

Kerala State Council for Science, Technology & Environment

Engineering & Technology Programme

List of Pre-Proposals recommended for the next stage

Sl. No.	Title of the Project	Name & Address of PI
1	Strategic valorization of Starchy waste from appam (Rice & Coconut Hoppers) and dosa batter making process for poly (3-hydroxybutyrate-co-3-hydroxyvalerate) and its bio-composite films for sustainable application	Dr. Pinaki Dey Senior Scientist, CSIR –NIIST, Trivandrum
2	Development of a novel bioactive and anti-bacterial composite coating methodology on titanium based medical implants through electro-chemical route: Metallurgical, Nano-Mechanical and in vitro investigations	Dr. Basil Kuriachen Assistant Professor, Department of Mechanical Engg, NIT Calicut
3	Light induced locomotion of micromotors for emerging pollutant mitigation	Dr. Aparna K. Associate Professor, Dept. of Chemical Engg, NIT Calicut
4	Investigations on the degradation pathways and transport of microplastics in the environment and its removal technologies	Dr. Sumi S. Assistant Professor, Department of Civil Engineering, College of Engineering Trivandrum
5	Parallel operation of Doubly Fed Induction Generator and Converter in a Microgrid	Dr. Jayaprakash P. Professor, Department of Electrical Engg, Govt. Engineering College Wayanad
6	Development of piezoresistive sensors from pyrolyzed coconut fibre	Prof. C. N. Shyam Kumar Assistant Professor, School of Materials Science and Engineering, NIT Calicut
7	Detection of species adulteration in Ayurvedic herbal drugs	Dr. Kala S Assistant Professor, Department of ECE, IIIT, Kottayam

8	Evaluation of Premature Failure of Repaired Pot Holes and its Preventive Solution	Dr.Hillol Chakravarty Assistant Professor, Department of Civil Engineering, NIT Calicut
9	Real-Time disease identification in coconut plants through Drones using lightweight deep learning techniques	Dr. J. V. Bibal Benifa Assistant Professor, Department of CSE, IIIT Kottayam
10	Computer Aided Diagnostic System for Detection and Classification of Leukemia	Dr. Anilkumar K K Associate Professor in ECE Cochin University College of Engineering, Kuttanad
11	Contamination Detection Using Milli-Meter Wave Radars Based on Machine Learning Algorithms	Dr. Gladwin Jos K. T. Assistant Professor, Department of AE & Instrumentation, Govt. Engineering College, Kozhikode
12	Fully Automatic AI assisted Aeroponics System for Climate Resilient Agriculture	Dr.Ragesh G. K. Assistant Professor, Department of Cyber Security, IIIT Kottayam
13	Mitigation of the impact of Structural Irregularity in Reinforced Concrete Buildings during High Seismic events	Dr. M Abdul Akbar Assistant Professor, Department of Civil Engineering, NIT Calicut
14	Design and development of efficient ventilation strategies for hospital environments	Dr. Harikrishnan S. Assistant Professor, Division of Mechanical Engineering, School of Engineering, CUSAT
15	Assessment of coliform removal with travel distance for different soil types of Kerala and development of copper-tube disinfection system to handle the residual coliform count	Dr.Anantha Singh T S Assistant Professor, Department of Civil Engineering, NIT Calicut
16	Influence of Salinity Ingression on the Geotechnical Strength and Deformation Characteristics of Kerala Marine Clays	Dr.Seethalakshmi P Assistant Professor, Department of Civil Engineering, NIT Calicut
17	Investigations on Geotechnical Properties and their Spatial Variability of Partially Saturated Lateritic Soil for Probabilistic Slope Stability Analysis in Western Ghats, Kerala	Dr. Rakesh J Pillai Assistant Professor, Department of Civil Engineering, IIT Palakkad

18	Development of a new, cost-effective, real-time sensor for estimating the dissolved moisture concentration in transformer oil that causes insulation failure.	Dr. Mithun Muthiah Sakthivel Asst. Professor, Electrical Engineering Dept., NIT Calicut
19	Novel Design of Ultrahigh Conductive Heat Sink	Dr. Venkitaraj K P Assistant Professor, Department of Mechanical Engg, College of Engineering, Adoor
20	Development of functionally graded electrospun membrane for periodontal tissue regeneration therapy	Dr.P.Ramesh Scientist G, Biomedical Technology Wing, SCTIMST, Trivandrum
21	Modelling, Optimization, and Channel Estimation of Intelligent Reflecting Surface - Assisted mmWave 5G communication systems.	Dr. M. Abdul Rahiman Director, LBSCST & Principal, LBSITW, Trivandrum
22	Characterizing the abundance and diversity of bioaerosols in Indoor environments to assess the potential exposure to human pathogens and allergens.	Dr. Aswathy E.V Assistant Professor, Civil Engineering Department, NIT Calicut
23	Mitigation strategies for enhancing the life time of a micro pem fuel cell based portable power source	Dr. Ramesh P. Associate Professor, College of Engineering Munnar
24	Robust And Reliable Traffic Sign Recognition System Using Modified Deep Q Networks	Dr. Soniya B Professor, Department of CSE, SCT College of Engineering, Trivandrum
25	Optimal design and development of 3D Printed Boluses for high conformal radiotherapy techniques.	Dr. Amit Kumar Singh Associate Professor, Department of Mechanical Engg, NIT Calicut
26	Enhancement of shelf life of seasonal seeds by pulsed plasma technique	Dr. Aryanandiny B Professor, Department of Electrical Engg, Rajiv Gandhi Institute of Technology, Kottayam
27	A UHF Based Partial Discharge Detection System for Online Monitoring of Dry Type Transformers	Dr. Nasirul Haque Assistant Professor, Electrical Engineering Department, NIT Calicut
28	Feasibility Study on the Application of Hydrogen Fuel Cells for Propulsion System of Inland Vessels in the State of Kerala	Dr. Rajesh P Nair Assistant Professor, Department of Ship Technology, CUSAT

