SNGCE BOOTCAMP- ACTIVITY REPORT FOR THE YEAR 2019

SREE NARAYANA GURUKULAM COLLEGE OF ENGINEERING KADAYIRUPPU P O, KOLENCHERY

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College of Engineering
Kadayiruppu,Kolenchery-682 311

Core Committee Members

Sl no	Designation	Name	Dept/Sem	Email	Mob
1	Chief Executive Officer	Eldhose George	S7 ECE	Eldhosegeorge321 @gmail.com	8593048295
2	Chief Technical Officer	Arun P Madhu	S3 ECE	Arussins707&gmail.com	8848646925
3	Chief Social Officer	Lakshmi Gopakumar	S7 CSE		7902926097
4	Chief Marketing Officer	Pooja Rajendran	S7 CE	Poojarajendran1@gmail.com	8281630942
5	Chief Creative Officer	Anand M J	S5 CSE	Anandmj669@gmail.com	9496593265
6	Chief Financial Officer	Ann Mariya	S5 NASB	Annmarysunil34@gmail.com	7559902101
7	Chief Operating Officer	Aravind AS	S7 ME	Aravind27@gmail.com	8547322798

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EVENTS AND ACTIVITYS

Mini Fab Saturdays

Date: 16 to 30 March 2019-12-19 Venue: SNGCE Fab Lab

No. Of participants:10

Mini fab labs act as a medium for connecting to a global community of learners, educators, technologists, researchers and innovators – essentially becoming a self-sustaining global knowledge sharing network.

In view of spreading the art of Digital Fabrication, IEDC_SNGCE coordinated an Introduction to Digital Fabrication workshop in SNGCE Mini FAB Lab. The workshop designed to have an overview of all the rapid prototyping capabilities of Fab facility i.e. 3D printing, laser cutting, screen printing, designing, etc. The series of workshops was conducted from 16th to 30th March 2019. Ten students have been trained.

INSPIRE.4

Date: 10.08.2019, Venue: SNGCE, Auditorium

Participants: 200 students from various First Year B.Tech Classes

Inspire.4 is an induction program for the first year students of SNGCE. The main motive of the program was to give the students an introduction to IEDC and its activities, and to motivate them to bring up more innovative ideas.

Ann Mary, CFO of IEDC SNGCE, welcomed the gathering. Prof.(Dr.) Kemthose Paul, Principal of SNGCE inaugurated the program. He spoke about the need of entrepreneurs in the current economic scenario and how IEDC SNGCE is giving support student entrepreneurs to develop their ideas and products.

IEDC Nodal Officer Prof. (Dr.) Binu P. P detailed about support that can be provided to the

