

**35 Research Projects with a total outlay of Rs. 17.49 Crores have been sanctioned to the Faculty Members of  
SRM University-AP during 2017 – till date**

| S. No. | Title of the R&D project   | Name of the PI and CO-PI        | Department                           | Funding Agency                | Sanction Number            | Sanctioned Amount (in Rs. Lakhs) | Duration |
|--------|--|---------------------------------|--------------------------------------|-------------------------------|----------------------------|----------------------------------|----------|
| 1      | Direct removal of multidrug resistance bacteria out of blood   | <b>Dr Anil K Suresh</b>         | Department of Biological sciences    | DBT-Ramalingaswamy Fellowship | DBT/RLF/2012               | 98.00                            | 2014-19  |
| 2      | Metal-catalyzed new cross-coupling reactions via C-H bond activation and Metallacycle formation                  | <b>Dr. S. Mannathan</b>         | Department of Chemistry              | DST-INSPIRE                   | DST/INSPIRE/04/2015/002987 | 55.00                            | 2016-21  |
| 3      | Role of Nuclear Hormone Receptors in C. elegans metabolism and Aging   | <b>Dr. Manjunatha Thondamal</b> | Department of Biological sciences    | DST-INSPIRE                   | DST/INSPIRE/04/2015/002416 | 96.00                            | 2016-21  |
| 4      | Mechanistic of CO Oxidation on Metal Free Catalyst and Property Package  | <b>Prof. Ranjit Thapa</b>       | Department of Physics                | DST-SERB                      | SERB/EMR/2016/004689       | 35.45                            | 2017-21  |
| 5      | Theoretical Insights on the critical factors that influence the performance of non-fullerene organic solar cells | <b>Dr Mahesh Kumar Ravva</b>    | Department of Chemistry              | DST-INSPIRE                   | DST/INSPIRE/04/2017/001393 | 104.00                           | 2017-22  |
| 6      | Studies upon Modification of High Entropy alloy for Thermal Barrier Coating Applications                         | <b>Dr Sheela Singh</b>          | Department of Mechanical Engineering | DST-SERB                      | EMR/2016/001066            | 52.20                            | 2017-20  |
| 7      | Development of liquid metal processing route for closed cell magnesium foam                                      | <b>Dr Vinod Kumar</b>           | Department of Mechanical Engineering | DST-SERB                      | EMR/2016/006207            | 66.00                            | 2017-20  |
| 8      | Microbiome mediated fate and transformation of man released nano-pollutants                                      | <b>Dr Anil K Suresh</b>         | Department of Biological sciences    | DST-SERB                      | SERB/ECRA/2018/0000339     | 46.73                            | 2018-21  |

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| 9  | Probing Charge Transport in Molecular Junctions with Impedance Spectroscopy and Transition Voltage Spectroscopy Approach         | <b>Dr Sabyasachi Mukhopadhyay</b>       | Department of Physics             | DST- SERB       | SERB/ECR/2017/001937                   | 48.30  | 2017-20 |
| 10 | Molecular links between nutrition, reproduction and aging  | <b>Dr. Manjunatha</b>                   | Department of Biological sciences | DST- SERB-ECR   | ECR/2017/000213                        | 44.53  | 2017-20 |
| 11 | Tailoring of catalytic surfaces for CO <sub>2</sub> reduction  | <b>Dr. Mallikarjuna Rao Motapothula</b> | Department of Physics             | DST- INSPIRE    | DST/INSPIRE/04/2017/001392             | 102.00 | 2017-22 |
| 12 | Evaluation of intrinsic piezoelectric coefficients and strain engineering near the morphotropic phase boundary in Pb-free oxides | <b>Dr. Pranab Mandal</b>                | Department of Physics             | DST- SERB       | ECR/2018/001252                        | 48.80  | 2019-22 |
| 13 | First principles identification of descriptor for carbon based catalyst  | <b>Prof. Ranjit Thapa</b>               | Department of Physics             | DAE-BRNS (YSRA) | 37(2)/20/14/2018-BRNS/37144            | 28.15  | 2018-21 |
| 14 | Development of Nano-Engineered Blue-Emitting Blinking Suppressed 'Giant' Quantum Dots  | <b>Dr. Nimai Mishra</b>                 | Department of Chemistry           | DST-TARE        | TAR/2018/000732                        | 18.30  | 2018-20 |
| 15 | Ion Beam Modification of Two Dimensional(2D) Layered Materials Heterostructures: Defect Engineering and Device Performances      | <b>Dr. Jatis Kumar Dash</b>             | Department of Physics             | UGC-DAE         | UGC-DAE-CSR-KC/CRS/19/IBMS04/1005/1036 | 25.00  | 2019-22 |
| 16 | Vector Vortex Beams and their Scattering for Communication Applications  | <b>Dr Gangi Reddy Salla</b>             | Department of Physics             | DST-SRG         | SERB/SRG/2019/000857                   | 26.17  | 2019-21 |
| 17 | Development of Fast Fluoride Ion Conducting Solid Electrolytes for Rechargeable Solid State Fluoride Ion Batteries               | <b>Dr Laxminarayana Patro</b>           | Department of Physics             | DST-SRG         | SRG/2019/000767                        | 31.60  | 2019-21 |
| 18 | Characterization of graphs by spectra of its distance and resistance matrix and some   | <b>Dr. Fouzul Atik</b>                  | Department of Mathematics         | DST-SRG         | SRG/2019/000839                        | 12.90  | 2019-21 |

