

# Grants & Partnerships

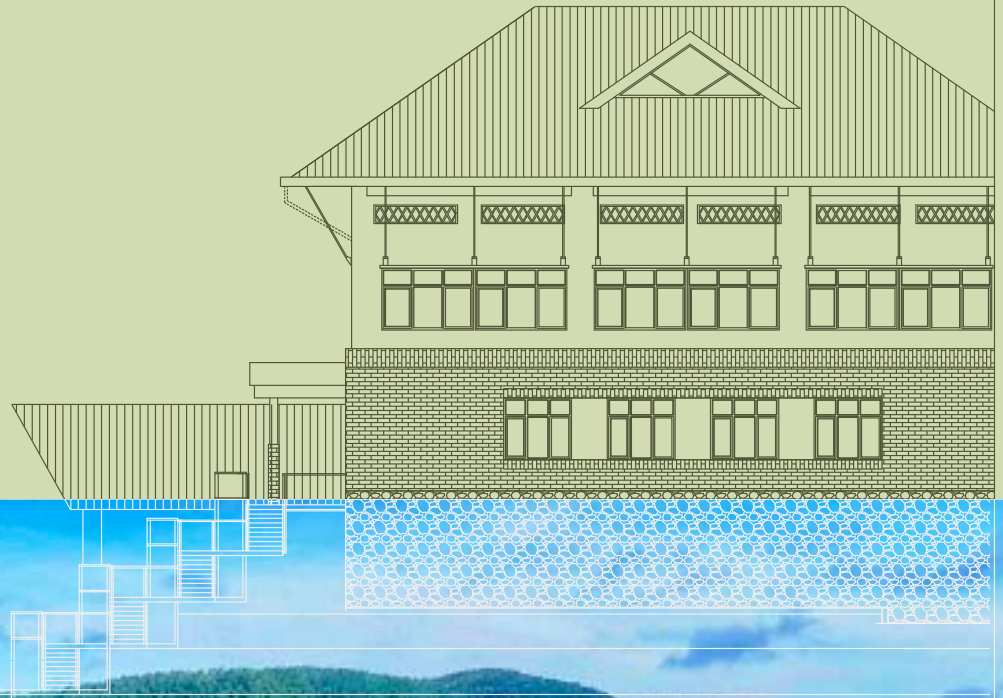


Photo: Parthiban, Electrical substations team

# 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<br>SANTHASEELA   | DBT            | National                 | 03.07.2023 to 02.07.2025 | 7.55                                                     |
| 27      | Remote C-H functionalization driven by cerium photocatalysis                                                               | DR. VEERA REDDY<br>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<br>KALIYAMOORTHY       | CSIR           | National                 | 06.10.2023 to 05.10.2026 | 0.94                                                     |
| 30      | Theoretical Investigation on the triplet formation pathways in natural photosensitizers                                    | DR. VENNAPUSA<br>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<br>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 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 Transcription 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 Probuco 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       | AI(I)/AI(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 a-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-Ilgav 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- Macrocycle 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 <sub>3</sub> 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 $\frac{1}{2}$ 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. MATHEW 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 contract 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 CO <sub>2</sub> Hydrosilylation                                               | 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 & H <sub>2</sub> MAP                                                                                            | DR. DEEPSHIKHA JAISWAL NAGAR | DST            | 16.03.2022 to 15.03.2025 | 0                                                |
| 67      | DST-Materials MAP                                                                                                             | DR. MANOJ A 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      | Chief Minister's Navakerala Post Doctoral Fellowship (CMNPF)                                                                  | DR. NEEMA P M                | KSHEC          | 20.06.2022 to 19.06.2024 | 0                                                |
| 72      | Chief Minister's Navakerala Post Doctoral Fellowship (CMNPF)                                                                  | DR. HIJAS K M                | KSHEC          | 14.07.2022 to 13.07.2024 | 1.75                                             |
| 73      | Chief 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 IYYANI            | 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<br>CHAMAKURI | SERB                         | 17.03.2023 to<br>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<br>27.03.2026 | 43.42                                            |
| 101     | Studies on the feasibility of electrochemical oxidation of 5-hydroxymethylfurfural to furan dicarboxylic acid        | DR. A<br>MUTHUKRISHNAN    | TREEMERA<br>GmbH,<br>GERMANY | 08.06.2022<br>to -          | 7.92                                             |