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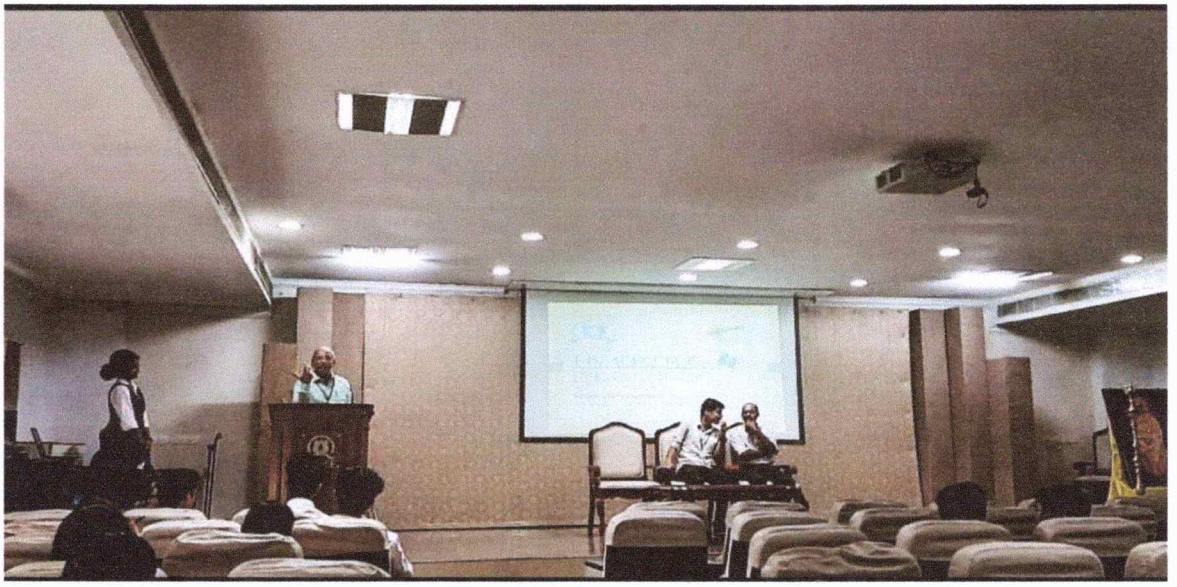
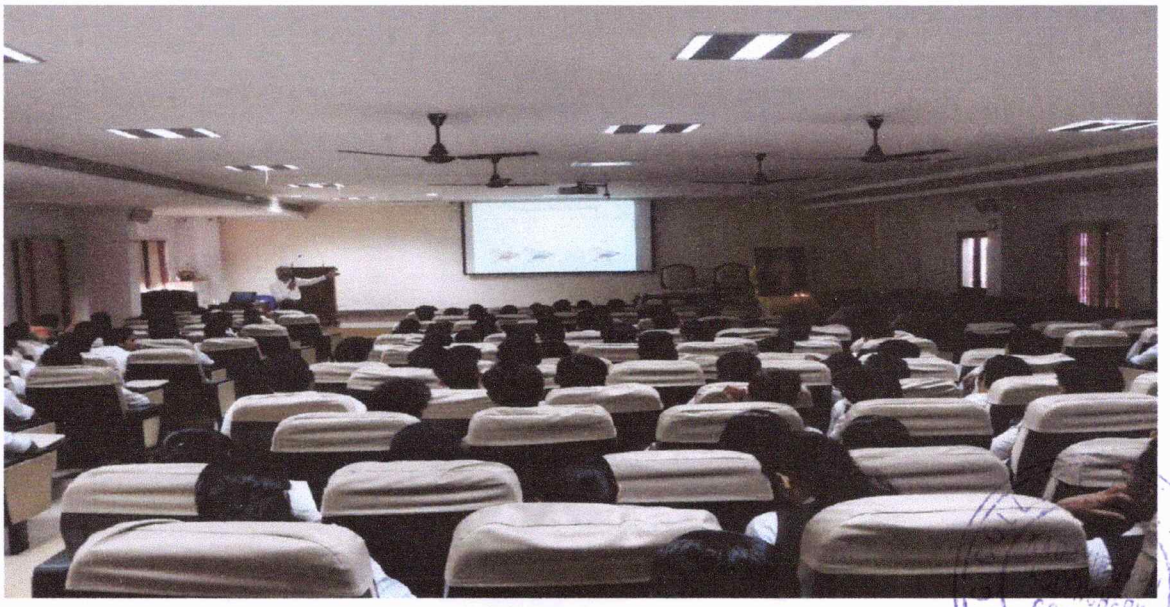
students to explore new technologies and to get much knowledge to develop their own projects. He also spoke about the Fab lab at SNGCE and the facilities at Fab lab that we can provide to the students, so that they can develop their ideas and their products in ourcollege.

Anand M J, CCO of IEDC SNGCE, spoke about the history of IEDC and how IEDC is helping students and entrepreneurs to develop their ideas and products. He also spoke about the famous entrepreneurs and how they were able to come up with their ideas successfully.

