON-MoE-STARS/ STARS-2/2023-0834	-	-	12,96,711	12,96,711	4,88,130	8,08,581	-	-
107	MoE-DR MADHU THALAKULAM-STARS/ APR2019/PS/363/FS	3,560	-	4,63,205	4,66,765	2,85,899	1,77,000	3,866	-
108	MoE-DR MANOJ A G NAM-BOOTHIRY-STARS/APR2019/PS/308/FS	-	6,00,556	13,85,720	7,85,164	7,72,479	-	12,685	-
109	MoE-DR RAVI MARUTHACHA-LAM-STARS/APR2019/BS/818/FS	2,630	-	20,10,757	20,13,387	20,09,300	-	4,087	-
110	MoE-DR ULLASA K-MoE-STARS/ STARS-2/2023-0811	-	-	3,74,868	3,74,868	3,50,268	24,600	-	-
111	MoE-DR VEERA REDDY YATHAM-MoE-STARS/STARS-2/2023-0092	-	-	16,04,473	16,04,473	1,04,473	15,00,000	-	-
112	MoE-DR VINESH VIJAYAN-STARS/ APR2019/BS/708/FS	760	-	31,23,141	31,23,901	30,79,041	-	44,860	-
113	MOMENTIVE PERFORMANCE MATERIALS (INDIA) PVT LTD-DR M M SHAJUMON	8,15,216	-	23,46,852	31,62,068	20,18,323	2,69,925	8,73,820	-
114	NBHM-DR ARATI SHASHI-PD-F/0204/16(6)/2020/R&D-II	3,634	-	8,86,704	8,90,338	6,54,760	-	2,35,578	-
115	OTHERS	47,20,129	-	2,72,532	49,92,661	29,185	1,72,300	47,91,176	-
116	OTHERS-CONFERENCE	39,81,334	-	20,16,822	59,98,156	-	-	59,98,156	-
117	RAENG-DR JOY MITRA	13,84,317	-	36,187	14,20,504	75,001	85,550	12,59,953	-
118	RARS-RAJENDRA GORETI	-	-	2,99,900	2,99,900	-	-	2,99,900	-
119	RELINCE INDUSTRIES PVT LTD-DR M M SHAJUMON	-	-	19,85,714	19,85,714	4,69,750	9,24,411	5,91,553	-
120	SERB-DR ADITHYA LAKSHMA-NA-CRG/2020/000321	60,57,817	-	3,71,958	64,29,775	3,28,750	50,65,520	10,35,505	-

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		Credit	Debit			Recurring	Capital	Credit	Debit
121	SERB-DR AJAY VENUGO-PAL-CRG/2019/005040	27,837	-	1,122	28,959	-	-	28,959	-
122	SERB-DR AJAY VENUGO-PAL-CRG/2023/004024	-	-	8,67,133	8,67,133	1,63,371	-	7,03,762	-
123	SERB-DR ALAGIRI KALIYAMOOR-THY-CRG/2022/002516	9,95,069	-	10,16,811	20,11,880	10,66,824	-	9,45,056	-
124	SERB-DR ALOK KUMAR-PDF-2023-PDF/2023/002916	-	-	6,70,097	6,70,097	-	-	6,70,097	-
125	SERB-DR AMAL MED-HI-CRG/2021/005792	3,90,086	-	11,117	4,01,203	54,169	-	3,47,034	-
126	SERB-DR ASHA KISAN DOND-MTR/2022/000265	2,01,241	-	1,774	2,03,015	2,00,000	-	3,015	-
127	SERB-DR BASUDEV SA-HOO-SRG/2021/000572	66,107	-	5,08,272	5,74,379	5,12,091	-	62,288	-
128	SERB-DR BIKAS C DAS-CRG/2021/000567	8,49,886	-	22,208	8,72,094	2,30,532	-	6,41,562	-
129	SERB-DR BIKAS C DAS-EEQ/2021/000810	41,72,291	-	1,35,193	43,07,485	63,325	39,50,000	2,94,160	-
130	SERB-DR CHANDRAKALA MEE-NA-EEQ/2023/001080	-	-	16,62,000	16,62,000	90,240	-	15,71,760	-
131	SERB-DR CHANDRAKALA MEE-NA-SRG/2023/001846	-	-	21,36,671	21,36,671	1,77,268	-	19,59,403	-
132	SERB-DR DEEPSHIKA JAISWAL NAGAR-CRG/2021/001262	73,34,334	-	1,30,654	74,64,988	92,752	70,00,000	3,72,236	-
133	SERB-DR DHANYA RAJEN-DRAN-MTR/2022/000780	2,00,000	-	5,570	2,05,570	79,186	-	1,26,384	-
134	SERB-DR DOND ASHA KISAN-SRG/2020/001027	98,458	-	(98,458)	-	-	-	-	-
135	SERB-DR GEETHA T-SPG/2021/004200	5,52,203	-	(2,116)	5,50,087	97,380	-	4,52,707	-
136	SERB-DR GOKULNATH SAPA-BATHI-CRG/2019/006303	1,41,788	-	4,091	1,45,879	40,000	-	1,05,879	-

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		Credit	Debit			Recurring	Capital	Credit	Debit
137	SERB-DR GOKULNATH SAPA-BATHI-EEQ/2023/000756	-	-	36,68,102	36,68,102	1,99,907	-	34,68,195	-
138	SERB-DR HEMA SOMANATHAN/EMR/2014/000705	1,11,072	-	(1,11,072)	-	-	-	-	-
139	SERB-DR HEMA SOMANATHAN-CRG/2019/003805	56,011	-	(43,998)	12,013	12,013	-	-	-
140	SERB-DR HEMA SOMANATHAN-SPR/2021/000510	20,41,043	-	(7,753)	20,33,290	12,51,889	3,47,455	4,33,946	-
141	SERB-DR INDRANIL MONDAL-RJF/2022/000101	-	-	17,86,613	17,86,613	16,37,124	-	1,49,489	-
142	SERB-DR JERRY D FERREIRO-CRG/2022/000584	55,79,811	-	98,688	56,78,499	6,19,623	48,00,000	2,58,876	-
143	SERB-DR JISHY VAR-GHESE-CRG/2023/002329	-	-	21,71,000	21,71,000	-	-	21,71,000	-
144	SERB-DR JOY MITRA-CRG/2019/004965	2,49,849	-	(26,625)	2,23,224	-	-	2,23,224	-
145	SERB-DR JOY MITRA-CRG/2023/00678	-	-	33,50,000	33,50,000	-	-	33,50,000	-
146	SERB-DR K GEORGE THOMAS-SB/S2/JCB-64/2013	9,82,994	-	15,21,658	25,04,652	12,00,377	94,400	12,09,875	-
147	SERB-DR K M SURESHAN-CRG/2022/000568	37,38,253	-	89,517	38,27,770	12,20,098	25,00,000	1,07,672	-
148	SERB-DR K M SURESHAN-JCB/2023/000039	-	-	4,67,000	4,67,000	4,20,524	-	46,476	-
149	SERB-DR K R ARUN-CRG/2021/004078	3,39,527	-	5,487	3,45,014	1,97,212	-	1,47,802	-
150	SERB-DR KAMALAKANNAN VIJAYAN-SRG/2023/001874	-	-	18,31,405	18,31,405	-	-	18,31,405	-
151	SERB-DR KARTHIK CHANDIRAN-RJF/2022/000102	-	-	12,71,677	12,71,677	12,71,677	-	-	-
152	SERB-DR KRISHNADAS K R-SERB/RJF/2022/000022	-	-	17,10,329	17,10,329	15,65,000	-	1,45,329	-

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		Credit	Debit			Recurring	Capital	Credit	Debit
153	SERB-DR KUMARAGURUBARAN S-CRG/2021/000935	25,92,178	-	76,259	26,68,437	-	-	26,68,437	-
154	SERB-DR M M SHAIJUMON-CRG/2021/006246	3,03,073	-	15,897	3,18,970	3,77,915	-	-	58,945
155	SERB-DR M M SHAIJUMON-SERB/STR/2022/00022	-	-	13,13,283	13,13,283	12,31,918	-	81,365	-
156	SERB-DR MADHU THALAKU-LAM-CRG/2018/004213	1,53,320	-	4,639	1,57,959	-	-	1,57,959	-
157	SERB-DR MAHESH HARIHARAN-CRG/2019/002119	14,676	-	447	15,123	-	-	15,123	-
158	SERB-DR MAHESH HARIHARAN-CRG/2023/005859	-	-	68,84,330	68,84,330	71,244	-	68,13,086	-
159	SERB-DR MANIK BAN-IK-SRG/2021/000267	7,52,732	-	(7,52,732)	-	-	-	-	-
160	SERB-DR MANOJ A G NAM-BOOTHIRY-CRG/2021/003874	26,83,756	-	10,36,623	37,20,379	10,45,806	24,43,491	2,31,082	-
161	SERB-DR NAGAIH CHAMAKURI-CRG/2022/006421	11,65,698	-	22,675	11,88,373	7,15,170	2,02,134	2,71,069	-
162	SERB-DR NAGAIH CHAMAKURI-MTR/2017/000598	941	-	114	1,055	-	-	1,055	-
163	SERB-DR NISHA N KANANAN-EEQ/2022/001034	19,60,687	-	32,026	19,92,713	5,27,621	11,51,588	3,13,504	-
164	SERB-DR NISHANA M-SRG/2023/001820	-	-	18,17,500	18,17,500	1,45,316	-	16,72,184	-
165	SERB-DR NISHANT K T-CRG/2022/003817	-	-	17,18,847	17,18,847	13,90,606	-	3,28,241	-
166	SERB-DR NISHANT K T-SPR/2020/000427	-	2,01,538	954	(2,00,584)	4,806	-	-	2,05,390
167	SERB-DR NITIN YADAV-MTR/2023/001332	-	-	2,20,651	2,20,651	20,000	-	2,00,651	-
168	SERB-DR POONAM THAKUR-SRG/2021/000981	1,39,966	-	3,58,386	4,98,352	6,03,059	-	-	1,04,707

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		Credit	Debit			Recurring	Capital	Credit	Debit
169	SERB-DR PRIYANKA MAJUMDER-SRG/2023/002749	-	-	7,32,692	7,32,692	59,151	-	6,73,541	-
170	SERB-DR PUSHPITA GHOSH-SRG/2022/000043	7,88,122	-	4,27,193	12,15,315	6,52,867	2,93,826	2,68,622	-
171	SERB-DR R S SWATHI-CRG/2022/006873	8,74,891	-	15,749	8,90,640	4,67,436	3,73,463	49,741	-
172	SERB-DR RAJEEV N KINI-CRG/2019/004865	97,885	-	3,054	1,00,939	7,613	-	93,326	-
173	SERB-DR RAJEEV N KINI-IPA/2020/000021	-	1,77,803	3,404	(1,74,399)	74,147	-	-	2,48,546
174	SERB-DR RAJENDAR GORE-TI-CRG/2020/003737	1,42,771	-	1,05,368	2,48,139	2,00,309	-	47,830	-
175	SERB-DR RAJENDRA KURAPATI-EEQ/2022/000614	29,23,570	-	60,826	29,84,396	9,64,855	19,00,000	1,19,541	-
176	SERB-DR RAJENDRA KURAPATI-SRG/2022/000291	2,73,175	-	3,07,623	5,80,798	4,73,752	-	1,07,046	-
177	SERB-DR RAMANATHAN NATESH-CRG/2023/001211	-	-	23,39,222	23,39,222	-	-	23,39,222	-
178	SERB-DR RAMARAJ AYAPPAN-CRG/2023/001701	-	-	22,42,432	22,42,432	3,86,936	3,17,650	15,37,846	-
179	SERB-DR RAMARAJ AYAPPAN-SERB-EEQ/2023/000702	-	-	36,65,000	36,65,000	2,45,309	-	34,19,691	-
180	SERB-DR RAMESH CHANDRA NATH-CRG/2019/000960	68,806	-	(66,758)	2,048	-	-	2,048	-
181	SERB-DR RAMESH CHANDRA NATH-CRG/2022/000997	-	-	21,24,819	21,24,819	1,27,423	-	19,97,396	-
182	SERB-DR RAMESH RASAPAN-CRG/2023/005485	-	-	11,64,101	11,64,101	33,219	-	11,30,882	-
183	SERB-DR RAMKUMAR-RJF-2022/000007	-	-	16,70,403	16,70,403	16,70,403	-	-	-
184	SERB-DR RANI ALPHONSA JOSE-TAR/2021/000384	49,671	-	503	50,174	41,001	-	9,173	-

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		Credit	Debit			Recurring	Capital	Credit	Debit
185	SERB-DR RAVI MARUTHACHA-LAM-CRG/2022/007631	-	-	18,67,391	18,67,391	9,26,565	-	9,40,826	-
186	SERB-DR RAVI PANT-CRG/2019/000993	89,495	-	(5,668)	83,827	83,827	-	-	-
187	SERB-DR RAVI PANT-EMR/2015/000363	2,56,677	-	(2,56,677)	-	-	-	-	-
188	SERB-DR REJI VAR-GHESE-CRG/2022/002612	39,95,532	-	79,109	40,74,641	4,20,529	35,50,000	1,04,112	-
189	SERB-DR RESHMA BAK-SAK-PDF/2020/000943	38,059	-	28,778	66,837	65,764	-	1,073	-
190	SERB-DR SAIKAT CHATTERJEE-MTR/2018/000528	8,541	-	(8,541)	-	-	-	-	-
191	SERB-DR SAM JOHN-TAR/2022/000226	3,35,000	-	7,559	3,42,559	2,74,306	-	68,253	-
192	SERB-DR SANDHYA GANESAN-SRG/2022/002157	11,07,888	-	4,13,248	15,21,136	5,70,973	7,14,070	2,36,093	-
193	SERB-DR SATISH KHURANA-CRG/2022/000834	-	-	16,52,499	16,52,499	7,38,603	4,30,000	4,83,896	-
194	SERB-DR SENTHILKUMAR DV-CRG/2021/000816	2,84,995	-	2,61,462	5,46,457	1,99,253	-	3,47,204	-
195	SERB-DR SHABNAM IYANISRG/2022/000211	16,14,913	-	47,931	16,62,844	87,874	10,19,440	5,55,530	-
196	SERB-DR SHEETAL DHARMATI-CRG/2021/008278	2,56,602	-	4,902	2,61,504	1,76,150	-	85,354	-
197	SERB-DR SHRUTI SURIYAKUMAR-PDF/2020/000209	-	14,206	51,922	37,716	35,068	-	2,648	-
198	SERB-DR SONIA MOL JOSEPH-TAR/2022/000048	3,12,177	-	3,37,755	6,49,932	4,34,396	-	2,15,536	-
199	SERB-DR SOUMEN DESAI-SRG/2020/001486	93,586	-	(58,992)	34,594	34,594	-	-	-
200	SERB-DR SOURAV BISWAS-PDF/2020/001085	585	-	28	613	-	-	613	-

