

**GOVERNMENT OF INDIA
MINISTRY OF SCIENCE & TECHNOLOGY
DEPARTMENT OF SCIENCE & TECHNOLOGY
LOK SABHA
STARRED QUESTION No. *469
TO BE ANSWERED ON 05.04.2023**

SUPRA SCHEME

***469. SHRI THIRUMAAVALAVAN THOL:**

Will the Minister of Science and Technology विज्ञान और प्रौद्योगिकी मंत्री be pleased to state:

- (a) the details of the number of Researchers that are provided support under Science and Useful Profound Research Advancement (SUPRA) scheme from the Science and Engineering Research Board (SERB);**
- (b) the details of the types of assistance extended to the Researchers and the details of release of funds thereof, State-wise; and**
- (c) the amount of grant provided to Equipment, Man power, Consumables and Contingency, State-wise?**

ANSWER

**MINISTER OF STATE (INDEPENDENT CHARGE) OF THE
MINISTRY OF SCIENCE AND TECHNOLOGY AND EARTH SCIENCES
(DR. JITENDRA SINGH)**

विज्ञान और प्रौद्योगिकी तथा पृथ्वी विज्ञान मंत्रालय के राज्य मंत्री (स्वतंत्र प्रभार)
(डॉ. जितेंद्र सिंह)

- (a) to (c) A statement is laid on the Table of the House.**

**STATEMENT AS REFERRED IN REPLY TO PARTS (a) to (c) OF LOK SABHA
STARRED QUESTION NO. 469 FOR 05.04.2023 REGARDING "SUPRA SCHEME"**

(a) Ninety-five projects have been supported to the researchers working in a recognized academic institution or national laboratory or in other recognized R&D institutions in India under the 'Science and Useful Profound Research Advancement' (SUPRA) scheme of Science and Engineering Research Board (SERB). The details of the number of researchers supported under the SUPRA scheme are enclosed at Annexure-I.

(b) & (c) The research grant is supported with the budget for equipment, manpower, consumables, travel, contingencies and overheads. The detailed project wise release of funds for different states are also given in Annexure-I in tabular format.

Annexure I**AS REFERRED IN REPLY TO PARTS (a) to (c) OF LOK SABHA STARRED QUESTION NO. 469 FOR 05.04.2023 REGARDING "SUPRA SCHEME"**

S. No.	File No	PI Details	State	Project Title	Equipment Budget	Manpower	Consumables	Contingency	Total Cost (in Rupees)	Grant Released (in rupees)
1	SPR/2021/000790	Dr. Swarup Bag Indian Institute of Technology Guwahati Surjyamukhi road, north, amingaon, guwahati, Guwahati, Assam-781039	Assam	Development of multi-material wire arc additive manufacturing process including the effect of multi-physics problem of droplet interaction, metallurgical model and free surface profile using phase field method	2,500,000	1,350,240	500,000	100,000	4,961,260	3,327,080
2	SPR/2022/000064	Senthilkumar Sivaprakasam Indian Institute of Technology Guwahati Surjyamukhi road, north, amingaon, guwahati, Guwahati, Assam-781039	Assam	Metabolic engineering of Rhodococcus opacus: A potential workhorse for lignin valorization into high-value lipids	2,200,000				5,896,264	Under Process
			Assam		4,700,000	1,350,240	500,000	100,000	10,857,524	3,327,080

3	SPR/2019/001447	Dr. Maryada Sharma, Post Graduate Institute of Medical Education and Research (PGIMER)	Chandigarh	Instructing Neurosensory Regeneration By Employing A Novel Tunable Autologous Plasma-Based Epigenetic/transcriptomic Reprogramming	-	-	5,500,000	150,000	6,264,000	2,000,000
			Chandigarh				5,500,000	150,000	6,264,000	2,000,000
4	SPR/2020/000212	Dr. Sagnik Dey Indian Institute of Technology Delhi Hauz khas, new delhi, Delhi, Delhi-110016	Delhi	Does PM _{2.5} composition matter (in comparison to PM _{2.5} mass) in health impact assessment for the Indian population?	1,400,000	2,886,720	-	150,000	5,045,390	3,315,130
5	SPR/2020/000278	Prof. Bappaditya Manna Indian Institute of Technology Delhi Hauz khas, new delhi, Delhi, Delhi-110016	Delhi	Metamaterial impregnated high-speed railway track: A novel approach towards ultra modulation of vibration	3,400,000	1,562,400	300,000	150,000	6,140,640	5,026,880

