

**GOVERNMENT OF INDIA
MINISTRY OF SCIENCE AND TECHNOLOGY
DEPARTMENT OF SCIENCE AND TECHNOLOGY
LOK SABHA
UNSTARRED QUESTION No. 793
TO BE ANSWERED ON 23/07/2021**

**SCIENCE AND TECHNOLOGY
SCHEMES/PROJECTS IN RAJASTHAN**

†793. SHRIMATI RANJEETA KOLI:

Will the Minister of SCIENCE AND TECHNOLOGY विज्ञान और प्रौद्योगिकी मंत्री **be pleased to state:**

(a) the details of schemes/projects relating to science and technology being implemented in Rajasthan; and

(b) the total number of people, particularly women, benefitted and employment generated under each such scheme/project during the last three years in the State?

ANSWER

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

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

(a) & (b): Ministry of Science and Technology (MoST) is implementing several schemes/projects related to Science and Technology (S&T) in the country including the State of Rajasthan. These schemes and programmes cater to different cross sections of society and promote S&T and Innovation ecosystem through support towards:-

- Research & Development**
- S&T Institutional and Human Capacity Building,**
- Innovation, Technology Development and Deployment for socio-economic development**

Promotion of S&T across all States/Union Territories (UTs) of the country is accomplished through Department of Science and Technology (DST), Department of Biotechnology (DBT) and Department of Scientific and Industrial Research (DSIR)/Council of Scientific and

Industrial Research (CSIR) under the Ministry of Science & Technology. These Departments support projects to create S&T Infrastructure and Manpower, S&T led Innovations and Startups, Technology Development and seeding cutting-edge, futuristic areas of S&T to connect and empower various stakeholders. The schemes and programmes of the Ministry are in alignment with different components of Sustainable Development Goals (SDGs) and National Development Programmes (NDPs).

Details of some of the noteworthy schemes and programmes being implemented nationwide including the State of Rajasthan are enclosed as Annexure I. A list of projects funded in the State of Rajasthan during last three years is given in Annexure II.

Details of number of beneficiaries, number of women beneficiaries, and employment generated under each such scheme during last three years in the State of Rajasthan are enclosed as Annexure III.

Details of noteworthy schemes and programmes under Ministry of Science and Technology

Innovation in Science Pursuit for Inspired Research (INSPIRE)

The Government is implementing INSPIRE to attract, motivate, nurture and train talented and meritorious students to study science subjects and opt for careers in Research and Development (R&D) to build a pipeline of quality manpower, thereby widening the R&D manpower base of the country.

The Scholarship for Higher Education (SHE) component of INSPIRE encourages meritorious students within top 1% cut-off marks at the Class XII Board (State or Central) examinations or in selected national level competitive examinations like IIT-JEE, etc. to study basic and natural sciences in B.Sc. and M.Sc. The scheme offers 12,000 (10,000 Direct Mode + 2000 Institutional Mode) scholarships/year to meritorious students in the age group 17-22 years @ Rs 0.80 lakh per year.

The INSPIRE Fellowship under INSPIRE Scheme offers 1000 Fellowships/year to bright students in the age group of 22-27 years to pursue Ph.D. in Basic and Applied Sciences including Engineering, Medicine, Agriculture and Veterinary Sciences. Fellowship is offered to (i) students who secure 1st Rank and 70% marks in University-level PG examinations in India or 1st Rank Holders in Graduate/Post-graduate level examination in Medicine conducted by a university/ institution in India; or ii) INSPIRE-SHE Scholars who secure minimum 70% marks (or CGPA equivalent) in aggregate in their M.Sc. or Integrated M.S./M.Sc. level examinations, eligible for admission to a Ph.D. Programme in any recognized university/academic institution of the country. The Fellowship is provided for a maximum of 5 years (2 years as JRF and 3 years as SRF) to pursue a full-time Ph.D. programme. For the first two years, INSPIRE Fellows are granted fellowship amount of Rs. 31,000/pm + HRA + Contingency grant of Rs. 20,000/year. After evaluation of two years' research work, an INSPIRE Fellow can be promoted as a Senior Research Fellow (SRF) and paid fellowship amount of Rs. 35000/pm + HRA + Contingency grant of Rs. 20,000/year.

The INSPIRE Faculty Fellowship under INSPIRE provides 100 fellowships every year to young achievers with Ph.D. qualification in the age group of 27-32 years for independent research for 5 years to carry out post-doctoral research in both Basic and Applied Sciences including Engineering, Medicine, Agriculture and Veterinary Sciences. A fellowship of Rs. 1,25,000/- p.m. with annual increment

of Rs. 2000/year and a research grant of Rs. 7.00 lakh per annum are given to the selected candidate.

Fund for Improvement of S&T Infrastructure (FIST): The FIST program was initiated to facilitate support towards augmenting higher education and research largely at the different Departments of Universities/ Institutes and related academic organizations by augmenting basic infrastructural facilities including Equipment, Networking & Computational facilities, Infrastructure and Maintenance for conducting research in basic or applied science areas. The scheme is currently operating through a four-level support and each level depicts a different quantum of support that is provided depending upon the type of organization as well as its existing R&D profile and future research vision. The program provides support in all areas of S&T and Post Graduate Colleges. The selection of the Departments/ PG Colleges is through a peer review mechanism and visit to the Department, if necessary. This scheme has so far supported 2912 S&T departments spread over 625 Academic Institutions and PG colleges (Level 0-480, Level 1-2175, Level 2-256 and Level 3-01) for strengthening the teaching and research infrastructure with a total investment of about Rs 3028 crore. Numerous State-of-the-art research facilities have been established across different R&D organizations throughout the country. During the last three years, more than 60,000 researchers (including faculty/ research Scholars/ PG students) have benefited in achieving around 5500 publications.

Technology Mission Initiative

Department of Science and Technology (DST) is promoting research, development and innovation in the field of clean energy and water through its Technology Mission Initiatives in all states of the country including State of Rajasthan. Currently, newer areas such as Smart Grids, Offgrids, Building Energy Efficiency, Alternate Fuels, Clean Coal Technologies, Clean Energy Materials, Renewable & Clean Hydrogen are being supported.

State Science and Technology Programme (SSTP)

Government of India, established State Councils for Science & Technology to attain developmental goals of the State and the Country using Science and Technology (S&T). The Ministry of Science and Technology, started providing budgetary support for Scientific and Technical Secretariat at State S&T Councils during Ninth Five Year Plan (1997–2002) to accelerate S&T activities for overall socio-economic development at the State level under State Science and Technology Programme (SSTP). Currently, 28 State S&T Councils/UTs are being supported under this programme including Rajasthan State Council of Science and Technology. The initiatives undertaken by State S&T Councils under SSTP are broadly Science & Technology Innovation Initiatives, S&T Application and Science Popularization Programmes.

Under *Science and Society Programme (SSP)*, Tribal Sub Plan (TSP) and Scheduled Caste Sub Plan (SCSP), development and promotion of S&T is being undertaken for the benefit of people at grassroot level through various field-based, action-oriented projects. These programs integrate S&T primarily to enhance livelihood opportunities and quality-of-life of different cross sections of society, through adaptive research, capacity building and skill development at local level. The broad areas of support include Agriculture (including horticulture, aquaculture, fisheries, livestock and other allied activities), Resource Management, Micro-enterprise Development, Art & Craft, Post-Harvest Technologies, Health, Nutrition, and Engineering.

