LORDS INSTITUTE OF ENGINEERING & TECHNOLOGY

Approved by AICTE/Affiliated to JNTUH/Estd.2002.

Accredited 'A' grade by NAAC Accredited by NBA

Survey No.32, HimayathSagar, RR Dist, Hyderabad 500008

DEPARTMENT OF Mechanical Engineering

March-2021

Presents

Mechronicle

MECHANICAL SEMESTER NEWS LETTER

Vol 11- Issue 1

Technical Article

Leveraging a 3D printer "defect" to create a new quasi-textile

Tulle-like DefeXtiles can be 3D printed with no custom software or hardware.

Becky Ham | MIT Media Lab

October 26, 2020

Sometimes 3D printers mess up. They extrude too much material, or too little, or deposit material in the wrong spot. But what if this bug could be turned into a (fashionable) feature?

Introducing DefeXtiles, a tulle-like textile that MIT Media Lab graduate student Jack Forman developed by controlling a common 3D printing defect — the under-extrusion of polymer filament. Forman used a standard, inexpensive 3D printer to produce sheets and complex 3D geometries with a woven-like structure based on the "glob-stretch" pattern produced by under-extrusion. Forman has printed these flexible and thin sheets into an interactive lampshade, full-sized skirts, a roll of fabric long enough to stretch across a baseball diamond, and intricately patterned lace, among other items.

Filaments to fabric: Forman had been experimenting with 3D printing during the media arts and sciences class MAS.863 / 4.140 / 6.943 (How to Make (Almost) Anything), led by Professor Neil Gershenfeld, director of the MIT Center for Bits and Atoms. Forman's experiments were inspired by the work of a friend from his undergraduate days at Carnegie Mellon University, who used under-extruded filament to produce vases. With his first attempts at under-extruding, "I was annoyed because the defects produced were perfect and periodic," he says, "but then when I started playing with it, bending it and even stretching it, I was like, 'whoa, wait, this is a textile. It looks like it, feels likes it, bends like it, and it prints really quickly."

"I brought a small sample to my class for show and tell, not really thinking much of it, and Professor Gershenfeld saw it and he was excited about it," Forman adds.

When a 3D printer under-extrudes material, it produces periodic gaps in the deposited material. Using an inexpensive fused deposition modeling 3D printer, Forman developed an under-extruding process called "glob-stretch," where globs of thermoplastic polymer are connected by fine strands. The process produces a flexible, stretchy textile with an apparent warp and weft like a woven fabric. Forman says it feels something like a mesh jersey fabric.

"Not only are these textiles thinner and faster to print than other approaches, but the complexity of demonstrated forms is also improved. With this approach we can print 3D dimensional shell forms with a normal 3D printer and no special slicer software," says Forman. "This is exciting because there's a lot of opportunities with 3D printing fabric, but it's really hard for it to be easily disseminated, since a lot of it uses expensive machinery and special software or special commands that are generally specific to a printer."

College Vision:

Lords Institute of Engineering and Technology strives for excellence in professional education through quality, innovation and teamwork and aims to emerge as a premier institute in the state and across the nation.

College Mission:

1. To impart quality professional education that meets the needs of present and emerging technological world.
2. To strive for student achievement and success, preparing them for life, career and leadership.
3. To provide a scholarly and vibrant learning environment that enables faculty, staff and students to achieve personal and professional growth.
4. To contribute to advancement of knowledge, in both fundamental and applied areas of engineering and technology.
5. To forge mutually beneficial relationships with government organizations, industries, society and the alumni.

Department Vision:

To impart high standards of quality education which enhance students' career efficaciously, to become a holistic well-qualified engineer who are competent, innovative, entrepreneurial and research oriented to meet the standards of new millennium.

Department Mission:

DM1: An integrated educational approach that blends knowledge of engineering fundamentals, technical skills, practical knowledge and research.

DM2: To enrich undergraduate experience of distinctive academic curriculum through interaction with major stake holders, hands-on learning, team work, management and multi-disciplinary skill set.

DM3: To make students aware of professional responsibilities, ethics, global demands, sustainable solutions, environmental, technological challenges and the needs of lifelong learning.

DM4: To prepare students in developing solutions of global standards through research and innovation, design and development of demand-based projects, entrepreneurial skills and employability capabilities.

