



**FRANCIS XAVIER**<sup>™</sup>  
**ENGINEERING COLLEGE**  
**AN AUTONOMOUS INSTITUTION**

Accredited BY NBA | AICTE Sponsored Margdarshan Mentor Institution  
DST-FIST Supported Institution | ISO 9001:2015 Certified  
Recognized under Section 2(f) & 12(B) of the UGC Act, 1950

[f /fxengg](#) [t /fxengg](#) [i /fx\\_ec](#) [in /fxengg](#)  
[y /francisxavierengineeringcollege](#)

## DEPARTMENT OF MECHANICAL ENGINEERING

### MONTHLY NEWS – MARCH 2022

#### **About Department of Mechanical Engineering**

The department offers UG program in B.E Mechanical engineering from the year 2005. The department started a PG program M.E Industrial Safety Engineering from this academic year 2018-2019. This course has wide range of job opportunity in the Industrial and Academic sector of India as well as abroad. The Department aims at providing the students with a perfect blend of intellectual and practical experiences with the support state-of-the-art laboratories and well defined academic structure. The UG program is accredited by National Board of Accreditation (NBA). The special feature of the Department has established three applied laboratories, in addition to the regular labs to support students to master skills to make each one industry-ready, with a solid grounding in the principles and practice of Mechanical Engineering. We also have a strong academy for training students to appear for GATE exam.

#### **Vision of the Department**

To produce competent Mechanical Engineers of excellent technical and managerial skills with profound morality for global, national and confront societal development.

#### **Mission of the Department**

1. To provide quality education in Mechanical Engineering with an interdisciplinary approach, encouraging innovation, research, and Entrepreneurship through world-class infrastructure and proficient teachers.
2. To make the department self-reliant through multiple programs with excellent curriculum, best practices, and industry exposure.
3. To inculcate technical, professional, leadership skills, moral ethics, and lifelong learning.

## Programme Educational Outcomes

Bachelor of Mechanical Engineering curriculum is designed to impart Knowledge, Skill, and Attitude on the graduates to

PEO 1: Have a successful professional career in Mechanical Engineering and allied industries, either by employment or through entrepreneurship.

PEO 2: Establish competency in Design, Thermal, Materials, and Manufacturing system with ethics and social responsibility.

PEO 3: Have a continual receptiveness for leadership and social challenges.

## Message from the Head of the Department

**Dear Colleagues,  
Greetings!**

I have great pleasure and pride to announce that the Department of Mechanical Engineering is publishing the newsletter for the month of March 2022. Amidst the Covid Pandemic situation, we strived hard to keep the students engaged, and utilize the time not only for quality education and also for self-development. We are steadfast in our progress as it involved various activities that enabled the hidden talents of the department students and faculty members to be brought into light. Besides the lockdown, our faculty members are continuously attending various training programs, publishing research papers, book chapters and are also working on getting patents.

This newsletter is the reflection of department activities which showcases all the events held in the department, contribution of faculty members, students and the best practices adopted. I would like to congratulate all the members of the editorial board for their sincere effort to realize this venture.



**Dr. I. Neethi Manickam, M.E., Ph.D.**  
Professor & Head  
[neethimanickam@francisxavier.ac.in](mailto:neethimanickam@francisxavier.ac.in)

## EDITORIAL BOARD

Dr. I. Neethi Manickam, Professor & Head of Department, Editor – in – Chief.

Dr. S. Balakrishnan, Assistant Professor, Mechanical Department, Faculty In charge.

## ALUMNUS INTERACTION

FXEC – Mechanical department has organized an alumni interaction to share their knowledge, provide career counseling, and support to current mechanical engineering students. On March 3, 2022, and alumni interaction was held.

Mr. Palanirajan S of batch 2020 passed out, Graduate Engineering Trainee at KONE Elevator India private limited, Chennai. He interacted with third year of mechanical students and he delivered his experience with project and product development, exposure to industry requirements, and preparing for the core job including communication skills. Students interacted with alumni in a very friendly manner and clarified their queries about the core job and product development.



## WEBINAR

The Department of Mechanical Engineering celebrated a “National Safety Day” on Mar 4, 2022. Dr.R.K.A.Bhalaji AP/Mech coordinated the programme and earlier he delivered the welcome address with safety pledge. Resource Person “Mr.T.Rajpradeesh, Assistant Professor, Mechanical Engineering, Kalasalingam University” delivered the

WEBINAR on the topic “Awareness on General Industrial Safety” via online mode. M.E (ISE) and Third Year Mechanical Engineering benefited from this programme. He underlined how to follow precautions and create awareness about hazards in the industry such as physical, chemical, biological, psychological etc.



