



# RESEARCH & CONSULTANCY ANNUAL REPORT

## 2023



# Message



“Our vision is to become a leading Multidisciplinary Education and Research University (MERU) in the country aligning with NEP 2020 for the sustainable development of our nation through significant contributions to fundamental research and innovative technology development. Toward this goal, we established various innovation and research centers, and are addressing technological challenges through multi-disciplinary approaches. Active collaboration with academic, research, and industrial partners to strengthen multidisciplinary research is promoted in the institution. Various steps are being taken to enhance the research ecosystem of the institute. We are committed to sustainable national goals by executing strategic approaches in research and development. ”

**- Prof. Prasad Krishna  
Director, NITC**

# RESEARCH ADVISORY BOARD



**Prof. Prasad Krishna**  
Director  
NIT Calicut (Chairman)



**Prof. B.L.V. Prasad**  
Director  
Centre for Nano and Soft Matter  
Sciences (CeNS), Bangalore



**Prof. Madhavi Latha G.**  
Professor,  
Department of Civil Engineering  
IISC Bangalore



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Indian Institute of Technology Delhi,  
New Delhi, India



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Department of Mechanical Engineering  
Indian Institute of Technology Kharagpur



**Prof. Rohit Srivastava**  
Himanshu Patel Chair Professor  
Department of Biosciences and Bioengineering  
IIT Bombay



**Prof. N. Sandhyarani**  
Dean Research and Consultancy  
NIT Calicut



# DEAN RESEARCH AND CONSULTANCY

“Our institute has witnessed a significant growth on Research and Development. The institute is creating a research and innovation-friendly environment with cutting-edge infrastructure at the Department and Central Research Facility levels. We actively support faculty involvement in R&D at our institute by coordinating multi-disciplinary teams and fostering brainstorming sessions on national priority themes aiming to create a vibrant environment that encourages collaboration and innovation among our faculty members. Our mission is to cultivate a dynamic and collaborative ecosystem positioning our Institute at the forefront of transformative research.”



**Prof. N. Sandhyarani**  
Dean Research and  
Consultancy



**Dr. Prabu Mohandas**  
Associate Dean R&C



**Dr. Bindiya T. S.**  
Associate Dean R&C



**Dr. Subramanyan NV**  
Associate Dean R&C

# TEAM R & C



**Mr. Sarathkumar V (Assistant Registrar R&C)**

**Mr. Katta Vamsi (Technical Officer)**

**Mr. Chaudhari Vivek Dulichand (Technical Officer)**

**Mr. Dhanjith M R (Superintendent (SG-II))**

**Mr. Shafi S M (Senior Superintendent)**

**Ms. Harsha Bhaskaran (Senior Assistant)**

**Mr. Abhijith Pappan (Junior Assistant)**

**Ms. Anju Karun P K (Project Administrative Assistant)**

**Ms. Jeena R (Project Procurement Assistant)**

**Mr. Mohammed Ashique P K (Project Procurement Assistant)**

**Mrs. Sayana Anand M (Office Assistant)**

**Mr. Mahesh Kumar**

# 2023 IN A GLIMPSE



**200** Running Sponsored projects

**59** New projects sanctioned

**20 cr** Sanctioned amount

**118** Running FRG projects

**76** New FRG projects sanctioned

**25** FRG projects in process

**1.31 cr** Test & Consultancy

**960+**  
Publications

**15000+**  
Citations



# ACHIEVEMENTS OF NITC...



## 5G use case lab award ceremony

(27<sup>th</sup> October 2023)

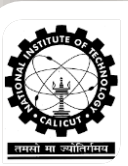
- ❖ NIT Calicut has been selected under the 100 5G Labs Initiative by the Department of Telecommunications (DoT) with the objective of building competencies and engagement in 5G and beyond technologies for students & startup communities.
- ❖ The official award for this achievement was conferred by **the Hon'ble Prime Minister** on the 27th of October 2023 during the Inaugural program of Indian Mobile Congress-2023.



