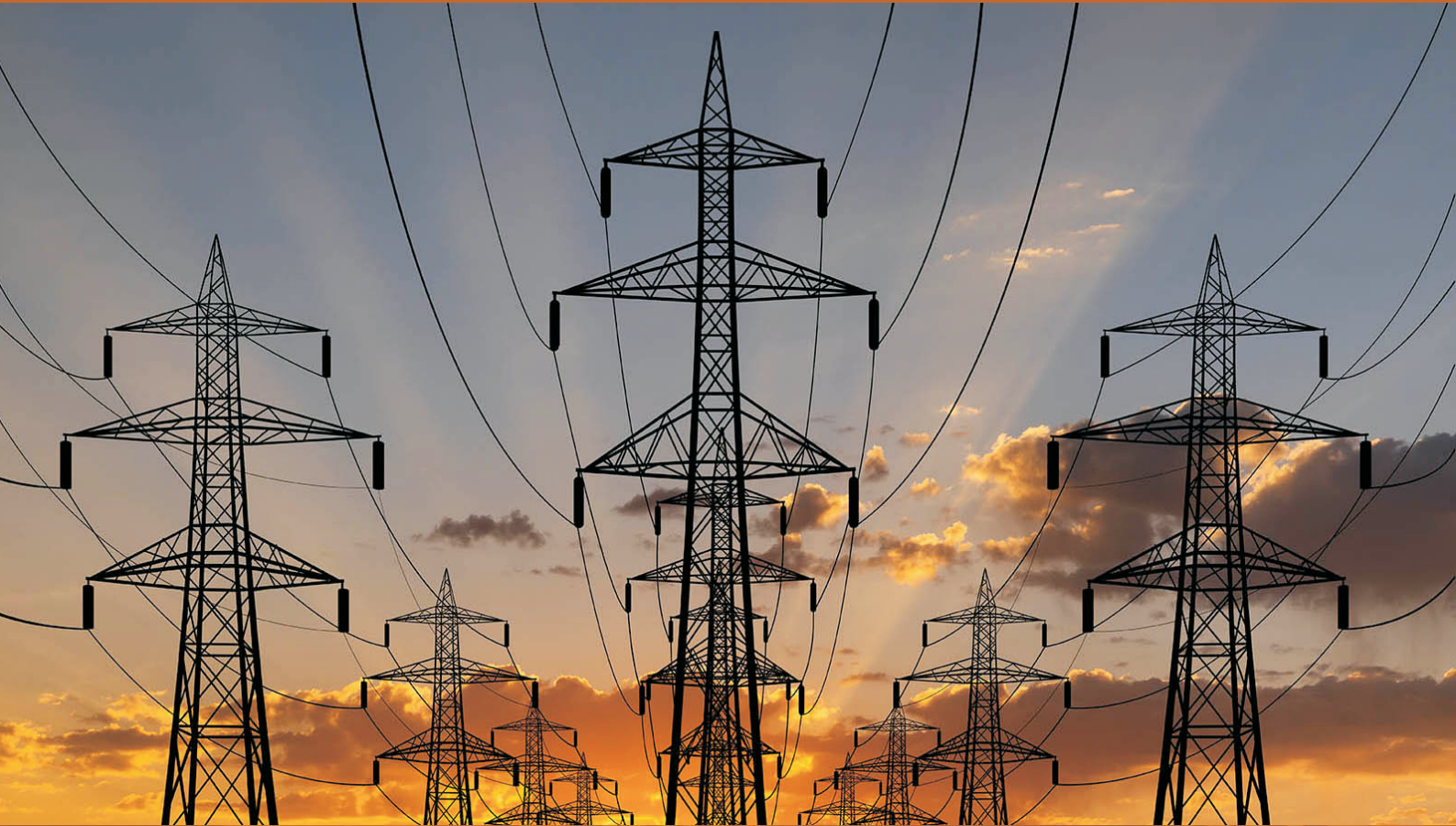




तमसो मा ज्योतिर्गमय

DEPARTMENT OF ELECTRICAL ENGINEERING



NATIONAL INSTITUTE OF TECHNOLOGY CALICUT
NIT CAMPUS PO, KOZHIKODE, KERALA, INDIA 673601

Vision

To be nationally and internationally recognized in providing electrical engineering education and training candidates to become well-qualified engineers who are capable of making valuable contributions to their profession and carrying out higher studies successfully.

Mission

To offer high quality programmes in the field of electrical engineering, to train students to be successful both in professional career as well as higher studies and to promote excellence in teaching, research, collaborative activities and contributions to the society.



