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ENGINEERING COLLEGE
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DEPARTMENT OF MECHANICAL ENGINEERING

MONTHLY NEWS – JUNE 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 June 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. R. Samuel Hansen, M.E., Ph.D.
Professor & Head
samuel_hansen@rediffmail.com

EDITORIAL BOARD

Dr. Dr. R. Samuel Hansen, Professor & Head of Department, Editor – in – Chief.

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

ASME INAUGURATION

With the inauguration of the Student Chapter of ASME (American Society of Mechanical Engineers) on 9.6.2022, 11 AM at APJ Auditorium, Francis Xavier Engineering College embarks on a new journey toward technological innovation in the field of Mechanical Engineering. Er. G.SIMIYON, ASST DIRECTOR, MSME DEVELOPMENT INSTITUTE, TIRUNELVELI (BRANCH). The inauguration ceremony began with DR.R.SAMUEL HANSEN, HOD/MECH, sharing the vision of ASME with all of the students in participation. Dr.M.Kannan, Professor/Mech, gave a motivational speech and urged the students to stay up to date on industrial developments in this field. Dr. V. Velmurugan, Principal, also advised the students to remain open to new ideas. Er. G Simiyon, the chief guest, addressed the students and shared his thoughts on the ASME and their quality testing method with them. Mr.Pravin, chairman of the ASME students section, delivered a vote of thanks for the introduction of ASME in FXEC. Dr.M.Kannan, Professor/Mech, Coordinator for the ASME - Student Chapter.



WORKSHOP

A “Workshop on “Angel Investment Opportunities for Early Stage Entrepreneurs” was organized by Entrepreneurship Development Cell & Institution’s Innovation Council in association with the Department of Mechanical Engineering on 09th June, 2022 at 11:00 am to 12.00 pm. The program was held via offline mode. Dr.R.K.A.Bhalaji, AP/Mech inaugurated the workshop with welcome address. Dr.S.M.Rajkumar, Associate Professor, Department of Mechanical Engineering, FXEC was the resource person. The resource person revealed about what are the angel investment opportunities for early stage entrepreneurs and discussed about the benefits and limitations. Additionally, he shared who are the top most active angel investors in India for startups and also he given an idea about how to become an angel investor in India.

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INSTITUTION'S INNOVATION COUNCIL
OFFICE OF ENTREPRENEURSHIP

TOPIC
Angel Investment Opportunities for Early Stage Entrepreneurs

09 JUNE 2022
11:00 AM

Resource Person
Dr. S.M. Rajkumar
Associate Professor,
Department of Mechanical Engineering - FXEC.

Organised by
Entrepreneurship Development Cell

In association with
Dept. of Mechanical Engineering

Co-ordinator
Dr. R.K.A. Bhalaji
AP / MECH

Convener
Dr. R. Samuel Hansen
HoD / MECH

Dr. Lourdes Poobala Rayen
Director EDC and IIC President

Dr. K. Jeyakumar
General Manager - Development

Dr. V. Velmurugan
Principal



WEBINAR

A “Session on Lean Start-up” was organized by Entrepreneurship Development Cell & Institution’s Innovation Council in association with the Department of Mechanical Engineering on 15h June, 2022 at 11:30 am to 12.30 pm. The program was held via online mode. Dr.R.K.A.Bhalaji, AP/Mech inaugurated the workshop with welcome address.

Dr.K.Koppiahraj, Researcher, Department of Mechanical Engineering, KARE was the resource person. The resource person discussed clearly about what are the principles and stages of lean start-up. Additionally, he revealed about what the obstacles are faced to develop the lean start-up. In addition to this, he shared the real time examples for lean start-ups like Amazon because amazon is one of the topmost entrepreneur in India nowadays.



WORKSHOP

A “Workshop on “Innovation – The Need of the hour to develop start-ups” was organized by Entrepreneurship Development Cell & Institution’s Innovation Council in association with the Department of Mechanical Engineering on 21st June, 2022 at 02:00 pm to 03.00 pm. The program was held via offline mode. Dr.R.K.A.Bhalaji, AP/Mech inaugurated the workshop with welcome address. Mr.V.T.Vimalananth, Assistant Professor, Department of Mechanical Engineering, FXEC was the resource person. The resource person told start-up mainly focuses on idea generation and development and avoids the costs of downstream, customer-facing activities. He clearly explained about the parameters for start-up like vision, plan, success, competition, marketing and innovative ideas. Additionally, he revealed about what are the funding agents and options to develop the start-up in India. Resource person shown the effective picture about start-up process to provide solutions for obstacles.