### Team

**Dr. Vinay Joseph : ECED, Dr. Nujoom Sageer K: ECED, Dr. Srinivasarao C: ECED, Dr. Rakesh R. T. : ECED, Dr. Veketarami Reddy: CSED, Dr. Sudarsan Chakravarthy: CSED and Dr. Sameer S. M. : ECED.**

# ACHIEVEMENTS OF NITC...



## ❖ Blue economy and Ocean Governance

Three projects selected by NITI AAYOG for support in the first **India-France Bilateral Dialogue** under India-France Roadmap on **Blue Economy and Ocean Governance**, held in Paris, France, in October 2023.

*Team 1: Dr. Prateek Negi, Dr. Muhammed Safeer and Dr. K V Anand (CED)*

*Team 2: Rakesh Warriar (EED)*

*Team 3: Dr. Vinay V Panicker, Dr. T G Pradeepmon (MED)*

*Congratulations*



## ❖ Science and Heritage Research Initiative (SHRI) program of DST

Funding worth Rs. 1 Crore received from Science and Heritage Research Initiative (SHRI) program of DST for developing CO<sub>2</sub> sequestering bio-based materials for **eco-friendly digital construction techniques for preserving and protecting Indian heritage buildings**.

*TEAM: Blessen Skariah Thomas, CED, Prof. J. Sudhakumar, CED, Prof. Kasturba A. K, DAP, Dr. Sharu B. K., MED, Prof. Suchitra T. V., BSED.*

*Congratulations*

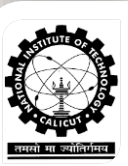
Science & Heritage  
Research Initiative (SHRI)



Govt. of India  
Ministry of Science & Technology  
Dept. of Science & Technology  
(Technology Development Programme)



# ACHIEVEMENTS OF NITC...



- ❖ National Institute of Technology Calicut is designated as **Centre of Excellence in Urban Planning and Design** by **Ministry of Housing and Urban affairs (AMRUT Division)**

*Congratulations to the Department of Architecture and Planning*



- ❖ Department of Electrical Engineering is selected for **Fund for Improvement of S&T Infrastructure grant from DST**
- ❖ **Sanctioned amount - 1.9 Crores**

*Congratulations to the Department of Electrical Engineering*



# EVENTS ORGANISED BY TEAM R&C...

## **An interactive session with SERB officials - 8<sup>th</sup> May 2023**

- ❖ Dr. Arvind Choudhary, Scientist, SERB, Prof. Sayan Bhattacharya, IISER, Kolkata, Prof. Ritu Gupta, IIT Delhi, and Prof. Tokeer Ahmed, Jamia Miia interacted with our faculty members.
- ❖ The Experts detailed about various schemes of SERB and highlighted the importance of focussed well-written proposals.
- ❖ The officials clarified various administrative and operational queries raised by the faculty members.



# EVENTS ORGANISED BY TEAM R&C...

## Interactive session with Prof. Tripta Thakur, Director, National Power Training Institute, Ministry of Power, Government of India

- ❖ An interactive session with **Dr. Tripta Thakur, Director General, National Power Training Institute, Ministry of Power, Government of India**, was organized on 7<sup>th</sup> November 2023.
- ❖ **Prof. Tripta Thakur** detailed the possibilities of securing funding in the energy and power sector, organizing various workshops and skill development programs.
- ❖ **Prof. Tripta Thakur** invited NITC faculty members as resource persons in the training programs of NPTI.



# ORIENTATION SESSIONS TO FACULTY MEMBERS...

## ❑ Interactive session on “*how to write effective SRG proposals*”

**Prof. K. Vijayamohanan Pillai, IISER Tirupati and Team R&C, 8<sup>th</sup> December 2023**

- ❖ **Prof. K. Vijayamohanan Pillai, IISER Tirupati (SERB PAC chairman)** joined the session online, and detailed the various aspects of proposal writing.
- ❖ Further, Team R&C explained various aspects and case studies, and highlighted PI's, reviewer's and PAC committee's perspectives.
- ❖ The participants appreciated the conduct of the session, and based on the feedback, R&C office is pleased to organise more such interactive sessions with experts.