DEPARTMENT PROFILE

Established in 1961, the Department of Electrical Engineering of the National Institute of Technology Calicut offers programmes leading to Bachelor’s Degree, Master’s Degree as well as Ph.D. In addition to these regular programmes, Department is also actively involved in conducting faculty development programmes, job-oriented short-term training programmes, continuing education programmes for working professionals from industries, academic faculty and unemployed engineers. The laboratories and research facilities in the Department are well maintained and regularly updated with latest technology. Members of the faculty are actively involved in sponsored research and consultancy work.

UNDERGRADUATE AND POST GRADUATE PROGRAMMES

Sl. No.	Course	Duration	Year of starting	Sanctioned intake
1	B. Tech (Electrical & Electronics Engineering)	4 years	1961	172
2	M. Tech (Instrumentation & Control Systems)	2 years	1973	25
3	M. Tech (Power Systems)	2 years	1983	25
4	M. Tech (Power Electronics)	2 years	1987	25
5	M. Tech (Industrial Power & Automation)	2 years	2006	25
6	M. Tech (High Voltage Engineering)	2 years	2014	16

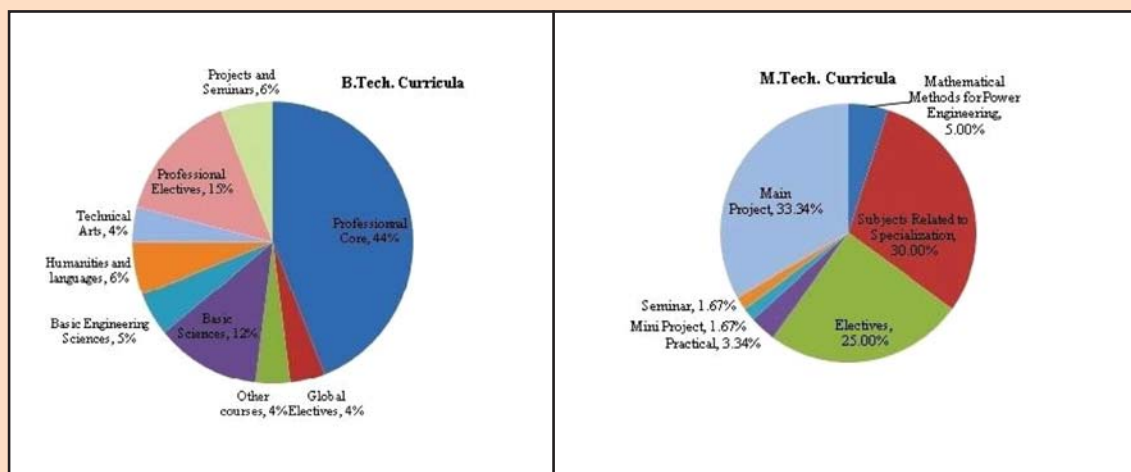
Ph.D. PROGRAMME

Research work is carried out in all areas of Electrical Engineering.

Completed - 114

Ongoing - 79

STRUCTURE OF UG & PG PROGRAMMES



FACILITIES - CLASSROOMS / SEMINAR HALLS

1. Conference Room
2. Committee Room
3. PG Seminar Hall 1-Capacity 80: EED PG Block
4. PG Seminar Hall 2-Capacity 90: EED PG Block
5. 9 UG Class rooms: DB(306, 307), ELHC(201, 202, 303, 304), NLHC 404, and ECLC (C, K) 8 PG Class rooms: DB(105, 207, 108, 301, 308, 309), Seminar Hall 1 and Seminar Hall 2 Conference Room, Committee Room and all classrooms/seminar halls are equipped with PC, OHP, LCD Projector, PA system and smart board wherever required.

MAJOR LABORATORIES**UG Laboratories**

1. Electrical Workshop
2. Electronics Workshop
3. Electronics Laboratory
4. Electrical Measurements Laboratory
5. Electrical Machines Laboratory
6. Control Systems Laboratory
7. UG Power Electronics Laboratory

PG/Research Laboratories

1. Electrical Simulation Laboratory
2. Power Systems Laboratory
3. Power Electronics Laboratory
4. DCS Applications Laboratory
5. Process Automation Laboratory
6. Embedded Systems Applications Laboratory
7. Power Electronics Research Laboratory
8. Advanced Control Systems Laboratory
9. Power Systems & Power electronics Real-Time Simulation Laboratory
10. High Voltage Engineering Laboratory
11. Bio-Signal Processing Laboratory
12. Non-destructive testing Laboratory
13. Instrumentation Systems Laboratory
14. Centre for Testing and Consultancy
15. Industrial Power Laboratory
16. Advanced Power Electronics Research Laboratory
17. Advanced Drives Lab
18. Sophisticated Instruments Laboratory
19. Intecsol COE Lab