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INSTITUTION'S INNOVATION COUNCIL
Ministry of Education - Government of India

TOPIC
Innovation – The Need of the Hour to Develop Start-ups

21st JUNE, 2022
11.30 AM

Resource Person
Mr. V.T. Vimalananth
Assistant Professor
Dept. of Mechanical Engineering, FXEC.

Organised by
Entrepreneurship Development Cell

In association with
Dept. of Mechanical Engineering

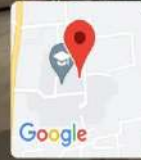
Co-ordinator
Dr. R.K.A. Bhalaji
AP / MECH

Convener
Dr. R. Samuel Hansen
HoD / MECH

Dr. Lourdes Poochala Rayen
Director EDC and IIC President

Dr. K. Jeyakumar
General Manager - Development

Dr. V. Velmurugan
Principal



Tirunelveli, Tamil Nadu, India
 PPIJF+VVV, Barani Nagar, Tirunelveli, Tamil Nadu 627003, India
 Lat N 8° 43' 56.316"
 Long E 77° 43' 28.9848"
 21/06/22 02:24 PM

WEBINAR

A webinar on “Milestone for Mechanical Engineers in Software Sector” was organized by the Department of Mechanical Engineering on 20th June, 2022 at 03:00 pm. The program was held via online mode through google meet. Mr. V T Vimalananth, AP/MECH coordinated the programme. Dr R Samuel Hansen, as Convener. Er M Aathi Raja, (2015-2019 Batch), System Engineer – TCS, Siruseri, Chennai – 600130 was the resource person. The resource person highlighted How to crack the TCS interview process and methodology to avoid obstacles during preparation. Additionally, he explained about his experience in the software sector.

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Ministry of Education - Government of India

ALUMNI ASSOCIATION

MILESTONE FOR MECHANICAL ENGINEERS IN SOFTWARE SECTOR

LIVE WEBINAR

Date & Time
20th June, 2020
3.00pm

Resource Person
Er. M. Aathi Raja
(2015-2019 Batch)
System Engineer – TCS
TCS Siruseri,
Chennai – 600130

Organized By
Department of Mechanical Engineering

Google meet link
<https://meet.google.com/njz-cxqz-yjm>

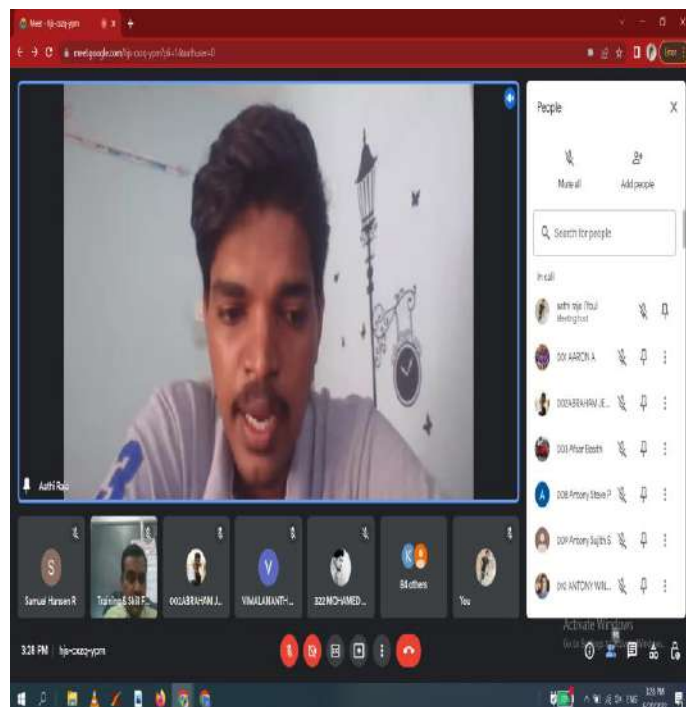
Coordinator
Mr. V.T. Vimalananth
AP/Mech

