Toc H INSTITUTE OF SCIENCE & TECHNOLOGY
Arakkunnam, Ernakulam. Tel: 0484 2748388, email: mail@tistcochin.edu.in, website: tistcochin.edu.in

DEPARTMENT OF ELECTRONICS, TIST

BTech ECE, BTech RA

IMPaCT - Innovative Methods, Projects and Community Technologies Lab

Even Semester 2023-24

IRoC-U 2024: ISRO ROBOTICS CHALLENGE URSC

The team Giga Hertz from Toc H Institute of Science and Technology was selected to the next round of the IRoC-U 2024 Robotics Challenge to build an autonomous Lunar Rover with a Manipulator capable of traversing over rough terrains and handling and storing samples. The multidisciplinary team comprised of 6 students from BTech Robotics and Automation and two students each from BTech CSE and ME. The team overcame stiff competition to advance to the next round of the challenge. Toc H Management has supported the team by contributing a fund of Rs 1 lakh. Management has also provided all required facilities in terms of labs and technical assistance and space to support this project.

APJ Abdul Kalam Technological University Tech Fest and Ketcon 2024

A team from BTech Robotics and Automation won a Special Mention for their project MedDrone at the KTU Tech Fest on 18.2.2024

Team Members: Alwin Jojo, Amal Prakash, Anfil Shajo and Justin Joe, BTech Robotics and Automation

Faculty Mentor: Dr. Georgina Binoy Joseph

ROVC 2024

A team from BTech Robotics and Automation secured the first prize in the Underwater robot driving competition held at KMEA on 23.2.2024.

Team Members: Rajesh V, Athul Krishna KP, Amaljith CU, Jerik Shaju and Sabin BTech Robotics and Automation

Winners of SAMAGRA - The Project Expo

The project NeuroNav Chair secured first prize in ''SAMAGRA - The Project Expo' event held in Adi Shankara Institute of Engineering and Technology on 01 March 2024.

Team members: Akash K S, Akshay K, Athulya K Saju, Krishnapriya C Nair - BTech ECE

Faculty Mentors: Dr. Deepa Elizabeth George & Asst. Prof. Sajitha K S.

The team from BTech Robotics and Automation won the 3rd Prize at Brahma 2024 conducted on 01 March 2024

Team Members: Alwin Jojo, Amal Prakash, Anfil Shajo and Justin Joe, BTech RA

Faculty Mentor: Dr. Georgina Binoy Joseph

KSCSTE TECHFEST 2024 at IIT Palakkad

The project 'Sparklink:The Universal Autonomous UAV Battery Swapping and Charging dock with Precision Robotic Arm' submitted was selected for the CONTEST category of KSCSTE TECHFEST 2024. The KSCSTE TECHFEST 2024 was held during 2nd and 3rd March, 2024 at the Indian Institute of Technology (IIT), Palakkad. The selected team participated in the Tech Fest.

Team Members: Akshay Kannan, Miqudad, Devakrishna and Basil Shaju - BTech Robotics and Automation

Faculty Mentor: Dr. Georgina Binoy Joseph

Winners of Project Expo Megatron 7

BTech ECE students won the following prizes in the Project Expo - Megatron 7 held at Mangalam College of Engineering

First prize - Neuronav chair

Team members: Akash K S, Akshay K, Athulya K Saju, Krishna Priya C Nair - B.Tech ECE

Faculty mentors: Dr. Deepa Elizabeth George, Asst. Prof. Sajitha K S

Second Prize - ARTEMIS-An intelligent animal repellent system

Team members: M S Muhamed Musafir, Dion Gleeson, Fidha Fathima Anz, Gayathri Sivakumar - B.Tech ECE

Faculty Mentors: Asst. Prof.Roshni Polly, Dr. Sreelekshmi.S

INDUSTRY PROJECT

Students of BTech S6 Robotics and Automation implemented an automated Robotic Air Delivery Testing System for Watts Electronics Private Ltd. The project was handed over successfully to the company.

PROJECT EXPOS @ TIST

IMPaCT Lab organized various Project Expos to showcase the technical and innovative skills of the students of the BTech program in Electronics and Communication Engineering and BTech program in Robotics and Automation.