Sponsored Research Laboratories

1. LVDC Microgrid Laboratory (CDAC)
2. Distributed Energy Research Laboratory (DST-FIST)

FACULTY DETAILS

S. No.	Name	Specialization
Professor		
1.	Dr Ashok S	Power & Energy Systems
2.	Dr Jeevamma Jacob	Control Systems
3.	Dr Saly George	Power Electronics
4.	Dr Rijil Ramchand	Power Electronics
5.	Dr Jagadanand G	Power Electronics
6.	Dr Sindhu T K	Power Systems, High Voltage Engg
Associate Professor		
7.	Mr P Ananthkrishnan	Power Electronics & Drives
8.	Dr Mukti Barai	Power Electronics
9.	Dr Preetha P (HoD)	High Voltage Engg.
10.	Dr Subha D P	Biomedical Engineering
11.	Dr Sunitha K	High Voltage Engg
12.	Dr Sunitha R	Power Systems
13.	Mr K S Suresh Kumar	Power Electronics
14.	Dr Kumaravel S	Power Systems
15.	Dr Mija S J	Control Systems
16.	Dr T K Sunil Kumar	Power Systems

Assistant Professor

17.	Dr Gopakumar P	Power Systems
18.	Dr. Hemarani P	Power Electronics
19.	Dr. Subhash K M	Instrumentation & Control
20.	Dr Kanagalakshmi S	Process Control Instrumentation
21.	Dr V. Karthikeyan	Power Electronics and drives
22.	Dr Nikhil Sasidharan	Energy
23.	Dr M. Sanjay	Bioengineering
24.	Dr. Shihabudheen K. V	Control and Computing
25.	Dr. Shreelakshmi M P	Instrumentation & Control
26.	Dr Nasirul Haque	High Voltage Engg
27.	Dr Deepak M.	Power Systems
28.	Dr K M Arun Neelimegham	Instrumentation & Control
29.	Dr Mithun Muthiah Sakthivel	Electrical Engineering
30.	Dr. Rakesh R Warier	Systems and Control Engg
31.	Dr. Angshudeep Majumdar	Power Electronics
32.	Dr. Harish Sudhakaran Nair	Power Electronics

Adhoc Faculty

33.	Dr Ganesh Moorthy J	Power Electronics
34.	Dr Jerome Moses Monsingh	Control System
35.	Dr Anjana K G	Power Electronics
36.	Dr Athira Raju	Power Electronics and Power Systems
37.	Dr Haseena K A	Power Systems
38.	Ms Akhila A L	Power Systems
39.	Ms Sabisha Sureshbabu	Power System and Power Electronics
40.	Mr Mathews Thomas	Power Systems
41.	Ms Divya P	High Voltage Engineering

Supporting Staff

Name	Designation
1 Mr. N.K. Mohammed Sali	Senior Technical Assistant
2 Mr. K.A. Somanath	Senior Technical Assistant
3 Mr. A.R. Sasesh	Technical Assistant
4 Mr. K. Nandakumar	Technician Grade I
5 Mr. V.S. Jayan	Senior Technician

Adhoc Staff

6	Mr. Afnan Ahmed K K	Technical Assistant
7	Mr. Ajunraj P	Technical Assistant
8	Mr. Akhil K	Technical Assistant
9	Mr. Akshay A	Technical Assistant
10	Ms. Amrutha J L	Technical Assistant
11	Ms. Anagha M	Technical Assistant
12	Ms. Anusree K	Technical Assistant
13	Mr. Aslam T M	Technical Assistant
14	Ms. Aswathi P	Technical Assistant
15	Mr. Dhanesh K A	Technical Assistant
16	Mr. E A Muhammed Sabeel	Technical Assistant
17	Mr. Justin Sunny	Technical Assistant
18	Mr. Karthikeyan R	Technical Assistant
19	Mr. Naveen T	Technical Assistant
20	Mr. Nithil K	Technical Assistant
21	Mr. Sanjubal D K	Technical Assistant
22	Ms. Shibina E	Technical Assistant
23	Mr. Abhinand K	Office Assistant
24	Ms. Jyothi Lakshmi V P	Office Assistant