Sl. No	Name of the Project	Opening Balance 2022-23		Receipts / Re-coveries during the year	Total	Expenditure during the year		Closing Balance 2023-24	
		Credit	Debit			Recurring	Capital	Credit	Debit
201	SERB-DR SRILAKSHMI K-CRG/2023/009035	-	-	10,67,031	10,67,031	-	-	10,67,031	-
202	SERB-DR SRINIVASA MURTY-EMR/2016/008048	1,31,636	-	3,407	1,35,043	57,908	-	77,135	-
203	SERB-DR STALIN RAJ-IPA/2020/000070	4,67,012	-	12,25,895	16,92,907	12,05,885	-	4,87,022	-
204	SERB-DR SUBOJ BABYKUT-TY-TAR/2021/000147	67,045	-	(41,689)	25,356	25,000	-	356	-
205	SERB-DR SUBRATA KUNDU-CRG/2021/001174	1,53,882	-	5,12,869	6,66,751	5,54,075	-	1,12,676	-
206	SERB-DR SUDARSHAN KUMAR-MTR/2017/000649	-	1,91,490	2,11,490	20,000	20,000	-	-	-
207	SERB-DR SUKENDHU MANDAL-EMR/2016/007501	21,633	-	656	22,289	-	-	22,289	-
208	SERB-DR SUKHENDU MANDAL-CRG/2022/000984	22,26,987	-	60,437	22,87,424	6,16,369	14,99,780	1,71,275	-
209	SERB-DR SUMIT MOHANTY-MTR/2017/000458	-	12,065	240	(11,825)	-	-	-	11,825
210	SERB-DR TAPAS KUMAR MANNA-CRG/2020/002452	5,69,051	-	16,80,178	22,49,229	19,94,048	-	2,55,181	-
211	SERB-DR TUHIN MATHY-SRG/2021/000423	97,651	-	3,57,614	4,55,265	4,52,800	-	2,465	-
212	SERB-DR VEERA REDDY YATHAM-SRG/2021/000834	58,105	-	4,05,845	4,63,950	4,10,026	-	53,924	-
213	SERB-DR VIJI Z THOMAS-MTR/2020/000483	35,704	-	1,74,672	2,10,376	1,80,376	-	30,000	-
214	SERB-DR VINAYAK KAMBLE-CRG/2022/006973	22,20,000	-	9,52,741	31,72,741	7,80,044	15,45,000	8,47,697	-
215	SERB-DR VINAYAK KAMBLE-EEQ/2018/000769	5,129	-	(5,129)	-	-	-	-	-
216	SERB-DR VINAYAK KAMBLE-EEQ/2022/001016	41,91,275	-	1,08,881	43,00,156	5,12,971	34,99,999	2,87,186	-

Sl. No	Name of the Project	Opening Balance 2022-23		Receipts / Re-coveries during the year	Total	Expenditure during the year		Closing Balance 2023-24	
		Credit	Debit			Recurring	Capital	Credit	Debit
217	SERB-DR VINESH VI-JAYAN-CRG/2019/004880	1,32,018	-	(1,10,970)	21,048	21,048	-	(0)	-
218	SPARC-DR NISHANT K T-2018/19/58/SL(IN)	2,855	-	83	2,938	2,938	-	2,938	-
219	TREEMERA GMBH-CONS.-DR A MUTHUKRISHNAN	2,58,579	-	8,15,166	10,73,745	8,74,522	58,460	1,40,763	-
220	UGC-UKEIRI-DR JOY MITRA-184-16/2017(IC)	37,491	-	(37,491)	-	-	-	-	-
221	UNNATH BHARAT ABHIYAN (UBA)-DR M P RAJAN	-	-	5,987	5,987	5,987	-	5,987	-
222	WT-DBT-DR KAMALAKANNAN VI-JAYAN-IA/1/23/2/506998	-	-	65,93,838	65,93,838	-	-	65,93,838	-
223	WT-DBT-DR NISHA N KAN-NAN-IA/1/15/2/502329	11,72,016	-	3,79,028	15,51,044	9,00,081	2,13,585	4,37,378	-
224	WT-DBT-DR POONAM THAKUR-IA/IE/17/1/503664	7,15,053	-	72,04,702	79,19,755	16,53,691	1,79,950	60,86,114	-
225	WT-DBT-DR SABARI SANKAR THIRUPATHY-IA/1/18/2/504037	21,00,474	-	19,18,092	40,18,566	16,47,436	4,78,519	18,92,611	-
226	WT-DBT-DR SATISH KHURANA-IA/1/15/2/502061	17,62,363	-	5,86,532	23,48,895	23,11,907	-	36,988	-
227	WT-DBT-SANDHYA GANESAN-IA/1/23/2/506998-IA/1/23/2/507001	-	-	64,63,680	64,63,680	-	-	64,63,680	-
		20,74,39,538	43,22,372	19,32,70,841	39,63,88,006	9,52,46,622	14,24,32,221	16,20,35,479	33,26,315

**INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH
THIRUVANANTHAPURAM
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31ST MARCH 2024**

SCHEDULE 3 (B)-SPONSORED FELLOWSHIPS AND SCHOLARSHIPS

Amount in ₹

(1)	(2)	(3)		(4)		(5)		(6)		(7)		(8)
		Opening Balance as on 01-04-2023		Transactions during the year		Closing Balance as on 31-03-2024						
Sl. No	Name of the Sponsor	Credit	Debit	Credit	Debit	Credit	Debit	Credit	Debit	Credit	Debit	
1	DST - INSPIRE - BSMS/ PHD	97,27,522		83,79,136	1,80,03,220			1,03,438				
2	CSIR (Ph D Research Scholars)	16,61,918		-				16,61,918				
3	UGC (Ph D Research Scholars)	7,38,303						7,38,303				
4	DBT (Ph D Research Scholar)	11,89,633		53,81,662	50,80,035			14,91,260				
5	PMRF (Ph D Research Scholars)	4312662.00		38137398.00	42450060.00			-				
6	ICMR FELLOWSHIP (Ph D Research Scholars)	126473.00		947449.00	709635.72			3,64,286				
7	E-GRANTS		51150.00	4734932.00	4404199.00			2,79,583				
8	NATIONAL FELLOWSHIP FOR ST STUDENTS	3000.00		13500.00	13500.00			3,000				
9	NBHM MASTERS SCHOLARSHIP-3758			504000.00	360000.00			1,44,000				
	Total	1,77,59,511	51,150	5,80,98,077	7,10,20,650	47,85,788	-					

**INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH
THIRUVANANTHAPURAM
SCHEDULES FORMING PART OF BALANCE SHEET AS AT
31ST MARCH 2024**

SCHEDULE 3(C)-UNUTILIZED GRANTS FROM UGC, GOVERNMENT OF INDIA
AND STATE GOVERNMENTS

Amount in ₹

Particulars	2023-24	2022-23
A. Plan grants: Government of India (MoE)		
Balance B/F	2,58,16,505	28,79,73,245
Add: Receipts during the year	1,60,38,00,000	1,40,02,00,000
Total (a)	1,62,96,16,505	1,68,81,73,245
Less Refunds		
Less: Utilized for Revenue Expenditure	95,79,29,600	82,58,32,561
Less: Utilized for Capital Expenditure	33,58,06,213	83,65,24,180
Total (b)	1,29,37,35,813	1,66,23,56,741
Unutilized carried forward (a-b)	33,58,80,692	2,58,16,505
B. UGC Grants: Plan		
Balance B/F		
Add: Receipts during the year		
Total (c)	NIL	NIL
Less Refunds		
Less: Utilized for Revenue Expenditure		
Less: Utilized for Capital Expenditure		
Total (d)	NIL	NIL
Unutilized carried forward (c-d)		
C. UGC Grants Non-Plan		
Balance B/F		
Add: Receipts during the year		
Total (e)	NIL	NIL
Less Refunds		
Less: Utilized for Revenue Expenditure		
Less: Utilized for Capital Expenditure		
Total (f)	NIL	NIL
Unutilized carried forward (e-f)		

Particulars	2023-24	2022-23
D. Grants from State Govt.		
Balance B/F		
Add: Receipts during the year		
Total (g)	NIL	NIL
E. Less Refunds		
Less: Utilized for Revenue Expenditure		
Less: Utilized for Capital Expenditure		
Total (h)	NIL	NIL
Unutilized carried forward (g-h)		
Grand Total (A+B+C+D)	33,58,80,692	2,58,16,505



Photo: Vimal VM, Electricals department

INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH THIRUVANANTHAPURAM SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31ST MARCH 2024

SCHEDULE 4 - FIXED ASSETS

Amount in ₹

Sl. No.	DESCRIPTION	GROSS BLOCK			DEPRECIATION				NET BLOCK			
		Opening Balance as on 01-04-2023	Additions	Deductions	Closing Balance	Rate of Depreciation	Opening Balance	Depreciation for the year	Deductions / Adjust-ment	Total Depreciation	31-03-2024	31-03-2023
TANGIBLE ASSETS												
1	<u>LAND:</u>											
	a) Freehold											
	Land obtained from Govt	1			1	0.00%					1	
	Vithura	9,54,506			9,54,506	0.00%					9,54,506	9,54,506
2	Site Development	-	3,26,20,674		3,26,20,674	0.00%					-	-
3	BUILDINGS:	7,20,35,73,360	-	-	7,20,35,73,360	2.00%	47,65,52,632	14,36,47,999	-	62,02,00,630	6,58,33,72,730	6,72,70,20,728
4	Roads & Bridges	9,35,40,846	78,85,648	-	10,14,26,494	2.00%	1,20,04,810	20,28,530	-	1,40,33,340	8,73,93,154	8,15,36,036
5	Tubes & Water Supply	11,28,215	-	-	11,28,215	2.00%	1,12,821	22,564	-	1,35,385	9,92,830	10,15,394
6	Sewage & Drainage	-	-	-	-	2.00%	-	-	-	-	-	-
7	Electrical Installation and equipment	6,12,44,923	99,52,736	-	7,11,97,659	5.00%	1,84,26,043	35,58,222	-	2,19,84,265	4,92,13,394	4,28,18,880
8	Plant and Machinery	5,39,03,468	-	-	5,39,03,468	5.00%	2,52,65,898	26,95,173	-	2,79,61,071	2,59,42,396	2,86,37,570
9	Scientific & Laboratory Equipment	2,41,10,42,627	15,67,07,604	-	2,56,77,50,231	8.00%	1,39,37,85,816	17,05,88,370	-	1,56,43,74,186	1,00,33,76,045	1,01,72,56,811
10	Office Equipment	1,12,48,336	24,55,522	-	1,37,03,858	7.50%	33,11,192	10,27,789	-	43,38,982	93,64,876	79,37,144
11	Audio Visual Equipment	94,45,022	2,80,11,292	-	3,74,56,314	7.50%	7,76,558	28,09,224	-	35,85,781	3,38,70,533	86,68,464
12	Computers & Peripherals	19,09,20,694	1,61,86,478	-	20,71,07,172	20.00%	17,93,72,062	67,91,329	-	18,61,63,391	2,09,43,781	1,15,48,632
13	Furniture, Fixtures and Fittings	29,11,70,074	2,62,74,219	-	31,74,44,293	7.50%	12,28,51,028	2,26,66,639	-	14,55,17,667	17,19,26,626	16,83,19,046
14	VEHICLES	38,87,817	-	-	38,87,817	10.00%	24,69,207	3,18,677	-	27,87,884	10,99,933	14,18,610

Sl. No.	DESCRIPTION	GROSS BLOCK				DEPRECIATION				NET BLOCK		
		Opening Balance as on 01-04-2023	Additions	Deductions	Closing Balance	Rate of Depreciation	Opening Balance	Depreciation for the year	Deductions / Adjustments	Total Depreciation	31-03-2024	31-03-2023
15	Library Books & Scientific Journals	2,69,37,895	45,843	-	2,69,83,738	10.00%	2,33,36,133	6,33,275	-	2,39,69,408	30,14,330	36,01,762
16	Small Value Assets											-
	TANGIBLE ASSETS (A)	10,35,89,97,783	28,01,40,016	-	10,63,91,37,799		2,25,82,64,199	35,67,87,791	-	2,61,50,51,990	8,02,40,85,809	8,10,07,33,584
17	CAPITAL WORK-IN PROGRESS - Construction	44,22,657	3,97,265	-	48,19,922						48,19,922	44,22,657
18	CAPITAL WORK-IN PROGRESS - Lab Equipment	1,26,17,325	8,50,75,058	7,96,26,626	1,80,65,757						1,80,65,757	1,26,17,325
	CAPITAL WORK IN PROGRESS (B)	1,70,39,982	8,54,72,323	7,96,26,626	2,28,85,679						2,28,85,679	1,70,39,982
	TOTAL A+B										8,04,69,71,488	8,11,77,73,566
19	Computer Software	2,28,53,483	4,64,920	-	2,33,18,403	40.00%	2,19,91,524	7,77,568	-	2,27,69,092	5,49,311	8,61,959
20	E-Journals	52,15,55,020	4,93,55,580	-	57,09,10,600	40.00%	49,22,80,485	4,07,13,858	-	53,29,94,343	3,79,16,258	2,92,74,536
21	Patents	3,23,850	-	-	3,23,850	9 Years	1,47,172	35,983	-	1,83,155	1,40,695	1,76,678
	TOTAL - (C)	54,47,32,353	4,98,20,500	-	59,45,52,853		51,44,19,180	4,15,27,409	-	55,59,46,590	3,86,06,264	3,03,13,173
	GRAND TOTAL (A+B+C)	10,92,07,70,119	41,54,32,839	7,96,26,626	11,25,65,76,332		2,77,26,83,380	39,83,15,200	-	3,17,09,98,580	8,08,55,77,752	8,14,80,86,739



**INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH
THIRUVANANTHAPURAM
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31ST MARCH 2024**

SCHEDULE 4 A – FIXED ASSETS (PLAN)

Amount in ₹

Sl. No.	DESCRIPTION	GROSS BLOCK				DEPRECIATION				NET BLOCK		
		Opening Balance as on 01-04-2023	Additions	Deductions	Closing Balance	Rate of Depreciation	Opening Balance	Depreciation for the year	Deductions / Adjust-ment	Total Depreciation	31-03-2024	31-03-2023
TANGIBLE ASSETS												
1	LAND:											
	a) Freehold											
	Land obtained from Govt	1			1	0.00%				-	1	
	Vithura	9,54,506			9,54,506	0.00%				-	9,54,506	9,54,506
2	Site Development	-	3,26,20,674		3,26,20,674	0.00%				-	3,26,20,674	-
3	BUILDINGS:	7,20,35,73,360	-	-	7,20,35,73,360	2.00%	47,65,52,632	14,36,47,999	-	62,02,00,630	6,58,33,72,730	6,72,70,20,728
4	Roads & Bridges	9,35,40,846	78,85,648	-	10,14,26,494	2.00%	1,20,04,810	20,28,530	-	1,40,33,340	8,73,93,154	8,15,36,036
5	Tubes & Water Supply	11,28,215	-	-	11,28,215	2.00%	1,12,821	22,564	-	1,35,385	9,92,830	10,15,394
6	Sewage & Drainage	-	-	-	-	2.00%	-	-	-	-	-	-
7	Electrical Installation and equipment	6,12,44,923	99,52,736	-	7,11,97,659	5.00%	1,84,26,043	35,58,222	-	2,19,84,265	4,92,13,394	4,28,18,880
8	Plant and Machinery	5,39,03,468	-	-	5,39,03,468	5.00%	2,52,65,898	26,95,173	-	2,79,61,071	2,59,42,396	2,86,37,570
9	Scientific & Laboratory Equipment	2,41,10,42,627	15,67,07,604	-	2,56,77,50,231	8.00%	1,39,37,85,816	17,05,88,370	-	1,56,43,74,186	1,00,33,76,045	1,01,72,56,811
10	Office Equipment	1,12,48,336	24,55,522	-	1,37,03,858	7.50%	33,11,192	10,27,789	-	43,38,982	93,64,876	79,37,144
11	Audio Visual Equipment	94,45,022	2,80,11,292	-	3,74,56,314	7.50%	7,76,558	28,09,224	-	35,85,781	3,38,70,533	86,68,464
12	Computers & Peripherals	19,09,20,694	1,61,86,478	-	20,71,07,172	20.00%	17,93,72,062	67,91,329	-	18,61,63,391	2,09,43,781	1,15,48,632
13	Furniture, Fixtures and Fittings	29,11,70,074	2,62,74,219	-	31,74,44,293	7.50%	12,28,51,028	2,26,66,639	-	14,55,17,667	17,19,26,626	16,83,19,046
14	VEHICLES	38,87,817	-	-	38,87,817	10.00%	24,69,207	3,18,677	-	27,87,884	10,99,933	14,18,610