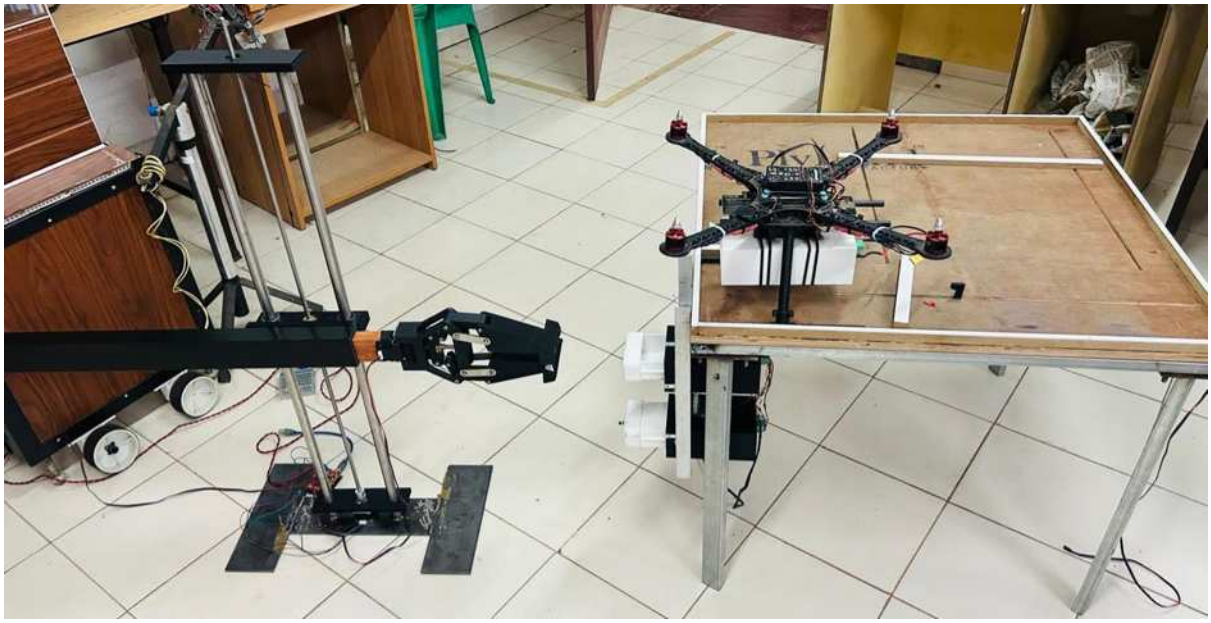
Electrogenesis

Project Expo in Electronic Circuits for students of First Year BTech ECE and BTech Robotics and Automation on 27.2.2024

Toc H
INSTITUTE OF SCIENCE & TECHNOLOGY
TIST
Arakkunnam P.O | Mulanthuruthy | Ernakulam | Kerala 682313
NBA
NAAC
nirf
ELECTRO GENESIS
Where Ideas in Electronics Begin
PROJECT
EXPO 2024
First Year ECE and RA
February 27, 2024
Toc H Kochi
SPAN
Skill Planning and Acquisition Cell(SPAN)
DEPARTMENT OF ELECTRONICS
A NAAC ACCREDITED INSTITUTE WITH NBA ACCREDITED UG PROGRAMS

ElectroYantra Innovation Expo 2024

Students of S8 ECE and S6 RA showcased their major projects on 7.5.2024.



Electrobotics Project Expo 2024

Students of S6 ECE and S6 RA showcased their mini projects on 11.5.2024.

Odd Semester 2023-24

Samsung Solve for Tomorrow 2023

Team Demeter comprising Abdul Rahiman Jasbeer K A, Asheen Afthab M and Prithvi Ullas from BTech Robotics and Automation were selected among the top 10 teams from all over the country in the prestigious National Level Samsung Solve for Tomorrow 2023 competition. Solve for Tomorrow 2023 - a national education and innovation competition is a CSR initiative by Samsung India. The project mentors are Dr. Deepa Elizabeth George, Dr. Georgina Binoy Joseph and Asst. Prof. Nisanth Krishnan.

In the heart of India's green belt, Team Demeter harnesses advanced technologies to safeguard crops. The project on Smart Agriculture with UAV and VR that leverages drones to identify pests and diseases in crops captured the interest of the jury. Their efforts were acknowledged by various print and electronic media.