**FRANCIS XAVIER ENGINEERING COLLEGE AN AUTONOMOUS INSTITUTION**  
 ISO 9001:2015 Certified Institute  
 ISO 14001:2015 Certified  
 Vannarpottai, Tirunelveli - 627 003.

**National Safety Day**

**Topic: Awareness on General Industrial Safety**

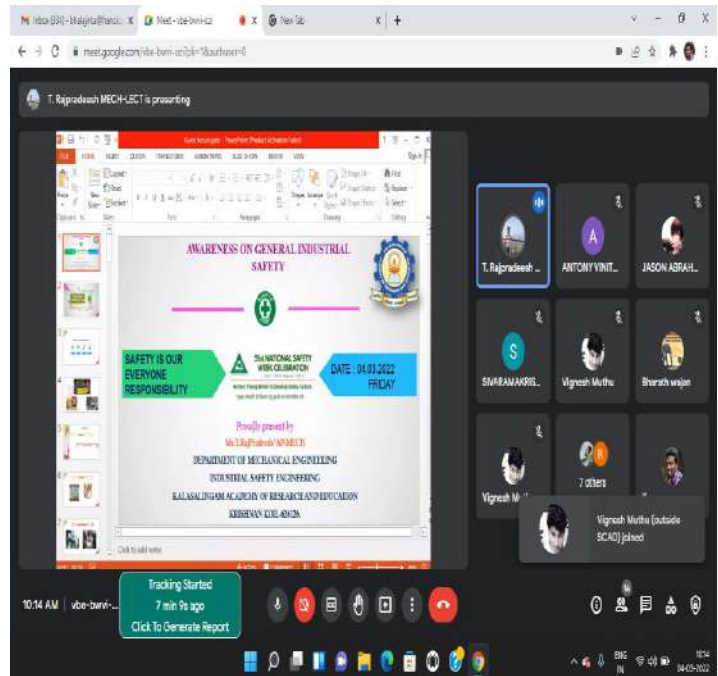
Organized by  
**Department of Mechanical Engineering**

Resource Person  
**Mr. T. Rajpradeesh, M.Tech (ISE)**  
 Assistant Professor/ Mechanical Engineering  
 Kalasalingam Academy of Research and Education,  
 Krishnankoil.

04 MARCH 2022 (TUESDAY)

Google Meet **Link: <https://meet.google.com/jtn-swdp-qxd>**

Coordinator	Convener
<b>Dr. R.K.A. Bhalaji</b> AP / Mech	<b>Dr. I. Neethi Manickam</b> HOD / Mech
<b>Dr. K. Jeyakumar</b> GM Development	<b>Dr. V. Velmurugan</b> Principal



## SKILL TRAINING - PLACEMENT FIT APTITUDE

The department of Mechanical Engineering organised a Mandatory Skill Training on "PLACEMENT FIT APTITUDE" on behalf of FXEC's Training and Skill Development (TSD) programme for the benefit of third and final year mechanical engineering students from 02.03.2022 to 21.03.2022. The skill trainers were Dr.Samuel Hansen, ASP/Mech, Mr. K. Ariyanayagam, ASP/Mech, Mr. M. Saravana kumar, AP/Mech Mr. A.Santiago Stephen, ASP/Mathematics, Mr. D.Sakthivel, AP/Mathematics. A total of 154 students benefited from this program with various venue at ME104 & ME 102.

The hands-on training begins with an overview of this training. Day 2 to 13 started with various topic such as Reasoning Ability and Number Series. At the end of skill training day 13, skill trainers evaluated students' performance based on the completion of the test project.



## SKILL TRAINING - SOLIDWORKS 2D DRAFTING AND 3D MODELLING

The department of Mechanical Engineering organised a Mandatory Skill Training on "SOLIDWORKS 2D DRAFTING AND 3D MODELLING" on behalf of FXEC's Training and Skill Development (TSD) programme for the benefit of second year mechanical engineering students from 02.03.2022 to 21.03.2022. The skill trainers were Dr. S. Balakrishnan, Mr.S.Thanumalaya Perumal, Mr. K.Robinston Jeyasingh Swikker, and Dr.K.Vinukumar. A total of 131 students benefited from this program with various venue at Design and Analysis Lab, CAD Lab, Mechatronic Lab and Robotics & Automation lab.