DST is also nurturing young researchers to use new and emerging technologies such as Artificial Intelligence, Robotics etc under the Scheme for Young Scientists and Technologists (SYST) to address the challenges pertaining to society through adaptive R&D. These young researchers were able to develop several technology packages of interventions to address the challenges and needs of various cross-sections of society.

Network Programme on Arid Semi Arid and Cold Desert Region (ASACODER) is aimed at holistic development of socially disadvantaged sections of the communities through application of S&T interventions that is also undertaken through Science and Society initiative of DST.

Women Scientists Scheme

In order to address the challenges faced by women scientists after a break in career, necessitated by marriage, childbirth and other familial responsibilities, DST is supporting a Fellowship scheme for Women in Science. The scheme encourages women to undertake research projects in various S&T streams comprising of Physical & Mathematical Sciences, Chemical Sciences, Life Sciences, Earth & Atmospheric Sciences, Engineering & Technology and also projects having societal relevance. The scheme has successfully provided opportunity to over 5000 women, who had a substantial break in career after obtaining at least a Masters' degree in any of the above mentioned streams to conduct R&D and enhance their research skills and expertise. Under this program, more than 30% of these women were able to get permanent positions in various S&T institutions; over 45% were awarded Ph.D. degrees during the project tenure.

Science and Engineering Research Board (SERB)

Science and Engineering Research Board (SERB) under DST is a premier national research funding agency working to raise the quality and footprint of Indian science and engineering to the highest global levels in an accelerated mode, through calibrated support for research and development. SERB is implementing following schemes in all the States/UTs for promotion of S&T including the State of Rajasthan:

- i. ***Core Research Grant (CRG):*** The CRG scheme provides research support to an individual researcher or a group of researchers working in a recognized academic institution or national laboratory or in other recognized R & D institution in India.
- ii. ***Start-up Research Grant (SRG):*** The SRG scheme aims to assist researchers to initiate their research career in a new institution for two years. Research grant of Rs. 30 lakh plus overheads for a period of two years is provided under SRG.
- iii. ***Empowerment and Equity Opportunities for Excellence in Science:*** The Scheme ensures enhanced participation of weaker sections of the society in research and development. Under this scheme funding is provided up to a maximum of Rs. 50.0 lakh (excluding overhead charges) for a maximum period of three years.

The Department of Biotechnology (DBT) has been providing grant for development/promotion of biotechnology in various States of the country. The support is primarily for Basic and Translational Research & Development for Agriculture Crop Biotechnology, Basic Inter-disciplinary Biology, Animal Biotechnology, Health, Food and Nutrition including Vaccines, Drugs, Regenerative Medicine, Bio-engineering, Terrestrial, Marine and Environmental Biotechnology, Clean Energy, System and Synthetic Biology, Human Genetics and Genome Analysis. DBT also supports Biotechnology for societal development to generate new knowledge, leads and technologies to promote biotechnology at community level.

List of projects funded in the State of Rajasthan during last three years

2018-19

S.No	Title of Project	Name of the PI and Institute Sushri/Shri
1	Investigations of multidimensional fractional diffusion-wave equations and their application to the study of dissipative physical processes	Praveen Agarwal Anand International College of Engineering Jaipur Rajasthan
2	Synthesis and study of properties of electrochemically active composites based on lithium intercalated silicates of iron manganese cobalt and having high electron conductivity carbo-silicides of transition metals	Dr Ambesh Dixit Indian Institute of Technology Jodhpur Rajasthan
3	Novel wide bandgap copolyme featuring excellent comprehensive characteristics towards practical application for organic solar cells	Prof Ganesh Datt Sharma The LMN Institute of Information Technology (Deemed to be University) Jaipur Rajasthan
4	PROVIDING MENTAL HEALTH SUPPORT IN OB-GYN SETTINGS	Dr. Bhawna Chahar Associate Professor Manipal University Jaipur Rajasthan
5	Molecular characterization of bZIP transcription facto and morpho-physiological analysis in drought and heat stress in Triticum aestivum L	Ms Vidisha Thakur Banasthali University PO Banasthali Vidyapeeth Rajasthan-304022
6	“Assessment of sulfur centred halogen bonding (C-X...S X=Cl Br I) interaction using matrix isolation infrared spectroscop	Dr Amrita Chyakraorty Birla Institute of Technology and Science Pilani Pilani Campus Pilani-333031 Rajas
7	“Cloning and stimulation of FUR genes to enhance production of arid and semiarid bacterial siderophores for commercial applications	Dr Shabori Bhattacharya University of Rajasthan Jaipur-302004 Rajasthan

8	Low energy electron collisions radiation track structure and DNA damage by ionizing radiation	Dr Pooja Bhowmik University College of Science Durga Nuery Road Mohan Lal Sukhadia University Udaipur- 313001 Rajasthan
9	“Electronic structure of rare earth and transition metal doped CeO₂ nonmaterials to comprehend the mechanism for room temperature ferromagnetism in these compounds	Ms Mridula Dave University of Kota Maharao Bhim Singh Marg Near Kabir Circle Kota- 324010 Rajasthan
10	Genome-wide association mapping for yield contributing traits in Indian mustard (Brassica juncea L Czern & Coss)	Dr Nehanjali Parmar ICAR-Directorate of Rapeseed- Mustard Research Bharatpur Bharatpur-321303 Rajasthan
11	Modified graphene oxide for water splitting	Ms Neeta Gurbani University of Kota MBS Road Kota- 324005 Rajasthan
12	Investigation on Langmuir-Blodgett films of pristine and functionalized single walled carbon nanotubes and application	Raj Kumar Gupta Birla Institute of Technology & Science
13	Investigation of Elastic and Inelastic Dephasing in Carbon Nanotube FET	Niladri Sarkar Birla Institute of Technology & Science
14	Multiparticle Entanglement Nonlocality and Quantum Information processing- Analysing the role and applications of statistical correlations	Atul Kumar Indian Institute of Technology Jodhpur
15	Design Synthesis Biological Evaluation and Molecular Modelling Studies of Indolyl Oxoacetamide Quinazolinone Based Hybrid Analogs as Potential Pancreatic Lipase Inhibito for Obesity Treatment	Atish Tulshiram Paul Birla Institute of Technology & Science
16	Deciphering MHC diveity and its functional significance in Indian camel breeds	Ved Prakash ICAR-National Research Centre on Camel

17	Mathematical and Computational Modelling of below ground nitrogen biogeochemical pathways using systems biology approaches	Amit Chakraborty Central University of Rajasthan
18	Fabrication and Characterisation of Printed E-nose Arrays using BaTiO₃/CNT/CoFe₂O₄ Nanocomposites for Reducing Gases	Deepshikha Rathore Amity University
19	Assessment of population status distribution and movement patterns of the threatened Great Indian Bustard (Ardeotis nigriceps) in the Thar Desert of Rajasthan India	Hem Singh Gehlot Jai Narain Vyas University
20	Undertanding hyperglycemia induced alterations in non-coding RNA expression pattern and post-translational histone protein modifications contributing to drug resistance and progression of pancreatic cancer	Rajdeep Chowdhury Birla Institute of Technology & Science
21	Energy Harvesting Smart Windows using High Contrast Grating Based Planar Concentrator for Building Integrated Photovoltaics	Bala Pesala Central Electronics Engineering Research Institute
22	Modeling Frailty for Survival Data	Arvind Pandey Central University of Rajasthan
23	Design synthesis and characterization of multifunctional platform for targeted-tumor phototherapy	Devesh M Sawant Central University of Rajasthan
24	Development Of A Dielectric Resonator Based Displacement Sensor	Praveen Kumar AV Birla Institute of Technology & Science
25	Evaluation Of Electro-Chemical And Thermo-Mechanical Properties Of A Novel Anode-Supported Sofc Membrane Electrolyte Assembly Structure For Intermediate Temperature Applications	Somnath Biswas LNM Institute of Information Technology