6	SPR/2020/000315	Dr. Shalimar All India Institute of Medical Sciences Sri aurobindo marg, ansari nagar, ansari nagar east, New delhi, Delhi-110029	Delhi	Metabolic associated liver diease (MAFLD) in lean and obese : search for disease and progression biomarkers	900,000	5,362,560	4,250,000	150,000	12,224,510	4,681,490
7	SPR/2020/000420	Dr. Kamal Kishore Pant Indian Institute of Technology Delhi Hauz khas, new delhi, Delhi, Delhi-110016	Delhi	Investigating Uncharted 2D Catalytic Materials for Lignocellulosic Biomass Transformation into High-Value Platform Chemicals and Fuel	4,600,000	1,443,360	600,000	150,000	7,648,690	6,292,890
8	SPR/2021/000544	Dr. Anupam Kumar Institute of Liver and Biliary Sciences (ILBS) D-1 vasant kunj, new delhi, Delhi, Delhi-110070	Delhi	Extracorporeal Liver Macrophage Assist Device (ELMAD) for alleviating sepsis in acute liver failure	2,237,450	835,200	3,850,000	65,000	7,999,910	4,164,930
9	SPR/2021/000762	Dr. Pintu Das Indian Institute of Technology Delhi Hauz khas, new delhi, New delhi, Delhi-110016	Delhi	Understanding the charge dynamic behavior in topological phases of chiral magnetic systems	5,000,000	1,366,480	585,000	150,000	7,998,620	6,012,870

			Delhi		17,537,450	13,456,720	9,585,000	815,000	47,057,760	29,494,190
10	SPR/2020/000450	Dr. Joycee Meki Indian Institute of Technology, Gandhinagar Gandhi nagar, (vishwakarma govt. engg. college campus) chandkheda, ahmedabad, Ahmedabad, Gujarat-382424	Gujarat	In Memory Computing for Next Generation Workloads Using Emerging Memory Technologies	3,000,000	2,923,200	2,700,000	150,000	9,837,520	5,992,500
			Gujarat		3,000,000	2,923,200	2,700,000	150,000	9,837,520	5,992,500
11	SPR/2020/000086	Dr. Rabindra Nath Hota Indian Institute of Technology(ISM),Dhanbad Sardar patel nagar, dhanbad, jh, Dhanbad, Jharkhand-826004	Jharkhand	Control of sprays and thermo-acoustic oscillations through an acoustic driven fuel injector: passive and active control strategy	10,000,000	2,700,480	800,000	150,000	15,191,520	11,737,170

12	SPR/202 2/000154	Shamama Anwar Birla Institute of Technology Mesra, ranchi, Ranchi, Jharkhand- 835215	Jharkhand	Visually Evoked EEG Classification and Perceived Image Regeneration using Deep Learning for Brain Fingerprinting	475,856				2,400,000	Under Process
			Jharkhand		10,475,856	2,700,480	800,000	150,000	17,591,520	11,737,170
13	HRR/20 18/00016 0	Dr. Ambarish Ghosh, Indian Institute of Science	Karnataka	Attempt to Observe Quantum Melting of a 2D Wigner Crystal at Zero Magnetic Field; Stabilization and Investigation of Multielectron Bubbles (MEBs) in Liquid Helium- 3	30,600,000	5,594,880	6,800,000	200,000	44,894,880	40,000,000
14	SPR/201 9/000422	Prof. Mahesh Ramesh Kakde, Indian Institute of Science	Karnataka	Brumer-Stark conjecture and Hilbert's twelfth problem	-	2,098,080	300,000	150,000	2,967,880	1,018,305
15	SPR/201 9/000424	Prof. B Gopal, Indian Institute of Science	Karnataka	Understanding the RNA- mediated phenotypic switch in Staphylococcus aureus	900,000	3,124,800	3,600,000	150,000	8,717,280	6,500,000

16	SPR/201 9/001265	Prof. Satyajit Mayor,National Centre for Biological Sciences	Karnataka	Single Cell metabolic maps of senescent cells and senescence driven cancer cells in aging	15,000,000	4,508,640	10,000,000	150,000	32,063,340	20,000,000
17	SPR/201 9/001397	Prof. Kumaravel Somsundaram,Indian Institute of Science	Karnataka	Targeting the unexplored facets of epigenome to understand the biology of cancer and develop novel therapeutic strategies	-	3,124,800	3,800,000	150,000	7,947,280	6,649,000
18	SPR/201 9/001455	Dr. Giridhar U. Kulkarni,Jawaharlal Nehru Centre for Advanced Scientific Research, Bengaluru	Karnataka	Design and fabrication of microfluid based transparency switching Smart glasses suitable as windows	4,000,000	6,785,280	1,000,000	300,000	13,763,280	6,800,000
19	SPR/202 0/000103	Dr. Abha Misra Indian Institute of Science Cv raman rd, bengaluru, karnataka, Bangalore urban district, Karnataka-560012	Karnataka	Graphene based Meta-FET Device: Novel Metamaterial Approach for Multi-molecular Sensing Platform with Integrated Opto-electronic Communication	15,000,000	2,410,560	1,200,000	150,000	20,720,560	17,413,520