Program Educational Objectives (PEOs)

The educational objectives of the Mechanical Engineering program are designed to produce competent engineers who are ready to contribute effectively to the advancement of Mechanical Engineering causes and to accommodate the needs of the profession. The Mechanical Engineering department is dedicated to graduating Mechanical Engineers who

PEO1: To establish themselves as successful professionals with strong fundamental knowledge in basic and engineering sciences to find suitable solutions of technological and real-life challenges using innovative tools.

PEO2: To enhance technical competency and problems solving skills through state of art facilities for adequate solutions to technical problems.

PEO3: Acquire high skill-set by continuous training, multi-disciplinary activities, team work, effective communications, Information Technology tools usage and ethics so that students shall acquire good job opportunities and also will help in their higher education.

PEO4: Giving consultancy services to industrial, Societal challenges and promoting department-industry interactions, by enhancing technical, managerial, environmental responsibilities and lifelong learning with sustainable development.

Program Specific Outcomes (PSOs)

PSO1: Professional Skills: An ability to understand the basic concepts in mechanical Engineering and to apply them to various areas, like production, thermal, designing etc., in the design and implementation of complex systems.

PSO2: Problem-Solving Skills: An ability to solve complex Mechanical Engineering problems, using latest hardware and software tools, along with analytical skills to arrive cost effective and appropriate solutions.

Program Outcomes (POs)

Engineering Graduates will be able to:

PO1 :Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

PO2 :Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

PO3 :Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO4 :Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO5 :Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

PO6 :The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO7 :Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO8 :Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO9 :Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

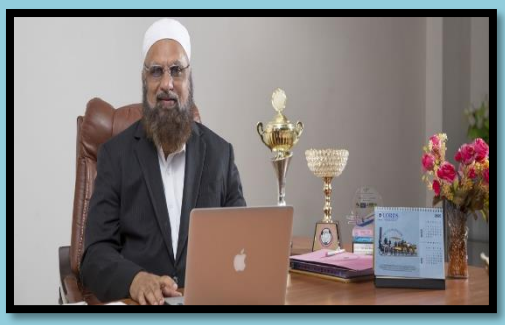
PO10 :Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO11 :Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO12 :Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

FOUNDER AND CHAIRMAN'S MESSAGE:

The pride of every student and staff would be in his/her college. A College may reach heights of glory but without materials like a college newsletter, the outside world may not know of it. The essential purpose of our college newsletter is to inform, engage, inspire and entertain a diverse readership-including alumni, parents, students, faculty, staff and other friends of the college-by telling powerful stories that present a compelling, timely and honest portrait of the college and its extended family. I am happy that there is a dedicated team of staff and students who have brought out the Newsletter of Science and Humanities Department of our college.



SECRETARY 'S MESSAGE:

Engineers play the most vital role in nation building. They create new inventions using best engineering technologies to make human life more comfortable, secure and productive. We need enormous number of engineers to write next story of success. We have identified the needs of modern engineering and technology education for modern age students, with a vision and mission accompanying transparency, accountability and accessibility which keeps us abreast and also ahead of our competitors. At the outset, I send my greetings to the Editorial Board of Science and Humanities, for working on the newsletter. This newsletter should be a good source of guidance for faculty and coming batches of students in choosing activities of their choice in their future for building their careers. I appreciate the efforts of the Editorial team who have done an excellent job in compiling activities over the year and disseminate them through this Newsletter as well as on the college website.

VICE CHAIRMAN'S MESSAGE:

Lords Institute of Engineering and Technology was established to impart academic excellence by providing a conducive environment for the overall personality development of Young technocrats. Spanning more than a decade, the college is covering many milestones year after year incorporating all modern mechanisms of technological research and application. Within this span of time, it has emerged as one of the leading Engineering colleges. LIET renders perfection in academics and dynamic environment to motivate everyone –the management, faculty and students to deliver their best. Our objective is to create a class of qualified, innovative and dynamic professionals for the Engineering sector, for self-employment and for academic & research institutions of socio-economic importance.

DIRECTOR'S MESSAGE:

Greetings and a very warm welcome, our college work diligently to realize its mission of providing the best learning, teaching and research opportunities to students and academicians alike, it continues to supply students with the basics of modern knowledge and high values. The research activities of our faculty lead an extraordinary enrichment of students which is realized at both the graduation and Masters levels. Our students enjoy learning the rigors of new discoveries and acquire skills of inquiry, evaluation, and communication that provide a foundation for then Ext phases of their careers and lives.