Convener
Dr. R. Samuel Hansen
HOD/Mech

Mr. S. Krishna Kumar
Director / FXAA

Dr. K. Jeyakumar
GM Development

Dr. V. Velmurugan
Principal



INDUSTRIAL VISIT

A batch of 28 students and a member of faculty from the Department of Mechanical Engineering, Francis Xavier Engineering college visited the “Thumba Equatorial Rocket Launching Station” TERLS - VSSC, Trivandrum on a launch day which was on the 15th of June, 2022. Dr. Zeenathul Farida Abdul Gani, Professor, has the coordinator for the IV. The TERLS was established in the year 1963. The launch of Rohini RH 300, the meteorological sounding rocket with HTPB (Hydroxyl-terminated Polybutadiene) based propellant was made on the day of visit following all the standard operating procedures. The mission achieved an altitude of around 67+ km in 123 s and released the payload. It was breathtaking to watch that lightning speed of the rocket propelling towards the blue. The team was given permission to visit the control room where orders and instructions for the launch of RH300 were made. The VSSC museum that is built in a church displayed many scale down models of rockets, satellites and space crafts and information on those models were elaborated by a steering team. The visit has definitely infused a positive and curious mindset to the team. On the top of that, the view of the scenic Arambadi pass (one of the major passes that connects Kerala and Tamil Nadu, also called as Aralvaimozhi pass) with all the water, greenery and mountains was jaw dropping and made the travel a pleasant experience.



WORKSHOP

A “Workshop on Start-ups through plastic waste management” was organized by Entrepreneurship Development Cell & Institution’s Innovation Council in association with the Department of Mechanical Engineering on 23rd June, 2022 at 02:00 pm to 03.00 pm. The program was held via online mode. Dr.R.K.A.Bhalaji, AP/Mech inaugurated the workshop with welcome address. Mr.J.Sankar, Researcher, Department of Mechanical Engineering, KARE was the resource person. The resource person discussed clearly about what are the impact through plastic waste to the surrounding environment. Additionally, he revealed about how to develop the start-up by converting plastic waste into construction materials, household items and green toys. In addition to this, he shared the real time example about how to build the road by reusing plastic waste that was done by Dr.Vasudevan, Professor of Chemistry, TCE, Madurai.

The image shows a seminar poster on the left and a Zoom meeting screenshot on the right. The poster is for a seminar titled "Start-ups Through Plastic Waste Management" held on June 23, 2022, from 2:00 pm to 3:00 pm. The resource person is Mr. J. Sankar, a researcher at the Katasalingam Academy of Research and Education. The seminar is organized by the Entrepreneurship Development Cell and the Institution's Innovation Council, in association with the Department of Mechanical Engineering. The poster also lists the names and titles of the organizing and associated faculty members.

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Priority of Education Initiatives

TOPIC Start-ups Through Plastic Waste Management

Resource Person Mr. J. Sankar
Researcher, Department of Mechanical Engineering,
Katasalingam Academy of Research and Education.

23rd JUNE 2022 2:00 pm

Organised by Entrepreneurship Development Cell

In association with Dept. of Mechanical Engineering

Co-ordinator Dr. R.K.A. Bhalaji AP / MECH

Convener Dr. R. Samuel Hansen HoD / MECH

Dr. Lourdes Poobala Rayen Director EDC and IIC President

Dr. K. Jeyakumar General Manager - Development

Dr. V. Velmurugan Principal

The Zoom screenshot shows a meeting titled "Dr. J. Sankar's Seminar Mechanical Engineering". The main screen displays a presentation slide titled "Green Toys" with an image of a yellow toy car and the number "93". The meeting interface shows a grid of participants and a "Lock Meeting" button at the bottom.

SEMINAR

A “Seminar on start-up opportunities by converting waste plastics into Biochar” was organized by Entrepreneurship Development Cell & Institution’s Innovation Council in association with the Department of Mechanical Engineering on 24th June, 2022 at 02:00 pm to 03.00 pm. The program was held via offline mode. Dr.S.Balakrishnan, AP/Mech inaugurated the workshop with welcome address. Dr.R.K.A.Bhalaji, Assistant Professor, Department of Mechanical Engineering, FXEC was the resource person. The resource person told about how to convert the plastic wastes into Biochar using pyrolysis process. In this regard, he motivated the students to develop the start-ups by converting plastic wastes into Biochar because Biochar can be used as one of the best bio-fertilizers for farmers, materials for condensers and also for some mechanical properties. Additionally resource person told during pyrolysis process there is a chance to convert vapour into bio-oil with the help of condenser because that bio-oil is used for skin care products.



