

## **Foreword from the President:**

We are the Designers' Consortium, a set of forty-two aspiring design enthusiasts with a perpetual thrust for innovation from various engineering backgrounds. We began our journey in 2015 as a fourteen-member team, and have passionately advanced to become the official Product Designing Club of NIT Trichy.

Our main aim is to identify key problems that hamper the comfortable living of the diverse sections of our society, and provide with an answer to their needs. To defy the various odds in the way, design a solution satisfying requirements and deliver a product championing the standards is our motto.

## **Initiatives/Projects taken up this year:**

### 1. SANGAM projects

#### *a. C-BASS:*

The primary aim of this project is make a system to detect and non-lethally stop maritime vessels invading or evading naval perimeters, the intent of which is unknown. The goal is to develop a portable product that can be mounted on host navy ships, the working of which would be semi-automatic.

Image: [https://drive.google.com/drive/folders/1JnvCHZ-Dlgn3pilge-ikkT-uATQ7IL\\_o?usp=sharing](https://drive.google.com/drive/folders/1JnvCHZ-Dlgn3pilge-ikkT-uATQ7IL_o?usp=sharing)

#### *b. CALTEC*

The aim of the project is to make a system of bots that detects and deters the marine animals and birds near the oil spill area by fitting to oil booms. They also provide aid in rescuing those which are already affected.

Image:

<https://drive.google.com/drive/folders/1CHok504ekAaKcuV0A8y2Gyj8PB7FYfDt?usp=sharing>

c. ICTALMATE

The objective of the project is to detect and mitigate seizure such that a person having seizure is safe even with no one around him/her for first-aid assistance

Image: <https://drive.google.com/drive/folders/1mP5gxx084-dqIaUUEm8tRz3FH4oOEqS7?usp=sharing>

2. Campus development projects

- a. Elevator sanitation
- b. Luggage carrier for cycles
- c. Volleyball court line maker

**Upcoming Initiatives:**

1. Technovation:

Workshop conducted on theory sessions for mechanisms, design thinking, product development and 3D CAD modelling.

2. Certified SolidWorks Associate (CSWA) training session by our SOLIDWORKS sponsor "SIMTEK":

A two day training session covering the features from basics to advanced level required for the CSWA certification shall be done by industry professionals from our sponsor "SIMTEK".

**Achievements:**

- The following projects have won prizes in Sangam - Pragyan hardware hackathon 2022.
  - CALTEC (1st)

- C-BASS (3rd)
- Secured sponsorship from SOLIDWORKS (a reputed CAD modelling and simulation tool) and ANSYS (a reputed multiphysics simulation software) that provides us access to an array of resources ranging from software utility to mentorship.
- The following papers have been published in IEEE Xplore after being presented at the 9th International Conference on Robotics and Mechatronics 2021.
  - Conceptual model for improving manoeuvrability in borewell rescue devices <https://ieeexplore.ieee.org/document/9663477>
  - Upper and Lower limb interchangeable Exoskeleton-robot for post-stroke rehabilitation <https://ieeexplore.ieee.org/document/9663510>
  - Design of a Powered Multi-Tracked Stair Climbing Carrier with Loading Capability into Automobiles <https://ieeexplore.ieee.org/document/9663481>
  - Design of a Remotely Operated Vehicle (ROV) for Biofoul Cleaning and Inspection of Variety of Underwater Structures <https://ieeexplore.ieee.org/document/9663518>
- The following paper has been accepted at the 2<sup>nd</sup> International Conference on Robotics and Artificial Intelligence 2021
  - Robotic arm for brake performance testing

**Core Members:**

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