20	SPR/2020/000384	Dr. Kavita Isvaran Indian Institute of Science Cv raman rd, bengaluru, karnataka, Bangalore urban district, Karnataka-560012	Karnataka	Linking vector ecology and pathogen transmission: Behavioural and life-history strategies of the vector, Aedes aegypti, and their consequences for pathogen transmission and mosquito control	1,194,320	2,336,160	1,800,000	150,000	6,204,520	4,171,050
21	SPR/2020/000423	Dr. Anitha H Manipal Academy of Higher Education Manipal, Udupi, Karnataka-576104	Karnataka	Bayesian approach to solve the Inverse Problem of the Human heart from Magnetocardiography	482,000	1,257,120	150,000	30,000	2,221,030	1,068,340
22	SPR/2021/000088	Dr. Saptarshi Basu Indian Institute of Science Cv raman rd, bengaluru, Bangalore urban district, Karnataka- 560012	Karnataka	Organ-on-Chip approach to understanding pathogenesis caused by ESKAPE pathogens and designing intervention strategies for managing the disease	1,343,210	2,827,200	2,700,000	150,000	7,953,450	3,586,620

23	SPR/202 1/000175	Prof. Amit Singh Indian Institute of Science Cv raman rd, bengaluru, Bangalore urban district, Karnataka- 560012	Karnataka	Gas-Mediated Silencing of Human Immunodeficiency Virus	4,452,000	4,434,240	4,200,000	175,000	14,647,856	7,863,952
24	SPR/202 1/000275	Prof. Manoj Varma Indian Institute of Science Cv raman rd, bengaluru, Bangalore urban district, Karnataka- 560012	Karnataka	Pushing the limits of solid- state nanopore based single molecule protein sequencing	5,075,000	6,129,120	4,500,000	150,000	17,504,120	9,218,040
25	SPR/202 1/000338	Prof. Tapas Kumar Kundu, Jawaharlal Nehru Centre for Advanced Scientific Research , Rachenahalli lake rd, jakkur, Bangalore urban district, Karnataka-560064	Karnataka	Unravelling the mechanisms of HIV-1 latency: HIV-1 Transcription and Epigenetics.	315,000	4,374,720	10,500,000	150,000	16,820,553	Under Process

26	SPR/202 1/000382	Prof. Srikanth Sastry Jawaharlal Nehru Centre for Advanced Scientific Research Rachenahalli lake rd, jakkur, Bangalore urban district, Karnataka-560064	Karnataka	Fatigue failure in amorphous solids	75,000	2,098,080	150,000	150,000	4,854,600	1,681,532
27	SPR/202 1/000432	Prof. Pradip Dutta Indian Institute of Science Cv raman rd, bengaluru, Bangalore urban district, Karnataka- 560012	Karnataka	Salt Hydrate-based Thermochemical Energy Storage System for Thermal Management of Batteries for Electric Vehicles	2,200,000	3,005,760	1,600,000	150,000	9,367,330	4,595,770
28	SPR/202 1/000486	Dr. Shaon Chakrabarti National Centre for Biological Sciences Tata institute of fundamental research,Gkvc, bellary road, Bangalore urban district, Karnataka- 560065	Karnataka	Towards building a technology for determining internal body time -- inferring spatially resolved circadian clock phase of cells from single time-point measurements.	499,990	922,560	4,000,000	150,000	7,271,150	2,763,710

29	SPR/202 1/000592	Dr. Tapas Kumar Maji Jawaharlal Nehru Centre for Advanced Scientific Research Rachenahalli lake rd, jakkur, Bangalore urban district, Karnataka-560064	Karnataka	Porous Organic Polymers as Metal-free/Single Atom Platform for CO ₂ Capture and Reduction towards Energy-Rich Chemical Feedstocks	1,888,405	3,541,440	1,500,000	150,000	7,829,832	3,882,200
30	SPR/202 1/000808	Dr. Sambuddha Misra Indian Institute of Science Cv raman rd, bengaluru, Bangalore urban district, Karnataka-560012	Karnataka	A Lead Laden Legacy of Indian Waterbodies: Quantification and Alleviation	54,200,000	3,266,160	3,600,000	150,000	64,486,160	57,642,050
31	SPR/202 1/000856	Dr. Nanditha Rao International Institute of Information Technology 26/c, opp. infosys (gate - 1), electronic, Bangalore rural district, Karnataka-560100	Karnataka	Vector Processor Design to support lower bit width weight precisions in machine learning applications	660,000	1,443,360	1,470,000	120,000	4,238,690	1,859,560

			Karnataka		137,884,925	63,282,960	62,870,000	2,925,000	294,473,791	196,713,649
32	SPR/2020/000298	Dr. Jayanand Sudhir B Sree Chitra Tirunal Institute for Medical Sciences & Technology Thiruvananthapuram Thiruvananthapuram, Kerala-695011	Kerala	Computational Fluid Dynamics based tools to the aid of clinical decision making in the management of intracranial aneurysms	3,299,110	3,608,640	130,000	150,000	8,335,520	7,217,910
33	SPR/2021/000510	Dr. Hema Somanathan Indian Institute of Science Education and Research, Thiruvananthapuram Computer science building, college of engineering trivandrum campus trivandrum campus, thiruvananthapuram, Thiruvananthapuram, Kerala-695016	Kerala	BEEscape: Investigating landscape level pesticide use and health of native, social bees	1,113,000	2,604,960	3,600,000	150,000	8,841,750	3,729,250
			Kerala		4,412,110	6,213,600	3,730,000	300,000	17,177,270	10,947,160