26	Identification of sex-determining signal(s) and sexual differentiation facto in the red flour beetle <i>Tribolium castaneum</i>	Jayendra Nath Shukla Central University of Rajasthan
27	Designing and experimental validation of Inhibitor for RecA protein of <i>Acinetobacter baumannii</i>: an addition to the current antibiotics and disinfectants	Vishvanath Tiwari Central University of Rajasthan
28	Substrate Supported Transition Metal Doped Alkaline Earth Cluste as Hydrogen Storage Materials and Their Applications in Hydrogen Fuel Cell	Debashis Bandyopadhyay Birla Institute of Technology & Science
29	Statistical Mechanics of biopolyme in confined geometry	Navin Singh Birla Institute of Technology & Science
30	Design and Development of Dielectric Barrier Discharge Based Micro-hollow Cathode Plasma Device Arrays & their Characterization	Mr Ram Prakash Lamba Central Electronics Engineering Research Institute
31	A study on the physical properties to the chlorine treated Cd-based compound semiconductor thin films correlation with surface morphology for solar cell applications	Mahendra Singh Dhaka Mohan Lal Sukhadia University
32	High Performance Low Voltage Flexible Organic Field-Effect Transisto for Circuit and Sensing Applications	Shree Prakash Tiwari Indian Institute of Technology Jodhpur
33	Heteroaromatic-Annulated Porphyrins: Design Synthesis and Study of Optoelectronic Properties Towards the Development of Photosensitize	Dalip Kumar Birla Institute of Technology & Science
34	Analysis of mitochondrial dynamicity post drug exposure in human glioblastoma cells and undetanding its correlation with drug resistance	Sudeshna Mukherjee Birla Institute of Technology & Science

35	Design and Development of Renewable Energy based DC Microgrid System for Rural Electrification	Ajeet Kumar Dhakar Central Electronics Engineering Research Institute
36	Design and Development of MEMS-based Piezoelectric Acoustic Sensor for Low Frequency Applications	Mahanth Prasad Central Electronics Engineering Research Institute
37	Studies on the organocatalytic enantioselective construction of tetrahydroxanthenones	Easwar Srinivasan Central University of Rajasthan
38	Targeting crystallin-amyloids for the development of non-invasive therapeutic strategy for treatment of age-related cataract	Jay Kant Yadav Central University of Rajasthan
39	Electronic structure strategies and electron momentum densities of some important functional materials	Dr Amit Soni Manipal University
40	Possibilities and Device Applications of Degenerate Optical Microcavities	Somnath Ghosh Indian Institute of Technology Jodhpur
41	Characterization Of Colostrum Bio-Active Components From Undescriptive Cattles And Jeey Of Himachal Region And Their Application In The Formulation Of Novel Dairy Products	Harish Kumar Amity University
42	Tandem Annulations Involving Metallocarbenes: Towards Divee Molecular Architectures	Sandip Murarka Indian Institute of Technology Jodhpur
43	Role of Centriole Protein CPAP in neurodevelopmental disorder	Priyanka Singh Indian Institute of Technology Jodhpur
44	Studies & Application of Unprecedented Sulfonium Iodate(I) Reagent in Selective Functionalization of C-C Multiple Bond	Sudhir Kashyap Malviya National Institute of Technology

45	To investigate the mechanism of CRISPR-Cas regulated biofilm formation in Salmonella enterica serovar Typhimurium	Sandhya Amol Marathe Birla Institute of Technology & Science
46	Epigenetics of Endothelial Dysfunction during Cardiovascular Disease	Syamantak Majumder Birla Institute of Technology & Science
47	Exploring the magnetocaloric properties of bulk ceramics nanocrystalline and thin films of manganese doped rare-earth orthochromites	Neeraj Panwar Central University of Rajasthan
48	All Ceramic Magneto-electric multiferroic based Energy Harvester	Satyapal Singh Rathore Manipal University
49	Mathematical modeling of the biological control problems: Non-chemical methods in population and disease control	Jai Prakash Tripathi Central University of Rajasthan
50	Band gap tuning of absorber layer and buffer layer for eco-friendly sol-gel processed Cu₂ZnSnS₄ (CZTS) solar cells	Amanpal Singh Clair Rajasthan University
51	Rod-shaped polymeric nanoparticles for targeted delivery of artemisinin-derivatives to plasmodium-infected erythrocytes for improved intravenous therapy of cerebral malaria	Anil Brijbhushan Jindal Birla Institute of Technology & Science
52	Resource dimensioning and management of smart and sustainable 5G small cells for rural broadband	Vinay Chamola Birla Institute of Technology & Science
53	Valorisation of waste cooking oil (WCO): Process development and intensification using hydrodynamic cavitation and acoustic cavitation techniques	Virendra Kumar Saharan Malviya National Institute of Technology

54	Thermoelectric Performance Study Using Fit-Principles Calculations Based Methods	Appala Naidu Gandhi Indian Institute of Technology Jodhpur
55	Photo-Rechargeable Organo Halide Perovskite-Transition Metal Dichalcogenide Batteries	Shahab Ahmad I Indian Institute of Technology Jodhpur
56	Integrated Biocatalytic Disintegration of Chitin Rich Biowaste for Improved Production of Bioactive Chitooligosaccharides Glucosamine and Ethanol	Nidhi Pareek Central University of Rajasthan
57	DEVELOPING LOW COST SULPHUR FERTILIZE BY USING MUNICIPAL SOLID WASTE FOR SUSTAINABLE MUSTARD PRODUCTION	Murli Dhar Meena Directorate of Rapeseed & Mustard Research
58	Modeling the reaction energetics and kinetics of chemical reactions involving species having high multireference character	Pradeep Kumar Malviya National Institute of Technology
59	Probing the Charge Transfer Mechanism in Exciplex System using lifetime Measurement	Partha Roy Central University of Rajasthan
60	Development of Intelligent Control of Heat Integrated Reactive Dividing Wall Column for synthesis of Methyl Acetate	Rajeev Kumar Dohare Malviya National Institute of Technology
61	Design and development of a solar thermal powered cooling system employing solar concentrator developed at SERL	Sunita Mahavar Rajasthan University
62	SWARD: Secure next-generation Wireless Access RaDio technology for Smart Cities in India	Ramesh Babu Battula Malviya National Institute of Technology
63	Development and Deployment of Technologies for Effective Management of Rain-Water Harvesting (RWHT): Ensuring Safe Drinking Water and Optimal Water use for Agriculture	Dr Shashikant Sadistap CSIR-CEERI Pilani