Sl. No.	DESCRIPTION	GROSS BLOCK				DEPRECIATION				NET BLOCK		
		Opening Balance as on 01-04-2023	Additions	Deductions	Closing Balance	Rate of Depreciation	Opening Balance	Depreciation for the year	Deductions / Adjust-ment	Total Depreciation	31-03-2024	31-03-2023
15	Library Books & Scientific Journals	2,69,37,895	45,843	-	2,69,83,738	10.00%	2,33,36,133	6,33,275	-	2,39,69,408	30,14,330	36,01,762
16	Small Value Assets											-
	TOTAL (A)	10,35,89,97,783	28,01,40,016	-	10,63,91,37,799		2,25,82,64,199	35,67,87,791	-	2,61,50,51,990	8,02,40,85,809	8,10,07,33,584
17	CAPITAL WORK-IN PROGRESS - Construction	44,22,657	3,97,265	-	48,19,922						48,19,922	44,22,657
18	CAPITAL WORK-IN PROGRESS - Lab Equipment	1,26,17,325	8,50,75,058	7,96,26,626	1,80,65,757						1,80,65,757	1,26,17,325
	CAPITAL WORK IN PROGRESS (B)	1,70,39,982	8,54,72,323	7,96,26,626	2,28,85,679						2,28,85,679	1,70,39,982
	TOTAL A+B										8,04,69,71,488	8,11,77,73,566
19	Computer Software	2,28,53,483	4,64,920	-	2,33,18,403	40.00%	2,19,91,524	7,77,568	-	2,27,69,092	5,49,311	8,61,959
20	E-Journals	52,15,55,020	4,93,55,580	-	57,09,10,600	40.00%	49,22,80,485	4,07,13,858	-	53,29,94,343	3,79,16,258	2,92,74,536
21	Patents	3,23,850	-	-	3,23,850	9 Years	1,47,172	35,983	-	1,83,155	1,40,695	1,76,678
	TOTAL -(C)	54,47,32,353	4,98,20,500	-	59,45,52,853		51,44,19,180	4,15,27,409	-	55,59,46,590	3,86,06,264	3,03,13,173
	GRAND TOTAL (A+B+C)	10,92,07,70,119	41,54,32,839	7,96,26,626	11,25,65,76,332		2,77,26,83,380	39,83,15,200	-	3,17,09,98,580	8,08,55,77,752	8,14,80,86,739



**INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH
THIRUVANANTHAPURAM
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31ST MARCH 2024**

SCHEDULE 4 A - FIXED ASSETS (PLAN)

Amount in ₹

Sl. No.	DESCRIPTION	GROSS BLOCK			DEPRECIATION				NET BLOCK			
		Opening Balance as on 01-04-2023	Additions	Deductions	Closing Balance	Rate of Depreciation	Opening Balance	Depreciation for the year	Deductions / Adjustments	Total Depreciation	31-03-2024	31-03-2023
	TANGIBLE ASSETS											
1	<u>LAND:</u>											
	a) Freehold											
	Land obtained from Govt											
	Vithura											
2	Site Development											
3	BUILDINGS:											
4	Roads & Bridges											
5	Tubes & Water Supply											
6	Sewage & Drainage											
7	Electrical Installation and equipment											
8	Plant and Machinery											
9	Scientific & Laboratory Equipment											
10	Office Equipment											
11	Audio Visual Equipment											
12	Computers & Peripherals											
13	Furniture, Fixtures and Fittings											
14	VEHICLES											
15	Library Books & Scientific Journals											
16	Small Value Assets											
	TOTAL (A)	-	-	-	-	-	-	-	-	-	-	-

Sl. No.	DESCRIPTION	GROSS BLOCK			DEPRECIATION				NET BLOCK			
		Opening Balance as on 01-04-2023	Additions	Deductions	Closing Balance	Rate of Depreciation	Opening Balance	Depreciation for the year	Deductions / Adjustments	Total Depreciation	31-03-2024	31-03-2023
17	CAPITAL WORK-IN PROGRESS - Construction											
18	CAPITAL WORK-IN PROGRESS - Lab Equipment											
	CAPITAL WORK IN PROGRESS (B)	-	-	-	-	-	-	-	-	-	-	-
	TOTAL A+B											
19	Computer Software											
20	E-Journals											
21	Patents											
	TOTAL - (C)	-	-	-	-	-	-	-	-	-	-	-
	GRAND TOTAL (A+B+C)	-	-	-	-	-	-	-	-	-	-	-



**INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH
THIRUVANANTHAPURAM
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31ST MARCH 2024**

SCHEDULE 4 C – INTANGIBLE ASSETS

Amount in ₹

Sl. No.	DESCRIPTION	GROSS BLOCK				DEPRECIATION				NET BLOCK		
		Opening Balance as on 01-04-2023	Additions	Deductions	Closing Balance	Rate of Depreciation	Opening Balance	Depreciation for the year	Deductions / Adjustment	Total Depreciation	31-03-2024	31-03-2023
1	Computer Software											
2	E-Journals											
3	Patents											
	TOTAL- (C)	-	-	-	-	-	-	-	-	-	-	-
	GRAND TOTAL	-	-	-	-	-	-	-	-	-	-	-



**INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH
THIRUVANANTHAPURAM
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31ST MARCH 2024**

SCHEDULE 4C (i)- PATENTS AND COPYRIGHTS

Amount in ₹

DESCRIPTION	Opening Balance as on 01-04-2023	Addition	Gross	Amortization	Net Block 2023-24	Net Block 2022-23
A. Patents Granted						
1. Balance as on 31-03-2024 of patents obtained in (Original value- Rs.-/-						
2. Balance as on 31-03-2024 of patents obtained in Original value- Rs.-/-						
3. Balance as on 31-03-2024 of patents obtained in (Original value- Rs.-/-						
4. Patents granted during the Current Year						
TOTAL-	-	-	-	-	-	-
DESCRIPTION	Opening Balance as on 01-04-2023	Addition	Gross	Patents Granted/ Rejected	Net Block 2023-24	Net Block 2022-23
B. Patents Pending in respect of Patent applied for						
TOTAL	-	-	-	-	-	-
Grand Total	-	-	-	-	-	-

**INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH
THIRUVANANTHAPURAM
SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31ST MARCH 2024**

SCHEDULE 4 D-i - FIXED ASSETS (Others-IRG)

Amount in ₹

Sl .No.	DESCRIPTION	GROSS BLOCK			DEPRECIATION				NET BLOCK			
		Opening Balance as on 01-04-2023	Additions	Deductions	Closing Balance	Rate of Depreciation	Opening Balance	Depreciation for the year	Deductions / Adjustment	Total Depreciation	31-03-2024	31-03-2023
	TANGIBLE ASSETS											
1	LAND:											
	a) Freehold											
	Land obtained from Govt					0.00%						
	Vithura					0.00%						
2	Site Development											
3	BUILDINGS:			-		2.00%						
4	Roads & Bridges			-		2.00%						
5	Tubes & Water Supply			-		2.00%						
6	Sewage & Drainage			-		2.00%						
7	Electrical Installation and equipment			-		5.00%						
8	Plant and Machinery			-		5.00%						
9	Scientific & Laboratory Equipment			-		8.00%						
10	Office Equipment			-		7.50%						
11	Audio Visual Equipment			-		7.50%						
12	Computers & Peripherals			-		20.00%						
13	Furniture, Fixtures and Fittings			-		7.50%						
14	VEHICLES	13,47,487	3,40,852	-	16,88,339	10.00%	1,34,749	1,68,834	-	3,03,583	13,84,756	12,12,738

Sl .No.	DESCRIPTION	GROSS BLOCK				DEPRECIATION					NET BLOCK	
		Opening Balance as on 01-04-2023	Additions	Deductions	Closing Balance	Rate of Depreciation	Opening Balance	Depreciation for the year	Deductions / Adjustment	Total Depreciation	31-03-2024	31-03-2023
15	Library Books & Scientific Journals			-		10.00%						
16	Small Value Assets											
	TOTAL (A)	13,47,487	3,40,852	-	16,88,339		1,34,749	1,68,834	-	3,03,583	13,84,756	12,12,738
17	CAPITAL WORK-IN PROGRESS	-		-	-							
	CAPITAL WORK IN PROGRESS (B)			-	-							
	TOTAL A+B	13,47,487	3,40,852	-	16,88,339		1,34,749	1,68,834	-	3,03,583	13,84,756	12,12,738
		GROSS BLOCK				DEPRECIATION					NET BLOCK	
Sl .No.	INTANGIBLE ASSETS	Opening Balance as on 01-04-2023	Additions	Deductions	Closing Balance	Rate of Depreciation	Opening Balance	Amortization for the year	Deductions / Adjustment	Total Amortization / Adjustments	31-03-2024	31-03-2023
18	Computer Software					40.00%						
19	E-Journals					40.00%						
20	Patents					9 Years						
	TOTAL -(C)	-	-	-	-		-	-	-	-	-	-
	GRAND TOTAL (A+B+C)	13,47,487	3,40,852	-	16,88,339		1,34,749	1,68,834	-	3,03,583	13,84,756	12,12,738

INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH THIRUVANANTHAPURAM SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31ST MARCH 2024

SCHEDULE 4 D - FIXED ASSETS (Others)

Amount in ₹

Sl. No.	DESCRIPTION	GROSS BLOCK			DEPRECIATION			NET BLOCK				
		Opening Balance as on 01-04-2023	Additions	Deductions	Closing Balance	Rate of Depreciation	Opening Balance	Depreciation for the year	Deductions / Adjustment	Total Depreciation	31-03-2024	31-03-2023
TANGIBLE ASSETS												
1	LAND:											
	a) Freehold											
	Land obtained from Govt					0.00%						
	Vithura					0.00%						
2	Site Development											
3	BUILDINGS:			-		2.00%						
4	Roads & Bridges			-		2.00%						
5	Tubes & Water Supply			-		2.00%						
6	Sewage & Drainage			-		2.00%						
7	Electrical Installation and equipment			-		5.00%						
8	Plant and Machinery			-		5.00%						
9	Scientific & Laboratory Equipment	21,24,46,665	13,06,68,024	-	34,31,14,689	8.00%	3,60,96,676	2,74,49,175	-	6,35,45,851	27,95,68,838	17,63,49,989
10	Office Equipment	-	-	-	-	7.50%	-	-	-	-	-	0
11	Audio Visual Equipment	9,39,995	69,888	-	10,09,883	7.50%	1,43,890	75,741	-	2,19,631	7,90,252	7,96,105
12	Computers & Peripherals	87,84,070	1,16,33,949	-	2,04,18,019	20.00%	41,58,823	40,83,604	-	82,42,427	1,21,75,592	46,25,247

**INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH
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SCHEDULE 5- INVESTMENTS

Amount in ₹

INVESTMENTS FROM EARMARKED/ENDOWMENT FUNDS		2023-24	2022-23
1. In Central Government Securities			
2. In State Government Securities			
3. Other approved Securities			
4. Shares			
5. Debentures and Bonds			
6. Term Deposits with bank			
7. Others (to be specified)			
TOTAL		NIL	NIL

SCHEDULE 5(A)- INVESTMENTS FROM EARMARKED/ ENDOWMENT FUNDS (FUND WISE)

Amount in ₹

Particulars		2023-24	2022-23
1. Endowment Fund Investment			
TOTAL		NIL	NIL

SCHEDULE 6- INVESTMENTS OTHERS (FUND WISE)

Amount in ₹

Particulars		2023-24	2022-23
1. In Central Government Securities			
2. In State Government Securities			
3. Other approved Securities			
4. Shares			
5. Debentures and Bonds			
6. Others (to be specified)			
TOTAL		NIL	NIL

**INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH
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SCHEDULE 7- CURRENT ASSETS

Amount in ₹

Particulars	Sub Sch. No.	2023-24	2022-23
1. Stock			
a) Stores and Spares			
b) Loose Tools			
c) Publications			
d) Laboratory Chemicals, consumables and glass wares			
e) Building materials			
f) Electrical materials			
g) Stationery	3	3,26,060	3,61,851
h) Water supply material			
2. Sundry Debtors:			
a) Debts Outstanding for a period exceeding six months			
b) Others			
3. Cash balances in hand (including cheques/drafts and imprest)	1		-
4. Bank Balances:			
<u>Institute balance</u>			
a) With Scheduled Banks:			
-On Current Accounts	2	87,98,093	1,42,57,367
-On Term Deposit Accounts (includes margin money)	2	1,76,61,45,886	1,45,91,91,636
-On Savings Accounts	2	12,76,27,416	5,73,93,907
b) With non-Scheduled Banks:			
-On Current Accounts			
-On Term Deposit Accounts			
-On Savings Accounts			
Project Balance			
a) With Scheduled Banks:			
-On Current Accounts			

Particulars	Sub Sch. No.	2023-24	2022-23
-On Term Deposit Accounts (includes margin money)	2	7,96,62,212	11,04,52,582
-On Savings Accounts	2	18,86,60,467	15,47,33,453
b) With non-Scheduled Banks:			
-On Current Accounts			
-On Term Deposit Accounts			
-On Savings Accounts			
5. Post Office- Savings Accounts			
		2,17,12,20,134	1,79,63,90,796

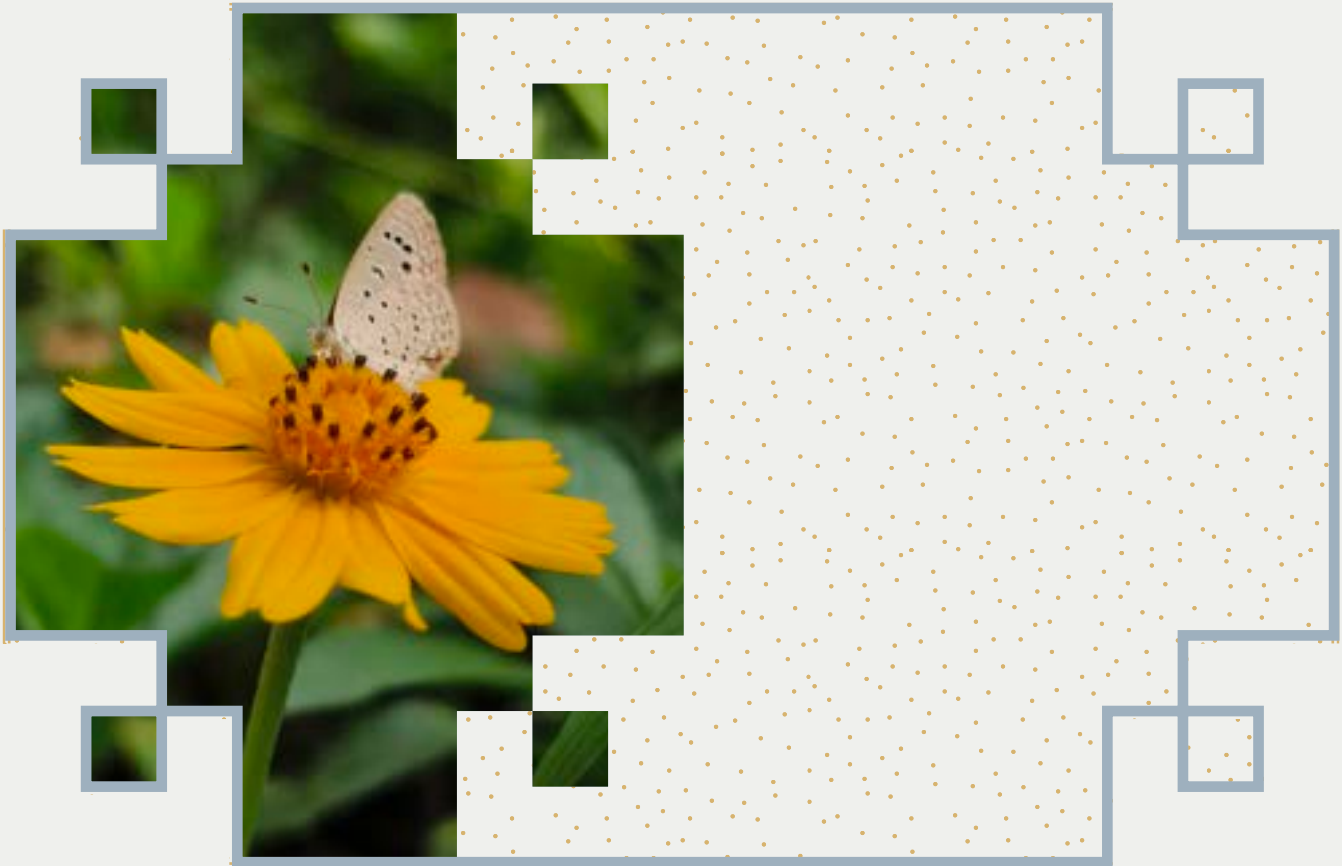


Photo: Parthiban, Electrical substations team

**INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH
 THIRUVANANTHAPURAM
 SCHEDULES FORMING PART OF BALANCE SHEET AS AT
 31ST MARCH 2024**

