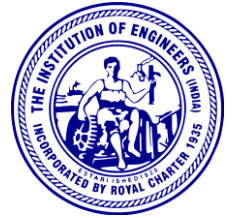




MEA ENGINEERING COLLEGE
PERINTHALMANNA

VENGOOR - PATTIKKAD PO, PERINTHALMANNA, MALAPPURAM DISTRICT, KERALA - PIN 679325



IEI STUDENTS CHAPTER

DEPARTMENT OF MECHANICAL ENGINEERING

ACADEMIC YEAR 2021-2022

This annual report showcases the outcomes of the IEI Student Chapter of Department of Mechanical Engineering MEA Engineering College in association with The Institution of Engineers (India) in the academic year 2021-22. The objective of the activities organized by the IEI Student Chapter is to play a critical role in defining excellence and setting up benchmark for upliftment of engineering education. The basic objective of the R&D initiative is to inculcate the culture of research in the budding engineers so that they can contribute to the development of the nation. This report is based on the events that were organized during the period 2021 to 2022.

The IEI Student Chapter of Department of Mechanical engineering organized a three days webinar series for mechanical engineering students on 27-03-2021 to 30-03-2021 in Google meet online platform. The webinar was conducted specifically for our mechanical engineering students, with a view of making the students gain knowledge on different subjects in Mechanical Engineering. 150 students registered and participated in the webinar.

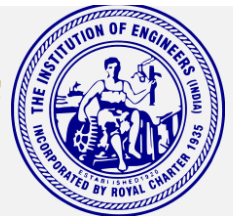
REPORT ON IEI WEBINAR SERIES 2021

DAY 1 (27-03-2021)



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IEI WEBINAR SERIES 2021

ORGANISED BY IEI STUDENTS CHAPTER
DEPARTMENT OF MECHANICAL ENGINEERING



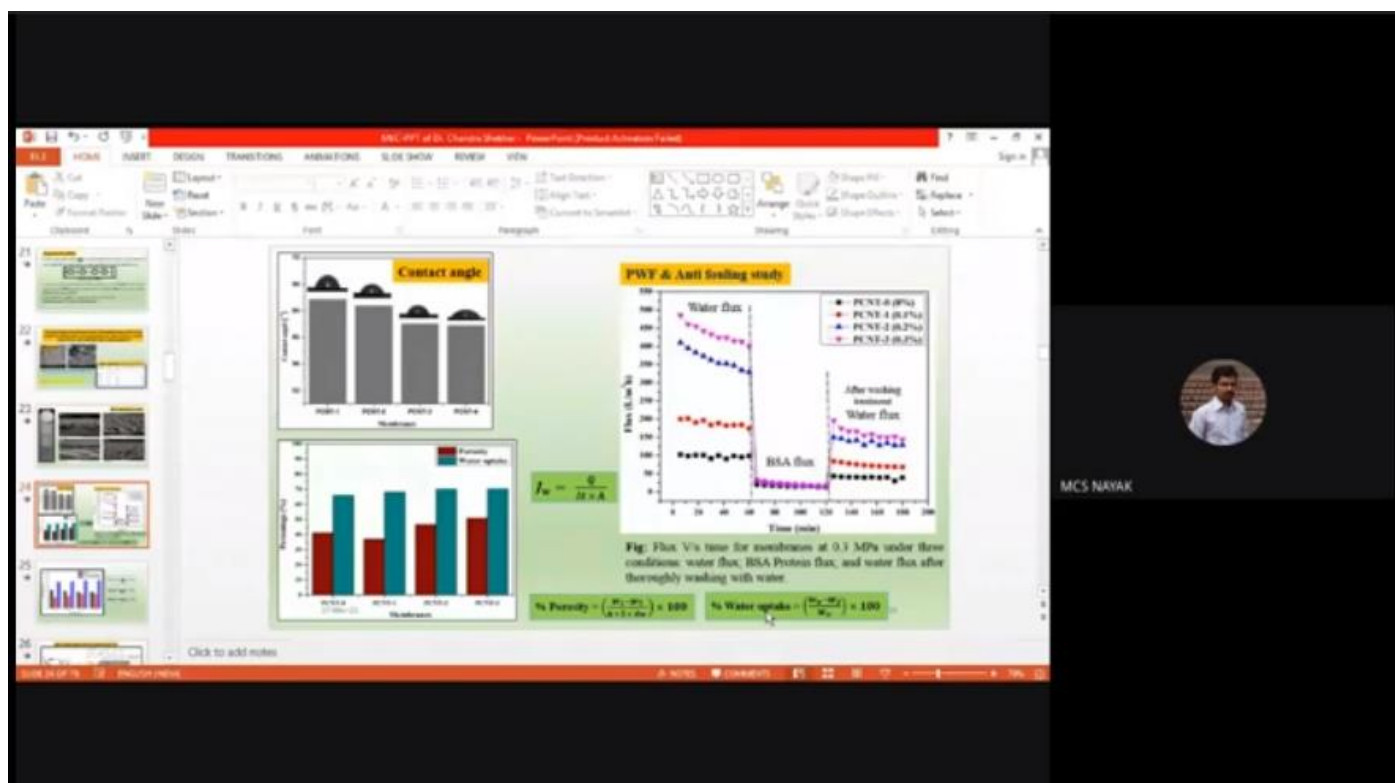
Dr. M CHANDRA SHEKHAR NAYAK
Technical Assistant-A(Instruments) SCTIMST,
Trivandrum