Eldhose George, CEO of IEDC SNGCE, explained the facilities and machinery in the SNGCE Fab lab in detail and how they can be effectively utilized by the students.

Aravind, COO of IEDC SNGCE, discussed about the upcoming IEDC summit. He shared the previous Summit experiences and how it would help the students to get an outline on developing an innovative idea. 200 students from various first year classes participated in the event.





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Arduino and Interior Design Workshop

Date: 27, 28 September 2019

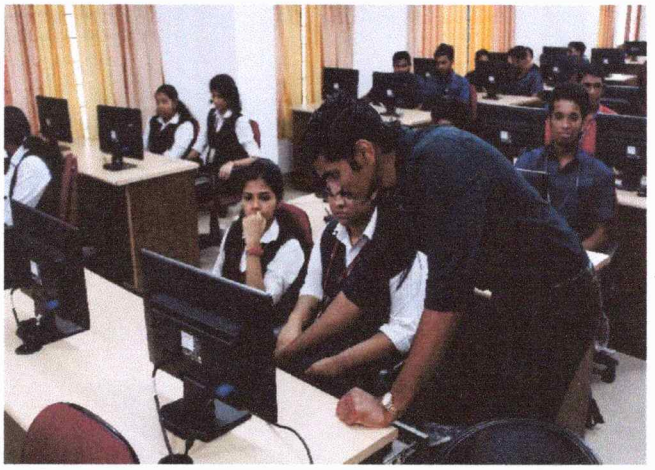
Participants: 70 B.Tech students from SNGCE and other colleges.

IEDC SNGCE conducted a 2 Days' Workshop on the topics *Interior Design* and *Arduino*. In addition to the students from SNGCE participants from *Ilahia* College of Engineering and Mar Baselious Institute of Technology and Science attended the workshops.

Both the workshops were conducted in association with Audrey Automation and Ambit Technologies. Both the workshops were completely hands-on and the students were able to understand the topic in detail.

On the first day, students were given a detailed outline on the topics. Then on the second day, the students attending Arduino workshop were able to program Arduino chips and the students attending Interior Design workshop were able to develop a model of their design.

The workshops were very informative and the students were able to understand the topic very well.



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Introduction to Fab Lab and IOT Labs

Date: 30 & 31 August-2019

Participants: first year B.Tech students from Sngce and students from nearby higher secondary schools

A training programme for +2 and higher secondary students in Fab Lab. Students from Govt. Boys school, Tripunithuira ,GOVT HSS, Kadayiruppu, St Josephs Kizhakkambalam, St. Peters HSS, Kolenchery,Nirmala Public School, Muvattupuzha

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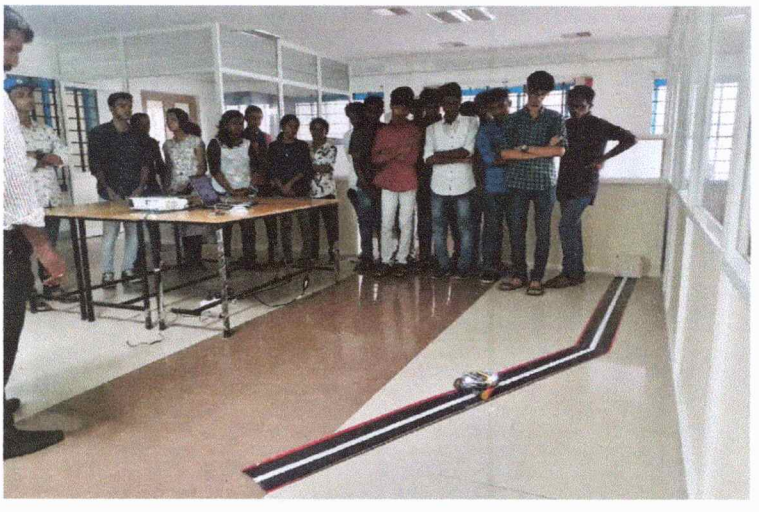

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3D PRINTING AND LASER CUTTING WORKSHOP

Date : 13th December 2019

Trainer : Mr Nimal Viju

Participants: 30 Students from Sngce

A one day work shop coordinated to provide training in 3D Printing and Laser cutting. 30 students from various B.Tech classes participated. Outsourced the expertise of Mr. Nirmal Viju, a young student turned Entrepreneur.

