
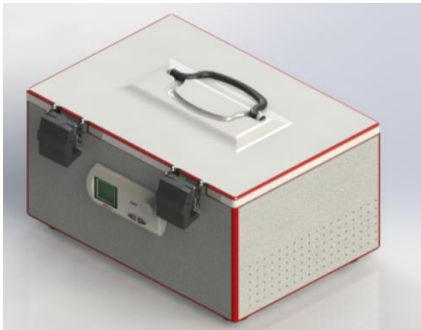
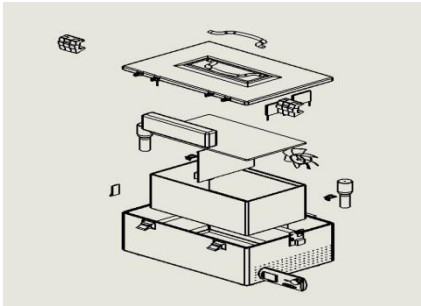



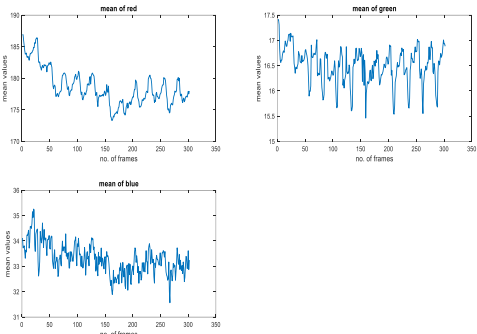
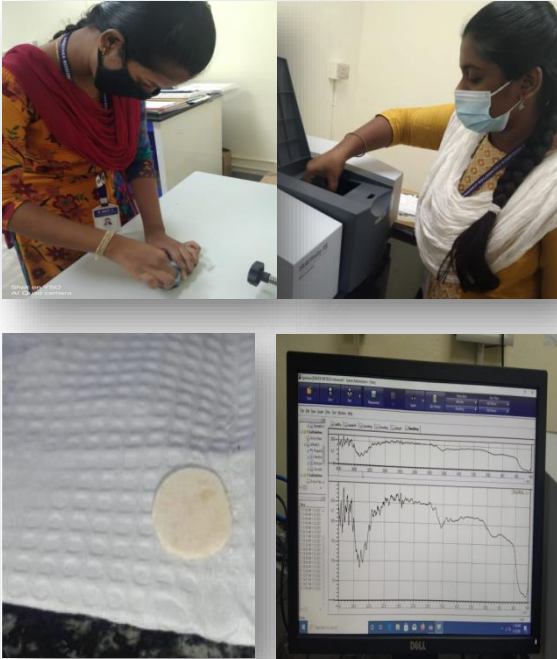


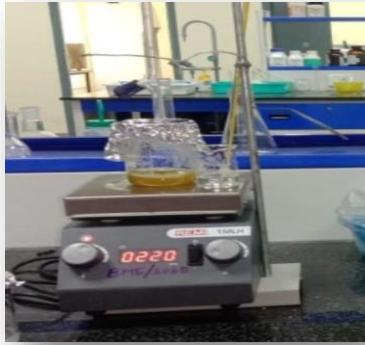
DEPARTMENT OF BIOMEDICAL ENGINEERING

THRUST AREA RESEARCH ACTIVITIES

S.No	Department	Thrust Area	Activities		Year
			Infrastructure	Results of the Progress made	
1	BME	Sensors and IOT	<p>Project Title : TECHNOLOGY ENHANCED MEDICAL ORGAN BOX</p> <p>Infrastructure : Sensors and Transducers Lab</p>    <p align="center">Proposed Prototype Model</p>	<ul style="list-style-type: none"> ➤ This project has received grants of about “Rs.15 Lakhs” from “Support for Entrepreneurial and Managerial Development of MSME’s through Incubators for GoI Assistants. ➤ In this project, we propose “TECHNOLOGY ENHANCED MEDICAL BOX FOR HUMAN ORGAN TRANSIT & MONITORING” with full integrated technology for effective organ monitoring during transportation and also to ensure that the organ is safe and sterile while transit. ➤ Currently we have organ transportation box which technologically lags in adaptive temperature control, multilayered compartments, real-time monitoring of the organ condition etc. ➤ The prototype model has been developed and the box dimension has been formulated and fixed for fabrication. 	2020

