

## All Sponsored Projects of SRM University-AP

S.NO	Title of the R&D Project	Name of the PI & Co-PI	Department	Funding Agency	Sanction Number	Sanctioned Amount in Lakhs	Duration
1	Metal-catalyzed new cross-coupling reactions via C-H bond activation and Metallacycle formation	Dr S. Mannathan	CHE	DST-INSPIRE	DST/INSPIRE/04/201 5/002987	60.00	2016-22
2	Elucidating the role of NHRs in C elegans aging and reproduction	Dr Manjunatha	BIO	DST-INSPIRE	DST/ INSPIRE/04/2015/002416	96.00	2016-21
3	Mechanistic of CO Oxidation on Metal Free Catalyst and Property Package	Prof. Ranjit Thapa	PHY	DST-SERB EMR	SERB/EMR/2016/004689	35.45	2017-20
4	Theoretical Insights on the critical factors that influence the performance of non-fullerene organic solar cells	Dr Mahesh Kumar Ravva	CHE	DST-INSPIRE	DST/INSPIRE/04/201 7/001393	107.00	2018-23
5	Studies upon Modification of High Entropy alloy for Thermal Barrier Coating Applications	Dr Sheela Singh	MECH	DST- SERB EMR	EMR/2016/001066	52.20	2017-20
6	Development of liquid metal processing route for closed cell magnesium foam	Dr G S Vinod Kumar	MECH	DST- SERB EMR	EMR/2016/006207	66.00	2017-20
7	Probing Charge Transport in Molecular Junctions with Impedance Spectroscopy and Transition Voltage Spectroscopy Approach	Dr Sabyasachi Mukhopadhyay	PHY	DST- SERB ECR	SERB/ECR/2017/001937	48.30	2018-21
8	Elucidating the role of FATP family of fatty acid transporters in C. elegans aging	Dr Manjunatha	BIO	DST- SERB ECR	ECR/2017/000213	44.52829	2017-20
9	Fabrication of efficient catalytic materials by physical methods	Dr Mallikarjuna Rao Motapothula	PHY	DST-INSPIRE	DST/INSPIRE/04/2017/001392	102.00	2019-24
10	Evaluation of intrinsic piezoelectric coefficients and strain engineering near the morphotropic phase boundary in Pb-free oxides	Dr Pranab Mandal	PHY	DST- SERB ECR	ECR/2018/001252	48.79369	2019-22
11	First principles identification of descriptor for carbon based catalyst	Prof. Ranjit Thapa	PHY	DAE-BRNS (YSRA)	37(2)/20/14/2018- BRNS/37144	28.15	2018-21
12	Development of Nano-Engineered Blue-Emitting Blinking Suppressed 'Giant' Quantum Dots	Dr Nimai Mishra	CHE	DST-SERB TARE	TAR/2018/000732	18.30	2019-22

13	Ion Beam Modification of Two Dimensional(2D) Layered Materials Heterostructures: Defect Engineering and Device Performances	Dr Jatis Kumar Dash	PHY	UGC-DAE CSR	UGC-DAE-CSR- KC/CRS/19/IBMS04/1005/1036	25.00	2020-23
14	Vector Vortex Beams and their Scattering for Communication Applications	Dr Gangi Reddy Salla	PHY	DST-SERB SRG	SERB/SRG/2019/000857	26.17	2019-22
15	Development of Fast Fluoride Ion Conducting Solid Electrolytes for Rechargeable Solid State Fluoride Ion Batteries	Dr Laxminarayana Patro	PHY	DST-SERB SRG	SRG/2019/000767	31.60	2019-22
16	Characterization of graphs by spectra of its distance and resistance matrix and some problems related to matrix theory and graph theory	Dr Fouzul Atik	MATHS	DST-SERB SRG	SRG/2019/000839	12.90	2019-22
17	Methane Emission from Tropical Aquatic Networks: Elucidating the underpinning mechanisms and landscape-level drivers	Dr Shoji D. Thottathil	EVS	DST-SERB SRG	SRG/2019/000539	30.22	2019-22