PRINCIPAL'S MESSAGE:

Our College has grown abundantly in the recent past. It continues to sustain its growth. People reading this newsletter will realize the tremendous changes that are happening in the campus. The newsletter is presenting a glimpse of the growth of the institution on many fronts. The highly qualified and dedicated members of the staff have always stood shoulder to shoulder with the management and has carried out their duties with high level of commitment. This newsletter has recorded achievements such as conferences attended by staff members and students, competitions won by the hugely talented students, innovative projects carried out by students with the guidance of faculties, among others. Let's give our best and make this institution a modern sanctuary of learning through our diligence, devotion and dedication. I congratulate all the contributors and the editorial board for bringing out such a beautiful newsletter.

VICE-PRINCIPAL'S MESSAGE:

It gives me immense joy to learn that our College has its deep roots in the field of education in the city of Hyderabad. I feel proud and privileged to be the part of this Magnificent Institution. At this juncture, I gratefully acknowledge the yeomen service rendered by the Visionary Predecessors, dedicated teachers and ever supporting parents who have worked selflessly and tirelessly to bring this newsletter of Science and Humanities department. I am pleased to acknowledge that our college lays its stress not just on academic excellence but also on "character formation with academic excellence".

CHIEF EDITOR'S MESSAGE:

It gives me great pleasure to bring you the Newsletter of the 1st Semester of AY 2020-21. This issue offers a panoramic view of the academic, professional and cultural activities of the college. The name and fame of an institute depends on the caliber and achievements of the students and teachers. I would like to place on record my gratitude and heartfelt thanks to all those who have contributed to make this effort a success. I profusely thank the management for giving support and encouragement and a free hand in this endeavor. The editorial team thanks all its patrons for their support for the newsletter. On that note, I wish you all 'Bonne lecture'. I welcome suggestions from all our readers who wish to see their ideas incorporated in the subsequent issues. Please feel free to provide your feedback and send pertinent information with photos for inclusion in our forthcoming issues of newsletter.

Faculty Development Programs

One-Week Online **AICTE** Training and Learning **(ATAL)** Sponsored **93000/-** (Ninety three thousand) FDP on "**3D Printing and Design"** Organized by **LORDS Institute of Engineering and Technology 4th to 8th January 2021** in Association with Centre for Product design, Development and Additive Manufacturing **(CPDDAM),** University College of Engineering **(UCE), Osmania University**, Hyderabad and various resource persons from **NIT-W, IIT-H, Premier Hospital, ARCI, DMRL, from National and one from International i.e., Malaysia.**

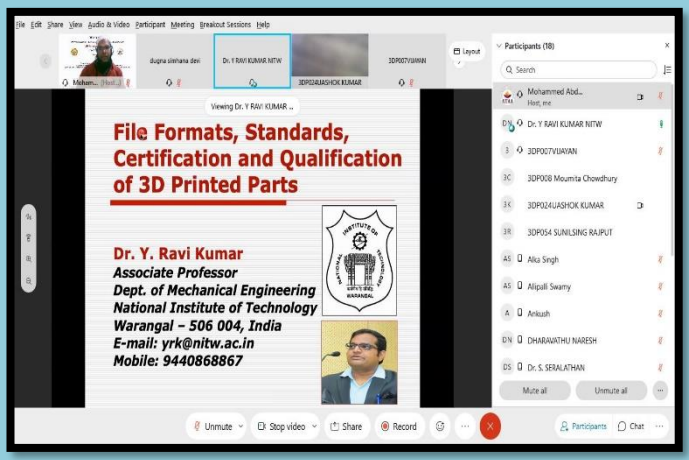
Around hundred Participants were participated from **NITs, IITs, AICTE approved institutes,** Government bodies likes **ARCI, DMRL, DRDO, Doctors** from various **hospitals** and **Industrialist** from all over the **PAN India.**

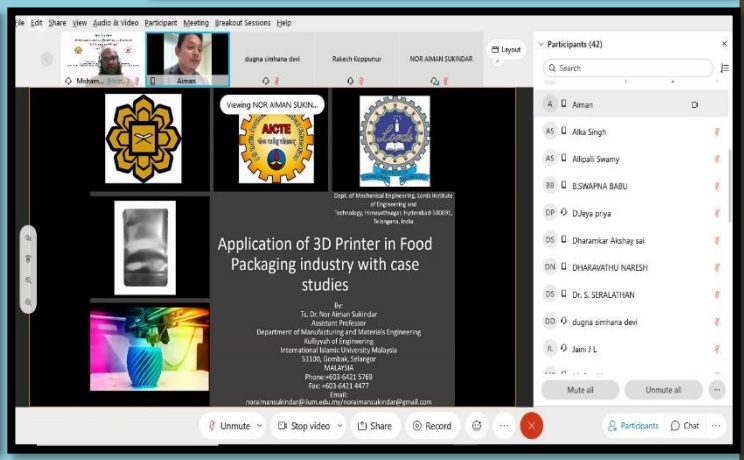
Few Clippings are as follows:

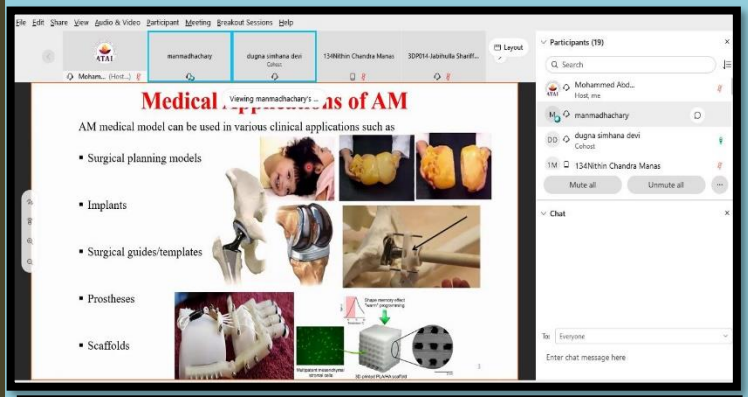
لارڈس کالج میں 5 روزہ آن لائن ٹریننگ پروگرام

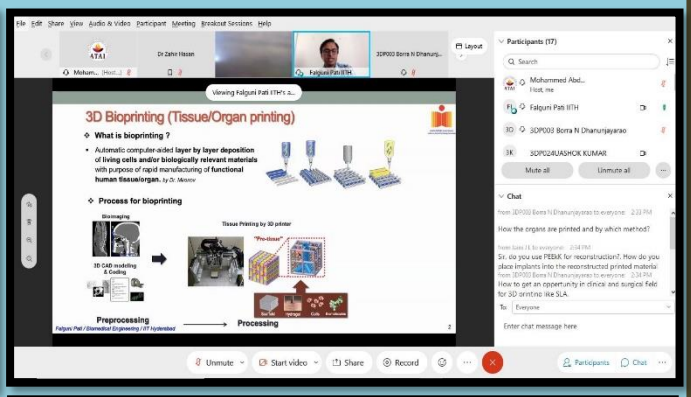
حیدرآباد:۔ لارڈس انسٹی ٹیوٹ آف انجینئرنگ اینڈ ٹکنالوجی کے میکانیکل ڈپارٹمنٹ کی جانب سے پانچ روزہ آن لائن AICTE ٹریننگ اینڈ لرننگ FDP (ATAL) کا آغاز ہوا۔ اس پروگرام کا عنوان 3D printing & Design رکھا گیا ہے۔ یہ پروگرام 4 تا 8 جنوری جاری رہے گا۔ مرکزی ادارہ AICTE ملک گیر مختلف جدید عنوانات پر FDP پروگرامس کراتا ہے۔ لارڈس کالج کا جاریہ پروگرام اس سلسلہ کی ایک کڑی ہے۔ اس

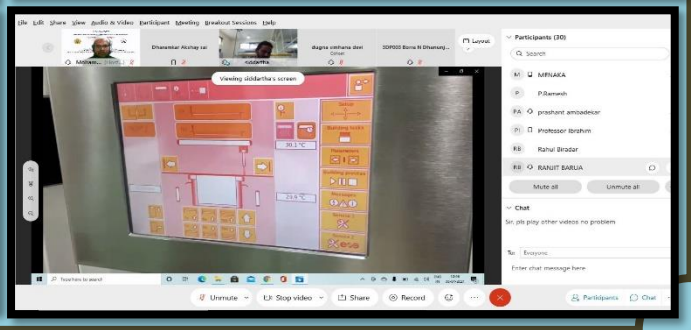
پروگرام کو سنٹر فار پراڈکٹ ڈیزائن، ڈیولپمنٹ اینڈ مینوفیکچرنگ، عثمانیہ یونیورسٹی کے اشتراک سے منعقد کیا جارہا ہے اور اس کا مقصد جدید ٹکنالوجی 3D printing & Design کے متعلق روشناس کروانا ہے۔ اس پانچ روزہ آن لائن پروگرام میں ملک و بیرون ملک کے ماہر شخصیات لکچرس دیں گے اور اپنے تجربات پیش کریں گے۔ اس پروگرام کی سرپرستی چیرمین کالج جناب باشاہ محی الدین کررہے ہیں اور مہمان خصوصی محترمہ رضوانہ بیگم سکریٹری جناب سید توصیف احمد وائس چیرمین تھے۔ نگرانی جناب ڈاکٹر وینکٹا نرسمہلو پرنسپل کالج کررہے ہیں اور جناب ڈاکٹر سید اعظم پاشاہ قادری وائس پرنسپل و جناب محمد عبدالجنید اسسٹنٹ پروفیسر LIET کوآرڈینٹرس کے فرائض انجام دے رہے ہیں۔۔