SCHEDULE 8- LOANS, ADVANCES & DEPOSITS

Amount in ₹

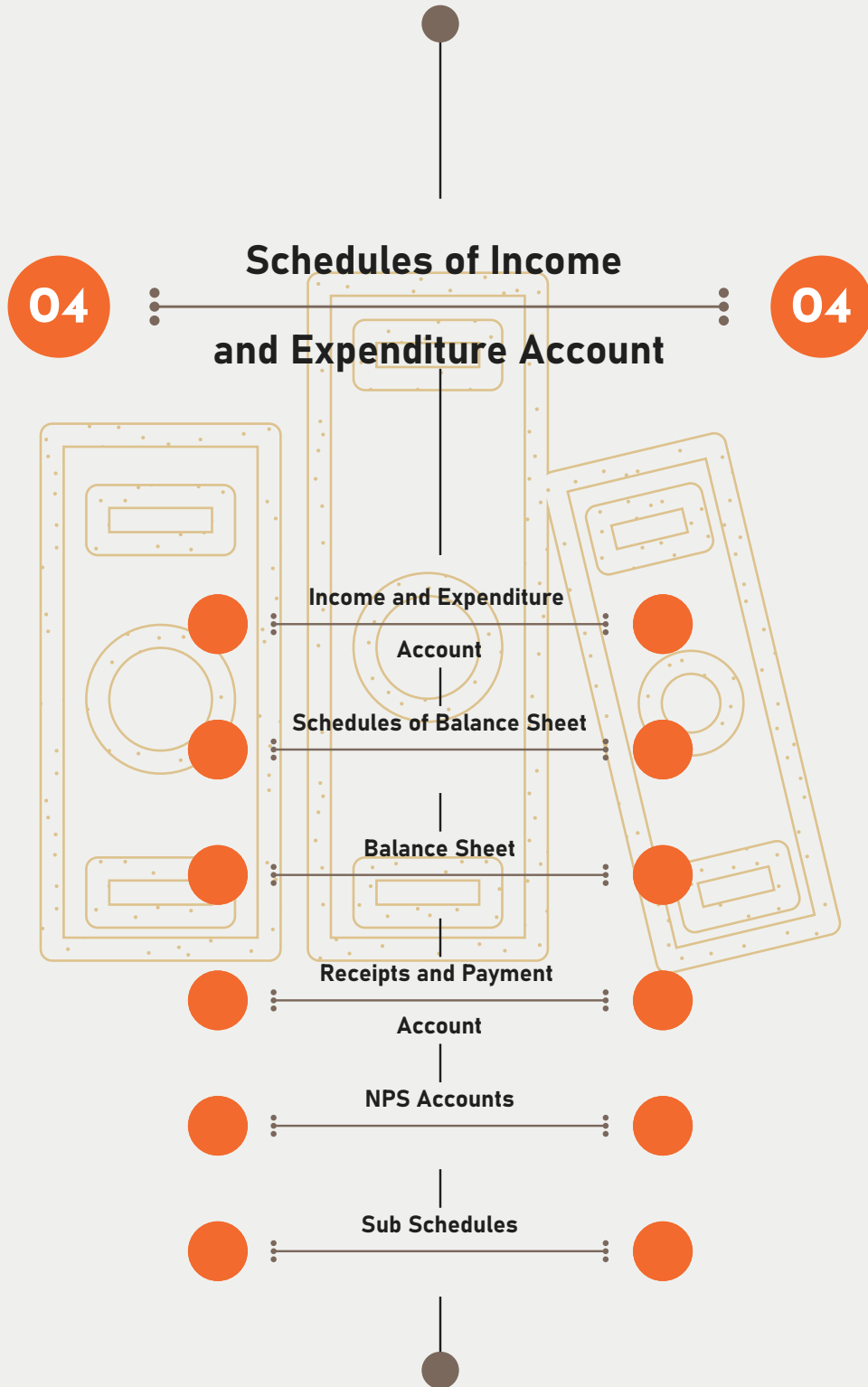
Particulars	Sub Sch. No.	2023-24	2022-23
1. Advances to employees: (Non interest bearing)			
a) Salary			
b) Festival			
c) Medical Advance			
d) Other (to be specified)			
2. Long Term Advances to employees: (Interest bearing)			
a) Vehicle Loan			-
b) Home Loan			
c) Others (to be specified)			
3. Advances and other amounts recoverable in cash or in kind or for value to be received			
a) On Capital Account			
b) To suppliers			
c) Others	5	25,10,87,510	12,99,95,430
4. Prepaid Expenses			
a) Insurance			
b) Other Expenses	4	4,13,18,837	3,92,49,286
5. Deposits			
a) Telephone			
b) Lease Rent			
c) Electricity			
d) AICTE, if applicable			
e) Others (to be specified)			
6. Income Accrued:			
a) On Investments from Earmarked/Endowment Funds			
b) On Investments-Others			
c) On Loans and Advances			
d) Others (includes income due unrealized-Rs.)	6	6,08,80,858	3,08,28,365

Particulars	Sub Sch. No.	2023-24	2022-23
7. Other Current Assets Receivables			
a) Debit balances in sponsored projects	9	33,26,315	43,22,372
b) Debit balances in fellowship & scholarships			
c) Grants recoverable			
d) Other receivables			
e) TDS	8	34,26,002	40,74,762
8. Claims Receivable	7	6,98,47,309	6,77,83,147
TOTAL		42,98,86,831	27,62,53,361



Photo: Vimal VM, Electricals department

Annual Accounts



**INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH
THIRUVANANTHAPURAM
SCHEDULES FORMING PART OF INCOME AND EXPENDITURE
ACCOUNT FOR THE YEAR ENDING 31ST MARCH 2024**

SCHEDULE 9- ACADEMIC RECEIPTS

Amount in ₹

Particulars	2023-24	2022-23
FEE FROM STUDENTS		
Academic		
a) Tuition fee	10,25,18,588	8,56,19,495
b) Admission fee		
c) Enrolment fee		
d) Library fee	18,16,645	11,13,958
e) Laboratory fee		
f) Art & Craft fee		
g) Registration fee	16,30,550	8,89,837
h) Syllabus fee		
i) Other Receipts	35,64,310	28,48,619
j) Alumini Fee	7,95,200	5,41,300
TOTAL (A)	11,03,25,293	9,10,13,209
Examinations		
a) Admission test fee		
b) Annual examination fee	14,19,845	11,13,958
c) Mark sheet, Certificate fee		
d) Entrance Examination fee		
TOTAL (B)	14,19,845	11,13,958
Other Fee		
a) Identity Card fee		
b) Fine/ Miscellaneous fee		
c) Medical fee		
d)Transportation fee		
e)Hostel Fee	33,20,248	29,83,699
f)Mess Establishment		
TOTAL (C)	33,20,248	29,83,699

Particulars	2023-24	2022-23
Sale of publications		
a) Sale of admission forms		
b) Sale of syllabus and question paper		
c) Sale of prospectus including admission forms		
TOTAL (D)	-	-
Other Academic Receipts		
a) Registration fee for workshops programmes		
b) Registration fees (Academic Staff College)		
GRAND TOTAL (A+B+C+D)	11,50,65,386	9,51,10,866



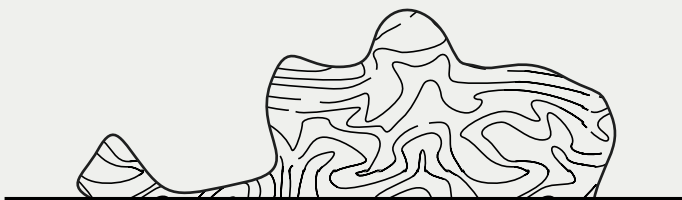
Photo: Vimal VM, Electricals department

**INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH
THIRUVANANTHAPURAM
SCHEDULES FORMING PART OF INCOME AND EXPENDITURE
ACCOUNT FOR THE YEAR ENDING 31ST MARCH 2024**

SCHEDULE 10- GRANTS/ SUBSIDIES

Amount in ₹

Particulars	2023-24	2022-23
GRANTS/ SUBSIDIES	-	-
(Irrevocable Grants & Subsidies received)		
Balance B/F	2,58,16,505	28,79,73,245
ADD: Receipts During the Year	-	-
Capital Grant		58,00,00,000
General	58,49,00,000	
SC	4,57,00,000	
ST	1,94,00,000	
Revenue Grant		82,02,00,000
General	86,85,00,000	
SC	5,81,00,000	
ST	2,72,00,000	
	1,62,96,16,505	1,68,81,73,245
Less: Capital Expenses Incurred during the year	33,58,06,213	83,65,24,180
Less: Closing Unspent balance of grant	33,58,80,692	2,58,16,505
TOTAL	95,79,29,600	82,58,32,561



**INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH
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SCHEDULE 11- INCOME FROM INVESTMENTS

Amount in ₹

Particulars	Earmarked or Endowment funds		Other investments	
	2023-24	2022-23	2023-24	2022-23
1) Interest				
a) On Govt. Securities				
b) Other Bonds/Debentures				
2) Interest on term deposits				
3) Income Accrued but not due on term deposits or interest bearing advances to employees				
4) Interest on Savings Bank Accounts				
5) Others (Specify)				
TOTAL	NIL	NIL	NIL	NIL
TRANSFERRED TO EARMARKED/ENDOWMENT FUNDS	NIL	NIL	NIL	NIL
Balance	NIL	NIL	NIL	NIL

SCHEDULE 12- INTEREST EARNED

Particulars	2023-24	2022-23
1) On Savings Accounts with scheduled banks		
2) On Loans		
a. Employees/ Staff		
b. Others		
3) On debtors and others receivables		
TOTAL	NIL	NIL

**INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH
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SCHEDULE 13- OTHER INCOME

Amount in ₹

Particulars	2023-24	2022-23
A. Income from Land & Building		
a) Hostel room rent	1,32,65,640	1,13,94,792
b) License fee	14,23,524	11,15,581
c) Hire charges of Auditorium/ Play ground/Convention Centre, Etc	64,700	
d) Electricity Charges recovered	28,95,380	22,47,145
e) Water Charges recovered		
Total	1,76,49,244	1,47,57,518
B. Sale of Institutes Publications		
Total	-	-
C. Income from Holding Events		
a) Gross receipts from annual function/ sports carnival		
Less: Direct expenditure incurred on the annual function/ sports carnival		
b) Gross receipts from fetes		
Less: Direct expenditure incurred on fetes		
c) Gross receipts on educational tours		
Less: Direct expenditure incurred on tours		
d) Others (to be specify and separately disclosed)		
Total	-	-
D. Interest On Term Deposits:		
a) With Scheduled Banks	8,03,01,925	5,02,52,486
b) With Non-Scheduled Banks		
c) With Institutions		
d) Others		
Total	8,03,01,925	5,02,52,486
E. Interest On Savings Accounts:		
a) With Scheduled Banks	12,86,166	13,18,382
b) With Non-Scheduled Banks		
c) With Institutions		
d) Others		
Total	12,86,166	13,18,382

Particulars	2023-24	2022-23
F. On Loans:		
a) Employees/Staff		
b) Others		
Total	-	-
G. Interest on Debtors and Other Receivables		
Total	-	-
H. Others		
a) Income from consultancy		
b) RTI Fees	80	240
c) Income from royalty		
d) Sale of application form	24,90,505	6,27,195
e) Misc. receipts (Sale of tender form, waste paper, etc.)	1,24,63,131	77,34,038
f) Profit on sale/ disposal of Assets		
1. Owned asset		
2. Assets aquired out of grants, or received free of cost		
g) Other Incomes		
Total	1,49,53,716	83,61,473
GRAND TOTAL (A+B+C+D+E+F+G+H)	11,41,91,051	7,46,89,859



Photo: Vimal VM, Electricals department

**INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH
THIRUVANANTHAPURAM
SCHEDULES FORMING PART OF INCOME AND EXPENDITURE
ACCOUNT FOR THE YEAR ENDING 31ST MARCH 2024**

SCHEDULE 14 : PRIOR PERIOD INCOME

Amount in ₹

Particulars	2023-24	2022-23
1. Academic Receipts		
2. Income from investments		
3. Interest earned		
4. Other Income		29,189
Total	-	29,189

SCHEDULE 15- STAFF PAYMENT & BENEFITS

Amount in ₹

Particulars	2023-24	2022-23
a) Salaries and Wages		
Faculty	26,48,27,385	21,35,35,481
Non Faculty	6,93,30,229	6,24,79,129
b) Allowances and Bonus	10,73,252	11,13,893
c) Contribution to Provident Fund		
d) Contribution to Other Fund (Leave Salary & NPS Employer Share)	4,59,80,224	3,77,57,938
e) Staff Welfare Expenses		
f) Retirement and Terminal Benefits		
g) LTC facility	41,65,973	50,78,545
h) Medical facility	41,37,217	32,62,108
i) Children Education Allowance	37,26,000	50,97,000
j) Honorarium		
k) Others	1,45,74,929	63,21,056
TOTAL	40,78,15,209	33,46,45,150

INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH THIRUVANANTHAPURAM SCHEDULES FORMING PART OF INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDING 31ST MARCH 2024