18	Design and Development of 'Fast Charging' Next-Generation Battery System and its Advanced Electronic Diagnostics	Dr Sujith Kalluri	ECE	DST-SERB SRG	SRG/2019/000194	29.58	2019-22
19	A scalable Secure Architecture Model for Privacy and Performance in IoT	Dr Ashok Kumar Pradhan	CSE	DST-SERB TARE	TAR/2019/000286	18.30	2019-23
20	Development of novel methods for deconvolution and denoising of seismic reflection data	Dr Karthikeyan	ECE	CRG-SERB	CRG/2019/001234	25.90	2020-23
21	Mathematical analysis and Adjoint Based Stability for a Coupled Convection-Diffusion equation in Miscible Displacement	Dr Tapan Kumar Hota	MATHS	DST-SERB SRG	SRG/2020/000713	13.67	2020-23
22	Chemical modulator based microalgal biorefinery for the production of biofuels and bioproducts	Dr Imran Y Pancha	BIO	DST-SERB SRG	SRG/2020/000165	25.99	2020-22
23	Jumbo-phage as a model for ancient cell organization	Dr Sutharsan	BIO	DBT-Wellcome Trust	IA/E/19/1/504958	124.00	2020-25
24	Targeting Kennedy pathway of cellular phosphatidylethanolamine biosynthesis as a common therapeutic strategy against protozoan parasites like Leishmania donovani, Trypanosoma brucei and Entamoeba histolytica	Dr Writoban Basu	BIO	DST-SERB SRG	SRG/2020/001421	26.10	2021-23
25	Intelligent Disturbance Observer based Adaptive Control of DC-DC Power Converter for Nonlinear Loads	Dr Tousif Khan	EEE	DST-SERB TARE	TAR_2020_000386	18.30	2020-23

26	Mechanistic understanding of bacterial cytoskeleton inhibition by antibiotics and novel bacteriophage proteins	Dr Sutharsan	BIO	CRG-SERB	CRG_2020_003295	51.81	2021-24
27	Wall effects in Shock wave boundary layer interactions	Dr Satya Pramod Jammy	Mech	CRG-SERB	CRG/2020/003859	39.00	2021-24
28	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	Dr C. Durga Rao	Bio	DBT	BT/PR32884/MED/2 9/1474/2019	110.52	2021-24
29	Imprints of Physics Beyond the Standard Model at the LHC and Future Colliders	Dr Amit Chakraborty	Phy	DST-INSPIRE	DST/INSPIRE/04/201 8/002972	110.00	2019-24
30	Developing Structure-Morphology-Performance Relationships in Organic Solar Cells	Dr Mahesh Kumar Ravva	CHE	DST-NSM	DST/NSM/R&D_HPC_Applications/2021/ 16	19.93	2021-23
31	Catalysts for CO2 Reduction to C2 Product: Descriptor to Database	Dr Ranjit Thapa and Dr Biswas	Phy	DST-NSM	DST/NSM/R&D_HPC_Applications/2021/ 19.02	48.02	2021-23
32	A Halide Perovskite Based Photoanode For Oxygen Evolution Reaction Using A Molecular Diode in a Hybrid Nanometer Scale Protection Layer	Dr Sabyasachi Mukhopadhyay	PHY	DST- Bilateral Project with Israel and IIT Bhilai	DST/INT/ISR/P- 28/2020(G)	24.19	2021-24
33	Targetted Delivery of Cobianction drugs using exosome RNA nanotechnologu for cancer treatment	Dr Sateesh Ellipilli	CHE	DST-Ramanujan Fellow Ship	RJF/2021/000066	119.00	2021-26
34	Photoredox and Nickel Dual Catalyst for Reductive Coupling Reactions of Alkynes: An Atom- and Step-Economic Route to Functionalized Alkenes Synthesis	Dr S. Mannathan	CHE	CRG-SERB	CRG/2021/007699	44.11	2021-24
35	Transparent, conducting, self-cleaning rGO (reduced Graphene Oxide) surface: large area and single step growth using Pulsed Laser Deposition	Dr Siddhardha Ghosh	PHY	DST-SERB SRG	SRG/2021/001465	25.99	2021-23