2	BME	Robotics	<p>Project Title : MULTI-GRADIENT PATIENT WHEEL CHAIR</p> <p>Infrastructure : Robotics lab</p>   <p>Fixation of Sliding Contacts for Foldable Joints of Wheel Chair</p>	<ul style="list-style-type: none"> ➤ The Multi Gradient Patient Wheel Chair is a versatility gadget intended for moving patients, moving individuals starting with one spot then onto the next with the assistance of a participant or by methods for self-pushing. ➤ This clever thought of the Multi-Gradient Patient Wheel Chair intended to lift patients,(who can't lift them-self easily)from a seat with no help. ➤ This semi-mechanized wheelchair with self-standing and resting situating, that offers different choices to the client/patients Sliding contacts for the folding movements of the wheel chair has been initiated ➤ The outer frame work & casting of the Wheel Chair is in progress ➤ Wheels for balancing and rolling has been purchased ➤ Design parameters have been fixed corrected for framework layout. 	2020
3	BME	Sensors and IOT	<p>Project Title : HOTOPLETHYSMOGRAPHY FEATURE EXTRACTION FOR THE EVALUATION OF HYPERTENSION</p> <p>Infrastructure : Sensors and Transducers Lab</p> 	<ul style="list-style-type: none"> ➤ This project is used as an homecare device application for measuring the features of Photoplethysmography for evaluation of hypertension ➤ The main objective of this project is to acquire & process video signal through mobile phones to extract the necessary features and also to deploy the code for detecting the hypertension. ➤ The waveform of mean values of red, green, blue pixels from the image frames are been 	2019

			 <p style="text-align: center;">Simulated Output</p>	<p>generated using image processing techniques</p> <ul style="list-style-type: none"> ➤ The code for detecting the hypertension is in progress. ➤ This project has received a grant of Rs.1.5 Lakhs from “AVIT-SEED Money” Scheme. 	
4	BME	Nanotechnology	<p>Project Title : EXOGENOUS CONTRAST AGENT USING NANOTECHNOLOGY FOR CANCER DETECTION THROUGH ULTRA SOUND SCANNING</p> <p>Infrascture : Nanotechnology Lab</p> 	<ul style="list-style-type: none"> ➤ This project is intended to develop photo acoustic contrast agent using gold nanoparticle for cancer detection with ultra sound scanning. ➤ In this project, Zinc Oxide (ZnO) Nano particles is synthesized using Green Synthesis method by using AzadirachtaIndica (Neem). ➤ Later, an capping agent comprising of Gold (Au) will be coated over an Zinc Oxie (ZnO) particle to form a exogenous contrast agent for Cancer detection through Ultra Sound Scanning. 	2019



Synthesis of Zinc Oxide (ZnO) using Azadirachta Indica

Activites Done:

- AVIT Robotics club was inaugurated on 15-08-2018
- A Three day's training program on "Fundamental of Robotics" in association with SAKROBOTICS (IIT Bhubhaneshwar) was organized on 15th October, 2018 to 17th October, 2018
- A Three day's training program on "ROBOT DESIGN AND DEVELOPMENT" in association with SAKROBOTICS (IIT Bhubhaneshwar) was organized on 06th February, 2018 to 08th February, 2018
- Many Robotics Projects have been done by the students through Hands-on-Development.



Inauguration of AVIT Robotics Club



Training program on "Fundamental of Robotics"

5

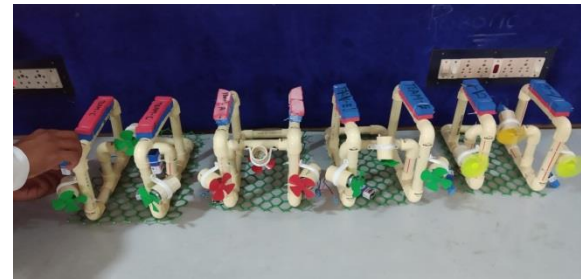
BME

Robotics

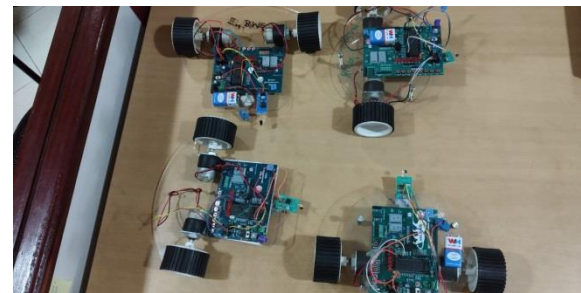
2018



**Training program on
"ROBOT DESIGN AND DEVELOPMENT"**



Water Vehicle Robots



Line Follower Robots