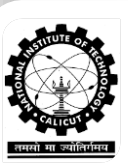


## ❑ **Team R&C organized an interactive session about the successful implementation of FRG proposals, on 4<sup>th</sup> October 2023.**

- ❖ Various aspects of purchase processes, settlements and administrative processes were discussed in detail with the newly joined faculty members.



# R&D CONCLAVE AT NIT WARANGAL (DECEMBER 15-16, 2023)







- Aimed at enhancing research ambience at NITs
- Possibility of arriving uniform R&D policies across all NITs
- Panel discussions on various aspects of R&D
- Dr. Bindiya T S and Dr. Subramanyan N V represented NIT Calicut

- We have presented the videos of 21 inventions
- Presented faculty profiles in the stall
- Good response from academia as well as Industry (GE scientist showed interest in the CO<sub>2</sub> capture technology developed by Dr. R Panneerselvam, CHED)

# LIST OF SPONSORED PROJECTS SANCTIONED IN 2023









SI No	Principal Investigator	Department	Email ID	Name of the Project	Funding Agency	Project amount
1	 <b>Dr. Sudhansu Sekhar Rout</b>	Mathematics	<a href="mailto:sudhansu@nitc.ac.in">sudhansu@nitc.ac.in</a>	A study on the zero multiplicity and S-units in recurrence sequences	Science & Engineering Research Board (SERB)-CRG	21,12,264
2	 <b>Dr. Subramanyan N V</b>	Physics	<a href="mailto:varanakkottu@nitc.ac.in">varanakkottu@nitc.ac.in</a>	Extraction of Colloidal particles from dilute suspensions based on controlled droplet impact	Kerala State Council for Science, Technology and Environment (KSCSTE), Trivandrum	24,25,000
3				Optically - controlled programmable assembly of multi- component 3D colloidal crystals from evaporating droplets	Science & Engineering Research Board (SERB)-CRG	47,80,380
4	 <b>Dr. Prabu Mohandas</b>	CSED	<a href="mailto:prabum@nitc.ac.in">prabum@nitc.ac.in</a>	A step Toward Smart City Environment: A reinforcement Learning Based Intelligent Traffic Control for Transportation Sysytem for smart cities of Kerala	Science & Engineering Research Board (SERB)-CRG	25,40,516
5	 <b>Dr. M K Ravi Varma</b>	Physics	<a href="mailto:r.varma@nitc.ac.in">r.varma@nitc.ac.in</a>	Advanced Distributed Acoustic Intrusion Sensing using Optical Fibre Network along Oil Pipelines	Department of Science and Technology-TDP	67,43,016






6	 <b>Dr. Dhanaraj K J</b>	ECED	<a href="mailto:dhanaraj@nitc.ac.in">dhanaraj@nitc.ac.in</a>	High-Fidelity Sinusoidal Synthesiser for HRG Whole Angle Tracking	Indian Space Research Organisation (ISRO)	33,53,840
7				High Precision Interfacing Circuits for Capacitive based Sensors (HPICCS) for Defense Applications	Ministry of Electronics & Information Technology (MeitY)	95,50,000
8	 <b>Dr. Sindhu T. K</b>	EED	<a href="mailto:tk_sindhu@nitc.ac.in">tk_sindhu@nitc.ac.in</a>	Realization of plasma gun for atmospheric plasma polishing	Indian Space Research Organisation (ISRO)	46,77,920
9				Design, fabrication and performance analysis of electro assisted wickless heat spreader operating in a closed flow loop	Science & Engineering Research Board (SERB)	25,40,230
10	 <b>Dr. Sujith Kumar C.S</b>	MED	<a href="mailto:sujithcs@nitc.ac.in">sujithcs@nitc.ac.in</a>	Development of upconversion enhanced efficient CPV system integrated with two-phase flow assisted heat spreader	Science & Engineering Research Board (SERB)	14,57,500
11				Exploring the effect of external electric field on production of high-quality stram for concentrated solar power generator	SPARC	47,15,263
12	 <b>Dr. Vivek Mohan</b>	EED	<a href="mailto:vivekmohan@nitc.ac.in">vivekmohan@nitc.ac.in</a>	Pilot Implementation of Energy Blockchain and P2P Transactive Markets	Central Power Research Institute (CPRI)	19,44,000