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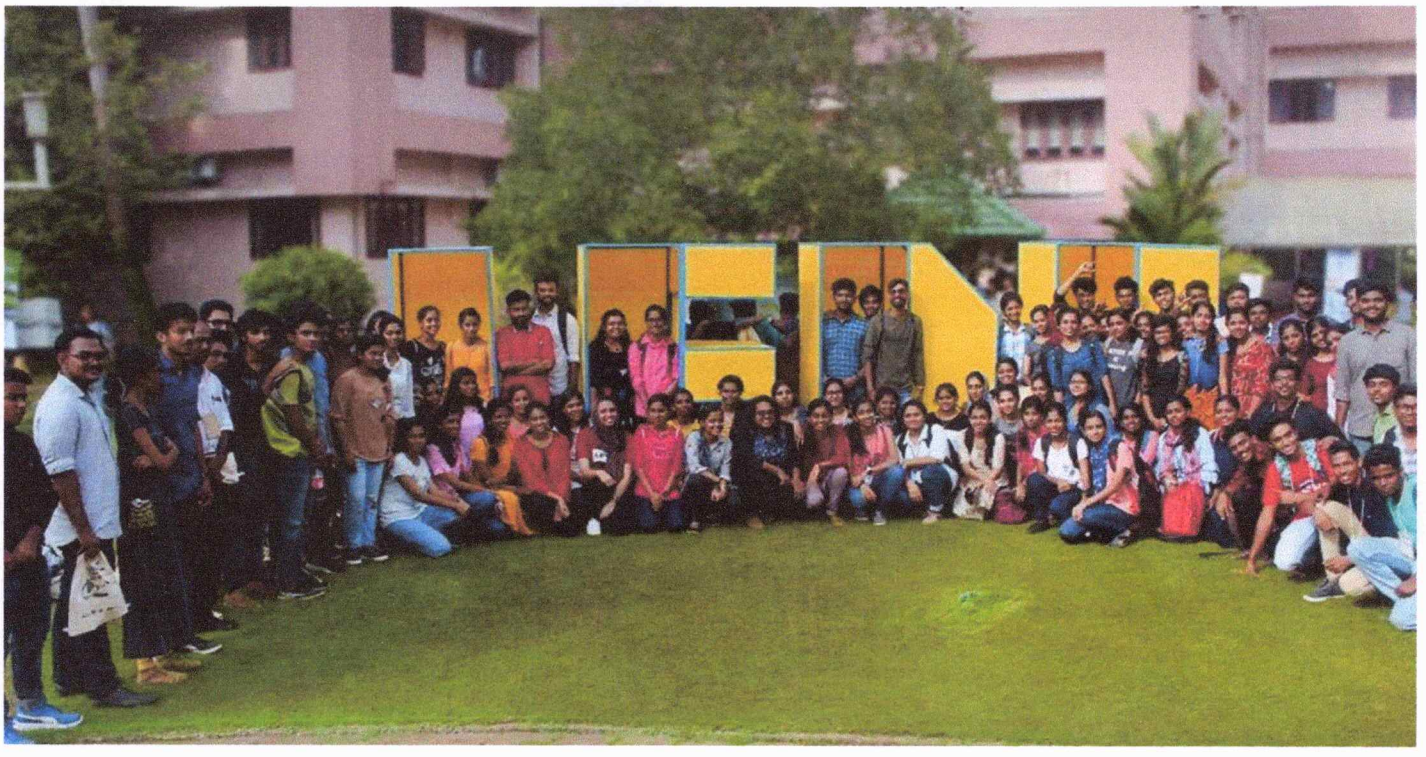
IEDC SUMMIT 2019

Date: 19 th October 2019
Venue: sahradhya college of engineering
No of participants: 120

It is very glad to place on record that, IEDC-SNGCE extended the participation of 120 students in the summit.