The coverage of the project by CNN-News18 can be viewed using the link

https://youtu.be/w8FKCFwI0gY?si=oelpkQbxegNk2CeE

Solve For Tomorrow 2023 By Samsung | Team Demeter

CNN-News18
6.36M subscribers

Solve For Tomorrow 2023 By Samsung | Team Demeter

CNN-News18
6.36M subscribers

രാജ്യത്തെ മികച്ച പത്തു കണ്ടുപിടിത്തങ്ങളിൽ ഇടം പിടിച്ച് ഡീമീറ്റർ ഡ്രോൺ

കൊച്ചി: ആധുനിക കൃഷി രംഗത്ത് നൂതന സാങ്കേതിക വിദ്യയായി ടോക് എച്ചിന്റെ ഡീമീറ്റർ ഡ്രോൺ. സാംസങ് ഇന്ത്യയും ഒപ്പം മിനിസ്ട്രി ഓഫ് ഇലക്ട്രോണിക്സ് ആൻഡ് ഇൻഫർമേഷൻ ടെക്നോളജി ഹബ്ബും, ഫൗണ്ടേഷൻ ഫോർ ഇന്നോവഷൻ ആൻഡ് ടെക്നോളജി ട്രാൻസ്ഫറും ചേർന്ന് ഐ.ഐ.റ്റി ഡൽഹിയിൽ വച്ച് നടത്തിയ പരിപാടിയിലാണ് മികച്ച പത്ത കണ്ടുപിടിത്തങ്ങളിലൊന്നായി ഡീമീറ്റർ തെരഞ്ഞെടുത്തത്.അമ്പതിനായിരത്തോളം അപേക്ഷകളിൽ നിന്നായിരുന്നു തെരഞ്ഞെടുപ്പ്. ടോക് എച് എഞ്ചിനീയറിംഗ് കോളേജിലെ റോബോട്ടിക്സ് ആൻഡ് ഓട്ടോമേഷൻ വിദ്യാർത്ഥികളായ പൃഥ്വി ഉല്ലാസ്, അഷിൻ അഫ്താബ്, അബ്ദുൽ റഹ്മാൻ ജസ്ബീർ എന്നിവരാണ് ഡീമീറ്റർ വികസിപ്പിച്ചത്.വിശാലമായ കൃഷിയിടങ്ങളിൽ പറന്നെത്തി വിളകളുടെ രോഗനിർണയം, പരിശോധന, ആവശ്യമായ കീടനാശിനികൾ തളിക്കൽ എന്നിവ വേഗത്തിലും കൃത്യതയോടെ കൂടിയും ചെയ്യുന്ന ഡ്രോൺ ആണ് ഡീമീറ്റർ. സൂക്ഷ്മമായ സെൻസറുകളും, കൃത്യതയാർന്ന ക്യാമറകളുമാണ് ഇവയിൽ പ്രവർത്തിക്കുന്നത്. കാലതാമസവും അധ്വാനവും വേണ്ടി വരുന്ന പ്രയത്നം ഈ ഡ്രോൺ നിഷ്പ്രയാസം സാധിച്ചു തരും.

• ടോക് എച്ച് ടീം ഡ്രോണുമായി.

Patents Published

Three Indian patents were published by the Department of Electronics.

Patent 1: Title of the Invention: A System for a Solar-Powered Charging Station to Increase the Flight Distance Capabilities of Drones

Application No.202341064618 A**, Publication Date**: 22/12/2023

Names of Applicants and Inventors: Anfil Shajo, Dr. Georgina Binoy Joseph, Justin Joe, Alwin Jojo, Amal Prakash and Asst. Prof. Hashfi K. H. – **Department of Robotics and Automation**

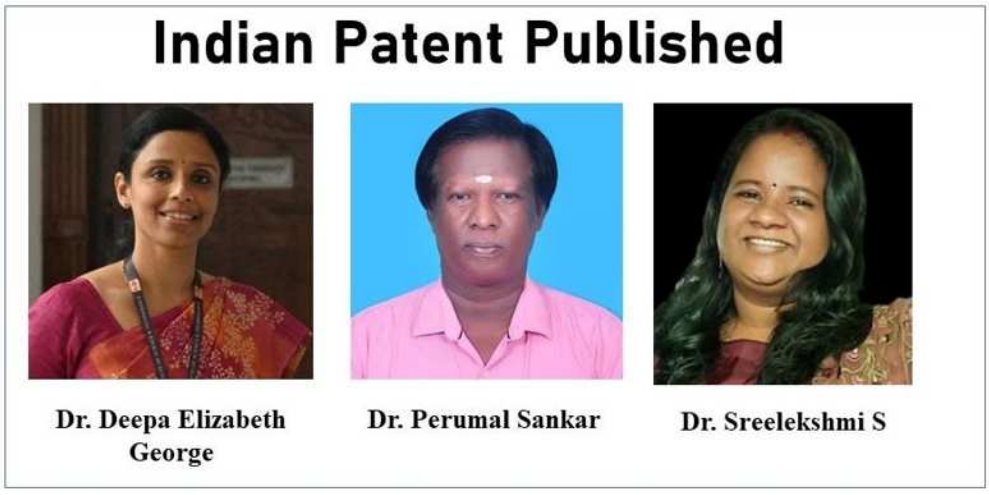
UAVs such as drones can be used to deliver medicines and other essential materials between waypoints. If the distance between waypoints is very large, the drone has to be recharged at charging stations enroute to enable it to cover longer distances. The solar powered charging station is designed to be located by the drone at metre level accuracy.