13	 <b>Dr. Shyam Kumar C N</b>	Materials Science and Engineering	<a href="mailto:shyam@nitc.ac.in">shyam@nitc.ac.in</a>	Small Immediate Need Grand for Fabrication and Testing of low cost in-situ micro tensile tester for scanning electron microscopy	Indo German Science & Technology Centre (IGSTC)	7,00,000
14	 <b>Dr. Nasirul Haque</b>	EED	<a href="mailto:nasirul@nitc.ac.in">nasirul@nitc.ac.in</a>	Condition assessment of stator insulation in rotational machines due to thermal and electrical ageing through advanced dielectric response measurements	MoU with CPRI	40,72,000
15	 <b>Dr. Seethalakshmi P</b>	CED	<a href="mailto:seetha@nitc.ac.in">seetha@nitc.ac.in</a>	Influence of Bentonite and Biopolymer as Stabilizers on Micro Mechanical Performance of Pre-crushed Micaceous Sand at Different Degree of Mica Particle Breakage under Varying Cyclic Loading Conditions	Science & Engineering Research Board (SERB)	15,72,076
16	 <b>Dr. Chandan Yadav</b>	ECED	<a href="mailto:chandan@nitc.ac.in">chandan@nitc.ac.in</a>	2022.16 Summer School on “THz Electronics	IEEE Electron Devices Society, USA	4,04,350
17	 <b>Dr. Tamal Pramanick</b>	Mathematics	<a href="mailto:tamal@nitc.ac.in">tamal@nitc.ac.in</a>	Error estimates for Two-scale Composite Finite Element Approximations of Nonlinear Thermistor Equations in Nonconvex Polygonal Domains	National Board for Higher Mathematics (NBHM) Department of Atomic Energy	14,87,900








18	 <b>Dr. Cecil Antony</b>	BSED	<a href="mailto:cecil@nitc.ac.in">cecil@nitc.ac.in</a>	Deciphering the crosstalk between human ependymoma cancer stem cells and myeloid macrophages	Science & Engineering Research Board (SERB)	12,24,947
19	 <b>Dr. Kumaravel S</b>	EED	<a href="mailto:kumaravel_s@nitc.ac.in">kumaravel_s@nitc.ac.in</a>	Implementation of WBG-based Novel High-Gain Power converter System with a Modified Virtual Inertia Control for Resolving the Issues of the Integration of Inertia Less Renewable and Non-conventional Energy Sources	Central Power Research Institute (CPRI) RSOP	19,02,000
20	 <b>Dr. Jithin M</b>	MED	<a href="mailto:jithinm@nitc.ac.in">jithinm@nitc.ac.in</a>	Lattice Boltzman Solver for Pore- Scale Transport and Electrochemistry in Lithium-Oxygen Batter	DST funded R&D Project (NSM scheme)	6,81,084
21	 <b>Dr. Sudheer A P</b>	MED	<a href="mailto:apsudheer@nitc.ac.in">apsudheer@nitc.ac.in</a>	Development of Fully Actuated Multi-Rotor UAV with sensor based data collection system for soil mapping/ Data Driven Agriculture	NMICPS TiHAN	17,27,500
22	 <b>Dr Panneerselvam Ranganathan</b>	CHED	<a href="mailto:pranganathan@nitc.ac.in">pranganathan@nitc.ac.in</a>	Development of lab scale process to demonstrate feasibility success of the proposed pathway for the production of bio propane (Bio- LPG) from rice straw via fermentation and catalytic hydrothermal decarboxylation"	SHV Energy Open Innovation Challenge	44,18,683

