

SwarnaJayanti Fellowships Scheme- 2020-21

Applications Received - Physical Sciences

S.No	Title of the Proposed Project Proposal/ Temporary File No.	Applicant Name And Institute
1.	Hydrodynamics of swimming spermatozoa cells DST/SJF/PS/2021/168	Dr.Sumesh P Thampi Indian Institute of Technology-Madras, Chennai
2.	Exploring the lifetime frontier of particle physics - the quest for longlived particles DST/SJF/PS/2021/167	Dr.Biplob Bhattacharjee Indian Institute of Science, Bengaluru
3.	Fabrication of MXene based Solid-State High-Performance Flexible Supercapacitor Device DST/SJF/PS/2021/166	Dr.Vijaykumar Shivaji Mahavidyalaya, Shivaji College Udgir
4.	Fluorescence resonance energy transfer FRET based turn-on nurosensor for biosensing applications DST/SJF/PS/2021/165	Dr. Raunak Kumar Tamrakar Bhilai Institute of Technology
5.	Fabrication of scintillation detectors from indigenously grown CsI Tl and plastic scintillators for fast timing measurements DST/SJF/PS/2021/164	Dr.Rajesh P Sri Sivasubramaniya Nadar (SSN) College of Engineering, Old Mahabalipuram, Kalavakkam
6.	Rational Design and Quantum Dynamical Study of Singlet Fission Sensitized Perovskite Single Crystal Solar Cells Fundamental Photophysics to Commercialization DST/SJF/PS/2021/163	Prof.Soumitra Satapathi Indian Institute of Technology-Roorkee
7.	Probing the Stellar Environments using the Spectral Line Formation Theory DST/SJF/PS/2021/162	Dr.Malali Sampoorna Indian Institute of Astrophysics, Bengaluru
8.	Theoretical Insights of Capturing Excitonic Effects in Lead-Free Alloyed Double Perovskites DST/SJF/PS/2021/161	Prof. Saswata Bhattacharya Indian Institute of Technology-Delhi
9.	Exploring spin-manipulated charge transport in disordered/ asymmetric hybrid 2D materials for green energy generation and storage DST/SJF/PS/2021/160	Dr.Praveen Kumar Indian Association for The Cultivation of Science, Kolkata

10.	Non-equilibrium dynamics in quantum matter- from spin systems to lattice gauge theories DST/SJF/PS/2021/159	Prof.Arnab Sen Indian Association for The Cultivation of Science, Kolkata
11.	Particle Accelerators on a Tabletop-PAT DST/SJF/PS/2021/158	Dr.Bhuvanesh Ramakrishna Indian Institute of Technology, Hyderabad
12.	To explore novel light transmission and state manipulation schemes for future all-photonics technologies Topological optical fibers and fiberbased systems, and beyond DST/SJF/PS/2021/157	Dr.Somnath Ghosh Indian Institute of Technology, Jodhpur
13.	Quantum control of molecular dynamics and reactions DST/SJF/PS/2021/156	Dr. Rajesh Kumar Kushawaha Physical Research Laboratory, Ahmedabad
14.	Cluster dynamics in self-organized biological systems DST/SJF/PS/2021/155	Dr.Vishwesha Guttal Indian Institute of Science, Bengaluru
15.	Synthesis and luminescence studies of rare earth activated Inorganic phosphors for Low Carbon Emitting, Eco-Friendly Solid State Lighting DST/SJF/PS/2021/154	Dr.Vishal Ramchandrarao Panse Late Bhaskarrao Shingane Arts Prof Narayanrao Gawande Science and Ashalata Gawande Commerce College, Sakharkherda
16.	Moire magnets and topological hierarchy DST/SJF/PS/2021/153	Dr.Tanmoy Das Indian Institute of Science, Bengaluru
17.	General descriptor of catalysts to find the activity towards OER using Quantum Mechanics/Machine Learning approach DST/SJF/PS/2021/152	Dr.Ranjit Thapa SRM University-AP, Amaravati
18.	Unravelling the microphysics of warm clouds The collisioncoalescence conundrum DST/SJF/PS/2021/151	Prof.Samriddhi Sankar Ray TIFR- International Center For Theoretical Sciences, Bengaluru
19.	Synthesis and characterization of novel perovskite oxides for energy storage applications DST/SJF/PS/2021/150	Dr.RAJESH R Velammal College of Engineering and Technology, Madurai
20.	Distinguishing New Physics scenarios in present and future experiments DST/SJF/PS/2021/149	Dr. Priyotosh Bandyopadhyay Indian Institute of Technology, Hyderabad