64	Enhancing Food and Water Security in Arid Region through Improved Understanding of Quantity Quality and Management of Blue Green and Grey Water	Dr Praveen Kumar ICAR – Central Arid Zone Research Institute Jodhpur Rajasthan
65	Cascaded Latent Heat Storage (CLHS) for high temperature CSP applications material development and characterization to lab-scale setup	Prodyut Ranjan Chakraborty IIT Jodhpur
66	Cooperative Isolated Renewable Energy Systems for Enhancing Reliability of Power in Rural Areas	Prof Uday Kumar R Yaragatti Malaviya National Institute of Technology Malaviya Nagar Jaipur Rajasthan
67	Mobile App for assisting Indian farmer in improving yield by automatic identification of plant diseases (Rice and Tomato)	Dr Sundaresan Raman Birla Institute of Technology and Science Pilani Rajasthan
68	High performance lead free triple cation perovskite solar cell with enhanced stability	Mr Abhinav Bhatnagar Malaviya National Institute of Technology Jaipur Rajasthan
69	FIST Project	Head, Department of Mathematics, The LNM Institute of Information Technology, Jaipur-302031
70	Area-Agriculture Biotechnology Genomics-led improvement of biotic and abiotic stress tolerance in mustard rape for economic and environmental sustainability	Dr. Hans Raj Mahla Central Arid Zone Research Institute
71	Area- BIOCARE Identifying the role of Mycobacterium indicus pranii (MIP) in activating host innate immune response for development of new intervention strategy to combat Tuberculosis	Dr. Deeksha Tripathi Central University of Rajasthan
72	Area- HUMAN RESOURCE DEVELOPMENT Star College Scheme	Dr. Balram Tripathi S.S. Jain Subodh PG (Autonomous) College , Jaipur

73	<p>Area- International Collaboration-I</p> <p>Newton Bhabha PhD Placement Programme</p>	<p>Mr. Aditya Raj</p> <p>Indian Institute of Technology Jodhpur</p>
74	<p>Area- Medical Biotechnology- Human Genetics & Genome Analysis</p> <p>Establishment of DBT-NIDANKendra at Rajasthan - AIIMS, Jodhpur</p>	<p>Dr. Kuldeep Singh</p> <p>All India Institute of Medical Sciences, Jodhpur</p>
75	<p>Area-Nanoscience And Nanotechnology Application In Biology</p> <p>cRGD decorated lipo-polymeric nanoplexes of CRISPR/Cas9 ribonucleoprotein (RNP) for the management of retinal dystrophic conditions</p>	<p>Dr. Deepak Chitkara</p> <p>Birla Institute of Technology and Science-Pilani</p>
76	<p>Area-Nanoscience And Nanotechnology Application In Biology</p> <p>Development and evaluation of lipid based nanoparticles of Quinapyramine and Isometamidium salt for treatment of trypanosomiasis in camels</p>	<p>Dr. Anil Jindal</p> <p>Birla Institute of Technology and Science-Pilani</p>
77	<p>Area- NER Programme</p> <p>Diversity and molecular characterization of microsymbiont-Legume association in Meghalaya and Nagaland for developing consortia of microsymbionts with wide host range</p>	<p>Prof. Hukam Singh Gehlot</p> <p>Jai Narain Vyas University</p>
78	<p>Area- NER Programme</p> <p>Whitefly (<i>Bemisia tabaci</i>) in North Eastern India: Diversity, factors of virus transmission and natural inhibitor</p>	<p>Prof. Sanjib Kumar Panda</p> <p>Central University of Rajasthan</p>

79.	Area- Ramalingaswami Re-entry Fellowship Programme Post-translational regulation of I16 mRNA-binding protein Arid5a in sepsis and melanoma under TLR4 signaling	Dr. Krishan Kumar Nyati All India Institute of Medical Sciences, Jodhpur
80.	Area- Ramalingaswami Re-entry Fellowship Programme Dissecting the role of Small Ubiquitin-like MOdifier (SUMO)ylation in regulating biotic stress responses in Pulses	Dr. Vivek Verma Central University of Rajasthan

2019-20

S.No.	Title of Project	Name of the PI and Institute Sushri/Shri
1	Core Support project	Shri Kamlesh Bisht The Barefoot College Tilonia Rajasthan
2	Multistability and hidden attractors in dynamical systems	Prof. Manish Dev Central University of Rajasthan Bandar Sindri Rajasthan
3	Magnetic and spectral properties of novel Mnbased Heusler alloys for magnetoelectronics applications	Dr. Ajit Kumar Patra Central University of Rajasthan Ajmer Rajasthan
4	Investigation of ion-focusing mechanism based sheet beam driven sub-THz source for high power NDE application	Dr. Niraj Kumar Central Electronics Engineering Research Institute CSIR-CEERI Pilani Rajasthan
5	Inferring regulatory role of LncRNA associated with prostate Cancer subjects	Ms. Nidhi Shukla Birla Institute of Scientific Research Statue Circle jaipur-302001 Rajsthan
6	Understanding the molecular basis of effect of yoga in overweight and obese population and its molecular basis	Dr. Meenakshi Central University of Rajasthan Bandar Sindri Kishangarh Ajmer-305817

7	Development of Distributed Deep Learning Dynamic Causality Analysis Model for Predicting Epilepsy and Simulation of Epileptic Brain	Dr. Vinod A Prasad Birla Institute of Technology Mesra Jaipur-302017 Rajasthan
8	Science Technology and Innovation Hub in Jaipur District Rajasthan	Prof. Sapna Sharma Department of Chemistry JECRC University Ramchandrapura Sitapura Industrial Area Extension Jaipur-303 905 Rajasthan
9	Computational design synthesis and screening of non-hydroxamate lipophilic DXR inhibitors as potential antibacterial/antimalarial/anti-TB agents	Sandeep Sundriyal Birla Institute of Technology & Science
10	Development of Lead Free Piezoelectric based Nano-generators: Modeling Simulation & Experimental Realization	Barun Pratiher Indian Institute of Technology Jodhpur
11	Process development for bio-mitigation of flue gases (CO₂ SO_x and NO_x) using chemolithotrophs and production of value-added products.	Smita Raghuvanshi Birla Institute of Technology & Science
12	Investigating asymmetric mixed surfactant bilayers using dual-scale simulations to correlate bilayer properties with thermodynamics of asymmetry	Ananya Debnath Indian Institute of Technology Jodhpur
13	Large area synthesis of 2D MoS₂ structures for low power and fast NO₂ Gas Sensor	Mahesh Kumar Indian Institute of Technology Jodhpur
14	Modeling Organic and Biochemical Phenomena via Direct Chemical Dynamics Simulations	Manikandan Paranjothy Indian Institute of Technology Jodhpur
15	Multimodal Approach for Repairing of Brain Damage: Small Molecule Mediated Neurogenesis from Stem Cells and Transplantation of	Surajit Ghosh Indian Institute of Technology Jodhpur

	Regenerated Neurons through Novel Scaffolds	
16	Investigating the correlation between thermodynamic and kinetic parameters through Density Functional Reactivity Theory (DFRT) Based approach	Ram Kinkar Roy Birla Institute of Technology & Science
17	Dynamical electron and positron impact ionization study on molecules of environmental and biological significance viz. N₂ CO₂ H₂O and Pyrimidine	Ghanshyam Purohit Mohan Lal Sukhadia University
18	Development and characterization of polarization based pupil function for the generation of laser beam having far field subwavelength focal spot	Brijesh Kumar Singh Central University of Rajasthan
19	Development of conductive FDM based rapid tooling for EDM electrode fabrication: application in medical implant manufacturing	Prateek Kala Birla Institute of Technology & Science
20	Novel in-situ volume contractible metal halide negative electrodes for high performance lithium-ion batteries.	Srijan Sengupta Indian Institute of Technology Jodhpur
21	Li⁺ NASICON-Polymer Hybrid Composites for Solid State Supercapacitor Applications	Anshuman Dalvi Birla Institute of Technology & Science
22	Peptide-tethered multifunctional cationic nanocomplexes for delivery of IL-1 receptor antagonist for treatment of type 2 diabetes mellitus	Anupama Mittal Birla Institute of Technology & Science
23	Theoretical Investigation of Structural Properties of Nuclei of Experimental Interest	Gaurav Saxena Government Women Engineering College
24	Breeding Nesting Ecology And Reproductive Success In Resident Species Of Gyps Vulture In Thar Desert Of Rajasthan	Ram Prakash Saran Jai Narain Vyas University