23	 <b>Dr. Jagadeesha T</b>	MED	<a href="mailto:jagdishsg@nitc.ac.in">jagdishsg@nitc.ac.in</a>	Development of Energy-Efficient Lightweight Magnesium alloys and its Characterization for Mitigating Global Warming	SPARC	42,19,006
24	 <b>Dr. Nikhil Sasidharan</b>	EED	<a href="mailto:nikhils@nitc.ac.in">nikhils@nitc.ac.in</a>	Setting up an EV research lab	CSR- TATA ELXSI	75,24,700
25	 <b>Dr. Nithya M</b>	DMS	<a href="mailto:nithyam@nitc.ac.in">nithyam@nitc.ac.in</a>	Assessing the Impact of Atal Community Innovation Centres (ACIC) on Grassroots-level Innovation and Entrepreneurship: A Comparative Study of Guntur, Nellore, Hyderabad, Virudhunagar, and Kanyakumari	ICSSR	16,00,000
26	 <b>Dr. Vinod Kumar Sharma</b>	MED	<a href="mailto:vinodks@nitc.ac.in">vinodks@nitc.ac.in</a>	Sustainable Hydrogen production from waste water through Microbial- Photo-Electrochemical System and Purification through Metal Hydride Technology	SERB- CRG	12,73,030
27	 <b>Dr. Santhosh G Thampi</b>	CED	<a href="mailto:santosh@nitc.ac.in">santosh@nitc.ac.in</a>	Development of Guidelines for Environmental Flow in a River Located in the Humid Tropics	SPARC	60,17,680

28	 <b>Dr. Arunkumar R</b>	CED	<a href="mailto:arunkr@nitc.ac.in">arunkr@nitc.ac.in</a>	Spatial Drought Risk Assessment using Remote Sensing and Geospatial Data	GISE Hub	13,77,840
29	 <b>Dr. Prateek Negi</b>	CED	<a href="mailto:prateek@nitc.ac.in">prateek@nitc.ac.in</a>	Monitoring Mechanical Behaviour of Rock-Concrete Joint Using Electro-Mechanical Impedance Technique	SERB-SRG	15000000
30	 <b>Dr. Natesan Yogesh</b>	Physics	<a href="mailto:yogesh@nitc.ac.in">yogesh@nitc.ac.in</a>	Spatial, and Time-Modulated Chiral Metasurfaces for Terahertz Waveband Applications	SERB-SRG	
31	 <b>Dr. Vibhuti Arora</b>	Mathematics	<a href="mailto:vibhuti@nitc.ac.in">vibhuti@nitc.ac.in</a>	Rogosinski and Bohr Radii for Holomorphic Functions	SERB-SRG	
32	 <b>Dr. Vinod E Madhavan</b>	Materials Science Engineering	<a href="mailto:vinodem@nitc.ac.in">vinodem@nitc.ac.in</a>	Crystallization Kinetics Investigations of Arsenic Doped Phase Change Memory Devices	SERB-SRG	

33	 <b>Dr. Saudamini Nayak</b>	Mathematics	<a href="mailto:saudamini@nitc.ac.in">saudamini@nitc.ac.in</a>	Weyl Modules for Equivariant map Lie superalgebras	SERB-SRG	
34	 <b>Dr. Nujoom Sageer Karat</b>	ECED	<a href="mailto:nujoom@nitc.ac.in">nujoom@nitc.ac.in</a>	Index Coding for Infotainment Message Dissemination in VANETs	SERB-SRG	
35	 <b>Dr. Anirban Sarkar</b>	Physics	<a href="mailto:anirban@nitc.ac.in">anirban@nitc.ac.in</a>	Investigation on modes of non- distributed feedback optofluidic random laser and their applications in label-free sensing	SERB-SRG	
36	 <b>Dr. Yogeshwar Vijayakumar Navandar</b>	CED	<a href="mailto:navandar@nitc.ac.in">navandar@nitc.ac.in</a>	Design and Development of Virtual Reality Applications for Traffic Safety Education in Indian School Going Children	SERB-INAE	47,80,864
37	 <b>Dr. Sathiya S</b>	EED	<a href="mailto:sathiyas@nitc.ac.in">sathiyas@nitc.ac.in</a>	Design and Development of a Highly Efficient Micro Fluidic Pumping and Mixing Device for Accurate biochemical Analysis with deep Learning method	SERB-EEQ	18,68,944