34	SPR/2020/000184	Dr. Mitradip Bhattacharjee Indian Institute of Science Education and Research Bhopal Iiser bhopal, indore by-pass road, bhauri, bhopal, Bhopal, Madhya pradesh-462066	Madhya pradesh	Wireless Enabled Non-invasive Smart Theranostic Device for Multi-organ Diagnosis, Monitoring, and Therapy	5,400,000	863,040	1,500,000	150,000	8,891,340	7,377,110
35	SPR/2021/000018	Prof. Radhakrishnan Mahalakshmi Indian Institute of Science Education and Research Bhopal Iiser bhopal, indore by-pass road, bhauri, bhopal, Bhopal, Madhya pradesh-462066	Madhya pradesh	Molecular Bioenergetics and Apoptosis Regulation by Human Mitochondrial VDAC	2,229,960	2,589,120	12,500,000	150,000	19,139,080	7,879,660

36	SPR/202 1/000196	Prof. Palani IA Indian Institute of Technology, Indore Khandwa road, simrol, indore, Indore, Madhya pradesh-453552	Madhya pradesh	Design and Development of Shape Memory alloy coated optical fiber sensor for condition monitoring in cryogenic environment	3,498,750	1,350,240	1,500,000	150,000	7,379,880	4,832,460
37	SPR/202 1/000511	Dr. Chandan Sahi Indian Institute of Science Education and Research Bhopal Iiser bhopal, indore by-pass road, bhauri, bhopal, Bhopal, Madhya pradesh- 462066	Madhya pradesh	Understanding the role of molecular chaperones in aggregate remodeling in Arabidopsis thaliana.	5,965,091	751,680	4,500,000	150,000	12,690,448	8,220,210
			Madhya pradesh		17,093,801	5,554,080	20,000,000	600,000	48,100,748	28,309,440
38	SPR/201 9/000808	Dr. Anirban Banerjee, Indian Institute of Technology Bombay	Maharashtra	Exploring the role of mechanical force exerted by AAA+ ATPase in clearance of ubiquitinated pathogen	3,500,000	-	500,000	300,000	10,340,000	9,600,000
39	SPR/201 9/001145	Dr. R Murugavel, Indian Institute of Technology Bombay	Maharashtra	Is molecular engineering the key for newer breakthroughs in Quantum Information Processing?	-	4,196,160	3,000,000	150,000	8,245,760	2,500,000

40	SPR/2019/001247	Prof. Mandar Madhukar Deshmukh, Tata Institute of Fundamental Research	Maharashtra	Superconducting cavity coupled twistrionic devices and detectors	18,500,000	7,707,840	3,000,000	150,000	31,007,840	28,000,000
41	SPR/2020/000141	Prof. Shaibal K Sarkar Indian Institute of Technology Bombay Iit po powai, mumbai, Mumbai city, Maharashtra-400076	Maharashtra	Schottky Perovskite Solar Cells	2,835,600	1,443,360	3,000,000	150,000	8,402,850	6,631,350
42	SPR/2020/000301	Dr. Devang V Khakhar Indian Institute of Technology Bombay Iit po powai, mumbai, Mumbai city, Maharashtra-400076	Maharashtra	Rheology and dynamics of dense, turbulent fluid-solid flows	5,036,000	1,164,000	700,000	150,000	7,931,000	6,007,670

43	SPR/2020/000389	Dr. Sunil Nair Indian Institute of Science Education and Research, Pune Dr. homi bhabha road, pashan, pune, Pune, Maharashtra-411008	Maharashtra	Superfluid Spin transport in quantum antiferromagnets	16,854,150	3,541,440	1,700,000	150,000	23,905,590	19,211,290
44	SPR/2020/000427	Prof. Saikrishnan Kayarat Indian Institute of Science Education and Research, Pune Dr. homi bhabha road, pashan, pune, Pune, Maharashtra-411008	Maharashtra	Engineering a site-specific synthetic chromatin remodeler for genome editing and gene expression.	955,650	1,845,120	3,900,000	150,000	7,711,840	3,214,380
45	SPR/2020/000504	Dr. Sunish Kumar Radhakrishnan Indian Institute of Science Education and Research, Pune Dr. homi bhabha road, pashan, pune, Pune, Maharashtra-411008	Maharashtra	Transcription-translation uncoupling in bacteria: Dissecting the fundamental principles of a phenomenon unknown in bacteria	2,368,080	1,443,360	3,500,000	150,000	8,383,580	6,279,910

