

## SwarnaJayanti Fellowships Scheme- 2019-20

### List of Applications -Physical Sciences

S.No	Title of the Proposed Project Proposal/ Temporary File No.	Applicant Name And Address
1.	Studies on the spectral and temporal modification of spontaneous emission of solid state defects using resonant photonic structures  DST/SJF/PS/2020/60	Dr.Rajesh V Nair  Indian Institute of Technology-Ropar Nangal Rd, Hussainpur, Rupnagar, Punjab-140001
2.	Imaging convection in the interior of the Sun  DST/SJF/PS/2020/62	Prof.Shravan Hanasoge  Tata Institute of Fundamental Research (TIFR) 1, Homi Bhabha Road, Colaba, Mumbai Maharashtra-400005
3.	Building Better Batteries: Development of Dual-Carbon and Al-ion Battery Prototypes from Spent Li-ion Battery  DST/SJF/PS/2020/64	Dr.Vanchiappan Aravindan  Indian Institute of Science Education and Research-Tirupati Rami Reddy Nagar, Karakambadi Road, Mangalam P.O. Tirupati Andhra Pradesh-517507
4.	Neutrino Murmurations and Supernova Explosions  DST/SJF/PS/2020/66	Prof.Basudeb Dasgupta  Tata Institute of Fundamental Research (TIFR) 1, Homi Bhabha Road, Colaba, Mumbai Maharashtra-400005
5.	Probing the Higgs boson properties at LHC and silicon detector RandD for future collider experiments  DST/SJF/PS/2020/67	Dr.Aruna Kumar Nayak  Institute of Physics Sachivalaya Marg, Bhubaneswar Odisha-751005
6.	Studies of twisted magnets and novel topological spin textures  DST/SJF/PS/2020/69	Dr.Tanmoy Das  Indian Institute of Science C. V. Raman Road Bangalore Karnataka-560012
7.	On Progressing a Leap Forward to Understand Heating and Mass Transport in the Sun's Atmosphere  DST/SJF/PS/2020/70	Dr.Abhishek Kumar Srivastava  Indian Institute of Technology-BHU Banaras Hindu University, Varanasi, Uttar Pradesh-221005

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8.	Search for elusive new physics at the LHC and beyond  DST/SJF/PS/2020/71	Dr.Biplob Bhattacharjee  Indian Institute of Science C. V. Raman Road Bangalore Karnataka-560012
9.	Dynamical origin of extreme events and data-based early warning detection  DST/SJF/PS/2020/72	Dr.Dibakar Ghosh  Indian Statistical Institute, Kolkata Plot No 203,Barrackpore Trunk Road, Dunlop,Bonhooghly, Kolkata West Bengal-700108
10.	Signatures of Electro-weak Phase Transition in Colliders and other Experiments  DST/SJF/PS/2020/73	Dr.Priyotosh Bandyopadhyay  Indian Institute of Technology- Hyderabad Kandi, Sanga Reddy, Hyderabad Telangana-502285
11.	Design Principles of Novel Porous Covalent Organic Frameworks and Their Application in On-Board Vehicular Hydrogen Storage at Ambient Condition  DST/SJF/PS/2020/74	Dr.Srimanta Pakhira  Indian Institute of Technology-Indore Khandwa Road, Simrol Indore Madhya Pradesh-453552
12.	Development of single molecule sensor using magnetic nanocontacts  DST/SJF/PS/2020/75	Prof.Suryanarayana Jammalamadaka  Indian Institute of Technology- Hyderabad Kandi, Sanga Reddy, Hyderabad Telangana-502285
13.	Heusler Alloys - A material class with promising multi-functional topological properties  DST/SJF/PS/2020/76	Prof.Aftab Alam  Indian Institute of Technology-Bombay Powai, Mumbai Maharashtra-400076
14.	Novel transport and optical phenomena induced by Berry curvature in topological and 2D materials.  DST/SJF/PS/2020/77	Prof.Amit Agarwal  Indian Institute of Technology-Kanpur Kanpur Nagar Uttar Pradesh-208016
15.	Intelligent materials for food packaging application  DST/SJF/PS/2020/78	Dr.Raunak Kumar Tamrakar  Bhilai Institute of Technology Bhilai House Durg Chhattisgarh-491001