36	Design and development of “smart” and “hybrid” parallel microchannel cooling system to address the cooling challenges of electronic components	Dr Lakshmi Sirisha Maganti	Mech	DST-SERB SRG	SRG/2021/000639	28.97	2021-23
37	Production of low-cost and high-performance fly ash based light weight block	Dr G V P Bhagath Singh	Civil	DST-SERB SRG	SRG/2021/000540	18.85	2021-23
38	Sensing in the dark: An automated off-focused points detection and removal from the photons starved 3D volumetric dataset	Dr Inbarasan Muniraj	ECE	DST-SERB SRG	SRG/2021/001464	19.54	2021-22

39	Pilot-scale ultra-efficient fixative sewage dye-degradation by "3D mega catalyst" generated using intact eggshell-waste	Dr Anil K Suresh	Bio	DBT	BT/PR42263/PBD/26/831/2022	26.72040	2022-24
40	Efficient Algorithms for Dualization Problem for Subclasses of Boolean Functions	Dr Murali Krishna Enduri	CSE	DST-SERB TARE	TAR/2021/000342	18.30	2021-24
41	Data driven Mechanism for design Mechanism	Dr Udaya sankar	ECE	DST-SERB TARE	TAR/2021/000114	18.30	2021-24
42	Ethics of Tobacco Industry ( <b>International Fellowship</b> )	Dr Aqsa Agha	History	Institute of Public Health	-	4.66	2021-22
43	Tenancy and Credit: Exploring Facts below the Crust in AP	Dr Ganshyam Pandey	ECO	NABARD	R & D Project /711/P-357/2021-22	14.85225	2022-23
44	Design Principle of Single Atom Catalyst for Nitrogen Fixation over HER: Energy Parameter, Electronic Descriptor and Database	Prof. Ranjit Thapa	Phy	CRG-SERB	CRG/2021/000620	30.91	2022-25
45	FIST Chemical Sciences Level B C or D- Project	Dept. of Chemistry	CHE	DST-FIST	SR/FST/CS-1/2021/219(C)	220.00	2022-27
46	Synthesis of High Indexed Faceted, Near Infra-Red (NIR) Active Hybrid Nanomaterials for (Photo)Catalysis	Dr Sabyasachi Chakraborty	CHE	UGC-DAE CSR	CRS/2021-22/02/513	1.35	2022-25
47	Development of Breast Cancer Detecting System Based on Microwave - Antenna - Array - Sensors and Implementation of Internet of Medical Things (IoMT)	Dr K M Divya Chaturvedi	ECE	SERB-POWER SPG	SPG/2021/002829-G	26.63	2022-25
48	Neutron diffraction studies on novel magnetoelectric oxides at the morphotropic phase boundary	Dr Pranab Mandal	PHY	UGC-DAE CSR	CRS/2021-22/03/562	1.35	2022-25
49	Comparative Study of Pavement Design Approaches Suitable to Maine Conditions	DRUma Maheswar Arepalli	CIVIL	Maine Department of Transportation	UMS1370	7.62	2022-23
50	Sustainable Ash based Geosynthetic Clay Liners for MSW Landfills	Dr Raviteja KVNS	CIVIL	DST- SERB SIR	SIR/2022/000374	17.92	2022-23
51	Nalanda and Bodhgaya: Understanding the Past Environment and Transnational Networks of the World Heritage Sights	Dr Sharmishta Chatterjee	Histrory	Indian National Science Academy (INSA)	-	4.93	2022-24
52	Assessment and modelling of carbon and nitrogen dynamics in tropical forests of Eastern Ghats, Andhra Pradesh in response to climate change	Dr Javid Ahmad Dhar	EVS	DST-SERB SRG	SRG/2022/002286	26.10	2022-24

53	Design and implementation of High Capacity Reversible Data Hiding Schemes for Medical Image Transmission	Dr V M Manikandan	CSE	DST-SERB TARE	TAR/2022/000121	18.30	2022-25
