

OFFICE OF THE DEAN (R&C)
NATIONAL INSTITUTE OF TECHNOLOGY CALICUT
Faculty Research Seed Grant (FRG) Funding Scheme Phase III - 2023

Sl No:	Name	Title of Project	Total
Architecture and Planning			
1	Dr Jayasree T K	Implications of Climate Change on Natural ventilation and the Building performance gap	5,00,000
2	Dr KIRUTHIGA K	Experimental Investigation of the influence of wood-wood connections on Mechanical behavioral of Timber Geodesic Dome	5,00,000
3	Dr Samiksha Srichandan	Engaging the Next Generation: Designing an Interactive Visual Kit for Sensitizing Cultural Heritage Education in Schools.	5,00,000
4	Dr SANIL KUMAR	Evaluating the Impact of Urban Microclimate on Buildings in Warm humid and Temperate climates - A Comparative Study	5,00,000
5	Dr Susanta Banerjee	Applicability study of plastic fiber embedded laterite soil-made block for masonry structures	4,99,762
6	Dr Kiriti Sahoo	Retrofit in Educational Institutions for Enhancing Natural Ventilation	5,00,000
School of Biotechnology			
7	Dr ILANILA I P	Unraveling Bacterial Lipid Membrane Fusion Kinetics in Different Morphological Forms	5,00,000
8	Dr RAJASEKHARA REDDY KATREDDY	Study the Role of TMEM45B in Non-Small Cell Lung Cancer	5,00,000
9	Dr SAKET CHANDRA	Investigation and optimization of in vitro regeneration of Impatiens species – A threatened plant species of Kerala	5,00,000
Chemical Engineering			
10	Dr Ahammed Sherief K Y	Optimization of Bioethanol Production from Food Waste	4,98,000

11	Dr Aniruddha Sanyal	NUMERICAL STUDY FOR FLOW AND HEAT TRANSFER PAST A PAIR OF BLUFF BODIES IN A TIME-DEPENDENT YIELDING-TYPE WEAKLY COMPRESSIBLE FLUID	5,00,000
12	Dr Ranjith P M	Electrochemical Investigation of Tribo-corrosion during CMP/post-CMP cleaning processes of semiconductor devices	5,00,000
13	Dr Shivanandkumar Veeram	Modelling of Gas Hydrates using Machine Learning	5,00,000
14	Dr SUBHASIS MANDAL	Water Splitting Hydrogen Production by electrolysis process in presence of MOF based catalyst	5,00,000
15	Dr M Yogesh Kumar	Design, development and testing of microbial biocement and plant based renewable bioadditives as sustainable construction materials	5,00,000
Civil Engineering			
16	Dr AJEESH S S	Experimental investigation on the impact resistance of thin-walled rectangular hollow sections	5,00,000
17	Dr Anil Kumar	PERFORMANCE OF TREATED AND UNTREATED COAL BASED BOTTOM ASH AND BOTTOM ASH FROM MUNICIPAL SOLID WASTE INCINERATION AND ITS POTENTIAL USE IN ROAD CONSTRUCTION	4,98,000
18	Dr BAYYA RADHIKA	Time-frequency based measures for structural health monitoring of vibrating systems	5,00,000
19	Dr Bhaskar S	SUSTAINABLE REPLACEMENT OF COMMERCIAL IRON AND HYDROGEN PEROXIDE WITH LATERITE IRON AND INSITU H ₂ O ₂ IN MFC BASED BIO ELECTRO FENTON'S OXIDATION OF PHARMACEUTICAL ACTIVE COMPOUNDS (PH. AC'S)	5,00,000
20	Dr HILLOL CHAKRAVARTY	RAPID ASSESSMENT OF FUNCTIONAL AND STRUCTURAL CAPACITY OF PAVEMENTS BY UTILIZATION OF ADVANCED SURVEYING TECHNIQUES	3,90,000
21	Dr M ABDUL AKBAR	Effect of Structural Irregularity on Buildings subjected to Blast Loading and its Post-Blast Fire Resistance	5,00,000
22	Dr MADHAVAN K	Geology and Genesis of gold mineralization in the Tiruvannamalai Archean high grade granulite gneissic belt	5,00,000