38	  <b>Dr. Sameer SM Dr. Nujoom Sageer K</b>    <b>Dr. Vinay Joseph Dr. Srinivasarao Chintagunta</b>    <b>Dr. Rakesh R. T. Dr. Venkatarami Reddy Chintapalli</b>   <b>Dr. Sudarshan Chakravarthy A.</b>	ECED & CSED	<a href="mailto:sameer@nitc.ac.in">sameer@nitc.ac.in</a> <a href="mailto:nujoom@nitc.ac.in">nujoom@nitc.ac.in</a> <a href="mailto:vjoseph@nitc.ac.in">vjoseph@nitc.ac.in</a> <a href="mailto:srinivasarao@nitc.ac.in">srinivasarao@nitc.ac.in</a> <a href="mailto:rakesh@nitc.ac.in">rakesh@nitc.ac.in</a> <a href="mailto:venkataramireddyc@nitc.ac.in">venkataramireddyc@nitc.ac.in</a> <a href="mailto:sudarshan.annadanam@nitc.ac.in">sudarshan.annadanam@nitc.ac.in</a>	5G	DoT	1,00,00,000
39	 <b>Dr. Venkatarami Reddy Chintapalli</b>	CSED	<a href="mailto:venkataramireddyc@nitc.ac.in">venkataramireddyc@nitc.ac.in</a>	TiHAN Faculty Fellowship at NMICPS TiHAN Foundation	TiHAN-IITH	16,00,000

40	 <b>Dr. Deepak Lawrence</b>	MED	<a href="mailto:deepaklawrence@nitc.ac.in">deepaklawrence@nitc.ac.in</a>	Evaluation of leak-proof surfaces in fluid components using image processing and machine learning technique	ISRO-RESPOND	22,77,920
41	 <b>Dr. Shivanandkumar Veeram</b>	CHED	<a href="mailto:shivanand@nitc.ac.in">shivanand@nitc.ac.in</a>	"Molecular Simulation Study of Anti-Agglomerant Action between Two Hydrate Surfaces for Flow-Assurance".	Science and Engineering Research Board	39,93,000
42	 <b>Dr. Nikhil Sasidharan</b>	EED	<a href="mailto:nikhils@nitc.ac.in">nikhils@nitc.ac.in</a>	Develop a Deck Power Converter for shallow water ROV	National Institute of Ocean Technology (NIOT)	6,60,000
43	 <b>Dr. Gopal Shankar</b>	BSED	<a href="mailto:gopalshankar@nitc.ac.in">gopalshankar@nitc.ac.in</a>	3D bioprinting with plant-based bioinks for developing tissue/organ biomimicking scaffolds for improving osteogenesis	DBT	39,80,398
44	 <b>Dr. Suresh Kumar Nadupuri</b>	Mathematics	<a href="mailto:nsk@nitc.ac.in">nsk@nitc.ac.in</a>	Analysis and computation of sparse optimal control of monodomain equations in cardiac electrophysiology	Science and Engineering Research Board(SERB-MATRICES)	6,60,000