29	Deep Learning Enabled Brain Atlas for Automated Detection and Diagnosis of Alzheimer's Disease	Dr. John Eric Steephen Assistant Professor, Digital University of Kerala, Thiruvananthapuram
30	Developing sustainable and affordable concrete mix for 3D printing using recycled aggregate	Dr. Santhosh G Thampi Professor and HOD, Department of Civil Engineering, NIT Calicut
31	Design, Fabrication and Characterization of Piezoresistive based force sensors for soft robotics based medical devices	Dr. Lintu Rajan Assistant Professor, Department of Electronics and Communication, NIT Calicut
32	Implementation of an efficient switched reluctance motor drive train considering the vehicle dynamics for EV applications	Dr. Vinita Chellappan Associate Professor, Department of Electrical Engg, Govt. Engineering College, Palakkad
33	Development of a Low-Cost Serverless Federated Learning Framework for Anxiety Management using Electroencephalography Signals	Dr. Christina Terese Joseph Assistant Professor, IIIT Kottayam
34	Analyzing the behavioural responses of post-COVID-19 patients in Kerala and suggest the precautionary measures for the vulnerability groups	Dr. Sujoy Madhab Roy Assistant Professor, Digital University of Kerala, Thiruvananthapuram
35	AI-Based Light-Weight Mobile App to Monitor, Assist and Alert Alzheimer Patients and Caretakers	Dr. Vengadeswaran S Assistant Professor, Department of Computer Science and Engineering, IIIT Kottayam
36	AI based automated system for sustainable Aquaponics	Dr. Bindima T Associate Professor, Dept. of AE & Instrumentation Engg, Govt. Engineering College, Kozhikode
37	Real Time Driver Behavior analysis using Naturalistic Driving Study (NDS) under Mixed Traffic Conditions - A Machine Learning Approach	Dr. Anusha S.P. Associate Professor, Department of Civil Engineering, College of Engineering Trivandrum
38	Development of cost-effective lightweight Polymer Nano composites for EMI shielding applications	Dr. Savier J S Professor, Department of Electrical Engg, College of Engineering Trivandrum
39	Static and Dynamic Condition Assessment of Existing Concrete Dams Employing Non-Contact Sensing Technique	Dr. Prateek Negi Assistant Professor, Department of Civil Engineering, NIT Calicut
40	Acoustic source localization using advanced seagull optimization algorithm based LSTM	Dr. Minu A Pillai Assistant Professor, Department of ECE, IIIT Kottayam

41	Sensitivity and Reliability Analysis of Negative Capacitance Silicon Nanotube Field-Effect-Transistor (NC SiNTFET)-based Biosensor	Dr.Gopi Krishna Saramekala Assistant Professor, ECED Block II, NIT Calicut
42	Morphodynamic Modelling of Rivers and Floodplains of Chalakudi River Basin, Kerala	Dr. Arunkumar R Assistant Professor, Department of Civil Engineering, NIT Calicut
43	Hyperspectral sensing based rapid assessment of lime requirement for site-specific acidity management in laterite soils of Kerala	Dr. Sarathjith M C Scientist B, KSCSTE-CWRDM , Kozhikode
44	Dual Arm Smart Fruit And Vegetable Harvesting Robot	Dr. Mija S J Associate Professor, Electrical Engineering Department, NIT Calicut
45	WESAT - Women Engineered Satellite: Development of a Payload for the Comparison of Solar Radiation Intensity and UV Index Measurements in Space with respect to the Monitoring Station at the LBSITW Campus in Thiruvananthapuram City	Dr. Lizy Abraham Assistant Professor, Department of ECE, LBS Institute of Technology for Women, Trivandrum
46	Eco-Friendly Design of an Effluent Treatment Plant for Textile Industry using Ionic Liquid	Dr. Beula C Associate Professor, Department of Chemical Engineering, Govt. Engineering College Kozhikode
47	Behaviour of High Strength Steel Composite beams using Engineered Cementitious Composites and Graphene Concrete	Dr. Seena P Professor, Department of Civil Engineering, Govt. Engineering College, Thrissur
48	Developing a sustainable hybrid chemical-bio-coagulant (HCBC) for the removal of micro/nano plastics from water/wastewater treatment plants	Dr. Priya K L Assistant Professor, Department of Civil Engineering, TKM College of Engineering, Kollam
49	Design and development of metal matrix composite based heat sink for thermal management of electric vehicle battery packs.	Dr. Samarjeet Chanda Assistant Professor, Department of Mechanical Engg, IIT Palakkad
50	Morphological Assessment of River Stability in Chaliyar, Kerala	Dr. Resmi S R Assistant Professor, Department of Civil Engineering, NIT Calicut