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TOPIC: Start-up Opportunities by Converting Waste Plastics into Biochar

24th JUNE 2022
12:00 pm

Resource Person
Dr. R.K.A. Bhalaji
Assistant Professor,
Dept. of Mechanical Engineering, FXEC.

Organised by
Entrepreneurship Development Cell

In association with
Dept. of Mechanical Engineering

Co-ordinator
Dr. S. Balakrishnan
AP / MECH

Convener
Dr. R. Samuel Hansen
HoD / MECH

Dr. Lourdes Poobala Rayen
Director EDC and IIC President

Dr. K. Jeyakumar
General Manager - Development

Dr. V. Velmurugan
Principal



WEBINAR

A “Session on Government Initiatives to develop Start-ups” was organized by Entrepreneurship Development Cell & Institution’s Innovation Council in association with the Department of Mechanical Engineering on 25rd June, 2022 at 12:00 pm to 01.00 pm. The program was held via online mode. Dr.R.K.A.Bhalaji, AP/Mech inaugurated the webinar with welcome address.

Dr.K.Vinukumar, Assistant Professor, Department of Mechanical Engineering, FXEC was the resource person. The resource person shared lot of ideas for mechanical engineers to establish start-up in India. In this regard, he explained about government initiatives such as UDAAN, SEED FUND scheme, YOJNA etc. Additionally, he clearly mentioned what are the steps to apply for business loan in India and also he shared the websites for business loan.



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TOPIC: Government Initiatives to Develop Start-ups

25th JUNE 2022
12:00 pm

Resource Person
Dr. K. Vinukumar
Assistant Professor,
Dept. of Mechanical Engineering, FXEC.

Organised by
Entrepreneurship Development Cell

In association with
Dept. of Mechanical Engineering

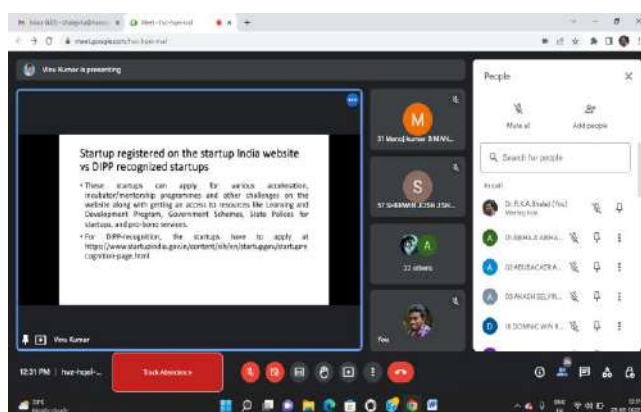
Co-ordinator
Dr. R.K.A. Bhalaji
AP / MECH

Convener
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HoD / MECH

Dr. Lourdes Poobala Rayen
Director EDC and IIC President

Dr. K. Jeyakumar
General Manager - Development

Dr. V. Velmurugan
Principal



APPLIED LAB – IPD

The Department of Mechanical Engineering “Innovation and Product Development” Applied Lab Students III year Mech A sec -

Mr. Nishwin Akash, Won the First prize in CAD Modelling. Mr. Nagarajan, won the second prize in Connection Event in the National Level technical Symposium at St.Mother Theresa Engineering College, Tuticorin on 07.06.2022. Mr. S. Sheik Sulaiman, Associate Professor/ Mechanical is Coordinator of this applied lab.



INPLANT TRAINING

In the Mechanical Department, six III-year students (T.Abraham Jebamani Raj, R. Kodeeswaran, M. Esakki, M. Aldo Mathias, D. Giftson Raj, M. Karthik) from the Design and Analysis lab and two (R. Gokul, K. Kathiresan) from the Product Development lab applied for and attended the in plant training a 12 days from 30.05.2022 to 10.06.2022. During the training, participants will learn about safety measures, maintenance, pump usage in the KKNPP, turbines, and the specifications of a working nuclear power plant.