AICTE Sanctioned Letter

Annexure-I

All India Council for Technical Education
(A Statutory body under Ministry of HRD, Govt. of India)
Nelson Mandela Marg, Vasant Kunj, New Delhi-110070 Website: www.aicte-india.org

AICTE Training and Learning (ATAL) Academy, (Online FDP)

Date:

F. No. 61-/AICTE/ATAL-HQ/2020-21 1052(29)

To

THE PRINCIPAL / DIRECTOR,
LORDS INSTITUTE OF ENGINEERING & TECHNOLOGY,
HIMAYATSAGAR,
HYDERABAD-500008
TELANGANA.
SYED AZAM PASHA QUADRI (Coordinator).

Sub: Release of a sum of Rs 93,000 /- for AICTE Training and Learning (ATAL) Academy programme Online FDP of Nine Thrust Areas and Other Emerging Areas.

Sir,

This is to convey the sanction of the Council for payment of **Rs. 93,000 /-** (Rupees **Ninety –Three Thousand** Only) for conduct of online **AICTE Training And Learning (ATAL) Academy Programme** *3D Printing & Design* **to** *LORDS INSTITUTE OF ENGINEERING & TECHNOLOGY*, under AICTE **Training And Learning (ATAL) Academy.**

This fund is being released in conformity with the terms & conditions as well as norms of the scheme as already communicated, and also being communicated in this letter.

The instructions/guidelines to be followed by University/Institution

I. Release of funds and maintenance of accounts

a. The University/College/Institute shall maintain proper accounts of the expenditure out of the grants, which shall be utilized only on approved items of expenditure.

b. The cost for conducting per programme will be Rs. 93,000/- as per detail given as under:

1.	Honorarium for Director	Rs. 10,000/-
2.	Honorarium to Co-ordinator Rs.2000/- per day x 5 days	Rs. 10,000/-
3.	Honorarium for experts (Rs.3000 per session for total 14 session)	Rs. 42,000/-
4.	Provision for payment to Lab Attendant engaged during lab practices	Rs. 1000/-
5.	Institutional charges	Rs. 15,000/-
6.	Miscellaneous charges	Rs. 15,000/-
	TOTAL =	Rs. 93,000/-

Programmes having permission to change amounts under different heads with overall ceiling of Rs 0.93 lakh being intact.

c. The grant is subject to the adjustment on the basis of Utilization Certificate in the prescribed proforma to be submitted by the University/College/Institution. Further, the accounts of the institute will be open for test check by the Council or Controller & Auditor General of India or any other officer designated by them.

II. Disbursement of funds to institutions

The full amount of the grant sanctioned will be released as an advance to the University/Institute through electronic transfer on the account of the University/Institute after submission of mandate form

Banner Including Newspapers Clippings for Successful completion of ATAL FDP

LORDS INSTITUTE OF ENGINEERING & TECHNOLOGY

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Accredited 'A' grade by NAAC, Accredited by NBA
Sy. No:32, Himayathsagar, Golconda Post, Near TSPA Junction, Hyderabad-500 091
Ph: 6309012442/43, Fax: 040-6625 3642, Website: www.lords.ac.in, Email: principal@lords.ac.in

Department of Mechanical Engineering

AICTE Sponsored One Week Faculty Development Program

"3D Printing and Design"

4th-8th January 2021

List of Day Wise Resource Person

Mohammed Abdul Junaid
M.E, B.E, LMISTE
Assistant Professor
(Co-Coordinator)

Dr. Syed Azam pasha Quadri
PhD, M. Tech, B. E, LMISTE
Vice Principal, CoE & HOD-Mech
(Coordinator)