21.	Fabrication of well-aligned activated carbon nanostructures using block copolymer templates for energy storage applications DST/SJF/PS/2021/148	Dr. Sivanantham Murugaboopathy PRIST University, Thanjavur
22.	Scattering Amplitudes and Flat Space Holography DST/SJF/PS/2021/147	Dr. Shamik Banerjee Institute of Physics, Bhubaneswar
23.	Organic Inorganic Metal Halide Perovskite for Simultaneous Energy Harvesting and Light Fidelity Applications Pro-LiFi DST/SJF/PS/2021/146	Dr.Trilok Singh Indian Institute of Technology, Kharagpur
24.	Use of acoustic waves in particle manipulation and partial filtration for efficient cleaning and treatment of polluted water medium scale DST/SJF/PS/2021/144	Dr.Pradeep Bhaskar Presidency University, Bengaluru
25.	Development of thermoelectric energy harvester using functional metal oxide thin films DST/SJF/PS/2021/143	Dr.Anjali Sharma Kaushik Atma Ram Sanatan Dharma College, Dhaula Kuan
26.	Adiabatic geometric phase in optical parametric frequency conversion processes DST/SJF/PS/2021/142	Dr.Ritwick Das National Institute of Science Education and Research, Jatni
27.	On the Crystallographic, Electronic, and Opto-Electronic Tunability of Metals and Metal Dichalcogenides in 'Water-in-Salt' Electrolytes for High Performance Energy Systems DST/SJF/PS/2021/141	Prof.Narayanan T N Tata Institute of Fundamental Research, Hyderabad
28.	Probing the Higgs boson CP and couplings at LHC and future collider experiments DST/SJF/PS/2021/140	Dr.Aruna Kumar Nayak Institute of Physics, Bhubaneswar
29.	Terahertz radiations generation in anharmonic carbon nano tubes DST/SJF/PS/2021/139	Dr.Vishal Thakur Lovely Professional University, Phagwara
30.	Harvesting dark photons via narrow bandgap quantum dots and their integration with existing solar cell technologies DST/SJF/PS/2021/138	Dr.Arup Kumar Rath National Chemical Laboratory, Pune