54	Design & Development of Noninvasive Continuous Blood Glucose Monitoring SoC Based on Photoacoustic Spectroscopy	Dr Pradyut Kumar Sanki	ECE	CRG-SERB	CRG/2022/007866	26.31	2022-25
55	Targeted Delivery Of Combinational Gene Therapeutics Using RNAi Nanoparticles To Treat Hepatocellular Carcinoma	Dr Satish Ellipilli	CHE	CRG-SERB	CRG/2022/002814	50.16	2022-25
56	General descriptor of catalysts to find the activity towards OER using Quantum Mechanics/Machine Learning approach	Prof. Ranjit Thapa	Phy	CRG-SERB	CRG/2022/005423	20.46	2023-26
57	Developing Structure-Morphology-Performance Relationships in Organic Solar Cells, Phase II	Dr Mahesh Kumar Ravva	CHE	DST-NSM	DST/NSM/R&D_HPC_Applications/Extension Grant/2023/25	9.46	2023-24
58	Catalysts for CO2 Reduction to C2 Product: Descriptor to Database, Phase II	Dr Ranjit Thapa and Dr Biswas	PHY	DST-NSM	DST/NSM/R&D_HPC_Applications/Extension Grant/2023	22.97	2023-24
59	Cradle-to-Cradle Industrial Process Development for Green Recycling of Critical Metals from Spent Li-ion Batteries using Hydro-metallurgical Technique (Technology Transfer)	Dr Pankaj Pathak and Dr Pardha Saradhi Maram	EVS & CHE	DST		61.31	2023-26
60	Framework for updating the Layer Coefficients in AASHTO1993 Flexible Pavement Design	Dr Uma maheswar Arepalli	Civil	Maine Department of Transportation		10.45	2022-23
61	Development of Software Package for Conformal Array Analysis	Prof. Rupesh Kumar	ECE	Indian Space Research Organisation	ISRO/RES/3/949/22-23	20.07	2023-25
62	Mobile Wellness Program for the Rural Population	Dr K A Sunitha	ECE	IGCAR	IGCAR/RESG/RESG/RAMS/SRM/2023/01	22.98	2023
63	Evaluation of advanced pothole patching materials and methods for bituminous pavements	Dr Uma Maheswar Arepalli	CIVIL	DST-SERB SURE	SUR/2022/003147	22.55	2023-26
64	Deciphering protein – DNA interaction using molecular modeling approach	Dr Debabrata Pramanik	PHY	DST-SERB SURE	SUR/2022/004576	23.43260	2023-26
65	Development of Cu-Nanoclusters - Carbon dots Nano-hybrid for Multimodal Catalytic Activity	Dr Sabyasachi Chakraborty	CHE	DST-SERB SURE	SUR/2022/001424	26.66	2023-26

66	Spatially varying polarization profiles for secure optical information processing	Dr Ravi Kumar	PHY	DST-SERB SURE	SUR/2022/000910	28.92670	2023-26
67	Investigation and development of wavelet transform and its applications in the framework of fractional Dunkl transform	Dr Sandeep Kumar Verma	MATHS	DST-SERB SURE	SUR/2022/005678	14.78400	2023-26
68	Terrestrially derived groundwater pollutant discharge to the Bay of Bengal and its potential threat in changing hydroclimatic conditions	Dr Kousik Das	EVS	DST-SERB SURE	SUR/2022/001932	25.77210	2023-26
69	"Simulating Photophysics and Photochemistry on Noisy Intermediate-Scale Quantum Computers"	Dr Baswanth Oruganti V S	CHE	DST-SERB SURE	SUR/2022/001766	24.97260	2023-26
70	"Role of disorder on the nonlinear transport/optical properties of topological quantum materials using Quantum Kinetic Approach"	Dr Pankaj Bhalla	PHY	DST-SERB SURE	SUR/2022/000289	24.20260	2023-26