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16.	Time resolved X-ray diffraction under electric field as a probe to structural dynamics in ferroelectrics  DST/SJF/PS/2020/79	Dr.Dinesh Kumar Shukla  UGC DAE CSR Indore Centre DAVV Campus Khandwa Road Indore Madhya Pradesh-452001
17.	Development electrochemical supercapacitor based on ternary cobalt oxide/ sulfides reduced graphene oxide composite  DST/SJF/PS/2020/81	Dr.Gaurav Mahadev Lohar  Lal Bahadur Shastri College of Arts Science and Commerce 17, Malhar Peth Satara Maharashtra-415002
18.	Driven and correlated quantum matter  DST/SJF/PS/2020/82	Prof.Arnab Sen  Indian Association for the Cultivation of Science 2A &2B Raja S C Mullick Road, Kolkata West Bengal-700032
19.	Exploration of emerging phenomena in quantum materials using Magneto-transport, Thermoelectricity and Magnetic studies  DST/SJF/PS/2020/83	Dr.Chadr Shekhar Yadav  Indian Institute of Technology-Mandi Kamand Campus, Vpo Kamand Distt. Mandi Himachal Pradesh-175005
20.	Anisotropic Particles in Turbulent Flows From sub-Kolmogorov to Inertial Scales  DST/SJF/PS/2020/84	Dr.Samridhi Sankar Ray  International Center for Theoretical Sciences, TIFR Survey No. 151, Shivakote, Hesaraghatta Hobli, Bengaluru Karnataka-560089
21.	Emergent phenomena in metal halide perovskite nanocrystals and 2D semiconductors  DST/SJF/PS/2020/85	Dr.Adarsh Kumaran Nair Valsala Devi  Indian Institute of Science Education and Research-Bhopal Bhopal Bypass Road, Bhauri, Bhopal Madhya Pradesh-462066
22.	Ligand creativity to counter COVID 19 by Quantum computational aided drug design  DST/SJF/PS/2020/87	Dr. A. Suvitha  CMR Institute of Technology Bangalore #132, AECS Layout ITPL Main Road Kundalahalli Bangalore Karnataka-560037
23.	Cosmology from Space  DST/SJF/PS/2020/88	Dr.Abhirup Datta  Indian Institute of Technology-Indore Khandwa Road, Simrol Indore Madhya Pradesh-453552

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24.	Study of fusion-fission dynamics in heavy mass region via total and individual channel ER cross section measurements  DST/SJF/PS/2020/89	Dr.Jagdish Gehlot  Inter University Accelerator Center, Aruna Asaf Ali Marg, Near Vasant Kunj, New Delhi Delhi-110067
25.	Spin-orbit coupling via interface engineering for future spintronic devices  DST/SJF/PS/2020/90	Prof.Subhankar Bedanta  National Institute of Science Education and Research Jatni, Odisha -752050
26.	Probing Fundamental Physics with Astrophysical Observations  DST/SJF/PS/2020/91	Prof.Varun Bhalerao  Indian Institute of Technology-Bombay Powai, Mumbai Maharashtra-400076
27.	Environment Friendly Synthesis of Low Large Area Graphene Nano Sheets using Liquid Phase Exfoliation and their Functionalization with Metal/Metal Oxid  DST/SJF/PS/2020/92	Dr.Subodh Srivastava  Vivekananda Global University, Sector-36, NRI Road, Sisyawas, Jagatpura, Jaipur Rajasthan-303012
28.	Exploration of novel pseudospark electron beam based portable and tunable EUV/soft X-ray source for biomedical applications  DST/SJF/PS/2020/93	Dr.Udit Narayan Pal  CSIR -Central Electronics Engineering Research Institute, Pilani, Rajasthan-333031
29.	Novel Design of Radiation Shielding using Geant4 Simulations and Effects Analysis for Space Applications.  DST/SJF/PS/2020/95	Dr.Kavita Lalwani  Malaviya National Institute of Technology, Jaipur MNIT Campus, JLN Marg, Jaipur Rajasthan-302017
30.	Thermodynamic properties of particle scattering by ultra-cold quantum systems  DST/SJF/PS/2020/96	Dr.Shyamal Biswas  University of Hyderabad Prof. C.R Rao Road Central University HyderabadP.O.,Hyderabad Telangana-500046
31.	Beyond Standard Model Physics at Energy, Intensity, and Cosmic Frontiers through the Looking Glasses of Neutrino, Dark Matter, and Gravitational Wave  DST/SJF/PS/2020/97	Dr.Manimala Mitra  Institute of Physics Sachivalaya Marg, Bhubaneswar Odisha-751005