46	SPR/202 1/000103	Prof. Samir K Maji Indian Institute of Technology Bombay Iit po powai, mumbai, Mumbai city, Maharashtra- 400076	Maharashtra	Liquid-liquid phase separation of α -Synuclein leading to amyloid fibril formation: Implications in Parkinson's disease pathology	9,000,000	1,443,360	5,000,000	150,000	17,193,360	11,737,780
47	SPR/202 1/000109	Dr. Kalika Prasad Indian Institute of Science Education and Research, Pune Dr. Homi Bhabha Road, Pashan, Pune, MAHARASHTRA- 411008	Maharashtra	Co-ordination between stem cell activation, cell division and trans- differentiation guiding the reunion of disconnected tissues: Dissecting the fundamental principles of a phenomenon previously unknown in plant.	2,147,173	1,443,360	4,000,000	150,000	8,690,586	4,334,977
48	SPR/202 1/000146	Dr. Thomas J Pucadyil Indian Institute of Science Education and Research, Pune Dr. homi bhabha road, pashan, pune, Pune, Maharashtra- 411008	Maharashtra	Investigating novel mitochondrial fission pathways in organelle quality control	4,506,440	-	3,000,000	-	8,268,080	5,766,980

49	SPR/202 1/000328	Prof. Suvarn Subhash Kulkarni Indian Institute of Technology Bombay Iit po powai, mumbai, Mumbai city, Maharashtra- 400076	Maharashtra	Developing Efficient Routes for Synthesis of Bacterial Nonulosonic Acids and Related Oliogossaccharides Towards Pathogen Detection, Inhibition and Vaccine Development	4,250,000	-	2,700,000	150,000	7,986,000	5,502,000
50	SPR/202 1/000352	Dr. Jomon Joseph National Centre for Cell Science Nccs complex, university of pune campus, ganeshkhind, pune, Pune, Maharashtra- 411007	Maharashtra	Understanding the functions of Annulate Lamellae, an underexplored cell organelle	-	1,383,840	5,500,000	150,000	7,924,220	2,654,740
51	SPR/202 1/000538	Prof. Prasanna S Gandhi Indian Institute of Technology Bombay Iit po powai, mumbai, Mumbai city, Maharashtra- 400076	Maharashtra	Development of machine for rapid fabrication of the biocompatible microneedles, followed by clinical testing	3,230,000	5,639,520	1,500,000	150,000	11,758,472	6,086,157

52	SPR/202 2/000232	Dipankar Saha Indian Institute of Technology Bombay Iit po powai, mumbai, Mumbai city, Maharashtra- 400076	Maharashtra	GaN-Based Transistors with unity power gain frequency beyond 100 GHz	6,000,000				7,832,000	Under Process
			Maharashtra		79,183,093	31,251,360	41,000,000	2,100,000	175,581,178	117,527,234
53	SPR/202 1/000568	Dr. Udai P Singh Kalinga Institute of Industrial Technology Kiit road, patia, Bhubaneswar, Odisha-751024	Odisha	a novel approach for the efficiency enhancement of Copper Indium Gallium Diselenide (CIGS) based thin film solar cells.	1,150,000	1,350,240	1,100,000	150,000	4,576,260	2,332,090
54	SPR/202 2/000179	SUBRATA KARMAKAR National Institute of Technology, Rourkela National institute of technology, sector 1, rourkela, odisha, rourkela, Odisha- 769008	Odisha	Diagnostic Monitoring and Identification of Failure Root Causes of Aged High Voltage Power Cable	3,090,000				5,075,400	Under Process
			Odisha		4,240,000	1,350,240	1,100,000	150,000	9,651,660	2,332,090

55	SPR/2020/000333	<p>Prof. Samrat Mukhopadhyay</p> <p>Indian Institute of Science Education and Research, Mohali Iiser mohali, knowledge city, sector 81, sas nagar, manauli po, Mohali, Punjab-140306</p>	Punjab	<p>Molecular Drivers of Biomolecular Condensation: A Single-Molecule View of Liquid-Liquid Phase Separation</p>	18,000,000	1,692,000	3,600,000	150,000	25,102,000	22,274,000
56	SPR/2020/000505	<p>Dr. Sunil Anil Patil</p> <p>Indian Institute of Science Education and Research, Mohali Iiser mohali, knowledge city, sector 81, sas nagar, manauli po, Mohali, Punjab-140306</p>	Punjab	<p>Gut Electromicrobiology: Understanding extracellular electron transfer capabilities of the gut microorganisms and its implications to human health</p>	3,438,720	1,350,240	2,200,000	100,000	7,929,850	6,749,090