25	Development of uniformly convergent methods for two-parameter singularly perturbed boundary value problems	Devendra Kumar Birla Institute of Technology & Science
26	Generation of Statistical Models using Concatenation	Deepesh Bhati Central University of Rajasthan
27	Design and Development of Indigenous On-board Autopilot and Vision-based Navigation Systems for Autonomous Flight of Hover Capable Rotary-wing Vehicles	Suril V Shah Indian Institute of Technology Jodhpur
28	Development of System to Mitigate Second Order Harmonic Ripple in AC/DC Microgrid using Advanced Control Techniques	Deepak kumar M. Fulwani Indian Institute of Technology Jodhpur
29	Integrated Atmospheric-Hydrological Modeling System to Assess the Impact of Climate Change on Water Resources in the Banas River Basin Rajasthan	Devesh Sharma Central University of Rajasthan
30	Magnetic nanoparticles toxicity in earthworm Sp. Eisenia fetida: A comprehensive toxicity study on magnetite zinc ferrite cobalt ferrite and nickel ferrite nanoparticles	Devendra Singh Rathore Mohan Lal Sukhadia University
31	Design and development of flexible tactile sensor matrix for fetal health monitoring	T Eshwar Central Electronics Engineering Research Institute
32	Engineering of Resilient Superhydrophobic Coating using TiO₂ Nanostructured in combination with Ultrathin Conformal Layer of Organic Molecules	Partha Roy Central University of Rajasthan
33	Assessment of Indoor Plants for Improving Air Quality in Buildings	Aakash Chand Rai Birla Institute of Technology & Science
34	High internal phase emulsions as templates for making water-dispersible hollow microspheres with hydrophobic pore internals	Anees Yunus Khan Manipal University

	for prolonged release of fragrance molecules	
35	Experimental Investigation and Performance Evaluation of HARQ Technique for Free-Space Optical Communication Systems	Aashish Mathur Indian Institute of Technology Jodhpur
36	Modulation of α-Synuclein Amyloid Assembly by Human Chaperone-like Proteins	Neha Jain Indian Institute of Technology Jodhpur
37	Conversion of 11-Azaartemisinin into novel amino derivatives as an antimalarial and anticancer agents	Ved Prakash Verma Banasthali Vidyapith
38	Resource partitioning of three sympatric Ibis species (Red-naped Black-headed and Glossy) in Udaipur district Rajasthan: diet habitat and landscape selection across seasons	Vijay Kumar Koli Mohan Lal Sukhadia University
39	Klotho regulation as a novel therapeutic strategy against acute kidney injury-diabetes comorbidity: Impact of epigenetic driven and epigenetic independent reactivation of endogenous Klotho expression.	Anil Bhanudas Gaikwad Birla Institute of Technology & Science
40	Study on production storage and utilization of bio-syngas as clean fuel for spark ignition engine	Bheru Lal Salvi College of Technology & Engineering
41	Development of Light-weight and Flexible Multi-link Robotic Manipulator Mounted on Mobile Platform: Modelling Simulation and Physical Realization	Barun Pratiher Indian Institute of Technology Jodhpur
42	Forecasting Significant Social Events By Predictive Analytics Over Streaming Open Source Data	Yogesh Kumar Meena Malviya National Institute of Technology

43	Designing of Potential Adsorbents via Molecular Modelling and Simulations for the High Temperature Carbon Dioxide Capture	Angan Sengupta Indian Institute of Technology Jodhpur
44	Environmental risk assessment of plastics additives: Analytical methodologies comparative studies and degradation by engineered nanomaterials	Manviri Rani Malviya National Institute of Technology
45	Design and synthesis of novel structural analogues of Mefloquine and coated with modified chitosan as nanoparticles to produce synergetic effect and sustained release drug delivery for the treatment of malaria	Vinit Raj Suresh Gyan Vihar University
46	Assessment of Mixed-Matrix membrane system for CO₂ separation for upgradation of Biogas to Bio-Compressed Natural Gas (Bio-CNG).	Bhanu Vardhan Reddy Kuncharam Birla Institute of Technology & Science
47	Design and development of Substrate Integrated Waveguide (SIW) and Empty SIW (ESIW) based RF-Microwave components	Arani Ali Khan Indian Institute of Technology Jodhpur
48	Modulation of folliculogenesis to augment prolificacy through dietary n-3 polyunsaturated fatty acids in sheep	Ajit Singh Mahla Central Sheep and Wool Research Institute
49	Impact of Lateral Straggle on the Logic Gates SRAM and Ring Oscillator in Silicon on Insulator (SOI) Tunnel FET	Rajesh Saha Malviya National Institute of Technology
50	Identifying role of Betel Quid Extract in sustaining cancer stem cell: A potential target for therapeutic resistance in oral cancer.	Rajeev Mishra Manipal University

51	Effective anti-icing strategies for power transmission cables and pipelines using macro structured superhydrophobicity	Harikrishnan A R Birla Institute of Technology & Science
52	Development of Carbon based materials for applications in high energy density Metal-Air battery cathode	Rajnish Dhiman Malviya National Institute of Technology
53	Development of High-performance Energy Storage Devices with Earth Abundant Materials	Debasish Sarkar Malviya National Institute of Technology
54	Numerical Methods and Error Analysis for Solving Coagulation and Non-Linear Fragmentation Equations	Rajesh Kumar Birla Institute of Technology & Science
55	Study of the Effects of Stress-State and Strain-Rate on Constitutive Response of Polymer Gels via Experiments and Continuum Mechanics Modeling	Abir Bhattacharyya Indian Institute of Technology Jodhpur
56	Electrochemical Conversion of Flue Gas into Hydrocarbon Fuel in Solid Oxide Cells	Neetu Kumari Malviya National Institute of Technology
57	Understanding the genetic interactions of parkin and α-Synuclein affecting pathogenesis of Parkinson's disease	Meghana Tare Birla Institute of Technology & Science
58	Mitigation of weldability issues and residual stresses in dissimilar welded joints of ultra-supercritical power plants	Chandan Pandey Indian Institute of Technology Jodhpur
59	Elucidation of Molecular Mechanisms Involved in the Therapeutic Action of soluble Epoxy Hydrolase Inhibitor (sEHI) in Metabolic Syndrome.	Swati Paliwal Banasthali Vidyapith