23	Dr Munavar Fairouz C	Enhancing Tourist Mobility and Accessibility: Designing Multimodal Transportation Systems for Popular Destinations in Mid-Sized Cities	5,00,000
24	Dr Nishant Mukund Pawar	Development of hazard perception test for evaluating situation awareness of the drivers using physiological and driving performance measures	5,00,000
25	Dr PRATEEK NEGI	Ground Monitoring of Coastal Protection Structures Using Time-Series InSAR	5,00,000
26	Dr Resmi S R	A study on Erosion Hazard, Vulnerability and Risk Assessment in Upper Tapi River basin, India	5,00,000
27	Dr Rohan Bhasker	EFFECT OF GROUND MOTION DURATION ON THE NONLINEAR SEISMIC RESPONSE OF REINFORCED CONCRETE FRAMED STRUCTURES	4,63,000
28	Dr SHARAN KUMAR	Development of Sustainable High-Speed Railway Sleepers: An Experimental and Numerical Study	5,00,000
Computer Science and Engineering			
29	Dr A SUDARSHAN CHAKRAVARTHY	Design and Development of Efficient Resource Management Mechanisms in Edge Computing Assisted UAV Networks for Effective Aerial Operations	5,00,000
30	Dr Joe Cheri Ross	Cover Song Identification in Indian Popular Music	4,93,000
31	Dr Venkatarami Reddy Chintapalli	REACH: Reliability and Energy-Aware Provisioning of Parallelized Service Function Chains with Delay Guarantees in Mobile Edge Networks	4,98,000
Electrical Engineering			
32	Dr ANGSHUDEEP MAJUMDAR	Optimization of SRM Drives for Reduction of Torque Ripple and Copper Loss	5,00,000
33	Dr HARISH SUDHAKARAN NAIR	Development of a Predictive Control Algorithm for High-Frequency Switched Single-Phase AC-DC Converters	5,00,000
34	Dr RAKESH R WARIER	Efficient Multi-Robot Task Allocation and Trajectory Planning Considering Task Dependencies for Collaborative Systems	5,00,000
35	Dr Sathiya S	DESIGN AND DEVELOPMENT OF SMART LEVEL MEASUREMENT SYSTEM WITH SLOSHING EFFECTS IN AUTOMOTIVE FUEL TANKS USING DEEP LEARNING APPROACH.	5,00,000

36	Dr Vivek Mohan	Development of Reliability-Cost Benchmarking Index and Evaluation Toolbox for Wind Energy Systems	5,00,000
Electronics and Communication Engineering			
37	Dr CHITHIRA P R	Hardware implementation of High-Performance Digital Filters using Booth encoded Floating Point Multipliers for Processing of Medical Images	4,63,000
38	Dr Gaurav Siddharth	Low-cost, Highly-efficient Indoor Photovoltaic devices	5,00,000
39	Dr JAILSINGH BHOOKYA	Automatic recognition of road asphalt, cracks and condition assessment system for Android-based devices using IoT technology in smart city.	5,00,000
40	Dr Manisha Prafulla Parlewar	Deep Gaussian Process for Facial Age Estimation	5,00,000
41	Dr Nikhil Kumar C.S.	Design and Development of Biocompatible Microwave Hyperthermia Applicator for Breast Cancer Treatment	5,00,000
42	Dr NUJOOM SAGEER KARAT	Index Coding for Effective Message Dissemination in VANETs	5,00,000
43	Dr RAKESH R T	Design and Development of a Quasi-deterministic Channel Simulator based on Wireless Channel Measurements	5,00,000
44	Dr Sanjay Viswanath	Development of Non-Convex Spatially Adaptive Regularization method for Magnetic Resonance Imaging (MRI) Reconstruction from under-sampled Fourier data.	5,00,000
45	Dr SRINIVASARAO CHINTAGUNTA	Invention of New Schemes for Channel Estimation, Signal Detection, and PAPR Reduction of OTFS System	5,00,000
Management Studies			
46	Dr MANJU MAHIPALAN	Imposter Phenomenon in Women Educators: A Qualitative Inquiry	5,00,000
47	Dr Sreekanth V K	Open Research and Innovation Oriented Network (ORION) Laboratory	5,00,000
48	Dr Vrinda Varma	The Motherhood Memory Project	5,00,000
Materials Science and Engineering			
49	Dr APARNA ZAGABATHUNI	Design and Development of Biodegradable Multilayer Scaffold for Periodontitis Treatment using Electrospinning and 3D Printing Technology	5,00,000
50	Dr C N SHYAM KUMAR	Design and fabrication of MEMS based microheater	5,00,000