RESEARCH ACTIVITIES

The Department has six broad research groups:

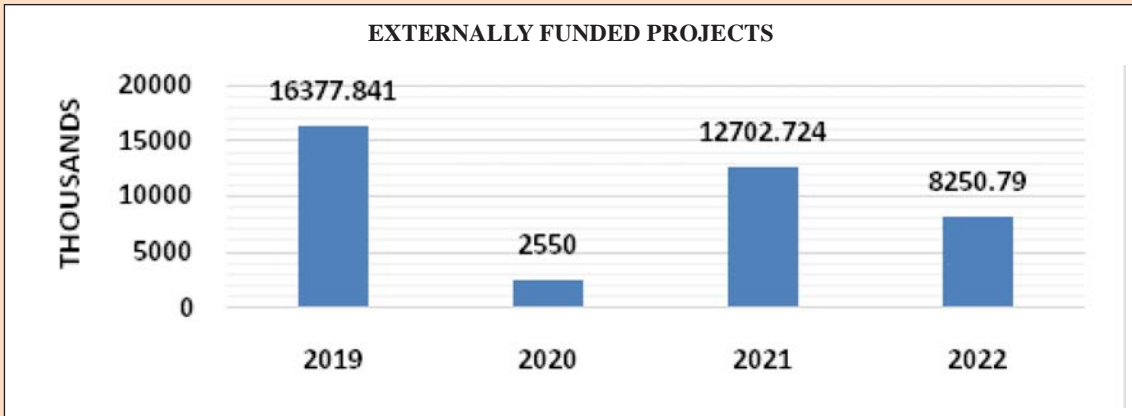
1. Power & Energy Systems
2. Industrial Power and Automation
3. Electrical Machines and Power Electronics
4. Control Systems and Instrumentation
5. High Voltage Engineering
6. Biomedical and Signal Processing

RESEARCH PUBLICATIONS

Year	2021	2020	2019	2018	2017	2016	Total
SCI Journal	59	44	61	38	53	21	226
Conference Proceedings	42	53	55	58	64	55	327

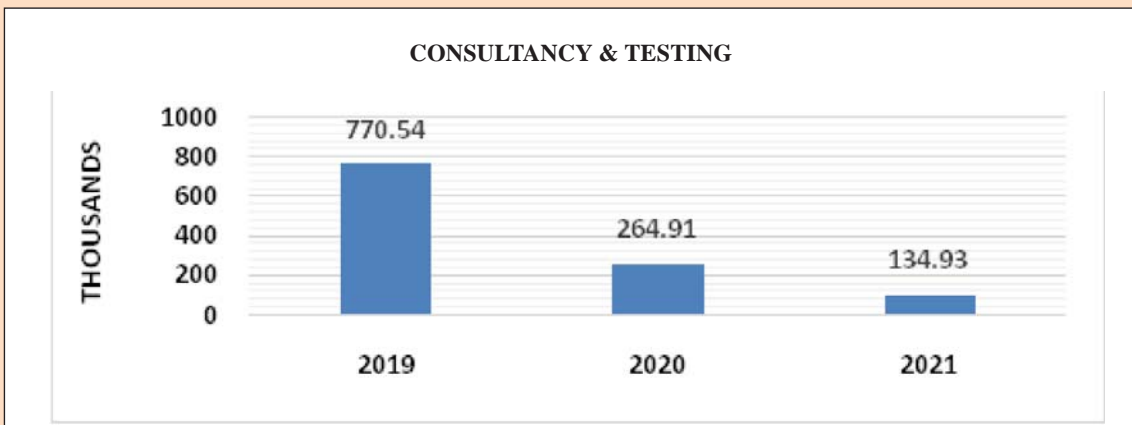
EXTERNALLY FUNDED PROJECTS

Projects	2019	2020	2021	2022	Total
Sanctioned amount in Rs	1,63,77,841	25,50,000	1,27,02,724	82,50,790	3,98,81,355



CONSULTANCY PROJECTS & TESTING

Consultancy	2019	2020	2021	Total
Sanctioned amount in Rs	7,70,540	2,64,910	1,34,932	11,70,382



- Major Funding Agencies: DST, CDAC- NaMPET, DRDO, KSCSTE, CPRI Bangalore, SPARC, and CSIR. Industry funding: Tata Elxsi, Robert Bosch and others.