45	 <b>Dr. Muniyandi Sankaralingam</b>	Chemistry	<a href="mailto:msankaralingam@nitc.ac.in">msankaralingam@nitc.ac.in</a>	Nature-Inspired Conversion of Biomass to Biofuel: The Lytic Polysaccharide Monooxygenases Paradigm	Science and Engineering Research Board	49,89,000
46	 <b>Dr. Sandhyarani N</b>	Materials Science Engineering	<a href="mailto:sandhya@nitc.ac.in">sandhya@nitc.ac.in</a>	Structure And Property Tuning of Transition Metal Compounds to Augment Electrocatalytic Activity Towards Direct Methanol Fuel Cell Applications	Science and Engineering Research Board	58,00,000
47	 <b>Dr. Blessen Skariah Thomas</b>	Civil Engineering	<a href="mailto:blessen@nitc.ac.in">blessen@nitc.ac.in</a>	Developing CO <sub>2</sub> sequestering bio-based materials for eco-friendly digital construction techniques For preserving and protecting Indian heritage buildings	DST-SHRI	1,00,00,000
48	 <b>Dr. Sreejith S S</b>	Department of Management Studies	<a href="mailto:Sreejithss@nitc.ac.in">Sreejithss@nitc.ac.in</a>	Sustainability of Farmers Producers Organisations in India by Effective performance Enhancement Interventions	ICSSR	14,50,000
49	 <b>Dr Shijo Thomas</b>	Materials Science Engineering	<a href="mailto:shijo@nitc.ac.in">shijo@nitc.ac.in</a>	Carbon based hybrid nanomaterial in ionic fluids for CO <sub>2</sub> reduction	Kerala State Council for Science, Technology and Environment (KSCSTE), Trivandrum	19,58,000
50	<b>Electrical Engineering Department</b>	Electrical Engineering Department		(i) DC Electronic Load 1200V/240A/6kW(4U), (ii) Transformer diagnostic (3-Channel,two ammeters, with accessories, 18m cable) set, (iii) Coulometric (KF) Titrator, (iv) PD detector with UHF sensor, (v) Portable Power Analyzer, Speed & Torque, 4 channel APAC, (vi) Programmable AC&DC Electronic Load, (vii) Programmable AC Source, & (viii) Programmable DC Power Supply	DST FIST	19000000



51	INSPIRE Fellow Ms. Charutha K, P220090CY, Research Scholar in Department of Chemistry Co-ordinating Faculty: Dr. Chinna ayya Swamy P, Asst. Professor	Chemistry	DST - INSPIRE Fellowship under INSPIRE Programme to the Research Scholar (P220090CY,)	Department of Science & Technology	4,58,960
52	NKPDF - Dr. S Krishnanunni, Mentor Dr. Jinu Paul, Assoc.Professor,MED.	Mechanical Engineering	Chief Ministers NavaKerala Postdoctoral (CMNP) Fellowship by the Kerala Higher Education Council (KSHEC)	Kerala Higher Education Council (KSHEC)	22,00,000
53	Dr. Ajalesh B Nair, Union Christian College, UC College Road, Aluva, Ernakulam, Kerala- 683 102 under the mentorship of Dr.Soney Varghese, Professor, School of Material Science Engineering	School of Materials Science and Engineering	Flexible, Self-healing and high power density supercapacitors based on Poly(3,4-ethylenedioxythiophene)(PEDOT) and PEDOT;PSS(Poly(styrene sulfonate)) reinforced with polyhedral oligomeric silsesquioxane (nano-POSS)/Gold coated porous silica decorated Multiwalled Carbon nanotube(MWCNT)/Graphene	SERB Project under TARE	18,30,000
54	Dr. D.S Vijayan, under the mentorship of Dr.Kodi Ranga Swamy	Civil Engineering	Performance analysis and assessment of Ferrock cement infused steel composite tubular column under seismic loading	SERB Project under TARE	18,30,000
55	Mr. Vinayak M, P220286MA, Co-ordinating Faculty: Dr. Vibhuti Arora,	Mathematics	DST - INSPIRE Fellowship under INSPIRE Programme	DST	5,43,920
56	Ms. Soumi Mahato (P220127MA), Co-ordinating Faculty: Dr. Lineesh M C,	Mathematics	DST - INSPIRE Fellowship under INSPIRE Programme	DST	5,43,920
57	Ms. Biya Thomas, P220063MA, Co-ordinating Faculty: Dr. Sunil Mathew	Mathematics	DST - INSPIRE Fellowship under INSPIRE Programme	DST	5,43,920
58	Visveswaraya PhD programme		Visveswaraya	MeitY	1,25,00,000
59	Dr.Geethu M (PI) Dr. Subramanyan Namboodiri Varanakkottu (Mentor), Assistant Professor	Physics	Liquid marble microcontainers- Controlled fabrication and potential applications.	DST-WISE PDF	28,00,000