Date: 27-03-2021, Time :2:00PM3:30PM

Topic : Wastewater Management versus Polymer membrane technology & Mechanical testing of Medical Devices

A live webinar on “Wastewater Management versus Polymer membrane technology & Mechanical testing of Medical Devices” organised by IEI Student Chapter Department of Mechanical Engineering of

MEA Engineering college. The session was handled by Dr. M CHANDRA SHEKHAR NAYAK, Technical Assistant-A(Instruments) SCTIMST, Trivandrum.



The webinar was mainly focussed on the membrane technology in water treatment process, membrane classification, membrane materials, and the session also explained the mechanical testing of medical devices in that the webinar was dealing with medical devices development, fatigue and static testing of medical devices and the dental implants, the was interesting and value of time for our students. About 85 students had took part in the webinar , excellent feedback was received from the students about the webinar.

DAY 2 (29-03-2021)



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3 YEAR ACCREDITATION FOR
CSE & MECH



ACCREDITED BY
NATIONAL ASSESSMENT AND
ACCREDITATION COUNCIL



INTERNATIONAL ORGANIZATION
FOR STANDARDIZATION



THE INSTITUTION OF ENGINEERS
INCORPORATED BY ROYAL CHARTER 1885

IEI WEBINAR SERIES 2021

ORGANISED BY IEI STUDENTS CHAPTER
DEPARTMENT OF MECHANICAL ENGINEERING



Dr. JILSE SEBASTIAN

Associate Professor SJCET, Palai

Date : 29-03-2021, Time : 3:00PM

Topic : Plastic Waste Management

PLASTIC PLASTIC WASTE PLASTIC WASTE MANAGEMENT

Dr. Jilse Sebastian
Associate Professor
Department of Mechanical Engineering



St. Joseph's College of Engineering &
Technology, Palai

Presented at

MEA Engineering College, Perinthalmanna



A live webinar on “**PLASTIC WASTE MANAGEMENT**” organised by IEI Student Chapter Department of Mechanical Engineering of MEA Engineering college. The session was handled by Dr. JILSE SEBASTIAN ,Associate Professor SJCET, Palai

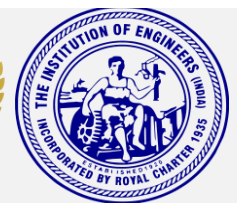
On second day of webinar series 2021(29-03-2021), The session was focused on the proper waste management of plastic waste in the household and the recycling of waste plastic. Different forms of plastic, types of plastic, uses of different types of plastic and the management of plastic waste. The session was interesting and informative. More than 70 students had participated in the webinar, Excellent feedback was received from the students.

DAY 3 (30-03-2021)



MEA ENGINEERING COLLEGE
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IEI WEBINAR SERIES 2021

ORGANISED BY IEI STUDENTS CHAPTER
DEPARTMENT OF MECHANICAL ENGINEERING



Dr Arka Bhowmik

Post Doctoral Fellow IIT Kharagpur

Date: 30-03-2021, Time : 7:00PM

Topic : Application of heat transfer and fluid flow in medical diagnostics; Some biomedical perspective

Velocity of cell in medium

$$v = \frac{2(\rho_c - \rho_m)}{9\mu_m} r_c^2 \times RCF \quad (1)$$

where,

- ρ_c = density of cell
- ρ_m = density of medium
- μ_m = viscosity of medium
- r_c = effective radius of cell
- RCF = relative centrifugal force

From Eq (1) three scenarios can exist

1. If $\rho_c > \rho_m$, the velocity field is in the same direction as centrifugal force.
2. If $\rho_c < \rho_m$, the velocity field is in the opposite direction as centrifugal force.
3. If $\rho_c = \rho_m$, the cell stays in an equilibrium position.



A live webinar on “**Application of heat transfer and fluid flow in medical diagnostics; Some biomedical perspective**” organised by IEI Student Chapter Department of Mechanical Engineering of MEA Engineering college. The session was handled by Dr Arka Bhowmik, Post Doctoral Fellow IIT Kharagpur

On the third day of Webinar series 2021(30-03-2021), The session was based on using heat transfer and fluid flow in medical diagnostics, in that he briefed about some of the devices they developed and patented which is used for medical diagnostics. BPI- blood perfusion image- used for detecting oral cancer, CD Fluidics – used for blood analysis, Deep Microwave Hyperthermia, mobile apps based artificial Intelligence for detecting and curing of cancer cells in human body. The session was more interesting and more than 75 students participated in the session, very good feedback is obtained from the participants.

An E – certificate was provided for every participant of each day in the banner of IEI Student Chapter, Department of Mechanical Engineering MEA Engineering College Perinthalmanna.