51	Dr VINOD ERKKARA MADHAVAN	Pb Free Absorber Layers For Perovskite Solar Cells	5,00,000
Mathematics			
52	Dr NEETU GARG	Robust and Efficient Numerical Scheme for a Class of Time-Fractional Burgers Type Equations	5,00,000
53	Dr VIBHUTI ARORA	Study of Bohr's theorem for holomorphic functions in several complex variables	4,78,000
Mechanical Engineering			
54	Dr A V S S H SRAVAN KUMAR	Modelling of Micro-Machining Processes	5,00,000
55	Dr AMIT KUMAR RAI	Reduced order model (ROM) for nonlinear vibrations of beam and plate subjected to harmonically varying moving loads.	5,00,000
56	Dr Amit Kumar Singh	Extrusion Based Bio-Printing of Medical Phantoms using Bio-Inks	5,00,000
57	Dr Arindam Bhattacharjee	Modeling, detailed and approximate, of non-smooth response of simple flexible systems	4,00,000
58	Dr Arun Babu Kizhakkiniyakathu	A systematic study on the hot deformation behavior of Fe-Mn-Al-C steel	5,00,000
59	Dr ILANGO M	Trajectory optimization-based predictive simulation models for above-knee prostheses design	4,98,000
60	Dr JACOB KOSHY MULAMOOTIL	Application of heat transfer enhancement methods inspired by natural transport systems to conventional heat exchangers	5,00,000
61	Dr Mohammed Rashad K	Macroporous ceramics from fly ash using high-internal phase pickering emulsion templating method	5,00,000
62	Dr NIDHI BARANWAL	Study of nozzle design of fighter aircraft and their performance penalties	4,78,000
63	Dr Pradeepmon T G	Performance Analysis of Picking Path Strategies in Various Warehouse Layouts Using Simulation	4,98,471
64	Dr R PRABHU SEKAR	Fatigue crack propagation analysis and evaluation of stress intensity factors at crack tip in non-standard symmetric and asymmetric internal spur gears.	4,00,000
65	Dr SAJAN T JOHN	Multi-objective optimization of reverse logistics network design	5,00,000

66	Dr SANJEEV KUMAR MANJHI	Development of sensitive Nano-sensors for Heat Flux Measurements under high Speed Flow	5,00,000
67	Dr Sharu B K	Design of cement-free, stimuli-responsive, and organic-inorganic hybrid slurries with high CO2 uptake potential	5,00,000
68	Dr VIJAYARAJ K	Design and performance studies of contra-rotating axial flow turbines and compressors	5,00,000
69	Dr VIKASH KUMAR	Modeling and Optimization of Laser Bending of Brittle Materials	4,40,000
70	Dr VINOD KUMAR SHARMA	Development of single-stage metal hydride compressor (SSMHC) for pressure output of >200 bar	5,00,000
Physics			
71	Dr ANIRBAN SARKAR	Intensity fluctuations spectroscopy of Förster resonance energy transfer assisted polymer film random laser for gas sensing application	5,00,000
72	Dr ANOOP VARGHESE	Role of hydrodynamic interactions in the kinetics of reversible aggregation in associating polymers	5,00,000
73	Dr Haris M K	Seeing the unseen: Localization of gravitationally lensed binary black holes	5,00,000
74	Dr NATESAN YOGESH	Near-Zero Refraction in Metasurfaces and Photonic Bandgap Structures for Electromagnetic Wavefront and Beam-Shaping Applications	5,00,000
75	Dr RAMAN NAMBOODIRI C K	Development of a metal nanoparticle-dielectric microparticle assembly for Enhancement of Raman Signals	5,00,000
76	Dr SAYANI CHATTERJEE	Study of Self-Organized Criticality and Absorbing Phase Transition in Nonequilibrium Steady States	5,00,000