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32.	Exploring breakup probabilities of weakly bound nuclei  DST/SJF/PS/2020/98	Dr.Vivek Vijay Parkar  Bhabha Atomic Research Center Trombay, Mumbai Maharashtra-400085
33.	Mathematical and practical aspects of quantum dynamics in electrodynamics, spectroscopy, and chaos  DST/SJF/PS/2020/99	Dr.Dibyendu Roy  Raman Research Institute C. V. Raman Avenue, Sadashivanagar, North of Bengaluru, (Near Mekhri Circle), Bengaluru, Karnataka-560080
34.	Hot and dense QCD matter in the presence of external electromagnetic fields  DST/SJF/PS/2020/100	Dr.Vinod Chandra  Indian Institute of Technology Gandhinagar Palaj, Gandhinagar Gujarat-382355
35.	Development of Machine Learning Tool for Neutrino Experiments  DST/SJF/PS/2020/102	Dr.Satyajit Jena  Indian Institute of Science Education and Research-Mohali Knowledge City, Sector 81 SAS Nagar, PO Manauli Punjab-140306
36.	Development of Solution Processable third electrode based Organic-Inorganic Hybrid Perovskite Solar Cells  DST/SJF/PS/2020/103	Prof.Pramod Kumar  Indian Institute of Technology-Bombay Powai, Mumbai Maharashtra-400076
37.	Engineering Quantum Matter and Quantum states in dipolar systems towards Quantum technological Applications  DST/SJF/PS/2020/104	Prof.Rejish Nath  Indian Institute of Science Education and Research-Pune Dr. Homi Bhabha Road, Pune Maharashtra-411008
38.	Next generation photonic sources with all-inorganic metal halide perovskites  DST/SJF/PS/2020/105	Dr.Sai Santosh Kumar Raavi  Indian Institute of Technology-Hyderabad Hyderabad Kandi, Sanga Reddy, Hyderabad Telangana-502285
39.	Probing extreme gravity and astrophysics using gravitational-wave observations  DST/SJF/PS/2020/106	Prof.Parameswaran Ajith  International Center for Theoretical Sciences, TIFR Survey No. 151, Shivakote, Hesaraghatta Hobli, Bengaluru Karnataka-560089

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40.	Quantum Dynamics, Correlation Functions and Holography  DST/SJF/PS/2020/107	Dr.Arnab Kundu  Saha Institute of Nuclear Physics Block AF, Sector 1, Bidhannagar, Kolkata West Bengal-700064
41.	Probing carrier dynamics in heterostructures of topological materials using magneto terahertz time-domain spectroscopy  DST/SJF/PS/2020/108	Dr.Rajendra Singh Dhaka  Indian Institute of Technology-Delhi, Hauz Khas, New Delhi Delhi-110016
42.	Landscape of Beyond the Standard Model Physics at Neutrino Experiments  DST/SJF/PS/2020/109	Dr.Sanjib Kumar Agarwalla  Institute of Physics Sachivalaya Marg, Bhubaneswar Odisha-751005
43.	Quantum simulations with superconducting circuit Quantum Electrodynamics  DST/SJF/PS/2020/110	Dr.Tapan Mishra  Indian Institute of Technology-Guwahati Guwahati Assam-781039