SCHEME FOR TRANSFORMATIONAL AND ADVANCED RESEARCH IN SCIENCES (STARS)

Recommended proposals in the second call for proposals: Biological Sciences

S.No	Proposal ID	Proposal Title	Principal Investigator	Institution
1	2023-0030	Influence of morphology, rheology and bifurcations on pulsatile hemodynamics in clinically observed multiply afflicted human abdominal aortic arterial networks using non-invasive CT/MR imaging, conservation laws and numerical methods	Prof. BVRKUMAR	IIT Kanpur
2	2023-0093	Understanding AGC Family Kinases Involved in Endocytic Pathways as Drug Targets for Amebiasis	Dr. Somlata	Jamia Millia Islamia
3	2023-0096	Mechanistic and structural studies on the allosteric regulation of phospho-mimetic variants of poly(ADP-ribose) polymerases 1 activities by DNA break, PAR and PARP inhibitors	Dr. Rajakumara Eerappa	IIT Hyderabad
4	2023-0099	Investigation of therapeutic potential of a novel engineered astrocyte specific ALBUMIN nano-composite in sporadic Alzheimer's Disease model	Dr. Sachin Suresh Tiwari	IIT Roorkee
5	2023-0108	Identification and characterisation of conserved microRNAs and target genes that regulate ageing in Drosophila	Dr. Jishy Varghese	IISER Thiruvananthapuram
6	2023-0111	Unravelling the molecular mechanisms underlying human ABO blood type preference by the virulence RIFIN variants in Plasmodium falciparum-infected erythrocyte rosettes.	Dr. Souvik Bhattacharjee	Jawaharlal Nehru University
7	2023-0116	Characterization of host genetic and metabolic factors that modulate the efficacy of the cancer drug floxuridine	Dr. Jogender Singh	IISER Mohali
8	2023-0162	Investigating the potential of inositol phosphate kinase, ITPK1 in augmenting plant heat stress acclimation	Dr. Debabrata Laha	IISc Bangalore
9	2023-0172	Molecular genetic dissection of the interorgan communication between the heart and fat cells in regulating obesity in Drosophila	Dr. SUDIP MANDAL	IISER Mohali
10	2023-0191	Microbially Induced Calcite Plugging to Develop Fly Ash-Geotextile Liner in Municipal Landfills	Dr. Arvind Kumar Jha	IIT Patna

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11	2023-0209	Structure-based discovery of antivirals against RNA viruses targeting host-virus protein-protein interactions (PPIs)	Prof. PRAVINDRA KUMAR	IIT Roorkee
12	2023-0210	Understanding the molecular basis of phenotypic overlap in MEDNIK syndrome and diseases of copper metabolism	Dr. Arnab Gupta	IISER Kolkata
13	2023-0219	Targeting oncogenic transcription factor ERG in prostate cancer by employing HBS-?-helicomimics technology.	Prof. Bushra Ateeq	IIT Kanpur
14	2023-0229	Mechanisms underlying microenvironmental regulation of mesenchymal stem cell (MSC) differentiation into cancer associated fibroblasts (CAFs) in breast cancer	Prof. Shamik Sen	IIT Bombay
15	2023-0249	Single-cell quantitation of mRNA and protein expression of antigenic variation genes and tissue tropism characterization in Plasmodium falciparum	Dr. Krishanpal Karmodiya	IISER Pune
16	2023-0253	Design of nano-RNA-based drug delivery vehicles and their screening using organ on-chip platform for cancer therapeutics	Prof. Swathi Sudhakar	IIT Madras
17	2023-0260	Development of nitric oxide releasing multifaceted biomaterial based-approach for infected diabetic wounds	Prof. Sandeep Verma	IIT Kanpur
18	2023-0284	Investigation of the role of a novel interaction between T cell inhibitory molecule PD-1 and E-cadherin in peripheral tolerance and immune evasion by tumor cells	Dr. Gayatri Mukherjee	IIT Kharagpur
19	2023-0329	Synthesis of sustained-releasing rifampicin crystalline formulation for patient compliant treatment of tuberculosis	Dr. Rachit Agarwal	IISc Bangalore
20	2023-0343	A Novel Strategy for the Discovery of exosome based Biomarker for Latent and Active Tuberculosis (TB).	Prof. Gobardhan Das	Jawaharlal Nehru University

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21	2023-0373	SARS-CoV-2 spike protein S1 subunit in muscle atrophy and neuromuscular junction program in type-2 diabetes: A molecular approach to understand the neuromuscular complications in COVID-19 in comorbid conditions	Dr. Vikas Yadav	Jawaharlal Nehru University
22	2023-0377	An Intelligent Artificial Pancreas System for Type-1 Diabetic Patients of India	Prof. Radhkant Padhi	IISc Bangalore
23	2023-0385	MtDNA haplogroup modulation of Mycobacterium Tuberculosis infection variation and severity	Prof. Naresh Babu V. Sepuri	University of Hyderabad
24	2023-0390	Programmable DNA-Peptide Hybrid Nanodevices for High-Throughput Bioimaging: From Single Molecules to Live Cells and tissues	Dr. Dhiraj Bhatia	IIT Gandhinagar
25	2023-0398	Quantifying the effects of antibiotics on soil microbial communities and their impact on soil carbon sequestration	Prof. Sumanta Bagchi	IISc Bangalore
26	2023-0434	Slot machines in our pockets: Elucidating the neural effects of smartphone overuse on reward anticipation and reward processing	Prof. Saurabh Gandhi	IIT Delhi
27	2023-0438	Understanding the cross-talk between autophagy and neurogenesis process in human neural stem cells through RNA-Seq analysis	Dr. Abhishek Kumar Singh	Amity University, Gautam Budh Nagar, Uttar Pradesh
28	2023-0440	Label-free multiple-beam excitation and plasmon enhanced Raman spectroscopy for rapid and label-free molecular detection of bacteria strains: A point-of-care fast and accurate molecular testing technique.	Prof. Dalip Singh Mehta	IIT Delhi
29	2023-0460	Accelerated Clearance of SARS-CoV-2 using Hydrogen Sulfide gas	Prof. Amit Singh	IISc Bangalore
30	2023-0464	Decoding the pathogenic mechanisms of SARS-CoV-2 Delta variant Nucleocapsid mutations: Establishing novel molecular cues for predicting the pathogenic potential of new SARS-CoV-2 variants	Dr. Kesavardana Sannula	IISc Bangalore