Patent 2: Title of the Invention: Traffic Prediction Systems in Small Cities using AI

Application No. 202341010033A, **Publication Date:** 24/02/2023

Names of Applicants and Inventors: Dr. Deepa Elizabeth George, Dr. S. Perumal Sankar, Dr. Sreelekshmi S. **– Department of Electronics**

The system analyzes multi-source transportation travel survey data to obtain travel survey information of a survey area, estimating traffic data including: traffic speed and volume in a traffic link. AI based models are used to predict traffic information.



Patent 3: Title of the Invention: System & method for Health Care through IOT Wearables

Application No. 202221068832, **Publication Date**: 3/02/2023

Names of Applicants and Inventors: Dr. Sreelekshmi S. **– Department of Electronics and Communication Engineering**

The invention is related to a wearable sensor-based system that monitors the health parameters of the user and stores the data to keep track of all activities of the user. This invention helps in notifying the user's relatives in case of emergency scenarios. A wireless link has been created to transfer the data.

Prize Winners of PROCOMM 2023

A team comprising Akash K S, Akshay K, Athulya K Saju and Krishnapriya C Nair from BTech Electronics and Communication Engineering won the first prize for their project NeuroNav Chair in PROCOMM 2023 by IEEE ComSoc Kerala Chapter conducted on 2.10.2023 at RIT, Kottayam. The project was mentored by Dr. Deepa Elizabeth George and Asst. Prof. Sajitha K.S.

First Prize Winner

Prize Winners of Srishti 2023

Two teams from BTech Robotics and Automation won the second and third prizes in the Srishti 2023 Project Expo conducted on 10.11.2023 at JEC, Thrissur. The second prize was won by Alwin Jojo, Amal Prakash and Justin Joe for their project Med-Drone mentored by Dr. Georgina Binoy Joseph while the third prize was won by Anfil Shajo for his project Aqua Vision.

2nd Prize Winners

3rd Prize Winner

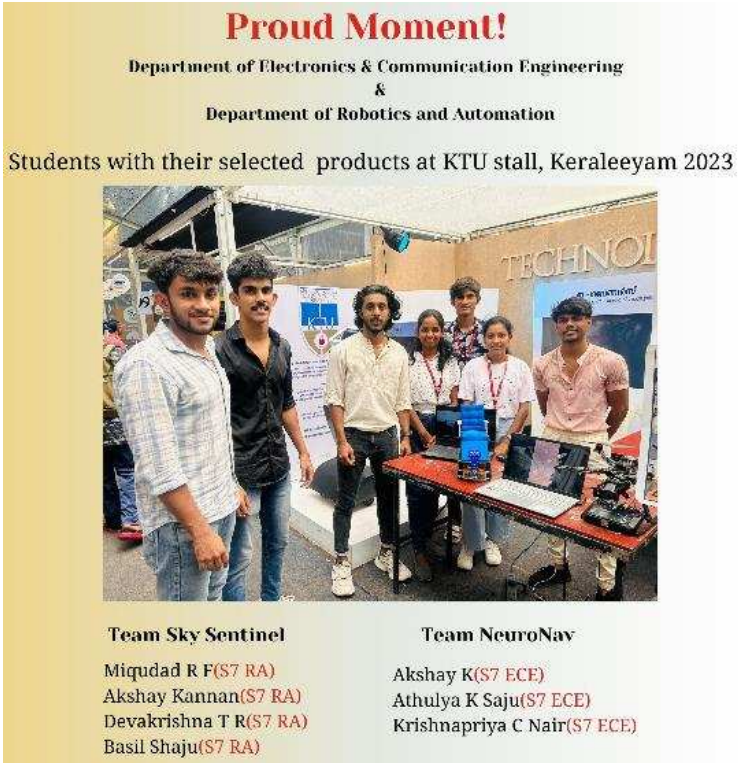
Prize Winners of Pegasus 2023

A team comprising Akshay Kannan, Miqudad, Devakrishna and Basil Shaju from BTech Robotics and Automation won the second prize for their project SparkLink in the Pegasus 2023 Project Expo conducted on 24.11.2023 at MITS, Kochi. The project was mentored by Asst. Prof. Hashfi K. H. and Dr. Georgina Binoy Joseph.

Second Prize Winner

Prize winners of InnoCon Expo @ Dhishna 2023

Med-Drone, a project of the students from BTech Robotics and Automation - Alwin Jojo, Amal Prakash, Anfil Shajo and Justin Joe mentored by Dr. Georgina Binoy Joseph was selected as one of the Top 3 projects in InnoCon Expo @ Dhishna 2023 at CUSAT on 25.11.2023.

Participation in KERALEEYAM 2023

It was a proud moment for the Department of Electronics when two of our teams were selected for participation in KERALEEYAM 2023 held on 4.11.2023 at University college Palayam,Trivandrum.