EXTERNALLY FUNDED PROJECTS (ONGOING)

Sl. No.	Faculty name	Project title	Year of award of the Project	Funding Agency	Amount (Rs)	Duration (Years)
1	Dr.Mithun M. S.	Steering controlled adaptive headlights system	2021	Niti Aayog	90,000	6 months
2	Dr.ShreelakshmiM. P.	A clean and sustainable campus transport system	2019	DST	35,00,000	3
		A Novel Regenerative Gear-less Drive Train Based on Doubly Fed Poly Phase Synchronous Reluctance Motor with Active Power Factor Correction Capability	2021	SERB-SRG	18,35,900	3
		Electrically excited Synchronous machine- EESMCo-PI	2022	C-electric Pvt Ltd	13,00,000	1
3	Dr. Nikhil Sasidharan	“A Resilient DCCommunity Grid for the Provision of Ancillary Services to Local Grid”	2019	SPARC, MHRD	64,79,841	3
		Electrically excited Synchronous machine- EESMPI	2022	C-electric Pvt Ltd	13,00,000	1
4	Dr.Preetha P & Dr. Sindhu T K	Development of an alternative fluid to transformer mineral oil	2020	KSCSTE	5,70,000	2
5	Dr. Nasirul Haque	Condition assessment of polymeric cable insulation through time domain measurements considering the effect of charge trapping in the insulation	2021	DST-SERB	15,01,000	3
		Condition assessment of stator insulation in rotational machines due to thermal and electrical ageing through advanced dielectric response measurements (Co-PI: Dr. Sindhu T.K)	2022	CPRI	40,72,000	2
6	Dr. Anuj A Vargeese (Department of Chemistry) & Dr.Mija S J	Development of Spray Evaporation Technique for the Preparation of Uniform Microparticles of Ammonium Dinitramide (ADN) and Surface Modification by Atomized Spray Coating Method	2021	DRDO	72,59,824	2
7	Dr.Jagadanand G	Stator Fault Diagnosis through Wavelet Based MCSA of Inverter Fed Induction Motors	2019	KSCSTE	6,70,000	2.5
8	Dr. Deepak M	Development of an adaptive distance relaying scheme in a low inertia power system with hardware realization	2022	DST, SERB (SRG)	28,78,790	2
9	Dr.Kumaravel S	High Gain DC-DC Converter fed Multilevel Inverter for UPS Application	2019	NaMPET Ph-III,	38,48,000	3
		Design and Development of Solar PV Fed Efficient Universal Converter for V/F Drivers	2021	CSIR	20,16,000	3
		Development of a Nano-grid structure for Electric Vehicle Application	2020	Young Faculty Research Fellowship, MeitY, Govt. of India	14,80,000	2

10	Dr.V. Karthikeyan	Investigation on thermally assisted electro migration Mechanism in metallic Nano wires	2019	TEQIP Collaborative Research Scheme	12,10,000	1
		Design and Development of Solar PV Fed Efficient Universal Converter for V/F Drivers (Co-PI) Solar powered Smart cooking system	2021	CSIR	20,16,000	3
			2020	BIRAC, DBT	5,00,000	1

INSTITUTE FUNDED PROJECTS (THROUGH FACULTY RESEARCH GRANT)

2018 Recruitment

Sl No	Name	Project title	Year	Amount (Rs.)
1	Dr. V. Karthikeyan	Power Converters to EV drives and Fast-Charging Infrastructure	2019	5,00,000
2	Dr Nikhil Sasidharan	A Resilient DC Community Grid for the Provision of Ancillary Services to Local Grid	2019	5,00,000
3	Dr Gopakumar P	Composite Transmission Line Model and Power flow control	2019	5,00,000
4	Dr. S. Kanagalakshmi	Advanced control schemes and adaptive control schemes of Two tank Hybrid Interacting system	2019	5,00,000
5	Dr Sanjay M	Network Mechanisms of Stroke & Recovery - A Computational Study	2019	5,00,000

2020 Recruitment

1	Dr. Deepak M	Fault classification and identification in a distribution system with high renewable integration	2022	5,00,000
2	Dr. Nasirul Haque	Development of a diagnostic system for online monitoring of transformer bushing	2022	4,90,000
3	Dr. Shihabudheen KV	Fault Diagnosis in Rotating Machines Using Deep Learning	2022	5,00,000
4	Dr. KM Arun Neelimegham	Formation control & target tracking protocol for heterogeneous multi-agent system with time delays	2022	4,47,000
5	Dr. Shreelakshmi M P	Fast charging station for EV	2022	4,46,000
6	Dr. Mithun M. S.	Developing a cost-effective, real-time sensor for estimating the dissolved moisture in transformer oil	2022	4,73,000
Total				53,60,000