SCHEDULE 15 A- EMPLOYEES RETIREMENT AND TERMINAL BENEFITS

Amount in ₹

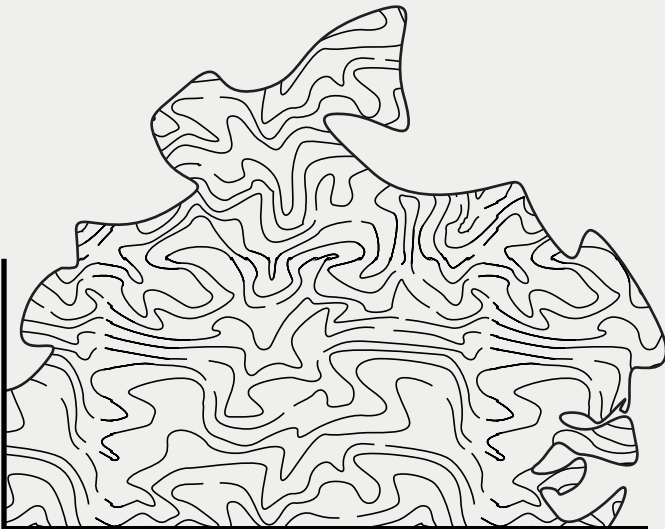
Particulars	Pen- sion	Gratu- ity	Leave Encashment	Total
Opening balance as on 01.04.2023			12,59,07,764	12,59,07,764
Additions: Capitalized value of contributions Received from other Organizations				
Total (a)			12,59,07,764	12,59,07,764
Less: Actual Payment during the Year (b)			2,44,002	2,44,002
Balance available as on 31-03-2024 C (a-b)			12,56,63,762	12,56,63,762
Provision required on 31-03-2024 - As per Actuarial Valuation (d)			14,48,16,159	14,48,16,159
A. Provision to be made in the current year (d-c)			1,91,52,397	1,91,52,397
B. Contribution to New Pension Scheme				
C. Medical Reimbursement to Retired Employees				
D. Travel to Home town on Retirement				
E. Deposit Linked Insurance Payment				
TOTAL (A+B+C+D+E)	NIL	NIL	1,91,52,397	1,91,52,397

**INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH
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SCHEDULE 16- ACADEMIC EXPENSES

Amount in ₹

Particulars	2023-24	2022-23
a) Laboratory Expenses	10,90,89,680	10,10,41,234
b) Field Work/ Participation		
c) Expenses on Seminar/ Workshop		
d) Payment to visiting faculty		
e) Examination		
f) Student welfare expense		
g) Admission expenses		
h) Convocation expense	19,93,668	20,18,423
i) Publication		
j) Stipend/ means-cum-merit scholarship	10,54,59,382	8,31,57,236
k) Subscription Expense		
l) Others (Specify)		
TOTAL	21,65,42,730	18,62,16,893



INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH THIRUVANANTHAPURAM

SCHEDULES FORMING PART OF INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDING 31ST MARCH 2024

SCHEDULE 17- ADMINISTRATIVE AND GENERAL EXPENSES

Amount in ₹

Particulars	2023-24	2022-23
A. Infrastructure		
a) Electricity and power	7,79,30,232	6,52,65,231
b) Water charges		
c) Insurance		
d) Rent, Rates and Taxes	1,83,507	
B. Communication		
e) Postage & Telegram	4,540	76,883
f) Telephone and Internet Charges	45,12,630	43,45,448
C. Others		
g) Printing and Stationary	12,87,318	8,40,199
h) Travelling and Conveyance Expenses	1,03,91,424	67,41,590
i) Expenses on Seminar/Workshops	15,37,878	22,91,837
j) Hospitality		36,016
k) Auditors Remuneration	2,54,740	1,50,630
l) Professional Charges		
m) Advertisement and Publicity	18,81,177	11,40,153
n) Magazine & Journals		
o) Others (specify)		
Sports / Cultural Festival / Celebration expense	57,85,645	53,29,580
Consumables	11,68,579	1,25,75,547
Cable TV Charges		
Newspaper & Periodicals	54,120	53,675
Software License fees	4,71,760	
Publication charges		28,000
Manpower charges	12,38,55,162	9,99,14,041
Guest house and other expenses	11,09,840	10,54,487
Other Administrative / Miscellaneous Expenses	94,75,027	67,32,087
Legal and consultancy charges	17,28,000	3,28,200
Expenses related to COVID 19	47,448	40,371
Hostel Running Expenses	70,56,426	-
Medical Centre - Consumables&Medicines	5,20,926	3,94,498
Running of Generator Set	11,86,934	2,45,586
IT recurring expenses for service	41,71,748	66,78,212
TOTAL	25,46,15,060	21,42,62,271

**INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH
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SCHEDULE 18- TRANSPORTATION EXPENSES

Amount in ₹

Particulars	2023-24	2022-23
1. Vehicles (owned by educational institution)		
a) Running expense	11,07,277	10,12,953
b) Repairs & Maintenance	5,54,886	3,87,424
c) Insurance Expenses	48,352	40,027
2. Vehicles taken on rent		
a) Rent/ Lease expenses	76,39,368	60,08,580
3. Vehicle (Taxi) Hiring expenses		
TOTAL	93,49,883	74,48,984

SCHEDULE 19- REPAIRS & MAINTANENCE

Amount in ₹

Particulars	2023-24	2022-23
a) Building	3,27,44,565	5,04,15,241
b) Furniture & Fixtures	75,45,983	1,31,75,238
c) Plant & Machinery	1,78,18,623	15,82,858
d) Office Equipments	22,63,067	1,60,50,627
e) Computers		
f) Laboratory & Scientific equipment	24,36,729	14,26,525
g) Audio Visual equipment		
h) Cleaning Material & Services		
i) Book binding charges		
j) Gardening	52,99,403	
k) Estate Maintenance		
f) Others (Specify)		
TOTAL	6,81,08,370	8,26,50,489

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ACCOUNT FOR THE YEAR ENDING 31ST MARCH 2024**

SCHEDULE 20- FINANCE COSTS

Amount in ₹

Particulars	2023-24	2022-23
a) Bank Charges	14,98,348	6,08,774
b) Others (specify)		
TOTAL	14,98,348	6,08,774

SCHEDULE 21- OTHER EXPENSES

Amount in ₹

Particulars	2023-24	2022-23
a) Provision for Bad and Doubtful debts/ Advances		
b) Irrecoverable Balances Written off		
c) Grants/ Subsidies to other institutions/ Organisations		
d) Others (Specify)		
TOTAL	NIL	NIL

SCHEDULE 21- OTHER EXPENSES

Amount in ₹

Particulars	2023-24	2022-23
a) Provision for Bad and Doubtful debts/ Advances		
b) Irrecoverable Balances Written off		
c) Grants/ Subsidies to other institutions/ Organisations		
d) Others (Specify)		
TOTAL	NIL	NIL
6. Other Expenses		
TOTAL	-	-

INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH THIRUVANANTHAPURAM SCHEDULES FORMING PART OF INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDING 31ST MARCH 2024

Schedule 23- Significant Accounting Policies

Amount in ₹

1. Basis for preparation of Accounts:

The Annual Accounts of the institute are prepared on the basis of revised format and guidelines issued by the Ministry of Education, Government of India and approved by the C&AG of India for all Central Educational Institutes with effect from financial year 2014-15 (Communicated vide Lr.No.29-4/2012-IFD dated 17.04.2015 of MHRD, GOI).

2. Accounting Convention:

The financial statements are prepared on the basis of Historical Cost Convention and ongoing concern concept unless otherwise stated.
The institute follows accrual method of accounting.

3. Revenue Recognition:

- 3.1 The institute is significantly funded by the Ministry of Education (MOE), Government of India. The Government release the Grants-in-Aid under two major heads i.e., Capital and Revenue. Grants-in-Aid from GOI is accounted for in the same financial year for which it is sanctioned by the MOE.
- 3.2 Government Grants to the extent utilized for meeting revenue expenditure on accrual basis are treated as revenue income of the year and depicted in the Income and Expenditure Account.
- 3.3 Admission fees, Tuition Fees and other fees received from students are accounted on cash basis.
- 3.4 Interest on Fixed Deposits has been credited in the accounts on accrual basis.
- 3.5 No interest bearing advances for House Building, Purchase of Vehicles etc., has been sanctioned to staff to the said period.

4. Fixed Assets and Depreciation:

- 4.1 The fixed assets are valued at cost of acquisition including inward freight, duties, taxes, incidental and direct expenses related to acquisition, installation and commissioning.
- 4.2 No fixed asset has been received directly by way of non-monetary grant during the year under consideration.
- 4.3 The land at Jersey Farm, Vithura Nedumangad Taluk, Thiruvananthapuram District has been given by the Government of Kerala at no cost, hence the same has been shown at nominal value of Rs.1/- in Annual Account.
- 4.4 No gifted / donated assets and Books have been received during the year under consideration.
- 4.5 Fixed Assets are valued at cost less accumulated depreciation.
- 4.6 No change has been made in the method of depreciation. Depreciation has been provided on fixed assets as per MoE Uniform Accounting Standards for Central Educational Institutions (CEIs) on Straight Line Method at the following rates:

Tangible Assets:

1.	Land	0%
2.	Site Development	0%
3.	Buildings	2%
4.	Roads and Bridges	2%
5.	Tube wells and water supply	2%
6.	Sewerage and Drainage	2%
7.	Electrical installation and equipment	5%
8.	Plant and Machinery	5%
9.	Scientific and Laboratory Equipment	8%
10.	Office Equipment	7.5%
11.	Audio Visual Equipment	7.5%
12.	Computer and Peripherals	20%
13.	Furniture, Fixtures and Fittings	7.5%
14.	Vehicles	10%
15.	Library Books and Scientific Journals	10%

Intangible Assets (Amortization)

1.	E-Journals	40%
2.	Computer Software	40%
3.	Patents and Copyrights	9 Years

4.7 Depreciation is provided for the whole year on additions during the year.

4.8 Where an asset is fully depreciated, it will be shown at a residual value of Rs.1/- in the Balance Sheet and will not be further depreciated.

4.9 Assets created out of Earmarked Funds and Funds of Sponsored Projects where the ownership of such assets vests in the Institution will be setup by credit in Capital Fund and merged with the Fixed Assets of the institution. Depreciation charged at the rates applicable to the respective assets. Accordingly, assets of Externally Funded Projects shown in Schedule 4-D Fixed Assets (Others).

4.10 Assets acquired out of IRG is shown separately under the schedule 4D-(Others-IRG).

4.11 Patents, copyrights and E Journals are grouped under intangible assets.

4.12 Electronic Journals (E-Journals) are separated from Library Books in view of the limited benefit that could be derived from the on-line access provided. E-Journals are not in a tangible form, but temporarily capitalized in view of the magnitude of expenditure and the benefit derived in terms of perpetual knowledge acquired by the Academic and Research Staff. Depreciation is provided in respect of E-Journals at a higher rate of 40% as against depreciation of 10% provided in respect of Library Books.

4.13 Software and Computer Peripherals are being shown under the Fixed Assets.

5. Stocks:

5.1 Expenditure on purchase of Chemicals, Lab ware, Office Consumables, Publications and other consumable items are accounted as revenue expenditure. Such items issued to Labs are treated as consumed and hence closing stock is taken as NIL.

5.2 Value of closing stocks (Stationary) as on 31st March 2024 is set up as inventories by reducing the corresponding Revenue Expenditure on the basis of information from the nodal departments and

valued at cost.

6. Retirement Benefits:

- 6.1 All employees of the Institute are covered under the New Pension Scheme. As such no provision has been made for pension, gratuity however suitable provision on the basis of actuarial valuation has been made for the Earned Leave Encashment vide Schedule No.15 A.
- 6.2 No long term or Short Term Investments are made by the institute in Government Securities, Bonds, Debentures and Shares.

7. Corpus / Earmarked / Designated Endowment Funds:

Corpus / Capital Fund: It refers to fund contributed by Government for establishment and activities of the institute. Corpus / Capital fund is the main fund of the institute and it denotes a permanent fund kept for the existence of the institute. The additions to this fund are Grants from Government to the extent utilised for Capital Expenditure. Assets purchased out of earmarked funds and sponsored project funds and excess of income over expenditure transferred from Income and Expenditure account.

8. Government Grants:

- 8.1 Plan grants received from Government are accounted on accrual basis.
- 8.2 To the extent utilised towards capital expenditure, Government Grants are transferred to the Capital Fund.
- 8.3 Unutilised Government Grants are carried forwarded and depicted under Current Liability in the Balance Sheet.

9. Capital Work-In-Progress:

Running Bills of Contractors and uninstalled equipment procured during the period are accounted under Capital work-in-progress till completion/ installation. No depreciation is charged on Capital work in progress.

10. Sponsored Projects:

- 10.1 The amount received under Sponsored Projects has been separately shown in Schedule 3 A.
- 10.2 The fellowships and scholarships funded by the UGC, CSIR, DBT, DST INSPIRE, PMRF etc., are shown separately in Schedule 3B
- 10.3 The Fellowships and Scholarships provided by the institute itself are accounted as Academic expenses.

11. Income Tax:

The income of the institute is exempt from Income Tax u/s 10 (23) (C) (iiiab) of the Income Tax Act 1961. No provision for tax is therefore made in the accounts.

12. Foreign Currency transactions:

Foreign Currency transactions are accounted for at the rate of exchange prevailing on the dates of such transactions.

INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH THIRUVANANTHAPURAM

SCHEDULES FORMING PART OF INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDING 31ST MARCH 2024

Schedule 24 – Contingent Liabilities and Notes on Accounts

Amount in ₹

1. Financial Statement and Notes on Accounts:

The financial statement of the institute is prepared in three parts:

- i) Receipt and Payment Account
- ii) Income and Expenditure Account
- iii) The Balance Sheet.

- 1.1 The Receipts and Payments Account consists of the figures of actual receipts and payments of the institute during the financial year 2023-24 as per Cash Book. The total receipts from the different sources as shown in Receipt and Payment Account includes grant of Rs. 160.38 cr. received from Ministry of Education (MOE).
- 1.2 The Income and Expenditure Account is prepared on accrual basis.
- 1.3 In Balance Sheet the acquired fixed assets, current assets are taken as assets while the Corpus Fund, Designated Fund, Endowment Funds, balance of Sponsored Projects and Grants received from Government and Current Liabilities etc., are shown in respective Schedules under Sources of Funds / Liabilities.
- 1.4 Figures in Final Accounts have been rounded off to the nearest rupee.

2. Schedules and Notes on Accounts:

- 2.1 Schedule 1 to 22 are annexed and they form an integral part of Annual Accounts.
- 2.2 Institute have received following Grant from MoE for the year 2023-24;

Capital Grant	:	Rs.	65,00,00,000
Revenue Grant	:	Rs.	95,38,00,000
Total			: Rs. 1,60,38,00,000
- 2.3 Unspent Balance of Rs.7.43 Cr. on Institute Promotion Fund (GPF), School Promotion Fund (SPF) and Personal Promotion Fund (PPF) are shown under Schedule 3-Current Liabilities.
- 2.4 Unspent Balance of Rs. 3.43 Cr. on JAC 2020 are shown under Schedule 3-Current Liabilities.
- 2.5 Expenditure related to hostel running expenses is Rs. 70,56,426/-.
- 2.6 GST- Input tax credit available in the Electronic Credit ledger for the year 2023-24 to the tune of Rs. 28.46 Lakh depicted under Schedule 8 of the Balance Sheet.

- 2.7 Depreciation has been provided on all assets applying rates specified by MOE using straight line method.
- 2.8 During the FY 2023-24, the accounts related to Unnath Bharat Abhiyan (UBA) has been included in the Annual accounts under Schedule 3 A which reflects transactions related to UBA.
- 2.9 The Endowment fund shown under Schedule 2A relates to Prof. M V George Memorial Lecture Fund and Interest earned out of this fund is being utilized for Memorial Lecture.
- 2.10 The details of balances in Saving Bank, Current Accounts and in Fixed Deposit Accounts are given in Schedule 7 of the Balance Sheet. The following accounts under the CIF Code of the institute are not incorporated in the books of accounts, since these accounts are not involved as part of the institute activities.