57	SPR/202 1/000191	Dr. Kamal Singh Indian Institute of Science Education and Research, Mohali Iiser mohali, knowledge city, sector 81, sas nagar, manauli po, Mohali, Punjab-140306	Punjab	Zepto-Newton-meter silk sensors: design, fabrication and applications	5,157,000	1,827,360	2,000,000	150,000	10,204,360	6,891,896
58	SPR/202 1/000536	Dr. Devranjan Samanta Indian Institute of Technology, Ropar Nangal rd, hussainpur, rupnagar, punjab, Rupnagar, Punjab- 140001	Punjab	Wind generation of ocean waves: from primary instabilities to cyclogenesis	3,547,980	3,492,000	130,000	90,000	7,996,960	5,037,640
59	SPR/202 2/000348	Bodhisatwa Das Indian Institute of Technology, Ropar Nangal rd, hussainpur, rupnagar, punjab, Rupnagar, Punjab- 140001	Punjab	Application of artificially polyploidy induced primary skin cells in wound healing	3,095,521				7,053,905	Under Process
			Punjab		33,239,221	8,361,600	7,930,000	490,000	58,287,075	40,952,626

60	SPR/2021/000860	Dr. Pallavi Jain Indian Institute of Technology, Jodhpur Nh 65, surpura bypass rd, karwar, jodhpur, Jodhpur, Rajasthan-342037	Rajasthan	M(atching)A(uction)C(ontact): Parameterized Algorithms for Economics and Computation	600,000	3,533,760	735,000	150,000	5,645,530	2,288,510
			Rajasthan		600,000	3,533,760	735,000	150,000	5,645,530	2,288,510
61	SPR/2019/001394	Dr. Madhavan Mukund, Chennai Mathematical Institute	Tamil Nadu	Building certified AI/ML systems	1,000,000	1,443,360	-	150,000	3,017,660	2,600,000
62	SPR/2020/000223	Prof. Abhijit P Deshpande Indian Institute of Technology Chennai I.i.t. post office chennai, Chennai, Tamil nadu-600036	Tamil Nadu	Drop spreading and imbibition of structured fluids: development of a diagnostic and screening tool	5,714,100	1,383,840	1,000,000	150,000	9,303,730	6,950,640

63	SPR/2020/000461	Dr. JithinJohn Varghese Indian Institute of Technology Chennai I.i.t. post office chennai, Chennai, Tamil nadu-600036	Tamil Nadu	Bridging the gap between surface science studies and catalytic reaction engineering for oxidative dehydrogenation of light alkanes	4,609,500	1,116,000	1,050,000	150,000	7,794,050	6,727,680
64	SPR/2021/000439	Prof. T Pradeep Indian Institute of Technology Madras I.i.t. post office chennai, Chennai, Tamil nadu-600036	Tamil Nadu	Atomically Precise Materials for Sustainable Water and Energy Harvesting	2,940,000	2,098,080	1,500,000	150,000	7,532,888	4,477,629
65	SPR/2021/000499	Dr. Sudakar Chandran Indian Institute of Technology Madras I.i.t. post office chennai, Chennai, Tamil nadu-600036	Tamil Nadu	All-Inorganic Solid-State Integrated Halide Perovskite (X)-Ferroelectric-Oxide (O) Bulk Heterojunction (XOBHJ) Solar Cells	4,500,000	3,541,440	1,596,110	150,000	10,931,305	6,643,767

66	SPR/202 1/000821	Dr. Sushanta Kumar Panigrahi Indian Institute of Technology Madras I.i.t. post office chennai, Chennai, Tamil nadu-600036	Tamil Nadu	ESSTABLISHING SOLID STATE AND LIQUID STATE BASED NOVEL MANUFACTURING TECHNOLOGIES FOR RECYCLING MAGNESIUM INTO HIGH PERFORMANCE SHEETS	600,000	3,541,440	1,200,000	150,000	6,766,580	2,662,190
			Tamil Nadu		19,363,600	13,124,160	6,346,110	900,000	45,346,213	30,061,906
67	SPR/202 0/000220	Prof. Narayanan TN TIFR Centre for Interdisciplinary Sciences Brundavan colony, narsingi, 21, osman sagar road, manchirevula, Hyderabad, Telangana-500075	Telangana	Development of Spin- correlation Engineered Transition Metal Dichalcogenides and Novel Light-assisted Methods for Probing them	2,250,000	1,443,360	1,000,000	100,000	5,403,620	4,341,200

68	SPR/202 1/000137	Prof. Sharmistha Banerjee University of Hyderabad P.o. central university campus, hyderabad, Hyderabad, Telangana-500046	Telangana	Mitochondria-mediated metabolic crosstalk between host immune cells and Mycobacterium tuberculosis metabolic mutants during M1/M2 transition: a case study to understand the metabolic interlinking in the evolution of pathogenesis	200,000	3,214,080	2,100,000	150,000	6,378,980	2,299,660
69	SPR/202 1/000358	Dr. Krishnaveni Mishra University of Hyderabad P.o. central university campus, hyderabad, Hyderabad, Telangana-500046	Telangana	Molecular basis of organelle geometry maintenance and inter- organelle communication	1,209,000	1,443,360	4,297,000	150,000	7,996,290	3,484,760
70	SPR/202 1/000494	Prof. BHARAT BHOOSHAN PANIGRAHI Indian Institute of Technology Hyderabad Kandi village, sangareddy, Hyderabad, Telangana-502285	Telangana	High Entropy Carbide Based Cutting Tool Inserts	4,500,000	1,443,360	500,000	75,000	7,302,190	5,474,060