CONSULTANCY PROJECTS

Sl. No.	Year	Name of faculty	Name of industry/firm	Details	Amount collected (including GST) Rs
1.	2021	Dr. Mithun M S	EED/MMS/ENDOMOTOR/351M/S MYDENT DENTAL CLINIC	ENDOMOTOR	11,682
2.	2019	Dr. Ashok S	EARTH RESISTANCE MEASUREMENT AT NAVAL ACADEMY EZHIMALA, KANNUR EED/SA/EARTH TESTING/294	EARTH RESISTANCE MEASUREMENT	5,900
3.	2019	Dr. Ashok S	CERTIFICATION CHARGES FOR ELECTRICAL DESIGN OF SOLAR PV INSTALLATION AT NAVAL ACADEMY EZHIMALA, KANNUR EED/SA/SOLAR/2019/300	CERTIFICATION CHARGES FOR ELECTRICAL DESIGN OF SOLAR PV INSTALLATION	41,300
4.	2019	Dr. Ashok S	ENERGY ANALYSIS AT SREEKALA OXIGEN PLANT, MALAPPURAM EED/SA/EA/TEST/18-282	ENERGY ANALYSIS	1,65,200

5.	2018	Dr. Ashok S	EED/SA/BDV TEST/278 M/S DINOOP LAL RESEARCH SCHOLAR	BDV TEST CHARGE	11,505
6.	2018	Dr. Ashok S	ENERGY ANALYSIS AT SHALOM TELEVISION STUDIO COMPLEX, PERUVANNAMOOZHI EED/SA/EA/ TEST/17-260	ENERGY ANALYSIS	53,999
7.	2018	Dr. Ashok S	ENERGY ANALYSIS AT SREESAN CRUSHER PLANT EED/SA/EA/TEST/18-274	ENERGY ANALYSIS	5,900
8.	2018	Dr. Ashok S	EED/SA/BDV TEST/278 M/S DINOOP LAL RESEARCH SCHOLAR	BDV TEST CHARGE	11,505
Total					3,06,991

KEY AWARDS RECEIVED BY FACULTY MEMBERS

Sl. No.	Name	Distinctions
1.	Dr. Subhash K M	Best paper award for 31st Annual State Faculty Convention of the ISTE Kerala Section, on “Opportunities and Challenges in Technical Education in the Post-COVID Scenario” on 23 January 2021
2.	Dr. Harish Sudhakaran Nair	Received the ‘Institute Research Award’ from IIT Madras in 2020 for exemplary research work done during PhD
3.	Dr.Kumaravel S	“Young Faculty Research Fellowship” under Visvesvaraya PhD Scheme, Ministry of Electronics & IT, India.
4.	Dr.Kumaravel S	Kerala State Renewable Energy Award 2018 in the category of Individual from ANERT, Govt., of Kerala
5.	Dr.Kumaravel S	Young Scientist Award 2017 of Kerala State for Engineering sciences and Technology stream by KSCSTE.
6.	Dr. Karthikeyan V	Best Faculty Award, 2017 at Junior Grade in Shri P K Das Memorial Award, Nehru Group of Institutions, India, Dec., 15, 2017.
7.	Dr.Preetha P	Received Prof. Dr. D J Badkas Medal for the best Ph. D thesis in Electrical Engg. Dept. of IISc Bangalore (2013-14)
8.	Dr.Preetha P	Received POSOCO award for the best Ph. D thesis in 2013-14 (Ranked in top 10)
9.	Dr. Sunitha R	Received POSOCO Power System Award (PPSA 2014) for her research work “Online security assessment of large power systems using distributed computing”
10.	Dr. Karthikeyan V	Best Paper Award in International Conference on Advance Computing & Communication Systems (ICACCS – 2014), Dec. 19-21, 2013.
11.	Dr. Sindhu T K	Received Young Engineer Award from Institution of Engineers (India) in 2008
12.	Dr. Ashok S	Received “Outstanding Achievement Award” from National Energy Society for the year 2007 for outstanding contributions in diverse fields of energy & engineering.