71	"Comprehensive antimicrobial resistance (AMR) profiling of ESKAPE pathogen Acinetobacter baumannii isolated from environment, veterinary, and humans in Mangalagiri mandal, Andhra Pradesh"	Prof. Jayaseelan Murugaiyan	BIO	DST-SERB SURE	SUR/2022/003160	26.51	2023-26
72	Development of wearable IoT electronic device for at-home assessment and monitoring of Parkinson's disease	Dr K A Sunitha	ECE	DST-SERB SCP	SCP/2022/000704	19.90	2023-26
73	Efficient Parameterized Algorithms for Dualization Problem for Subclasses of Boolean Functions	Dr Murali Krishna Enduri	CSE	DST- SERB SIR	SIR/2022/001512	16.64994	2023
74	Sindhi Sanchaya: Building a Comprehensive and Interactive Database of a Partitioned Literature	Dr Soni Wadhwa	Literature and Languages	Jaya Prakash Narayan National Centre of Excellence in the Humanities, IIT Indore	IITI/JPNC/PRJ/2023/12/P007	5.00	2023-25
75	Religious Deities and Saints/Legends/Heroes Changing Geographic belongingness and Cultural Economy among the Four Tribal Communities (Chenchus, Kondareddis, Koyas and Lambadi's) of Telangana and Andhra Pradesh	Dr Bikku	Liberal Arts	Indian Council of Social Science Research (ICSSR)	02/162/2022-23/ST/TS/RP	10.00	2023-25
76	Engineering and surface functionalization of Janus two-dimensional (2D) materials for efficient sensors and flexible energy devices	Dr Jatis Kumar Dash	Physics	UGC-DAE CSR	CRS/2022-23/1092	1.35	2023



77	PM Krishi Sinchai Yojana- A Step ahead to Achieve Sustainable Development Goal: A Study of Select Areas of AP, Tamil Nadu and Maharashtra	Dr Ghanshyam Pandey, Dr Deep Raj	Economics / EVS	ICSSR, New Delhi	ICSSR-CRP-2023-463	16.00	2023
78	Impact of atmospheric forcing (atmospheric depression and tropical cyclone) on surface water-groundwater interaction dynamics and implications to safe drinking water vulnerability and predictability"	Dr Kousik Das	EVS	SRG SERB - DST	SRG/2023/002100	30.00	2023
79	Mechanical Department	HOD, Mechanical	Mechanical	DST-FIST	SR/FST/ET-I/2023/1255	140.00	2023
80	Machine Learning Assisted Optical Communication using Optical Angular Momentum	Dr Gangireddy Salla (PI) Dr Satish Analamudi (Co-PI)	Physics / CSE	ISRO		30.00	2023
81	RIS aided Multi-Target Localization with a Single Receiver Passive Radar and 5G NR Signals: A PoC	Prof. Rupesh Kumar	ECE	NTU, Singapore	TLSP23-19	–	2024-2025
82	Computational Screening of Organic Photocatalysts: Deliberate Tuning of Redox Potentials and Photochemical Properties	Dr Mahesh Kumar Ravva	Chemistry	CRG-SERB	CRG/2023/003353	32.00	2023-2026
83	Investigation of Ion induced defect density and alloying dopants for catalyst development for CO2 reduction	Dr Mallikarjuna Rao Motapothula	Physics	UGC-DAE CSR		1.35	2023-2024
84	<b>Developing a Dynamic, Transitive and Energy Efficient Access Control Mechanism Using Blockchain for Large Scale IoT Network</b>	Dr Amit Kumar Mandal	CSE	DST SERB-TARE		18.30	2023-2024
85	Design and Development of Parallel and Distributed Algorithms for Link Prediction in Hyper Complex Networks	Dr Jaya Lakshmi Tangirala	CSE	DST SERB-TARE	TAR/2023/000291	18.30	2023-2024