FUTURE WORK PLAN

In the upcoming months, our boot camp has planned to organize various workshops, talks for students and to help them in their path to changing the world. The following events are under the proposal.

Fab Lab – Training for School students

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Talk on Idea Creation

One major challenge to budding entrepreneurs these days is crafting a good idea to start with. This talk will focus on helping students tailor their thinking so as to generate newer, better ideas that might one day change the world. We're planning to conduct the talk in the month of August providing a kick start to the fresher's and other students alike.

Workshop on Idea Sketching

After the session on Idea Creation, students would be able to create great ideas. This workshop helps then go another mile. This workshop will call out to students to sketch their ideas with pen and paper. This will improve creativity and help bring the idea of a product to life, with a basic sketch of the finalproduct.

Session by women entrepreneur

Woman empowerment is a goal most active now than ever. Keeping this in mind, we plan to conduct a talk/workshop with a woman entrepreneur handling the session. This will be inspiring for future women entrepreneurs and men alike. This will encourage women to step up and tailor their own empire. Moreover, this will highlight the fact that entrepreneurship is not just for men.

Android Workshop

Android is an actively growing OS with more than 80% of the world's devices depending on it. Development for android is hence a wide sector to invest into. This android workshop will kick start android development culture among students and help them build their career aroundandroid.

Technova Precursor Event

Technova is a huge event where first years will come together from different departments and work as a team to build a project of their dreams. We have been planned to conduct a precursor event for Technova in the month of January.

Patents

Our bootcamp is looking forward to help students IPRs for their innovative ideas during the upcoming year.

Startup in Gurukulam TBI – Signess, CEO: Jiril Jose

It also feels proud to initiate a new start up in SNGCE, by one of our Alumni, Mr. Jiril Jose.

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Status of IOT Lab & FAB Lab

We have a Mini IOT Lab and Fab Lab setup in our college which is functioning as expected. Currently a few projects are under progress under the lab. The following seven students are assigned duty to coordinate IOT related activities in college:

Eldhose George – Electronics and Communication Engineering

Ashirvad R -Electronics and Communication Engineering

Anand M J- Computer science and Engineering

Shabeer Hassan- Electronics and communication Engineering

Aravind A S- Mechanical Engineering

Issac john- Mechanical Engineering

Anju P Raj - Electronics and Communication Engineering

Activities in IOT & FAB labs

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PROJECTS UNDER IEDC

Autonomous Underwater Vehicle

Autonomous Underwater Vehicles (AUVs) are unmanned underwater vehicles that are being utilized for various scientific, commercial as well as military applications. Design, system identification and control of these vehicles are complicated and hence there are depths to be uncovered by research and development.

This project focuses on the design and development of an AUV crafted for international underwater

vehicle competitions. The projects hold two phases. The design, alone, sums up the first phase. The second phase, however, is concerned with modelling, system identification and simulation of a control system for the vehicle. The design phase focused on implementing a mechanical and electrical system as well as integration of subsystems. Three result is a low-speed, bottom-heavy and open-framed underwater vehicle. Named DANAS, the vehicle exhibits high symmetry, modularity and stability. The second phase started off with modelling DANAS. Modelling was done taking the dynamic model of an underwater vehicle into account. The system identification was done using onboard sensors. A PID tracking controller based on computed torque control was adopted for the control system of DANAS.

The end result is a functional autonomous underwater vehicle that has undergone design, modeling, system identification and preliminary control analysis.

Prof.(Dr.) P P Binu

Nodal officer, IEDC-Boot Camp

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