DEPARTMENTAL FUNDING (PLAN)

Financial Year	Total Budget (in lakhs)	
	Non-recurring	Recurring
2021-22	99.672	23.29
2020-21	79.76	17.76
2019-20	59.61	24.13

LIST OF PATENTS APPLIED / FILED IN THE LAST 5 YEARS

Sl.No	Title	Patent Ref No	Inventors
1.	Integrated Synchronous BUCK converter Emulation and Method of Design there of	201941035816	Mukti Barai, AnjanaK, Aswini Kumar M, Debabrata Samantha, Jayanta Biswas
2.	Method and system for providing energy optimum control formotor-drive system	TEMP/E-1/23530/2017-MUM	Dr. Shreelakshmi M P and V. Agarwal
3.	A novel cascaded multilevel isolated bidirectional dc-dc converter and its operation thereof	201611034814 at 12/10/2016	V. Karthikeyan and Rajesh Gupta
4.	Universal Drive for SRM and BLDC Motor	034/PF-PIC /2015/ KSCSTE	Dr. Ashok S & Mr. KanhuCharanPathra.
5.	Cost Effective Telematics Module	035/PF-PIC /2015/ KSCSTE	Dr. Ashok S & Mr. Raji P
6.	Solar Powered Intelligent Road Stud	036/PF-PIC /2015/ KSCSTE	Dr. Ashok S & Mr. Nalla Vikram
7.	Development of Cost Effective 3- Axis Intelligent Platform StabilizationSystem	037/PF-PIC /2015/ KSCSTE	Dr. Ashok S & Dr Sunil Kumar, Mr. Sanjoy Paik
8.	Highway Vertical Axis Wind Turbine	038/PF-PIC /2015/ KSCSTE	Dr. Ashok S & Mr. Mithun Raj K K
9.	Obstacle Crossing for Power Line Inspection robot	024/PF-PIC /2014/ KSCSTE	Dr. Ashok S & Mr. Muhammed Jishad T K
10.	Preventive Arc Detector	085/PF-PIC /2012/ KSCSTE	Dr. Ashok S & Mr. Arun S Mathew

PLACEMENT RECORD OF GRADUATING STUDENTS

Programme	Years		
	2021-22	2020-21	2019-20
B. Tech	97%	92%	90%
M.Tech	96%	72%	68%

STUDENT CHAPTERS OF PROFESSIONAL BODIES

1. IEEE Student Chapter
2. IEEE- PES, IEEE -IAS, IEEE-CS, IEEE CSS
3. ISTE

TESTING AND CONSULTANCY FACILITIES**Testing**

1. Acceptance Testing of LT/HT (up to 11kV) conductors/cables, switches, insulators, motors, AB switches, fuse units, Battery etc.
2. Performance Testing of UPS, Inverters, Transformer oil, CTs, PTs etc
3. Performance Testing and analysis of Solar PV system
4. Acceptance Testing of light fitting with FTL,CFL and LED, fan etc..

Consultancy

1. Energy analysis of industries/Institutions etc
2. Feasibility studies of Renewable energy projects.
3. Re engineering/Design of standby power supplies.
4. Engineering Design /Analysis of issues or problems in Power and Energy, Control and Instrumentation, Machines and Power Electronics and High Voltage Engineering.

OUTREACH

1. Many faculty members are resource persons to different academic/training programmes of Educational Institutions/Industries in India as well as abroad.
2. Few faculty members are associate editors of journals like "Advances in Control and Optimization of Dynamical Systems" & "Journal of medical Imaging and Health Informatics" etc. Also members of state level expert committees.
3. Most of the Faculty members are reviewers of International Journals and Conferences
4. Many faculty members are Members of Board of Academic council of different Universities and Panel Members in Selection Committees in Universities/PSUs.

A FEW DISTINGUISHED ALUMNI



Dr Sheela D S
SR Director
(Control & Guid:)
VSSC , India



Dr H S V S Kumar N
Sr. R&D Manager ABB,
Singapore



Mr Manu B
SR Systems Manager
TI India Ltd



Dr. Tomy Sebastian
REC Calicut 1978 batch
Chief Scientist, Innovation Center of
Nexteer Automotive in Saginaw, MI



Prof. K P Soman
REC Calicut 1980 batch
Professor
Amritha Vishwa Vidyapeetham
Coimbatore



Susamma Barua
REC Calicut 1980 batch
Associate Dean, College of
Engineering and Computer
Science at California State
University, Fullerton



Jacob Augustine
REC Calicut 1984 batch
R&D Manager at Hewlett
Packard (HP Networking
R&D



Arjun Mohan,
NIT Calicut EE 2006 Batch,
CEO of UpGrad,
a homegrown tech unicorn.