BANK	ACCOUNT NUMBER	TYPE OF ACCOUNT
CANARA BANK	110048844820	SAVINGS BANK
CANARA BANK	110048845118	SAVINGS BANK
IDBI	0745102000003766	CURRENT ACCOUNT
IDBI	0745104000086125	CURRENT ACCOUNT
STATE BANK OF INDIA	67393409552	CURRENT ACCOUNT
STATE BANK OF INDIA	38202365676	CURRENT ACCOUNT
STATE BANK OF INDIA	39753417258	CURRENT ACCOUNT
STATE BANK OF INDIA	40218920183	CURRENT ACCOUNT
STATE BANK OF INDIA	67369851762	CURRENT ACCOUNT
STATE BANK OF INDIA	67299294637	CURRENT ACCOUNT

- 2.11 During the FY 2023-24, as per the GFR guidelines, unclaimed EMD for more than 3 years amounting to Rs. 42,63,607/- treated as IGF receipts.
- 2.12 Secured advances and Mobilization advances and Deposit work with CPWD are disclosed separately under the heads Loans and Advances. During the FY 2023-24 an amount of Rs. 12 Cr. has been released to CPWD from IRG.
- 2.13 The unutilized grant shown under Schedule 3(C) Plan Grants from MHRD is Rs. 33.58 Cr. is considering advance payment made to CPWD as Deposit work for construction of IISER Permanent Campus and excluding Pre-paid expenses shown under Sub-Schedule 4 & 5 of Schedules forming part of Balance Sheet (Schedule 8 – Loans, Advances and Deposits).
- 2.14 An appeal was filed against M/s. Consolidated Construction Consortium Ltd. (CCCL) before the Hon'ble High Court of Kerala challenging the award of arbitrator vide O.P(Arb.) No.446/2018. Institute have deposited B.G for 1/4th of the award amount in the court on 01.01.2019 as per the directions of the Sessions Court and the matter is posted for further hearing.
Deposits to the tune of Rs. 22.44 Cr. has been earmarked for letter of credit in connection with the procurement of scientific equipment.

3. Sponsored Project Accounts:

The institute has received grants from DST, DBT, Wellcome Trust DBT Alliance Fellowships, DAE, ISRO, CSIR, UGC etc., in Research and Development (R&D) Projects. A separate bank account is maintained for Sponsored R & D Projects. The transactions of Sponsored Projects and Project wise closing balances are being shown in Schedule 3(A) of the Balance Sheet. As per the funding agencies guidelines project wise bank account(s) are being maintained with IDBI Bank and Canara Bank separately.

The treatment of Project Grant and its Utilization is on Cash Basis.

4. Capital Works-in-Progress:

The construction work of institute's permanent campus situated at Jersey Farm, Vithura is under progress and expenditure related to the same is shown under Schedule 4 (Fixed Assets) of the Balance Sheet.

The expenditure on capital work-in-progress as at 31.03.2024 was of Rs.2,28,85,679/- being uninstalled equipment procured / expenditure incurred on infrastructure activities of Institute during the period

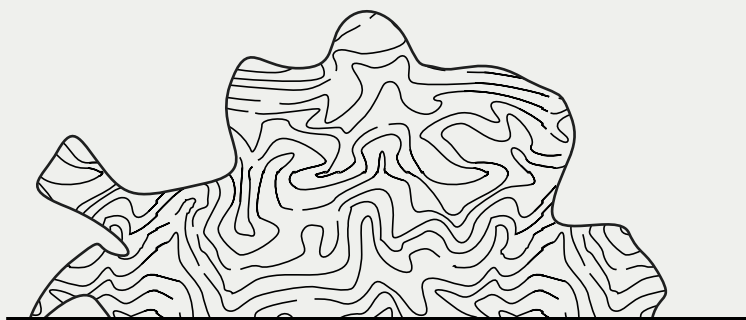
5. Retirement Benefits:

5.1 The **NPS** subscription recovered from employees and employer's contribution are remitted to NPS Trust Account regularly. Statement of NPS Accounts are prepared and attached with the Financial Statement.

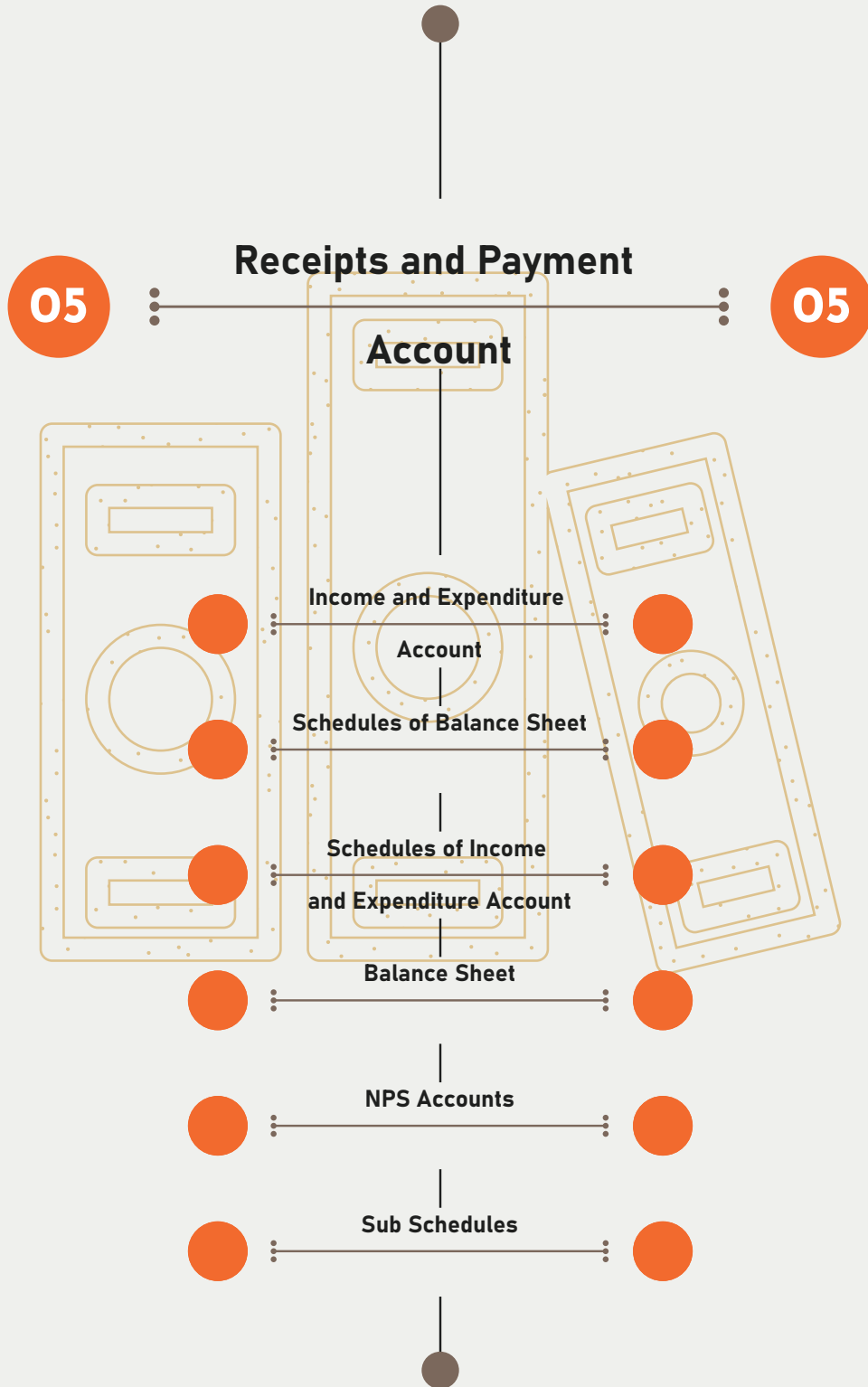
5.2 **GPF** is not applicable to the institute employees. Hence GPF accounts schedule has not been prepared.

6. Other Additions:

a. As per the institute's policy, the overhead generated from the Externally Funded Projects have been segregated into four parts vis-a-vis, (i) 45% - income from overheads to institute, (ii) 5% - Staff Welfare Fund, (iii) 25% - School Promotion Fund and (iv) 25% - Personal Promotion Fund. The said figures (ii) to (iv) have been depicted as other additions in Schedule 1 of Annual Accounts including the Student Friendship Fund.



Annual Accounts



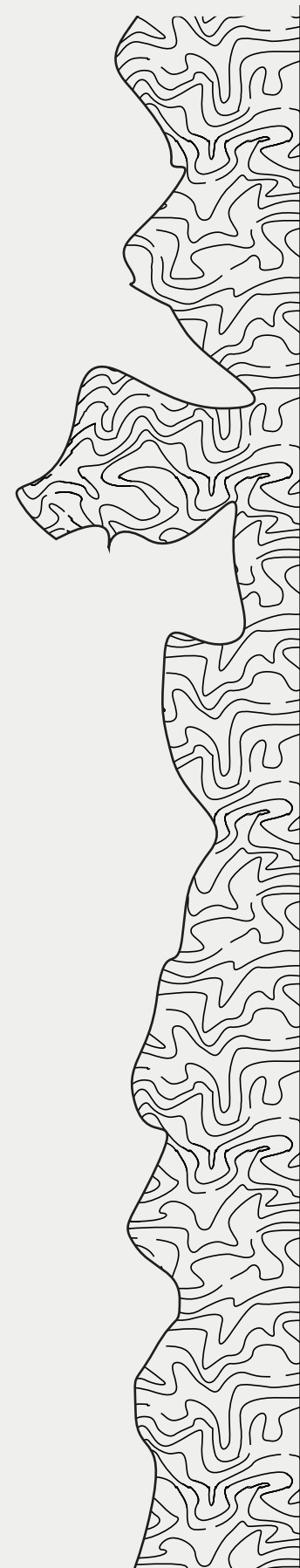
INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH THIRUVANANTHAPURAM RECEIPTS AND PAYMENTS FOR THE PERIOD / YEAR ENDED 31ST MARCH 2024

Amount in ₹

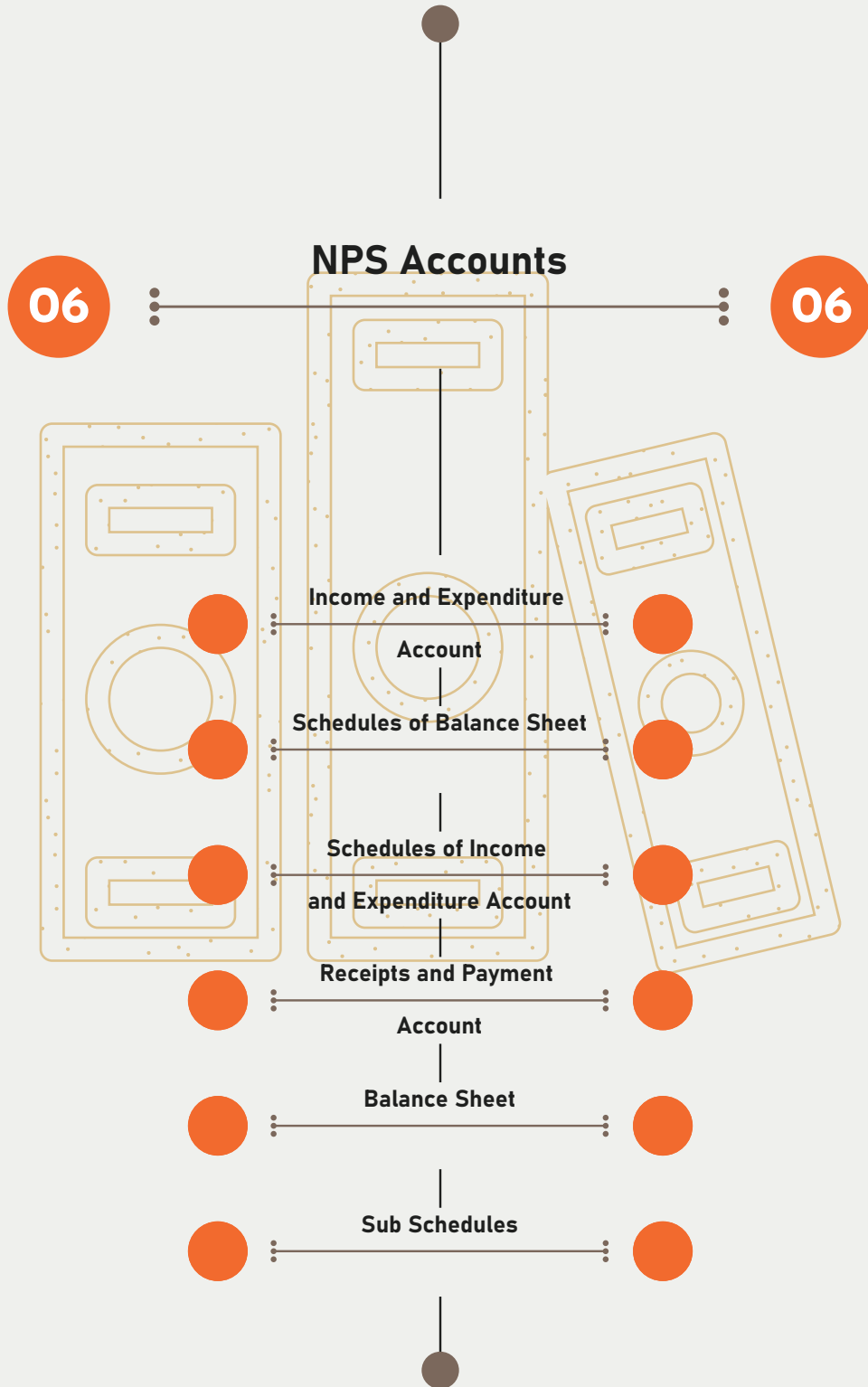
RECEIPTS	2023-24	2022-23	PAYMENTS	2023-24	2022-23
I. Opening Balance	-	-	I. Expenses		
a) Cash in hand			a) Establishment Expenses	33,48,65,617	20,57,37,698
b) Bank Balances			b) Academic Expenses	20,15,63,885	1,27,68,878
ii) In current accounts			c) Administrative Expenses	18,48,27,755	1,35,03,073
a) Canara Bank A/c	21,886	23,656	d) Transportation Expenses	93,49,883	
b) IDBI Bank A/c	3,18,436	3,20,307	e) Repair & Maintenance Expenses	6,81,08,370	
c) SBI Bank A/c	1,26,33,023	10,22,003	f) Prior period Expenses		
d) RBI TSA A/c	718	-			
e) PMRF-CNA A/c	12,83,303	-			
f) Canara Bank Project A/c					
(Condonment br)	63,19,472	60,48,384			
ii) In deposit /savings accounts					
a) Canara Bank	62,81,21,238	50,64,13,319	II. Payments made against earmarked endowment funds		
b) SBI	88,70,39,304	47,76,19,538	III. Payment against Sponsored Projects		
c) Canara Bank Project A/c	22,51,95,649	27,56,15,509	IV. Payment against sponsored fellowships		
d) IDBI Bank Project A/c	3,75,94,972	3,88,01,563	V. Investments and deposits made		
e) IDBI Bank	14,25,000	14,25,000	a) Out of Earmarked/Endowment funds		

RECEIPTS	2023-24	2022-23	PAYMENTS	2023-24	2022-23
II. Grants Received			b) Out of Own Funds (Investments-Others)		
a) From Government of India	1,60,38,00,000	1,40,02,00,000	VI. Term Deposits with Scheduled Banks		
b) From State Government			VII. Expenditure on Fixed Assets & Capital Work in Progress, Purchase of Fixed Assets and Expenditure	79,26,20,503	91,49,05,015
c) From other sources			VIII. Other payment including Statutory payment	14,40,45,127	10,19,23,211
III. Academic Receipts	12,28,07,062	9,97,14,652	IX. Refunds of Grants		
IV. Receipts against Earmarked/ Endowment Fund			X. Deposits & Advances	1,91,20,203	21,52,08,046
V. Receipts against Sponsored Projects (including interest)	24,15,57,510	10,99,09,167	XI. Other payments Other payments-External projects	3,07,90,371	6,69,25,386
VI. Receipts against Sponsored Fellowships and Scholarships	3,54,98,951	3,27,55,245	VIII. Closing Balances	14,71,87,250	10,06,99,153
VII. Income on Investments from			a) Cash in hand		
a) Earmarked/Endow. Funds			b) Bank Balances		
b) Own Funds ()th. Investment)			i) In current accounts		
			a) Canara Bank A/c	20,116	21,886
			b) IDBI Bank A/c	4,00,491	3,18,436
			c) SBI Bank A/c	83,77,486	1,26,33,023