60	Machine Learning Techniques for Resource Allocation in Cell-Free Massive MIMO Communications	Syed Mohammad Zafaruddin Birla Institute of Technology & Science
61	"Structured Dialogues for Sustainable Urban Water Management (SDSUWM)" Work Package 1 - Urban dynamics uncertainties and interactive water-related infrastructure planning	Dr. Rajiv Gupta BITS Pilani
62	Sulphur Nanoparticles Reinforced Hierarchical Assemblies of Carbon Nanotubes for Efficient Lithium-Sulphur Batteries	Dr. Shahab Ahmad IIT Jodhpur
63	Development of opt - Electrochemical Sensor for Pesticide and Ion detection in Drinking and Irrigation Water	Dr. Himmat Singh Kushwaha Malaviya National Institute Of Technology Jaipur
64	"Effective treatment of wastewater effluents by a fluidized bed membrane bioreactor with low membrane fouling	Dr. Md Oayes Midda MNIT Jaipur
65	Development and Scale-up of Desert Soilification Technology (DST) for Land Reclamation in Western Rajasthan	Dr. Akhil Agrawal Assistant Professor Department of Microbiology Central University of Rajasthan Bandarsindri NH-8 Kishangarh Ajmer 305817 & Dr. Lalita Ledwani Professor Department of Chemistry Manipal University Jaipur Dehmi Kalan Near GVK Toll Plaza Jaipur-Ajmer

		Expressway Jaipur Rajasthan 303007
66	Multimodal user interface for assisting elderly people in indoor environment.	Dr. Joyeeta Singh LNM Institute of Information Technology Jaipur Rajasthan
67	FIST Project	Head, Department of Microbiology, Amity University, Jaipur Rajasthan
68	FIST Project	Head, Department of Chemistry, Indian Institute of Technology, Jodhpur-342037
69	FIST Project	Head, Department of Electronics & Communication Engineering, Malviya National Institute of Technology, Jaipur-302017
70.	Area- Energy Biosciences – Biofuels Bioprocess development for cost effective lignocellulosic bioethanol production	Dr. Arindam Kuila Banasthali Vidyapith (Deemed University)
71.	Area- HUMAN RESOURCE DEVELOPMENT II Elucidating the role of centrosome protein CEP152 in primary microcephaly	Dr. Priyanka Singh Indian Institute of Technology Jodhpur
72.	Area- International Collaboration-I Bio-mimetic and phytotechnologies Designed for	Dr. S A Akbar Central Electronics Engineering Research Institute

	lowcost purification and recycling of water	
73	Area- Medical Biotechnology - Infectious Diseases Isolation of camelid antibodies as antibiotic adjuvants against multidrug-efflux transporters of methicillin resistant Staphylococcus aureus	Dr. Rakesh Ranjan National Research Centre on Camel
74	Area- Medical Biotechnology- Human Genetics & Genome Analysis GenomeIndia: Cataloguing the Genetic Variation in Indians	Dr. Kuldeep Singh All India Institute of Medical Sciences, Jodhpur
75	Area- NER Programme Development of Biochemical enhanced oil recovery technology for northeastern oil fields of India	Dr. Akhil Agrawal Central University of Rajasthan
76	Area- NER Programme Identification and Characterization of glycyl-tRNA synthetase in Leishmania donovani.	Dr. Tarun Kumar Bhatt Central University of Rajasthan
77	Area- Ramalingaswami Reentry Fellowship Programme Novel sensor platforms for Rapid on-site organophosphate (OP) nerve agent and drug detection	Dr. Rupesh Kumar Mishra Amity University of Rajasthan
78	Area- Ramalingaswami Reentry Fellowship Programme Exploring known and novel HSPs and HSFs in a thermotolerant plant Prosopis cineraria by genome-wide studies, and	Dr. Mukul Joshi Birla Institute of Technology and Science - Pilani, Pilani

	application of genome editing for enhanced heat stress tolerance in rice	
79	Area- Ramalingaswami Reentry Fellowship Programme Biomimetic Nanoscale Metal Organic Frameworks for Targeted Near Infrared Fluorescence Imaging and Phototherapeutic Destruction of Intraperitoneal Ovarian Tumors	Dr. Raviraj Vankayala Indian Institute of Technology Jodhpur

2020-21

S.No.	Title of Project	Name of the PI and Institute Sushri/Shri
1	Ga2O3 - based nanomaterials with controlled defect and impurity composition for advanced electronic devices	Dr. Mahesh Kumar Indian Institute of Technology Jodhpur Rajasthan
2	Identifying best available technologies for decentralized wastewater treatment and resource recovery for India	Dr. Vivekanand Malaviya National Institute of Technology Jaipur Rajasthan
3	Design of performance based concrete using sand reclaimed from construction & demolition wastes	Dr. Bhavna Tripathi Manipal University Jaipur Rajasthan
4	Design of performance based concrete using sand reclaimed from construction & demolition wastes	Dr. Tarun Chandhra Malaviya National Institute of Technology Jaipur Rajasthan
5	Biogas for people Multi feed-stock solid-state anaerobic co-digestion and role of bio-nano-particles for the development of robust and sustainable methanogenesis in India and Egyptian cooperation with India and Egypt	Dr. Vivekanand Malaviya National Institute of Technology Jaipur Rajasthan

6	Development of E-Mode III-Nitride devices for energy devices tride devices for energy optimized agile power electronics	Dr. Nidhi Chaturvedi CSIR-CEERI Pilani Rajasthan
7	Energy Efficient Communication and Data Flow in Smart City using CRN based IoT Framework	Dr. Debasis Das Indian Institute of Technology Jodhpur Rajasthan
8	Space Weather Consequences of Coronal Mass Ejections	Dr. Nandita Srivastava Physical Research Laboratory Udaipur Rajasthan
9	Highly Localized Coherent and Tunable Photon Source using Nonlinear Plasmonics and Elastomeric Actuator for Photothermal Therapy of Cancer Cells and Improved Detection in Bio-Sensing	Dr. Vijay Janyani Malaviya National Institute of Technology Jaipur Rajasthan
10	Phytochemical investigation of traditional medicinal plants in search of bioactive constituents	Ms Barkha Darra Wadhvani University College of Science Mohanlal Sukhadia University Udaipur-313001 Rajasthan
11	Tuning properties of carbon based nanocomposite for device applications	Dr. Ritu Vishnoi Malaviya National Institute of Technology Jaipur-302017 Rajasthan
12	Effect of Electroencephalographic Neurofeedback Meditation on autonomic stress response and perceived stress in health care providers during Pandemic COVID-19 A Pilot Study	Dr Pooja Ojha All India Institute of Medical Sciences Jodhpur-342005 Rajasthan

13	STI Hub for income generation and livelihood improvement of Scheduled Caste community of Jaipur Tonk and Dausa Districts Rajasthan	Dr. Sanjay Yadav Institute for Environmental and Social Affairs (IESA) 36 ka 5 Jyoti Nagar Jaipur Rajasthan
14	Promote appropriate technologies for sustainable livelihood and conservation of village around Kailadevi wildlife sanctuary	Sh. Hemraj Mali Society for Sustainable Development Near Pandey Ka Kua Hindaam Road Karauli -322 241 Rajasthan
15	The fate of nitrous oxide in the atmosphere: A computational study	Pradeep Kumar Malviya National Institute of Technology
16	Higher-Harmonic generation in gases and solids and their implications in attosecond science	Amol Ramdas Holkundkar Birla Institute of Technology & Science
17	Superconvergent Discontinuous Galerkin Method for Parabolic Integro-differential Equations with Smooth and Nonsmooth Data	Sangita Yadav Birla Institute of Technology & Science
18	Mechanistic and energetic aspects of fast heterogeneous atmospheric reactions on water and ice surfaces: A low temperature IR spectroscopic investigation	Biman Bandyopadhyay Malviya National Institute of Technology
19	Synthetic Exploration of Aza-oxyallyl cation for Rapid Access to Bio-relevant Fluorinated Scaffolds and their Biological Evaluation	Ritesh Singh Central University of Rajasthan