71	SPR/202 2/000001	Surajit Dhara University of Hyderabad P.o. central university campus, hyderabad, Hyderabad, Telangana-500046	Telangana	Development of multiferroic nematic liquid crystals	3,800,000					6,727,600	Under Process
72	SPR/202 2/000230	Aravind Kumar Rengan Indian Institute of Technology Hyderabad Iith road, near nh-65, Sangareddy, Telangana-502285	Telangana	Nano-Transformable Hydrogel for Targeted Chemo-Immunotherapy of Breast Cancer	2,450,800					7,606,280	Under Process
			Telangana		14,409,800	7,544,160	7,897,000	475,000	41,414,960	15,599,680	
73	SPR/201 9/000158	Dr. Buddhadeb Chattopadhyay, Centr e of Biomedical Research	Uttar Pradesh	Concept of Catalyst Engineering for Borylation of Small Organic Molecules	2,500,000	1,932,720	2,400,000	150,000	7,735,720	6,500,000	
74	SPR/201 9/000346	Prof. Naibedya Chattopadhyay, Centr al Drug Research Institute	Uttar Pradesh	Anti-gerogenic Therapy to Augment Lifespan and Health span by Bioactive Peptides from Rasayana Herbs: Generation of PoC for the First-in-class Ayurveda-based Peptide Therapeutics	-	1,461,600	4,900,000	150,000	7,194,500	5,600,000	

75	SPR/201 9/000415	Prof. Jitendra Kumar Bera, Indian Institute of Technology Kanpur	Uttar Pradesh	Integrated Capture and Conversion of CO2 to Methanol Using Protic Catalysts	6,500,000	3,925,440	4,000,000	300,000	16,525,440	9,500,000
76	SPR/201 9/000759	Dr. Ketan Rajawat, Indian Institute of Technology Kanpur	Uttar Pradesh	Realizing large-scale and fully autonomous UAV swarms	25,000,000	9,232,400	10,000,000	3,000,000	46,342,400	4,100,000
77	SPR/201 9/001041	Dr. Gaurav Agarwal, Sanjay Gandhi Postgraduate Institute of Medical Sciences	Uttar Pradesh	Developing “Breast Tumor Educated Monocytes (Br-TeMo)”: Signature pattern of TRIMs (Innate Immune Regulators) as Biomarkers for Early Prediction of Breast Cancer Progression and Metastasis	-	2,088,000	4,600,000	150,000	7,606,900	6,000,000
78	SPR/202 0/000073	Dr. Rajiv Sinha Indian Institute of Technology Kanpur Kanpur iit, po kanpur, Kanpur nagar, Uttar pradesh-208016	Uttar pradesh	Integrating UAV Technology with thermal infrared and hyperspectral imaging for assessment of water quality of large water bodies	12,400,000	2,514,240	3,500,000	150,000	21,490,240	16,014,740

79	SPR/2020/000120	Dr. Indra Sekhar Sen Indian Institute of Technology Kanpur Kanpur iit, po kanpur, Kanpur nagar, Uttar pradesh-208016	Uttar pradesh	Himalayan metamorphic CO2 fluxes to the atmosphere: Solving the mystery behind a long-standing problem	11,271,650	1,692,000	600,000	150,000	15,272,010	12,618,436
80	SPR/2020/000408	Dr. Arun K Shukla Indian Institute of Technology Kanpur Kanpur iit, po kanpur, Kanpur nagar, Uttar pradesh-208016	Uttar pradesh	A synthetic antibody technology platform to generate novel probes and potential therapeutics targeting the human GPCRome	-	1,944,000	7,500,000	150,000	10,729,400	3,583,130
81	SPR/2021/000050	Prof. Satyajit Banerjee Indian Institute of Technology Kanpur Kanpur iit, po kanpur, Kanpur nagar, Uttar pradesh-208016	Uttar pradesh	Building a unique Magneto-optical setup with capability for simultaneous imaging of electric current, magnetization and bulk transport measurement at low temperatures with vector magnet for imaging strong correlation driven Topological Insulator and its heterostructures	11,263,040	2,923,200	1,500,000	150,000	17,606,240	13,390,773