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|    | problems related to matrix theory and graph theory   |                                   |   |                    |                      |        |         |
| 19 | Methane Emission from Tropical Aquatic Networks: Elucidating the underpinning mechanisms and landscape-level drivers   | <b>Dr. Shoji D. Thottathil</b>    | Department of Environmental Science                     | DST-SRG            | SRG/2019/000539      | 30.22  | 2019-21 |
| 20 | Design and Development of 'Fast Charging' Next-Generation Battery System and its Advanced Electronic Diagnostics   | <b>Dr. Sujith Kalluri</b>         | Department of Electronics and Communication Engineering | DST-SRG            | SRG/2019/000194      | 30.00  | 2019-21 |
| 21 | A scalable Secure Architecture Model for Privacy and Performance in IoT  | <b>Dr Ashok Kumar Pradhan</b>     | Department of Computer Science                          | DST-TARE           | TAR/2019/000286      | 18.3   | 2019-21 |
| 22 | Development of novel methods for deconvolution and denoising of seismic reflection data  | <b>Dr. Karthikeyan</b>            | Department of Electronics and Communication Engineering | DST-SERB           | SERB/CRG/2019/001234 | 25.00  | 2019-22 |
| 23 | Jumbo-phage as a model for ancient cell organization   | <b>Dr. Sutharsan Govindarajan</b> | Department of Biological sciences                       | DBT-Wellcome Trust | IA/E/19/1/504958     | 124.00 | 2021-25 |
| 24 | Mathematical analysis and Adjoint Based Stability for a Coupled Convection-Diffusion equation in Miscible Displacement   | <b>Dr. Tapan Kumar Hota</b>       | Department of Mathematics                               | DST-SRG            | SRG/2020/000713      | 14.63  | 2021-23 |
| 25 | Chemical modulator based microalgal biorefinery for the production of biofuels and bioproducts   | <b>Dr. Imran Y Pancha</b>         | Department of Biological sciences                       | DST-SRG            | SRG/2020/000165      | 27.00  | 2021-23 |
| 26 | Targeting Kennedy pathway of cellular phosphatidylethanolamine biosynthesis as a common therapeutic strategy against protozoan parasites like Leishmania donovani, | <b>Dr. Writoban Basu</b>          | Department of Biological sciences                       | DST-SRG            | SRG/2020/001421      | 26.34  | 2021-23 |

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|    | Trypanosoma brucei and Entamoeba histolytica  |  |                                      |   |                                       |        |         |
| 27 | Intelligent Disturbance Observer based Adaptive Control of DC-DC Power Converter for Nonlinear Loads  | <b>Dr Tousif Khan</b>                      | Department of EEE                    | DST-TARE  | TAR_2020_000386                       | 18.30  | 2021-23 |
| 28 | Mechanistic understanding of bacterial cytoskeleton inhibition by antibiotics and novel bacteriophage proteins  | <b>Dr. Sutharsan Govindarajan</b>          | Department of Biological sciences    | DST-CRG   | CRG_2020_003295                       | 52.00  | 2021-23 |
| 29 | Wall effects in Shock wave boundary layer interactions  | <b>Dr Satya Pramod Jammy</b>               | Department of Mechanical Engineering | DST-CRG   | CRG/2020/003859                       | 39.00  | 2021-24 |
| 30 | Understanding the molecular basis for the extreme differential level of expression of genes from human and animal rotaviruses in gene-transfected cells: Implications for improving the growth of human vaccine strains | <b>Prof. Durga Rao</b>                     | Department of Biological sciences    | DBT   |                                       | 110.52 | 2021-24 |
| 31 | Imprints of Physics Beyond the Standard Model at the LHC and Future Colliders   | <b>Dr Amit Chakraborty</b>                 | Department of Physics                | DST-INSPIRE                                       | DST/INSPIRE/04/2018/002972            | 35.00  | 2019-24 |
| 32 | Catalysts for CO <sub>2</sub> Reduction to C <sub>2</sub> Product: Descriptor to Database   | <b>Prof Ranjit Thapa and Dr S. Biswas</b>  | Department of Physics                | DST-NSM   | DST/NSM/R&D_HP C_Applications/2021/19 | 28.02  | 2021-23 |
| 33 | Developing Structure-Morphology- Performance Relationships in Organic Solar Cells   | <b>Dr Mahesh Kumar Ravva</b>               | Department of Chemistry              | DST-NSM   | DST/NSM/R&D_HP C_Applications/2021/16 | 19.92  | 2021-23 |
| 34 | Development of Closed Cell Gold Foam for Jewellery Applications   | <b>Dr G S Vinodh Kumar</b>                 | Department of Mechanical Engineering | Tanishq Jewellers (TITAN Company Ltd)             | IN-KA01404072207184 T                 | 29.60  | 2021-22 |
| 35 | A Halide Perovskite Based Photoanode For Oxygen Evolution Reaction Using A  | <b>Dr. Sabyasachi Mukhopadhyay (Co-PI)</b> | Department of Physics                | DST- Bilateral Project with Israel and IIT Bhilai | DST/INT/ISR/P-28/2020(G)              | -      | 2021-24 |

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|    | Molecular Diode in a Hybrid Nanometer Scale Protection Layer |   |                   |  |        |         |  |
| 36 | SRM-Amara Raja Center for Energy Storage Devices             | Dr. Pardha Saradhi Maram (Chemistry), Dr. Laxminarayana Patro (Physics), Dr. Sujith Kalluri (Electronics Engg.), Dr. Surfarazhussain S Halkarni (Mechanical Engg.), Dr. Jayaprakash Sharma P (Mechanical Engg.), Dr. Tousif Khan N (Electrical Engg.) | Amara Raja Center |  | 180.00 | 2020-23 |  |