20	Study of Driven Quantum Systems: Floquet Engineering of Novel Materials	Jayendra Nath Bandyopadhyay Birla Institute of Technology & Science
21	Tandem Reactions Utilizing Nitrogen Ylides: Unified Approach for Asymmetric Synthesis of Diverse Heterocycles	Nirmal Kumar Rana Indian Institute of Technology Jodhpur
22	Structural and functional studies on signalling system associated with bacitracin sensing and resistance in multi-drug resistant Staphylococcus aureus	Sandeep Kumar Srivastava Manipal University Jaipur
23	A Study of Existence Questions to Elliptic Partial Differential Equations with Gradient Nonlinearities	Gaurav Dwivedi Birla Institute of Technology & Science
24	Natural clay-plasma catalyzed hydrogenation of carbon-dioxide for methanol production under ambient conditions	Rakesh Kumar Sharma Indian Institute of Technology Jodhpur
25	Synthesis and C-H Bond Functionalization of N-Heterocycles Employing Novel Pincer-type Complexes of Late Transition Metals	Anil Kumar Birla Institute of Technology & Science
26	Investigation of the nature and origin of intermolecular Se-H\cdotsX (X = O N S Se) hydrogen bonding interaction using matrix isolation infrared spectroscopy and theoretical calculations	Shamik Chakraborty Birla Institute of Technology & Science
27	Crystallographic orientation (lattice plane) dependent selective gas sensing: A new approach in metal-oxides (MOx) based gas sensor	Subhashis Gangopadhyay Birla Institute of Technology & Science
28	“Neuronal” regulation of tumor cell migration- understanding the role of semaphorins in tumor cells undergoing EMT and subjected to differential flow dynamics	Venkatesh KP Rao Birla Institute of Technology & Science

29	A direct catalytic approach towards the synthesis of C3-substituted pyrroles in non-asymmetric/asymmetric fashion	Indresh Kumar Birla Institute of Technology & Science
30	Development of Functionalized Metal Oxides and Layered Materials for Environmental Sensors	Ritu Gupta Indian Institute of Technology Jodhpur
31	Exploration of Skyrmionic Materials	Ajit Kumar Patra Central University of Rajasthan
32	Development of Electrochemical Strategies for Carbon-Chalcogen Bond Formations	Satpal Singh Badsara Rajasthan University
33	High voltage (~5 V) ultrafast charging/discharging cathode materials in bulk and nano geometries for high power Li ion rechargeable batteries	Ambesh Dixit Indian Institute of Technology Jodhpur
34	Development of English to Bharti Braille Machine Assisted Translation System	Nisheeth Joshi Banasthali Vidyapith
35	Investigation on Nano-Technology based Thermionic Cathode for High Power Vacuum Electron Devices (VEDs)	Sushil Kumar Shukla Central Electronics Engineering Research Institute
36	Uniquely identifying Lorentz structure of new physics in semi-leptonic B decays	Ashutosh Kumar Alok Indian Institute of Technology Jodhpur
37	An automatic multi-modal learning system for image/video analytics	Poonam Goyal Birla Institute of Technology & Science
38	Design and Development of Dielectric Barrier Discharge Based Flat VUV/UV Excimer Light Sources for Advanced Applications in Health and Medicine	Ram Prakash Indian Institute of Technology Jodhpur

39	Phytochemical Investigation of Ziziphus mauritiana Lam. and Cassia auriculata L. in search of potent bioactive lead	Dinesh Kumar Yadav Mohan Lal Sukhadia University
40	Investigations on porphyrin coated optical fiber sensors based on lossy mode resonances	Rajneesh Kumar Verma Central University of Rajasthan
41	Victim Separation to Minimize DDoS attack Effects in Cloud Computing Environments	Gaurav Somani Central University of Rajasthan
42	Molecular characterization of genes involved in heterocyst differentiation in Nostoc strain	Harish Mohan Lal Sukhadia University
43	Genetic predisposition to methylglyoxal (MGO) toxicity and its association with targeted metabolites and glyco-oxidative stress in diabetic nephropathy	Maithili karpagaselvi N All India Institute of Medical Sciences Jodhpur
44	Main-group Organometallic Complexes Based Molecular Materials for Applications in Molecular Electronics	Ramesh Kashinath Metre Indian Institute of Technology Jodhpur
45	Multimodal Approaches to Develop Potential Therapeutic Leads Targeting Molecular Hot Spots of Duchenne Muscular Dystrophy for Clinical Trial	Surajit Ghosh Indian Institute of Technology Jodhpur
46	Green Template-assisted Flexible and SKIN-attachable Sensor for NON-inVASive and Non-enzymatic Glucose DeTEction using Human Sweat and Saliva - INNOVATE	Deepak Bharti Malviya National Institute of Technology

47	Understanding the deformation mechanisms under in-plane shear and role of pre-twinning on formability behavior of AZ31-xCa Mg alloy sheets	Jaiveer Singh Indian Institute of Technology Jodhpur
48	Exploring non-cell autonomous functions of autophagy during metabolic reprogramming of tumor microenvironment	Bhawana Bissa Central University of Rajasthan
49	Data-driven Haptic Modeling and Rendering of Normal Interactions on Inhomogeneous Viscoelastic Deformable Objects	Amit Bhardwaj Indian Institute of Technology Jodhpur
50	Electricity induced C-H functionalization and C-C/C-X bond formations to access valuable heterocycles and natural products	Siddharth Sharma Mohan Lal Sukhadia University
51	Highly conductive nanocomposite fibers for flexible temperature sensors (FlexTem)	Shrutidhara Sarma Indian Institute of Technology Jodhpur
52	A Robust Visual Positioning System	Himanshu Kumar Indian Institute of Technology Jodhpur
53	Object Based Spatial 3D Audio Rendering for Augmented and Virtual Reality Applications	Manish Narwaria Indian Institute of Technology Jodhpur

54	Owl-inspired aerodynamic noise reduction of a flapping wing unmanned aerial vehicle	Nipun Arora Indian Institute of Technology Jodhpur
55	Fabrication of MoS₂-BSA-ZnO Nano-bio hybrid composite electronic devices for environmental monitoring	Milan Sasmal Central University of Rajasthan
56	Investigation of natural and anthropogenic hydrocarbons over arid and semi-arid regions in western India: Implications to atmospheric oxidation agriculture and climate	Chinmay Mallik Central University of Rajasthan
57	Identification and functional characterization of novel protease for development of dehydration tolerance in chickpea (<i>Cicer arietinum</i> L.)	Dipak Gayen Central University of Rajasthan
58	Sustainable Non-Noble Transition Metal based Pincer Catalytic Design for High-Value Chemical Transformations	Subrata Chakraborty Indian Institute of Technology Jodhpur
59	Converting CO₂ to methanol: A step towards greenhouse gases utilization using novel multifunctional catalysts	Sonal Malviya National Institute of Technology
60	Secure and Robust Coordination and Control of Autonomous Multi-Vehicle Systems with Desired Constraints	Anoop Jain Indian Institute of Technology Jodhpur
61	Design and thermal performance analysis of hybrid thermal management system for Li-ion battery packs for electric vehicles in arid/semi-arid Indian climatic conditions	Aneesh Prabhakar Malviya National Institute of Technology