82	SPR/202 1/000071	Dr. Harpreet Singh Shiv Nadar University Village chithera, tehsil dadri, Gautam buddha nagar, Uttar pradesh-203207	Uttar pradesh	High Performance Supercapacitors through Nano-moulding and Surface Activation	1,291,080	-	400,000	150,000	2,129,680	1,583,950
83	SPR/202 1/000298	Dr. Avinash Kumar Agarwal Indian Institute of Technology Kanpur Kanpur iit, po kanpur, Kanpur nagar, Uttar pradesh- 208016	Uttar pradesh	Low-temperature combustion (LTC) and conventional diesel combustion (CDC) engine development using modified piston and variable swirl control strategies	4,350,000	1,692,000	900,000	150,000	7,988,200	5,576,060
84	SPR/202 1/000700	Dr. Anand Singh Indian Institute of Technology Kanpur Kanpur iit, po kanpur, Kanpur nagar, Uttar pradesh- 208016	Uttar pradesh	Transparent Tandem Photovoltaics for Structural Integration	1,305,174	1,962,720	3,600,000	150,000	7,950,683	3,560,340

85	SPR/202 2/000353	Jyoti Srivastava Birbal Sahni Institute of Palaeosciences, Lucknow 53 university road, lucknow, Lucknow, Uttar pradesh- 226007	Uttar pradesh	Quantification of pollen- based reconstructions of Holocene land cover of Southwest India for Earth system modelling	300,000					3,638,259	Under Process
			Uttar Pradesh		76,180,944	31,368,320	43,900,000	4,800,000	172,209,672	88,027,429	
86	SPR/201 9/000928	Dr. Debdeep Mukhopadhyay, Indian Institute of Technology Kharagpur	West Bengal	Mission Impossible? Post- Quantum Secure Computation on Encrypted Data with Distributed Decryption	13,500,000	2,700,480	600,000	150,000	18,600,480	15,000,000	
87	SPR/202 0/000200	Dr. Soumyajit Dey Indian Institute of Technology Kharagpur Kharagpur, west bengal, Paschim mednipur, West bengal-721302	West Bengal	Exploring Formal Methods for Smart Grid Privacy and Security	4,656,750	2,514,240	600,000	150,000	8,889,080	7,274,190	

88	SPR/202 0/000353	Prof. Joydeep Bhowmik Indian Institute of Engineering Science and Technology, Shibpur P. o.: botanic garden, howrah, Howrah, West bengal-711103	West Bengal	Development of a novel Unmanned Aerial Aquatic Vehicle (UAAV) with advanced retractable wing and dual propulsion system	1,130,000	1,443,360	440,000	100,000	3,611,690	1,970,560
89	SPR/202 0/000495	Prof. Utpal Garain Indian Statistical Institute 203 barrackpore trunk road, Kolkata, West bengal-700108	West Bengal	TrustED: Evaluating Trustworthiness of Deep learning systems	1,932,500	2,886,720	150,000	150,000	5,862,142	4,799,840
90	SPR/202 1/000011	Prof. Nikhil Ranjan Jana Indian Association for the Cultivation of Science 2a & 2b, raja subodh chandra mullick rd, kolkata, Kolkata, West bengal-700032	West Bengal	Designing Sound- Responsive Nanodrug for Cell Therapy	800,000	3,541,440	2,000,000	100,000	7,075,550	2,898,516

91	SPR/202 1/000020	Prof. Rahul Banerjee Indian Institute of Science Education and Research Kolkata Campus rd, mohanpur, Nadia, West bengal-741246	West Bengal	Discovery of Covalent- Organic Nanotubes (CONTs): A Possible Carbon Nanotube (CNT) Alternative	4,800,000	-	2,100,000	150,000	7,920,000	5,840,000
92	SPR/202 1/000131	Dr. Dipten Bhattacharya Central Glass and Ceramic Research Institute 196, raja s.c. mullick road, Kolkata, West bengal-700032	West Bengal	Influence of Negative Capacitance in Domain- Engineered Multiferroic Thin Films on Energy and Power Density of Multiferroic-Dielectric Electrostatic Supercapacitor	807,788	2,098,080	1,200,000	150,000	4,810,299	2,141,956
93	SPR/202 1/000394	Dr. Tapas Kuila CSIR Central Mechanical Engineering Research Institute Mahatma gandhi avenue, durgapur, Durgapur, West bengal-713209	West Bengal	Finding the correlation between magnetic field- enhanced OER catalytic activity and spin-state of Fe-based materials	49,480	1,164,000	800,000	150,000	2,509,350	876,100

94	SPR/202 1/000427	Prof. Prabir Kumar Biswas Indian Institute of Technology Kharagpur Kharagpur, west bengal, Kharagpur, West bengal-721302	West Bengal	Deep Learning based 3D Digital Restoration of Indian Archaeological Artefacts	3,730,110	1,102,000	500,000	150,000	6,206,320	4,562,180
95	SPR/202 1/000622	Dr. Sandeep Saha Indian Institute of Technology Kharagpur Kharagpur, west bengal, Kharagpur, West bengal-721302	West Bengal	Tesla turbine for Organic Rankine Cycles (TORC)	4,500,000	3,492,000	4,790,000	150,000	14,412,200	7,817,400
			West Bengal		35,906,628	20,942,320	13,180,000	1,400,000	79,897,111	53,180,742