31.	Proficient Deactivation of Pharmaceuticals Waste Water in Submerged Thermal Plasma Process DST/SJF/PS/2021/137	Dr.Yugeswaran Subramaniam Pondicherry University, Kalapet
32.	Dynamical Modelling of Galactic Bars DST/SJF/PS/2021/135	Dr.Arunima Banerjee Indian Institute of Science Education and Research, Tirupati
33.	Multidimensional Optical Probing of Intense Nanosecond Laser Plasmas DST/SJF/PS/2021/134	Dr. Amitava Adak Indian Institute of Technology ISM, Dhanbad
34.	Quantum Materials Route to Exotic Quantum States and Excitations DST/SJF/PS/2021/133	Dr.Panchanana Khuntia Indian Institute of Technology Madras, Chennai
35.	Molecular-adducts and radicals for electronic doping DST/SJF/PS/2021/132	Dr.Pabitra Kumar Nayak TIFR-Centre for Interdisciplinary Sciences, Hyderabad
36.	Surface Plasma Wave assisted efficient electron acceleration DST/SJF/PS/2021/131	Dr.Jyoti Rajput Lovely Professional University, Phagwara
37.	Electromagnetic response of hot and dense QCD medium in extreme temperatures and/or energy densities DST/SJF/PS/2021/130	Dr.Vinod Chandra Indian Institute of Technology, Gandhinagar
38.	Neutrino Mass Models at the Energy, Intensity, and Cosmic Frontiers DST/SJF/PS/2021/129	Dr.Manimala Mitra Institute of Physics, Bhubaneswar
39.	Stability and chaos in suspension of polar active particles Role of inertia DST/SJF/PS/2021/128	Dr. Prasad Perlekar TIFR-Centre for Interdisciplinary Sciences, Hyderabad
40.	Study of the QCD phase diagram using light nuclei production at RHIC DST/SJF/PS/2021/127	Dr.Chitrasen Jena Indian Institute of Science Education and Research, Tirupati
41.	Investigation of Short Ranged Spatial Correlated (SRSC) Structures Inside Nuclei and their Implications DST/SJF/PS/2021/126	Dr.Ranjeet Dalal Guru Jambheshwar University of Science and Technology, Hisar
42.	Nickel rich positive electrode materials for advanced Li-ion batteries DST/SJF/PS/2021/125	Dr.Rahul R Salunkhe Indian Institute of Technology, Jammu

43.	Investigation of solid electrolytes for lithium batteries DST/SJF/PS/2021/124	Dr.Swarup Kundu Sri Sathya Sai Institute of Higher Learning, Andhra Pradesh
44.	Development of Point Defects Induced On-chip Solid State Quantum Emitter Array for Next Generation Optical Communications DST/SJF/PS/2021/123	Dr. Kiran Shankar Hazra Institute of Nano Science and Technology, Mohali
45.	Future Low Energy Quantum Electronics from van der Waals Materials DST/SJF/PS/2021/122	Dr.Abhishek Misra Indian Institute of Technology Madras, Chennai
46.	Synthesis of Polyaniline coated Graphene like nanosheets and Their Functionalization with TM Nanoparticles for Hydrogen Gas Sensing Application DST/SJF/PS/2021/121	Dr.Subodh Srivastava Vivekananda Global University, Jaipur
47.	Interplay of Symmetries and entanglement in gapless quantum matter DST/SJF/PS/2021/120	Prof.Subhro Bhattacharjee TIFR-International Center For Theoretical Sciences, Bengaluru
48.	Exploring Quantum Information Theory of Black Holes and Strongly Correlated Matter DST/SJF/PS/2021/119	Dr. Ayan Mukhopadhyay Indian Institute Of Technology-Madras, Chennai
49.	Entanglement and quantum information in interacting and topological quantum systems DST/SJF/PS/2021/118	Dr.Sumilan Banerjee Indian Institute of Science, Bengaluru
50.	Effective Field Theory to probe physics beyond the Standard Model DST/SJF/PS/2021/117	Dr.Subhaditya Bhattacharya Indian Institute of Technology, Guwahati
51.	Using Convolutional Neural Network for Neutrino Event Classification DST/SJF/PS/2021/116	Dr.Satyajit Jena Indian Institute of Science Education and Research Mohali
52.	Supernova remnants as the gateway to understand astrophysical turbulence and star formation DST/SJF/PS/2021/115	Dr.Nirupam Roy Indian Institute of Science, Bengaluru
53.	Imaging convection in the interior of the Sun DST/SJF/PS/2021/114	Prof.Shravan Hanasoge Tata Institute of Fundamental Research, Mumbai

54.	Carbon quantum dots decorated Delafossite oxide supported on MOFs in heterogeneous visible-light photocatalysis for degradation of pollutants DST/SJF/PS/2021/112	Dr. S Sudheer Khan Bannari Amman Institute of Technology, Sathyamangalam
55.	Superconducting Topological Semimetals New Paradigm for Unconventional Superconductors DST/SJF/PS/2021/111	Dr. Ravi Prakash Singh Indian Institute of Science Education and Research, Bhopal