# STEPS TAKEN TO ENHANCE THE RESEARCH ACTIVITIES

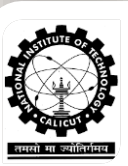


- ❖ **Creation of CRF**- As an initial phase a virtual CRF will be formed by including all the equipment purchased under plan fund/TEQIP
- ❖ Instrument audit and physical verification completed
- ❖ Addition of computational facility to CCMS - Mainly AI components
- ❖ R&C updation in IMS- FRG procedure through IMS
- ❖ Webpage updated with call for proposals, achievements of faculty members, faculty expertise, *etc.*
- ❖ Workshops/interactive sessions with experts

## SCHEDULE FOR THE FIRST QUARTER OF 2024

- **January 1<sup>st</sup> Week** – FRG Presentation and Review
- **January 2<sup>nd</sup> Week** – Focused sessions on DRDO RESPOND call (with external experts)
- **January 3<sup>rd</sup> Week** – Focused sessions on SRG and CRG proposals (with external experts)
- **January 4<sup>th</sup> Week** – Interactive session with Research Advisory Board members
- **February 2-4 Weeks** – Sessions to improve the SRG and CRG proposals, in terms of presentation and objectives (for those who demands)

# SUPPORT FOR NEWLY JOINED FACULTY MEMBERS

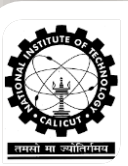


- ❖ Newly joined faculty members shall be assigned reduced workload either in their first or second semester excluding the semester in which they are joining the Institute (a maximum of three subjects in a year) if they are joining during the middle of a semester.
- ❖ **Add-on grant to FRG** - To support newly joined faculty members in their first sponsored project, an additional grant of 5 Lakhs will be given as an add-on grant to the FRG to those faculty members who secure funding above 30 Lakhs (it may be one project or cumulative of two projects) within 3 years of joining the institute.
- ❖ Add-on grant to FRG will be based on a short proposal, which can be an extension of FRG or a new proposal.

# SUPPORT FOR PIs HAVING MULTIPLE PROJECTS

- ❖ Allot 1 credit per project worth 25 L or more, if the PI has more than one sponsored project at a time (FRG will not be considered for this calculation).
- ❖ Thus, a faculty member having three sponsored projects worth 25L or more (or minimum two projects worth a cumulative amount of 75L or more) can get relaxation of 3 credits in an year.
- ❖ This is applied only to the principal investigator (PI) of the project.

# RESEARCH AWARDS



❖ **Awards for best researchers on Foundation day** - awarding the Young investigator award, and Institute Research & Development award

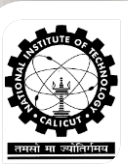
❖ Faculty members, who receive state-level/national/international awards will be felicitated during the foundation day.

An incentive of Rs. 25,000/- may be added to their PCF for use in further research activities.

❖ Taking into account the overall contributions to research, **a young investigator award (age less than 40 years)** will be awarded. The selection will be competitive within the institute.

❖ **The Institute Research and Development award** is being introduced in three levels: *lifetime, mid-career, and junior*.

All these awards will be competitive in nature and RAB will evaluate and identify the awardee. Each category award comprises a citation and Rs.25,000/-



*"AFTER ALL, THE ULTIMATE GOAL  
OF ALL RESEARCH IS NOT  
OBJECTIVITY, BUT TRUTH"*

*- Helene Deutsch*