62	Understanding the role of quorum sensing precursors in synthetic ecology inspired algae-bacteria co-cultivation model for amelioration in lipid metabolism	Shailesh Kumar Patidar Central University of Rajasthan
63	Unconventional superconductivity and spin liquids in metal-organic frameworks	Sahinur Reja Central University of Rajasthan
64	Design fabrication and characterization of all-fiber Multimode Interference (MMI) devices for generating highly pure Laguerre-Gaussian (LG) modes in free-space	Nitin Bhatia Indian Institute of Technology Jodhpur
65	Deciphering molecular mechanism of action and electron acceptor specificity through structure based functional characterization of Staphylococcal glutathione peroxidase enzymes	Sudipta Bhattacharyya Indian Institute of Technology Jodhpur
66	Automated Glaucoma Detection and Analysis in Retinal Fundus Images using Deep Learning Algorithms	Deepak Ranjan Nayak Malviya National Institute of Technology
67	Capturing and Real-Time Monitoring of Dynamic Instability of TCR-pMHC Bond for Probing Serial Engagement Using Single-Molecule FRET and Biomembrane Force Probe in Live T Cell	Dibyendu Kumar Sasmal Indian Institute of Technology Jodhpur
68	Controlled Morphologies via Phase-separation in Epoxy Blends for Electronic Sensor & Device Packaging	Deepak Arora Indian Institute of Technology Jodhpur
69	Lab-on-Paper for Inexpensive Point-of-Care Diagnostics	Ankur Gupta Indian Institute of Technology Jodhpur
70	Study of very high energy gamma rays from Galactic sources with GRAPES-3 observatory	Reetanjali Moharana Indian Institute of Technology Jodhpur

71	“Quantitative Understanding of Nano-Bio Interface for Designing Drug Delivery Systems for Cancer in the Era of Artificial Intelligence”	Achal Mukhija Banasthali Vidyapith
72	A programmable CMOS image sensor for high speed low power and low noise applications	Amandeep Kaur Indian Institute of Technology Jodhpur
73	Development of opt -Electrochemical Sensor for Pesticide and Ion detection in Drinking and Irrigation Water	Dr. Himmat Singh Kushwaha Malaviya National Institute Of Technology Jaipur
74	“Effective treatment of wastewater effluents by a fluidized bed membrane bioreactor with low membrane fouling	Dr. Md Oayes Midda MNIT Jaipur
75	Design and development of soft robotic system for selective harvesting of coffee cherries	Dr. Meetha. V. Shenoy Department of EEE Birla Institute of Technology & Science (BITS) Pilani Pilani Campus Rajasthan - 333031
76	Improvement in productivity of harvested rainwater in traditional water harvesting structures of arid region through integration of horticulture and agro forestry system	Dr. Akath Singh ICAR-Central Arid Zone Research Institute (CAZRI) Jodhpur 342 003 Rajasthan Jodhpur Rajasthan
77	FIST Project	Head, Department of Computer Science, BITS, Pilani
78	FIST Project	Head, Department of Physics, Indian Institute of Technology, Jodhpur-342037
79	FIST Project	Head, Department of Physics, Malviya National Institute of Technology Jaipur-302017
80	FIST Project	Head, Department of Geology, Mohan Lal Sukhadia University, Udaipur-313001

81	FIST Project	Principal SS Jain Subodh PG College, Jaipur-302004
82	Area- Biomedical Engineering (Medical Devices, Diagnostics and Implants) Development of a complete skin substitute by autologous cell grafting using an in-situ forming bioactive scaffold for burn wound healing	Dr. Aniruddha Roy Birla Institute of Technology and Science - Pilani, Pilani
83	Area- Biomedical Engineering (Medical Devices, Diagnostics and Implants) Rapid, low cost fluorescent AIE-based detection of renal dysfunction from urine samples and fabrication of portable and real time device	Prof. Inamur Rahaman Laskar Birla Institute of Technology Rajasthan
84	Area- HUMAN RESOURCE DEVELOPMENT M.Sc. Biotechnology" at Banasthali Vidyapith, Rajasthan	Dr. Dipjyoti Chakraborty Banasthali Vidhyapeeth
85	Area- HUMAN RESOURCE DEVELOPMENT M.Sc. Biotechnology	Dr. Pankaj Goyal Central University of Rajasthan
86	Area- Medical Biotechnology - Infectious Diseases To study and gain mechanistic insights into the regulation of Salmonella pathogenesis by endogenous CRISPR-Cas system.	Dr. Sandhya Amol Marathe Birla Institute of Technology and Science - Pilani, Pilani
87	Area- Nanoscience And Nanotechnology Application In Biology Development of a Real Time Crop Advisory System Exploiting Nanotechnology based Nitrogen Sensor with Internet of Farming (IoF) Framework	Dr. Puneet Mishra Birla Institute of Technology and Science - Pilani, Pilani

Details of number of beneficiaries, number of women beneficiaries, and employment generated under each such scheme during last three years in the State of Rajasthan

2018-19

Name of the Scheme	Total No. of beneficiaries	No. Of Women Beneficiaries	Employment Generated
Research and Development, International Cooperation	-	-	2
INSPIRE-SHE	4804	2438	
INSPIRE Fellowship	52	15	
INSPIRE Faculty Fellowship	4	0	3
Women Scientist Scheme A (WOS-A)	7		7
Core Research Grant (CRG)	28	2	30
Early Career Research Award (ECRA)	17	3	15
Empowerment and Equity Opportunities for Excellence in Science	6	1	6
Water Technology Initiative Programme	17	2	
Clean Energy Research Initiative	7	0	-
DBT Schemes and Programmes	140	25	52

2019-20

Name of the Scheme	Total No. of beneficiaries	No. Of Women Beneficiaries	Employment Generated
TARA Scheme	437	145	17
Research and Development, International Cooperation	-	-	4
INSPIRE-SHE	4917	2526	-
INSPIRE Fellowship	54	12	-
INSPIRE Faculty Fellowship	3	0	3
Women Scientist Scheme A (WOS-A)	1	-	1
Women Scientist Scheme B (WOS-B)	1	-	1

Cognitive Science Research Initiative (CSRI)	1	-	1
Schedule Caste Sub Plan	354	105	
Core Research Grant (CRG)	22	3	23
Early Career Research Award (ECRA)	6	1	7
SRG	18	4	20
Empowerment and Equity Opportunities for Excellence in Science	6	-	6
Water Technology Initiative Programme	5	1	-
Clean Energy Research Initiative	1	0	-
DBT Schemes and Programmes	125	22	55

2020-21

Name of the Scheme	Total No. of beneficiaries	No. Of Women Beneficiaries	Employment Generated
TARA Scheme	147	35	10
Research and Development, International Cooperation	-	-	18
INSPIRE-SHE	5691	2437	-
INSPIRE Fellowship	49	17	
INSPIRE Faculty Fellowship	4	0	2
Women Scientist Scheme A (WOS-A)	2	-	2
Science and Technology for Yoga and Meditation (SATYAM) under its Special call	1	-	1
Schedule Caste Sub Plan	1250	465	-
Tribal Sub Plan	260	100	-
Core Research Grant (CRG)	27	3	24
Startup Ressearch Grant (SRG)	27	6	16
Empowerment and Equity Opportunities for Excellence in Science	3	1	3
Intensification of Research in High Priority Areas (IRHPA)	1	-	3
Water Technology Initiative Programme	2	1	-
DBT Schemes and Programmes	115	21	54