RECEIPTS	2023-24	2022-23	PAYMENTS	2023-24	2022-23
VIII. Interest Received			d) RBI TSA A/c		718
a) On Bank deposits	2,30,68,810	4,24,16,574	e) PMRF-CNA A/c		12,83,303
b) Loans. Advances etc.			ii) In deposit /savings accounts		
c) Savings Bank Account	22,07,295	25,44,185	a) Canara Bank	74,01,96,482	62,81,21,238
			b) SBI	1,15,21,51,820	88,70,39,304
			c) Canara Bank Project A/c	18,11,85,319	22,51,95,649
			d) IDBI Bank Project A/c	4,49,37,447	3,75,94,972
IX. Investment encashed			e) IDBI Bank	27,59,955	14,25,000
X. Term Deposits with Scheduled bank encashed	10,00,69,523	26,65,28,290	f) Canara Bank Project A/c (Condonment br)	65,47,106	63,19,472
XI. Other Income (Including prior period income)	5,70,35,827	4,98,66,143	g) ICICI Bank Ltd	3,43,17,851	-
XII. Deposits & Advances	11,54,12,650	11,79,55,932			
XIII. Miscellaneous receipts including Statutory receipts	19,62,407	24,43,996			
XIV. Any other receipts	4,10,33,73,037	3,43,16,23,463		4,10,33,73,037	3,43,16,23,463



Annual Accounts



INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH THIRUVANANTHAPURAM NPS TIER-I ACCOUNT

Amount in ₹

BALANCE SHEET AS AT 31 st MARCH 2024

Liabilities	Amount	Assets	Amount
NPS Tier-I Account		NPS Tier-I Account	
Opening Balance	52,94,369.00	Sub. and Contribution due for March 24	70,24,023.00
Less: Sub.For March 2023	52,94,369.00	Investment	
Add:Sub+U Contribution	7,97,59,927.00	Interest Accrued but not due	
Add: Interest Credited	-		
Less: Transferred to NSDL	7,27,35,904.00		
Add:Sub+UC for March 2023	70,24,023.00	Balance at Bank	-
Excess of Income over Expenditure	-		
Total	70,24,023.00	Total	70,24,023.00



INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH THIRUVANANTHAPURAM NPS TIER-I ACCOUNT

INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31 st MARCH 2024

Amount in ₹

Expenditure	Amount	Income	Amount
Interest Credited to Subscribers Account		Interest Earned on Investment	
Bank Charges		Less: Interest Accrued 31.03.2022	
Excess of Income over Expenditure		Interest Accrued but not due	
Total	-	Total	-

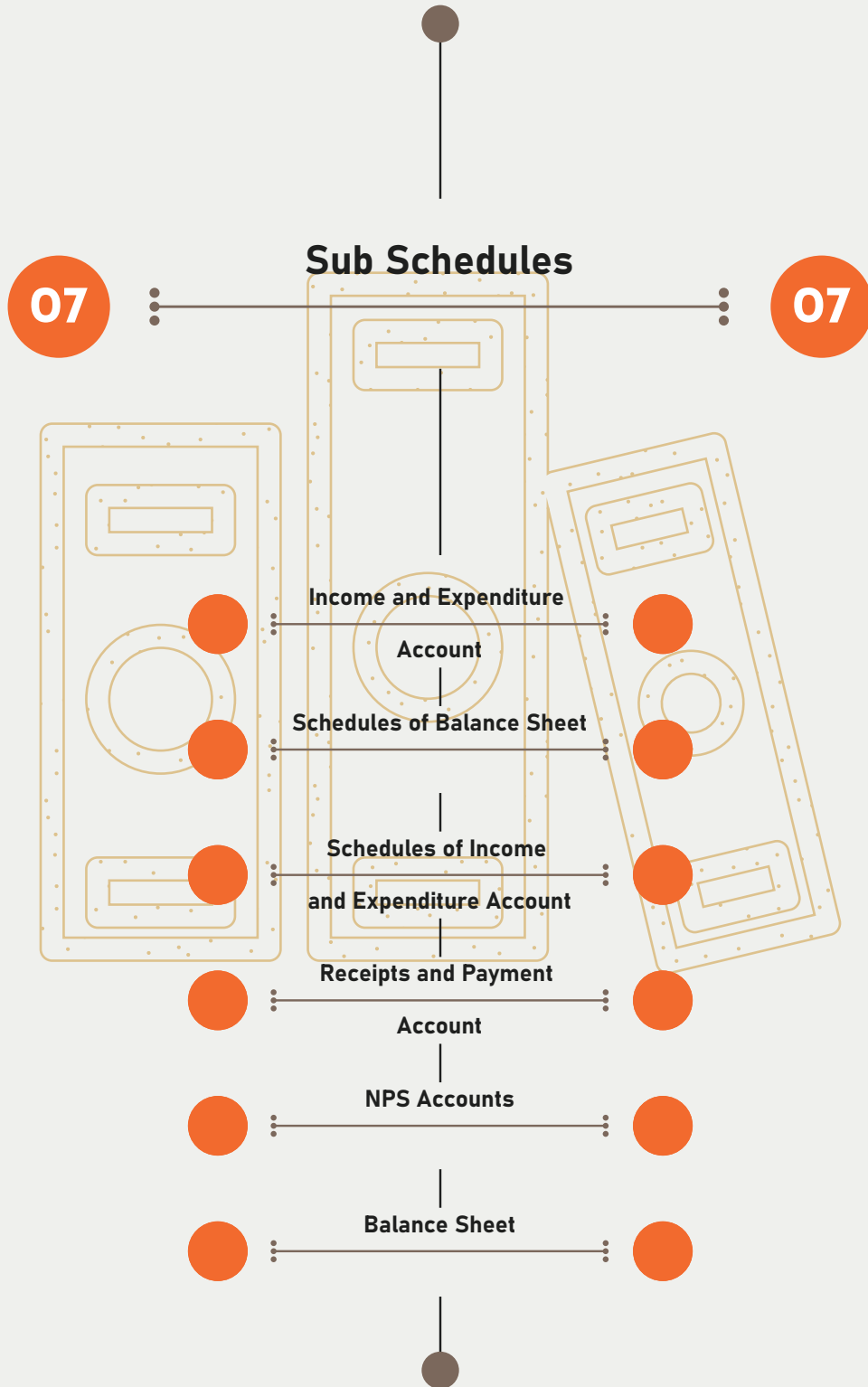
INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH THIRUVANANTHAPURAM NPS TIER-I ACCOUNT

RECEIPTS AND PAYMENTS FOR THE PERIOD / YEAR ENDED 31 st MARCH 2024

Amount in ₹

RECEIPTS		PAYMENTS	
Particulars	Amount	Particulars	Amount
Opening Balance as on 01-04-2023	52,94,369.00	Investments: Deposit to NPS a/c maintained by NSDL-CRA	7,27,35,904.00
Subscription and Contribution			
Own Subscription	3,10,27,307.00	Closing Balance as on -03-31 2024	70,24,023.00
Institute Contribution	4,34,38,251.00		
	7,44,65,558.00		
Total	7,97,59,927.00	Total	7,97,59,927.00

Annual Accounts



**INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH
THIRUVANANTHAPURAM
SCHEDULES FORMING PART OF BALANCE SHEET AS AT
31ST MARCH 2024**

Amount in ₹

SUB SCH No.	PARTICULARS	2022-23	2021-22
	CURRENT LIABILITIES AND PROVISIONS		
1	Sundry Creditors for Goods & Services:	10,60,111	
		10,60,111	0
2	Sundry Creditors for expenses:		
	Advertisement Charges Payable		3,86,758
	Audit Fees Payable	1,27,370	1,08,400
	Consumables Payable	52,61,280	1,66,92,564
	CIF Testing Charges	67,98,052	67,98,052
	CUMS Charges	9,96,912	9,96,912
	CPF/GPF/OTHERS PAYABLE	18,450	18,450
	Computer & Peripheral Expense Payable	35,61,216	
	Electricity Charges Payable	73,57,097	63,76,420
	Equipment Expense Payable	57,99,325	1,32,37,822
	Fellowship Payable	1,26,09,631	1,04,12,867
	Fund for GABS	4,14,013	4,14,013
	Furniture Expense Payable	8,85,000	
	Manpower Security Charges Payable	34,02,954	33,99,368
	Manpower Charges Payable	61,91,512	69,38,351
	IISER Student Co-Operative Mess	15,650	
	IISER TVM Employees Co Operative Society	2,15,008	
	Library Book Expense Payable	17,155	
	Medical Reimbursement Payable	9,15,370	3,84,379
	Newspaper Payable	4,550	4,295
	NPS Employee Contribution Payable	29,26,674	22,05,992
	NPS Employer Contribution Payable	40,97,349	30,88,377
	Printing & Stationery Payable	5,038	35,476
	Salaries & Allowances Payable	2,64,74,782	2,01,37,287
	Student Activities	46,11,824	26,86,324
	Telephone / Internet Charges Payable	3,44,656	1,60,048

SUB SCH No.	PARTICULARS	2022-23	2021-22
	Travel Expense Payable	7,99,998	6,77,977
	The Registrar IIT Kanpur	10,03,719	9,64,995
	Account with Project- Dr. Rajeev Kini	43,716	43,716
	Account with Project- Dr. R S Swathi	8,85,553	8,85,553
	BMSV Regulation 4D		6,983
	Cake World		1,237
	Globe Scientific		7,243
	IISER CBSM 2018	90,999	90,999
	Inkarp Instruments Pvt Ltd		1,59,544
	Payable to SIDA		17,323
	Prof. Murugavel R		1,950
	Dr. Bikas Chandra Das	9,454	
	CGST	34,603	6,823
	SGST	34,603	6,823
	IGST	3,690	7,290
	Transportation Expense Payable	8,60,158	5,03,921
	PMRF Contingency Expenses Payable	55,56,895	-
	Office/Contingency Expenses Payable	4,73,933	2,60,923
	Repairs And Maintenance Payable	10,62,230	13,35,705
		10,39,10,419	9,94,61,160
3	EMD & Caution Deposit		
	EMD	69,92,709	1,06,35,466
	Caution Deposit- Institute	18,01,200	17,34,200
	Caution Deposit- Hostel	36,41,483	35,07,483
	Caution Deposit- Library	18,19,500	17,52,500
	Caution Deposit-Mess	46,42,750	44,34,250
	Security Deposits	2,72,79,682	3,16,15,779
		4,61,77,324	5,36,79,678
4	Statutory Liabilities- Others		
	TDS & Cess (Cont, Sal, Prof, Rent, Adv)	71,69,214	49,93,459
	LWF	2,69,803	2,34,119
	TDS-CGST	5,94,002	4,76,795
	TDS-SGST	5,94,001	4,76,794
	TDS - IGST	6,49,050	10,04,964
	GST-REVERSE CHARGE MECHANISM	-	3,74,170

SUB SCH No.	PARTICULARS	2022-23	2021-22
	NPS recovery from employees	72,670	57,445
		93,48,740	76,17,746
5	Other Current Liabilities		
	Advances from CCC Ltd	33,67,28,015	33,67,28,015
	REF. OF UNSPENT BALANCE AYABLE TO DST FOR ICMAP PROJ	-	3,63,416
	Payable to Institute by IDBI A/c	14,43,953	23,49,869
	Account with IISER Growth Fund	10,93,682	2,49,957
	Account with IISER PPF	55,004	55,004
	Account with IISER SPF	55,004	55,004
	Account with IISER Institute (Payable from CB Vithu- ra)	10,30,321	5,00,000
	Account with IISER Institute (Payable from CB Vithu- ra)-GPF	25,000	
	CONTINGENCY PAYABLE	24,000	
	GST PAYABLE TO INSTITUTE- BPCL	77,760	
	Payable to DST (Reshma Raveendran)		3,000
	Performance Guarantee	50,88,771	63,09,141
	Withheld from CCC Ltd	2,44,78,648	2,44,78,648
	Receivables from District Tribal Welfare Dept	7,900	7,900
	Medical Insurance Premium Students	35,03,840	25,20,264
	Interest On Term Deposit M V George Memorial Fund	-	1,59,380
	Prof.M.V George Memorial Lecture Fund	-	13,50,000
	Other charges payable	91,033	11,19,253
	Group Term Life Insurance	41,382	27,636
	Receivable From Welcome Trust	8,03,522	7,90,032
	RECEIVABLE FOR MHRD STARS PROJ. OF DR. VINESH V	-	180
	RECEIVABLE FROM SERB/EEQ-DR GOKULNATH SABAPATHI	25,000	
	RECEIVABLE FROM INSTITUTE ICICI-JAC A/C	3,43,17,851	
	GPF-SPF-PPF	7,43,22,265	5,97,93,505
		48,32,12,950	43,68,60,204
6	PROVISIONS		
	Leave Salary Payable	14,48,16,159	12,61,71,704
		14,48,16,159	12,61,71,704
		78,85,25,703	72,37,90,492

SUB SCH No.	PARTICULARS	2022-23	2021-22
	CURRENT ASSETS, LOANS AND ADVANCES		
1	Cash Balance		
	Institute Balance		-
	Project Balance		-
	-		
2	Bank Balances		
	Canara Bank - Current A/c	20,116	21,886
	Canara Bank-PMRF-CNA Account	-	12,83,303
	RBI-TSA ACCOUNT	-	718
	SBI Current A/C - Fee Collect	41,13,782	91,41,181
	SBI Current A/c- Vithura	44,414	44,414
	SBI Current A/c	42,19,290	34,47,428
	IDBI Bank LTD (current A/C 03766)	4,00,491	3,18,436
	Term Deposits with Canara Bank	51,07,86,281	48,62,57,311
	Term Deposits with Canara Bank - LC	22,44,20,914	10,50,73,998
	Term Deposits with SBI	40,20,49,636	33,51,08,820
	Term Deposits with SBI- Vithura SB A/c	62,74,64,055	53,13,26,507
	Term Deposit with IDBI	14,25,000	14,25,000
	Canara Bank - SB A/c	49,89,287	3,67,89,929
	SBI Vithura SB A/C	7,34,28,795	22,12,777
	SBI - SB A/c	4,92,09,334	1,83,91,201
	Project Balance -Growth Fund Term Deposit	4,46,98,731	4,08,55,962
	Project Balance -Term Deposits for Frontiers Symposium	3,43,17,851	-
	Project Balance -Canara Bank Term Deposit	6,45,630	6,95,96,620
	Project Balance -Conference Account	61,79,480	-
	Project Balance -Canara Bank SB A/c (94002)	65,47,106	63,19,472
	Project Balance - Canara Bank SB Account Vithura	11,29,09,716	9,66,13,400
	Project Balance - Canara Bank Growth Fund	1,80,86,717	1,42,05,609
	Project Balance -IDBI Bank Various A/c's	4,49,37,447	3,75,94,972
		2,17,08,94,074	1,79,60,28,944
3	Stock		
	Stores and Spares		
	Stationery	3,26,060	3,61,851
		3,26,060	3,61,851