The hands-on training begins with an overview of design software and solidworks applications in industry. Day 2 to 13 started with 2D sketch and 3D part modelling features, as well as assembly in solidworks softwares. In addition, students learn 3D part, assembly, and designing utilizing diverse diagrams. At the end of skill training day 14, skill trainers evaluated students' performance based on the completion of the test project.



# PATENTS PUBLISHED

Dr. I.Neethi Manickam, Dr.R.Samuel Hansen, Dr.S.Balakrishnan, Dr.R.K.A Bhalaji has published the four Indian patents on 04/03/2022. Title of the invention(s) are “A new technology high speed water boat, A new technology egg boiling machine, A new technology a low-weight folding tooth brush and A new technology truck loading machine at high speed”.

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :17/02/2022

(21) Application No.202241008510 A

(43) Publication Date : 04/03/2022

(54) Title of the invention : A NEW TECHNOLOGY, TRUCK LOADING MACHINE AT HIGH SPEED

(51) International classification :G06Q0010080000, B65G0001040000, B65G0069000000, B66F0009200000, B65G0001137000

(86) International Application No :PCT//  
Filing Date :01/01/1900

(87) International Publication No : NA

(61) Patent of Addition to Application Number :NA  
Filing Date :NA

(62) Divisional to Application Number :NA  
Filing Date :NA

(71)Name of Applicant :

1)FRANCIS XAVIER ENGINEERING COLLEGE | TIRUNELVELI

Address of Applicant :The Principal FRANCIS XAVIER ENGINEERING COLLEGE 103/G2, BY PASS ROAD, VANNARPETTAI, TIRUNELVELI, TAMIL NADU INDIA – 627003 -----

Name of Applicant : NA

Address of Applicant : NA

(72)Name of Inventor :

1)Dr. R.K.A.Bhalaji

Address of Applicant :Dr. R.K.A.Bhalaji, AP/Mech, FXEC, Tirunelveli -----

2)Dr. S.Balakrishnan

Address of Applicant :Dr. S.Balakrishnan, AP/Mech, FXEC, Tirunelveli -----

3)Dr.I.Neethi Manickam

Address of Applicant :Dr.I.Neethi Manickam, Professor & Head, Department of Mechanical Engineering, FXEC, Tirunelveli -----

4)Dr.R.Samuel Hansen

Address of Applicant :Dr.R.Samuel Hansen, Professor/Mech, FXEC, Tirunelveli -----

# INDUSTRIAL VISITS

M.E. (Industrial Safety Engineering) First-Year Students from the department of mechanical engineering visited Loyal Textile Mills Ltd, Kovilpatti regarding Industrial Visits on Mar 15, 2022. Industrial practitioners conducted guest lectures and various competitions about safety. From that students understood about what are the safety precautions followed by the industries as per the factories act 1948. Mr.K.Ariyanayagam, AP/Mech arranged this Industrial Visits for ME (ISE) students.



## WEBINAR

A webinar on “How to plan for start-up” was organized by Entrepreneurship Development Cell & Institution’s Innovation Council in association with the Department of Mechanical Engineering on 23rd March, 2022 at 02:00 pm. The program was held via online mode. Dr. R.K.A.Bhalaji, AP/MECH coordinated the programme. Mr.N.Vimal Kumar, Managing Director, Vimal Innovation & Manufacturing System (VIMS) was the resource person. The resource person highlighted what are the ways and obstacles to plan for start-up and also show real time successful start-up persons in the world. Additionally he explained about what are the funding opportunities provided by the government for start-up.

**FRANCIS XAVIER ENGINEERING COLLEGE**  
AN AUTONOMOUS INSTITUTION | ACCREDITED BY NBA  
Vannarpettai, Tirunelveli - 627003