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31	2023-0510	Development of a bioelectronic sensor for non-destructive early detection of rice sheath blight: a serious destructive rice disease	Prof. DEBABRATA SIRCAR	IIT Roorkee
32	2023-0516	Investigating a possible role of higher iron acquisition with rapid emergence of drug resistance in clinical isolates of Leishmania donovani.	Dr. Budhaditya Mukherjee	IIT Kharagpur
33	2023-0527	Design and Development of Biomechanical Therapeutics to Mitigate Osteoporosis in Postmenopausal Women with Diabetes Mellitus	Dr. Abhishek Kumar Tiwari	MNNIT Allahabad
34	2023-0580	CORD-M HEAL: A Magnetically Aligned 3D Photogel for Enhanced Neurovascular Guidance following Spinal Cord Injury	Dr. Greeshma Thrivikraman	IIT Madras
35	2023-0598	Plasma-activated water (PAW) a sustainable solution to cure bacterial infections	Prof. Lakshminarayana Rao	IISc Bangalore
36	2023-0603	Nuclear lamins as mechanomodulators of chemoresistance	Prof. Kundan Sengupta	IISER Pune
37	2023-0640	Mechanistic Insights into the Enhanced Permeability and Retention, Abscopal Effect, and Circadian Timekeeping Machinery for Improved Targeted Therapeutics for Colorectal Cancer	Dr. Aravind Kumar Rengan	IIT Hyderabad
38	2023-0643	ENSG00000223839, a novel inhibitor of p53: Deciphering the mechanism and developing new therapeutic strategy for targeting cancer stem cells	Prof. Kumar Somasundaram	IISc Bangalore
39	2023-0683	Investigation on the role of transferrin receptor-1 in glucose-induced lipogenesis in pre-adipocytes	Prof. Chinmay K. Mukhopadhyay	Jawaharlal Nehru University
40	2023-0707	Wheat metallome analysis and development of mineral micronutrient-related gene-specific molecular markers for biofortification programs	Dr. Shailender Kumar Verma	University of Delhi

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41	2023-0720	Investigating the roles of DNA Methyltransferase 3B (DNMT3B) splice variants on the regulation of tumour suppressor genes and leukemic cell proliferation	Prof. SUDHAKAR BALUCHAMY	Pondicherry University
42	2023-0764	Investigating adaptive strategies of forest trees to temperature and water stress to inform climate-resilient forestation in central India	Dr. Robert John Chandran	IISER Kolkata
43	2023-0811	Climate change and water balance challenges in pollinator insects	Dr. Ullasa Kodandaramaiah	IISER Thiruvananthapuram
44	2023-0821	To assess the modulation of histone tails dynamics and chromatin structure by metallodrugs in context of cancer.	Prof. Ashutosh Kumar	IIT Bombay
45	2023-0843	Investigating the role of RNA-Binding proteins (RBPs) in regulating the alternative splicing of Autophagy regulators in Breast cancer cells.	Dr. Sanjeev Shukla	IISER Bhopal
46	2023-0845	Unravelling the role of T3SS translocon-chaperone complex of pathogenic Vibrio parahaemolyticus in toxin delivery to host cells	Dr. Krishna Kumar B	NITTE (DEEMED TO BE UNIVERSITY), Mangaluru, Karnataka, 575018
47	2023-0852	Design of Synthetic Genetic Circuits: Robustness towards Change in the Growth Rate	Dr. Abhilash Patel	IIT Kanpur
48	2023-0855	Phthalocyanine-based photoacoustic contrast agents for the targeted diagnosis of triple-negative breast cancer metastases	Dr. SANHITA SINHARAY	IISc Bangalore
49	2023-0911	Rapid climate change assessments using ecology of flowering phenology and machine learning on landscape images.	Dr. Vinita Gowda	IISER Bhopal
50	2023-0930	miR159 and miR319-regulated architecture and immunity development in plants	Prof. ASHIS KUMAR NANDI	Jawaharlal Nehru University

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51	2023-0939	Role of cell-matrix interaction associated signaling in metabolic reprogramming of macrophages during sepsis.	Dr. Pranita P. Sarangi	IIT Roorkee
52	2023-0966	Understanding the Mechanism of SARS-CoV-2 RNA Replication Initiation and Proofreading for Therapeutics	Prof. Saikrishnan Kayarat	IISER Pune
53	2023-1015	Mechanistic investigations into the minimal cell division machinery of cell wall less bacteria	Dr. Gayathri Pananghat	IISER Pune
54	2023-1032	Engineering CRISPR-based antimicrobials for selective targeting of drug resistant bacteria	Prof. B ANAND	IIT Guwahati