SUB SCH No.	PARTICULARS	2022-23	2021-22
4	Prepayments		
	Vehicle Insurance	6,83,017	5,96,662
	Transit Insurance	22,473	19,347
	Office/Contingency Expense	75,417	
	Telephone and Internet Charges	28,16,659	28,16,660
	E-Journal	3,77,21,271	3,58,16,617
		4,13,18,837	3,92,49,286
5	Deposits and Advances		
	Gas Connection Deposit	47,377	47,377
	KSEB Deposit	88,32,780	77,40,700
	Advance to CPWD	5,49,42,024	5,49,42,024
	Advance to CPWD-IRG	12,00,00,000	-
	Advance for Plant and Machinery	22,71,451	22,71,451
	Advances for Mobilisation	6,40,93,878	6,40,93,878
	Advance - Capital	9,00,000	9,00,000
	Advance- Recurring		-
		25,10,87,510	12,99,95,430
6	Interest Accrued		
	Interest from Flexi /Fixed Deposit with Canara Bank	23,91,636	1,26,80,013
	Interest from Term Deposit with Canara Bank for LC	3,85,755	66,974
	Interest from Term Deposit with SBI	5,81,03,467	1,80,81,378
		6,08,80,858	3,08,28,365
7	Claims Receivable		
	Temporary Advance		
	ADITHYA J	50,000	
	Ravi Kiran S Hedge		8,960
	Arunima Mathew		32,735
	SOURADIP PAUL	1,20,000	
	AMAMAH FARZLIN FARNAZ	1,50,000	
	Dr MADHU THALAKULAM	24,000	
	Dr NISHANT K T	-	10,000
	Dr R S SWATHI	-	40,000

SUB SCH No.	PARTICULARS	2022-23	2021-22
	DR JERRY FERERIO	2,65,000	
	M/s Zeba Lab Systems Pvt Ltd		2,01,961
	Cumulative Professional Development Advance		
	Dr SUKENDU MONDAL		20,000
	Dr SUBRATA KUNDU		50,000
	DR.NONGMAITHEM SADANANDA SINGH	13,000	
	DR.N.SADANANDA SINGH	14,000	
	DR.SUDARSHAN KUMAR K	30,000	
	DR.BINDUSAR SAHOO	44,120	
	DR.SUDARSHAN KUMAR K	2,40,000	
	DR.MANOJ.A.G.NAMBOOTHIRI	1,40,000	
	DR.VIJI Z THOMAS	1,00,000	
	DR,BASUDEV SAHOO	65,000	
	DR TAPAS KUMAR MANNA	30,000	
	TA / LTC Advance		
	Dr SARBESWAR PAL		15,000
	MR.VIJESH K	11,000	
	R.SUHESH KUMAR SINGH	2,00,000	
	PRADEEP KUMAR G T	50,000	
	DR SUBRATA KUNDU	30,000	
	DR.SAIKAT CHATTERJEE	1,00,000	
	DR SUKENDU MANDAL	1,00,000	
	Dr VINAYAK KAMBLE	-	20,000
	Dr M M SHAIJUMON	-	2,90,000
	DR. S GOKUL NATH	25,000	
	Secured Advance		
	Secured Advances for construction	4,91,842	4,91,842
	M/s CCC Ltd	5,11,77,978	5,11,77,978
	M/s RDS PROJECT LTD	45,41,065	45,41,065
	Other Receivable		
	Receivable From CPWD	1,97,927	
	Receivable From Durolac	1,019	
	Receivable From IST 2019-SoM		
	Receivable From JAC 2020	19,95,012	20,59,012
	Account with Project		3,65,440

SUB SCH No.	PARTICULARS	2022-23	2021-22
	Receivable From Jaspin Jacob	15,03,840	15,03,840
	Receivable From MSc Programmes	-	58,397
	Receivable From IDBI Project A/C By Institute	13,07,452	23,49,869
	Receivable From KERALA State SC/ST Scholarship (E-GRANT)		67,967
	Receivable From Fedex PSIT		77,425
	Receivable From STUDENTS FRIENDSHIP FUND	2,03,670	1,80,370
	Receivable From STUDENTS		2,000
	Receivable From Cultural Club		31,065
	Receivable From TSI	6,850	
	Receivable From Anvesha Club	4,27,000	
	ACCOUNT WITH PROJECT(INSPIRE- DR CHANDRAKALA)	4,66,199	1,06,199
	A/C WITH INSTITUTE (REC. FROM INSTITUTE TO CB VITHURA)	42,63,607	
	A/C WITH PROJECT (RECEIVABLE FROM CSIR-DR VEERA REDDY)	4,99,411	
	ACCOUNT WITH INSTITUTE	93,676	39,81,334
	A/C WITH INSTITUTE (RECE. FROM INSTITUTE IDBI)	1,23,680	20,000
	A/C WITH INSTITUTE (RECE. FROM INSTITUTE CB VITHURA)	2,72,982	70,238
	RECEIVABLE FROM DR RAMESH CHANDRANATH	-	10,000
	RECEIVABLE FROM ANJI BIOSCIENCES	5,546	
	RECEIVABLE FROM IIT INDORE	5,064	
	RECEIVABLE FROM DR GEORGE THOMAS	5,355	
	Account with Project	4,53,462	
	NCM Workshop	3,552	
	Receivable From JEST		450
		6,98,47,309	6,77,83,147
8	Other Current Asset		
	TCS 2020-21	-	1,172
	ELECTRONIC CREDIT LEDGER (GST)	28,46,372	28,00,031
	TDS 2021-22	5,79,630	12,73,559
		34,26,002	40,74,762
9	Debit Balances of Project		
	CSIR- DR.TAPAS K MANNA-37(1688)/17-EMR-II	80,412	81,723

SUB SCH No.	PARTICULARS	2022-23	2021-22
	DBT-PR41371-DR.NISHANT KT		4,83,017
	DST-DR M M SHAIJUMON-DST/TMD/HF-C/2K18/136(C)&(G)		2,91,212
	DST-INSPIRE FACULTY AWARD-DR CHANDRAKALA MEENA	4,81,186	1,11,879
	DST-TMD-DR.DEEPISHIKA-DST/TMD/HFC/2K18/37		1,79,933
	ISRO-DR K M SURESHAN-ISRO/RES/3/861/20-21	2,71,617	79,007
	MED/BT/PR30459/DR SATISH KHURANA		15,26,346
	SERB-IPA-DR RAJEEV N KINI-2020/000021	2,48,546	1,77,803
	SERB-MS.SHRUTI SURIYAKUMAR-PDF/2020/000209		14,206
	SERB-SPR/2020/000427-DR NISHANT K T	2,05,390	2,01,538
	SERB-DR.SUMIT MOHANTY/MTR/2017/000458	11,825	12,065
	DBT-DR.ULLASA-BT/PR27535/2018	2,53,062	2,64,425
	DST-INSPIRE FACULTY-DR.S.GOKULNATH-FA12-CH-74	1,07,172	1,07,172
	CSIR-DR SUKHENDU MANDAL-01(3024)/21/EMR-II	40,779	-
	CSIR-DR VEERA REDDY YATHAM-02/0466/23/EMR-II	4,23,652	-
	DBT-DR HEMA SOMANATHAN-BT/PR39693/FCB/125/96/2020	50,000	-
	DBT-DR RAJENDRA KURAPATI-BT/PR48101/BCE/8/1808/2023	1,28,475	-
	DBT-DR STALIN RAJ-EU-INF/15/RV/19-20	4,27,586	-
	DBT-DR TAPAS KUMAR MANNA-NEW	3,00,376	-
	DST-INSPIRE FACULTY -DR ANAND NARAYANA SARMA	98,232	-
	DST-INSPIRE FACULTY-DR MATHEW ARUN THOMAS	10,741	-
	MoE-DR DEBASHIS SAHA-MoE-STARs/STARs-2/2023-0809	23,612	-
	SERB-DR M M SHAIJUMON-CRG/2021/006246	58,945	-
	SERB-DR POONAM THAKUR-SRG/2021/000981	1,04,707	-
	MHRD-DR MANOJ NAMBOOTHIRI-STARs/APR2019/PS/308/FS		6,00,556
	SERB-DR SUDARSHAN KUMAR-MTR/2017/000649		1,91,490
		33,26,315	43,22,372
		2,60,11,06,965	2,07,26,44,157



SEPARATE AUDIT REPORT OF THE COMPTROLLER & AUDITOR GENERAL OF INDIA ON THE ACCOUNTS OF INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH (IISER), THIRUVANANTHAPURAM FOR THE YEAR ENDED 31 MARCH 2024

1. We have audited the attached Balance Sheet of Indian Institute of Science Education and Research, Thiruvananthapuram as at 31 March 2024, the Income & Expenditure Account and Receipts & Payments Account for the year ended on that date under Section 19(2) of the Comptroller and Auditor General's (Duties, Powers and Conditions of Service) Act, 1971 read with section 22 (2) of the NITSER Act, 2007. These financial statements are the responsibility of the Institute's management. Our responsibility is to express an opinion on these financial statements based on our audit.
2. This Separate Audit Report contains the comments of the Comptroller & Auditor General of India (CAG) on the accounting treatment only with regard to classification, conformity with the best accounting practices, accounting standards, and disclosure norms, etc. Audit observations on financial transactions with regard to compliance with the Law, Rules & Regulations (Propriety and Regularity) and efficiency-cum-performance aspects, etc., if any, are reported through Inspection Reports/CAG's Audit Reports separately.
3. We have conducted our audit in accordance with auditing standards generally accepted in India. These standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatements. An audit includes examining, on a test basis, evidences supporting the amounts and disclosure in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of financial statements. We believe that our audit provides a reasonable basis for our opinion.
4. Based on our audit, we report that:
 - i. We have obtained all the information and explanations, which to the best of our knowledge and belief were necessary for the purpose of our audit;
 - ii. The Balance Sheet, Income & Expenditure Account and Receipts & Payments Account dealt with by this report have been drawn up in the format approved by the Ministry of Education, Government of India;
 - iii. In our opinion, proper books of accounts and other relevant records have been maintained by the Indian Institute of Science Education and Research, Thiruvananthapuram as required under Regulation 16.1 forming part of Memorandum of Association of the Institute in so far as it appears from our examination of such books; and

iv We further report that:

A. BALANCE SHEET

A.I Sources of Funds

A.I.I Schedule 3 C Unutilised Grant - ₹33.59 crore

As per GFR 2017, the advances given out of the grant are treated as unutilised grants. Audit observed that an amount of ₹33.59 crore has been disclosed as unutilized grant in Schedule 3C instead of ₹44.59 crore (Prepayments ₹4.13 crore, Deposits & Advances ₹13.11 crore, Fixed Deposits marked as lien against LC ₹22.44 crore & Expenditure transferred to Bank for Online subscription ₹4.91 crore). This has resulted in understatement of Schedule 3C Unutilised Grant by ₹11.00 crore and overstatement of Capital Fund by the same amount.

A.1.2. Schedule 3C Unutilised Grant is understated by ₹30.85 lakh due to non-inclusion of interest earned on Letter of Credit (Fixed Deposits) in Canara Bank against the purchase orders to purchase equipment from foreign suppliers. This should have been remitted back to the Consolidated Fund of India or included as part of Unutilised grant in Current Liability immediately after finalization of accounts vide Rule 230 (8) of GFR 2017. This has also resulted in overstatement of Schedule 1 Corpus/Capital Fund.

B. INCOME & EXPENDITURE ACCOUNT

B.I Expenditure

B.I.I. Schedule 19 Repairs & Maintenance - ₹6.81 crore

This includes expenditure of ₹27.19 lakh incurred on furnishing of office, which has been wrongly classified as revenue expenditure. This has resulted in overstatement of Repairs and Maintenance and understatement of Fixed Assets by ₹27.19 lakh. The above case may be capitalised, and depreciation may be provided according to the guidelines issued by the Ministry of Education.

C. GENERAL

C.1. Schedule-23 Significant Accounting Policies

As per Note-6 of Schedule-23 Significant Accounting Policies, it is stated that suitable provision on the basis of actuarial valuation has been made for Earned Leave Encashment vide Schedule No.15A Employees Retirement and Terminal Benefits. However, it is observed that provision for Earned Leave Encashment were not made on basis of actuarial valuation which is against the Accounting Standard 15 issued by ICAI and formats of accounts issued by Ministry of Education. In the absence of actuarial valuation, Audit could not assess the sufficiency of provision made for accumulated leave encashment amounting to ₹14.48 crore and its impact on the deficit. Further, neither any provision has been made for gratuity nor has the accounting policy for the same been disclosed in the schedule of significant accounting policies.

D. GRANT-IN AID

IISER TVM received a grant-in-aid of ₹160.38 crore from Ministry of Education, Govt. of India during 2023-24. Out of the total grant of ₹162.96 crore (including ₹2.58 crore being the unspent grant carried forward from previous year), the IISER TVM utilized ₹129.37 crore during the year, leaving a balance of ₹33.59 crore as on 31.3.2024. (This is subject to comment No. A.1.1 and A.1.2)

E. MANAGEMENT LETTER

Deficiencies, which have not been included in the Separate Audit Report, have been brought to the notice of Indian Institute of Science Education and Research, Thiruvananthapuram through a management letter issued separately for remedial/corrective action.

v. Subject to our observations in the preceding paragraphs, we report that the Balance Sheet, Income & Expenditure Account and Receipts & Payments Account dealt with by this report are in agreement with the books of accounts.

vi. In our opinion and to the best of our information and according to the explanations given to us, the said financial statements read together with the Accounting Policies and Notes on Accounts, and subject to the significant matters stated above and other matters mentioned in Annexure I to this Audit Report give a true and fair view in conformity with accounting principles generally accepted in India:

a. In so far as it relates to the Balance Sheet, of the state of affairs of the Indian Institute of Science Education and Research, Thiruvananthapuram as at 31 March 2024; and

b. In so far as it relates to Income & Expenditure Account of the deficit for the year ended on that date.

For and on behalf of the C& AG of India

Director General of Audit (Central), Chennai

Place: Chennai

Date: 08 January 2025

ANNEXURE I

- 1. Adequacy of Internal Audit System:** Though the Internal Audit Wing has not been constituted in the Institute, Internal Audit is being conducted by empanelled Chartered Accountants. The internal auditor has been formally appointed with clear and comprehensive terms of reference, which include verification of accounts with reference to vouchers, checking of misclassification, checking of double/excess payments, ensuring that all assets are taken to stock, adjustment of advances within time, and ensuring that all statutory recoveries are made and remitted in time, etc. Hence, Internal Audit control may be considered adequate.
- 2. Adequacy of Internal Control System:** The internal control system is adequate and commensurate with the size of the organization, except for the fact that the Institute does not have its own Accounting Manual. In terms of proper delegation of powers amongst management, clear recruitment policies, and an established Board of Governors, the system is sound.
- 3. System of Physical Verification of Assets:** Physical verification of fixed assets has been conducted only up to the year 2022-23. The institution has done verification of fixed assets only in respect of the fixed assets capitalized during the financial year 2023-24.
- 4. System of physical verification of Inventory:** Physical verification of inventory has been conducted up to the year 2023-24.
- 5. Regularity in Payment of Statutory Dues:** The Institute is regular in payment of statutory dues, and no dues are pending.

Deputy Director (DT) II



Institute map 2023 - 2024 | IISER Thiruvananthapuram



1. Campus Entrance
2. Visitors' Forest Retreat (VFR)
3. Students' Library
4. SBI ATM
5. Restaurant
6. Bus Stop
7. Central Dining Hall
8. Student Lounge and Cafe
9. Physical and Mathematical Sciences Block
10. Chemical Sciences Block
11. Biological Sciences Block
12. Students' Hostel area
13. Medical Center
14. Shopping Center
15. Animal House Block
16. Lecture Hall Complex
17. Crucible
18. School of Earth, Environmental and Sustainability Sciences (SEESS)

Map Illustration: **Shyam M**
 (Batch '19, IISER Thiruvananthapuram)
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**Indian Institute of Science Education and Research
Thiruvananthapuram**

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