Santhosh Mathew
Director of Mergers And
Acquisition
Microsoft, Redmond, USA



Ronnie Spurgeon
NIT Calicut EEE 2007 batch
IFS



Siby Abraham
REC Calicut 1985 batch
Vice President at Wipro Technologies
Bengaluru



Vivek Anand
NIT Calicut EEE 2009 batch
Indian Revenue Service



Chandan Jha
NIT Calicut EEE 2009 batch IPS



Binoy Paul
REC Calicut 1995 batch
Engineering Director at
Visteon Corporation

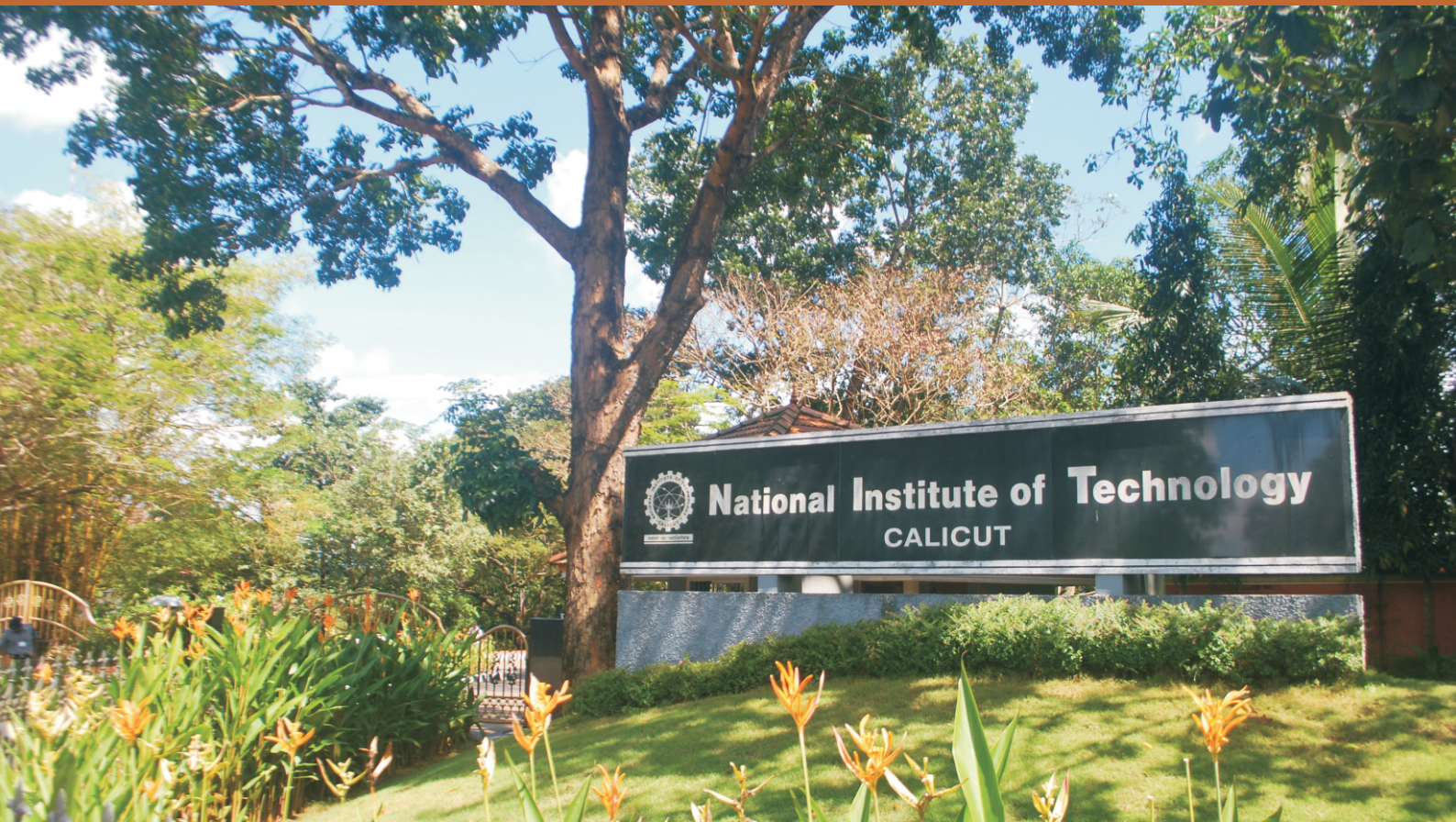


Venkat Nott
NIT Calicut
Founder, CEO and Director
Vinculum Solutions Pvt. Ltd



Prashanth P
Senior Project Manager
Robert Bosch GmBH
Germany

DEPARTMENT OF
ELECTRICAL ENGINEERING



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