**INSTITUTION'S INNOVATION COUNCIL**  
Member of IIT Madras

**23<sup>rd</sup> MARCH 2022** TOPIC **HOW TO PLAN FOR START-UP**  
2:00 PM

**Resource Person**  
**Mr. N. Vimal Kumar**  
Managing Director,  
Vimal Innovation &  
Manufacturing System (VIMS).

**Organized by**  
Entrepreneurship Development Cell  
&  
Institution's Innovation Council

**In association with**  
Dept. of Mechanical Engineering

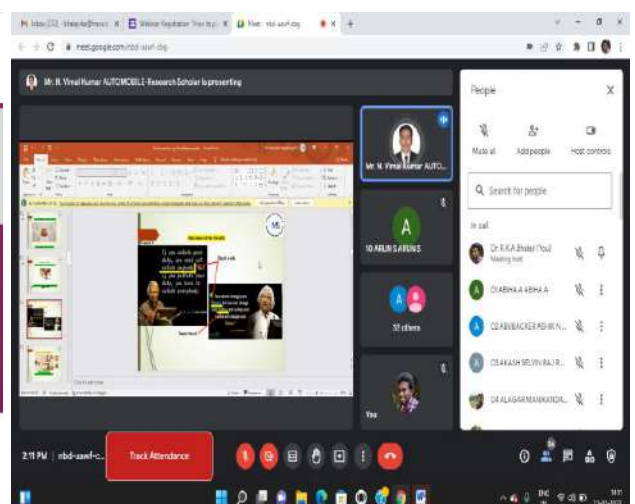
**Coordinator** **Dr. R.K.A. Bhalaji**  
AP / MECH

**Convener** **Dr. I. Neethi Manickam**  
HOD / MECH

**Dr. Lourdes Poobala Rayen**  
Director EDC and IIC President.

**Dr. K. Jeyakumar**  
General Manager - Development

**Dr. V. Velmurugan**  
Principal



# FACULTY INITIATIVE SKILL TRAINING

The Department of Mechanical Engineering in association with Technical Skills and Development conducted skill training from 25.03.2022 (AN) to 1.4.2022 (AN) at ME103 and ME 102 (MECH Block). Mr. A. Santiago Stephen, Associate Professor/Mathematics and Mr. D.Sakthivel, AP/Mathematics were the skill Trainer. The various topic taken such as “SQUARE AND CUBE ROOTS and RULES OF DIVISIBILITY” the Students get knowledge about aptitude and problem solving skills. A Total of 90 students benefited from this program.



## APPLIED LAB – MECH

The Department of Mechanical Engineering “Innovation and product development” Applied Lab Students II year Mech A sec - Mr. B. Babu and Mr. A. Immanuel, Won the First prize and cash award in Project presentation event in the National Level technical Symposium at Kongu Engineering College, Perundurai, Erode on 31 March 2022.





# WEBINAR

A webinar on “Funding Opportunities for start-up” was organized by Entrepreneurship Development Cell & Institution’s Innovation Council in association with the Department of Mechanical Engineering on 30th March, 2022 at 11:00 am. The program was held via offline mode. Dr. S.Balakrishnan, AP/MECH coordinated the programme.

Dr.R.K.A.Bhalaji, AP/Mech, FXEC was the resource person. The resource person highlighted what are the ways available for the funding opportunities for start-ups. Additionally he explained about the difference between marketing and organizational plan for start-up. Also he showed some innovative examples for start-ups.

**FRANCIS XAVIER ENGINEERING COLLEGE**  
AN AUTONOMOUS INSTITUTION | ACCREDITED BY NBA  
Vannarpattai, Tirunelveli - 627003.

**Topic** ▶▶▶ **Funding Opportunities for Start-up**

30 MARCH 2022 11:00 AM

Organized by **Entrepreneurship Development Cell (EDC)** In Association with **Department of Mechanical Engineering**

Coordinator: **Dr. S. Balakrishnan** AP / Mech  
Convener: **Dr. I. Neethi Manickam** HOD / Mech

Resource Person: **Dr. R.K.A. Bhalaji** Assistant Professor Mechanical Engineering Francis Xavier Engineering College Tirunelveli.

**Dr. Leurdas Peepala Rayen** EDC Director & IIC President  
**Dr. K. Jeyakumar** General Manager - Development  
**Dr. V. Velmurugan** Principal



# FACULTY INITIATIVE SKILL TRAINING

The Department of Mechanical Engineering conducted skill training about “Basics of First Aid & How to give CPR” from 28.03.2022 and 30.03.2022. Dr.R.K.A.Bhalaji AP/Mech coordinated the programme. Around 18 students from III CIVIL and 20 students from IT and CSE benefited from this programme. He underlined how to give CPR in a practical manner and also highlighted how to give first aid for severe cases.



103/G2, By pass Road, Vannarpet, Tirunelveli,  
Tamil Nadu 627003  
Lat 8.7323° Long 77.72475°  
30/03/22 01:57 PM



Tirunelveli, Tamil Nadu, India  
PPJF+WVV, Barani Nagar, Tirunelveli, Tamil Nadu 627003, India  
Lat 8.732393°  
Long 77.724892°  
28/03/22 02:33 PM