Date and Time	Topic	Name of the Resource Person		Date and Time	Topic	Name of the Resource Person	
Day 1 4th January, 11.40 AM to 1.10 PM & Day 2 5th January, 2.30 to 4.00 PM	Applications of 3D Printing in Aviation Industry with Case Study & File Formats, Standards, Qualification and Certification of 3D Printed Parts	Dr. V. Ravi Kumar, Associate Professor, Dept. of Mechanical Engineering, (NITW)		Day 3 6th January, 11.40 AM to 1.10 PM	Applications of 3D Printing in Dental and Maxillofacial Surgeries	Dr. Abhimanian Perlari, SVS Institute of Medical and Dental Sciences, Mahbubnagar	
Day 1 4th January, 2.30 to 4.00 PM & Day 2 5th January, 10.00 to 11.30 AM	Topology Optimization for 3D Printing & Challenges in Establishing Startups	Mr. Tirupati Balaji iForge 3D Rapid Prototyping Technologies Ltd, Hyd.		Day 3 6th January, 2.30 to 4.00 PM & Day 4 7th January, 10.00 to 11.30	3D Printing and its Innovative Applications & Biomedical Applications of 3D Printing	Dr. L. Siva Rama Krishna, Associate Professor, UCE, Osmania University, Hyd	
Day 1 4th January, 4.00 to 5.30 PM	How to Control Diseases by Yoga	Mr. Mohammed Ibrahim Jeelani, Renowned Yoga Coach in GHMC & General Secretary in Star Yoga Point.		Day 4 7th January, 11.40 AM to 1.10 PM & Day 5 8th January, 11.40 AM to 1.10 PM	Challenges in Establishing CoE in 3D Printing & Overview of Metal 3D Printing using SLM & Demo Session on SLM, SLS & Polyjet Technologies @ CPDMM	Prof. Sriram Venkatesh, UCE, Osmania University, Hyd.	
Day 2 5th January, 10.00 to 11.30 AM	Demo Session on FDM, SLA & 3D Scanner	Mr. Rakesh kopparam M/s VSD 3D, Hyderabad		Day 4 7th January, 2.30 to 4.00 PM	Metal 3D Printing using DED & PBF Technologies	S Ramesh Kumar, Scientist 'F' of DMRL- Hyderabad	
Day 2 5th January, 11.40 AM to 1.10 PM	Application of 3D Printer in Food Packaging Industry with case studies	Dr. Nor Aimun Sakinah Professor, Dept of Manufacturing & Materials Engg, IIUM, Malaysia.		Day 5 8th January, 10.00 to 11.30 AM	Metal Additive Manufacturing Case Studies	Dr. Gururaj Telasang, Scientist, ARCI, Hyderabad	
Day 3 6th January, 10.00 to 11.30 AM	Online Practice session on Bio-CAD Modelling using 3D Slicer & CURA Slicing Software with Case Study	Dr. A. Manmadha Chary, IPHR University, Hyderabad		Day 5 8th January, 2.30 to 4.00 PM	Recent Trends in 3D Bioprinting for Biomedical Applications	Dr. Falguni Pati, Associate Professor, Department of Biomedical Engineering, (IIT-H)	

Feedbacks

Prof Siva Prasad LIET
Congratulations junai for successful conducting the program 9:09 AM

Dr. Vishweshwarayya C Hallur
Congratulations Junai for your successful completion of FDP on 3D Printing. All resource persons were excellent n informative. 9:53 AM

Mr. Mohd Ibrahim
Overall
It was an excellent FDP
Thank you Mr. Azam Pasha sir and Mr M.A Junaid sir for your continuous reminding, Updating and Guiding us regarding FDP
It was a good experience for all of us
Your entire efforts are countable sir

Once again
Thank you very much sir! 8:12 AM

Dr. JAINI J L
Feed back submitted.

Excellent program with, very knowledgeable speakers from best institutions; very good topics; very good coordinator - was communicating so nicely and ensured we are all in - it was simply wonderful.

From Dental it focused on maxillofacial surgeries only..... Prosthodontics also needs to be covered.

So much of 3D printing are used for, fabricating maxillofacial prosthetics, complete dentures, removable partial dentures, crowns, bridges, frame works for full mouth rehabilitation, surgical guides, stents etc.... We are using digital scanners and articulators too... Hope next time you will include a Prosthodontist too.

Dr. Jaini JL
Reader
Department of Prosthodontics
Amrita school of dentistry, Kochi 7:29 PM

Miss Alka Singh
Thank you so much sir, for arranging such an excellent and informative FDP on 3D printing and design. 1:50 PM

Mechanical Engineering Department has organized **Online Six Days Faculty Development Program** is conducted on **"Advance Trends in Mechanical Engineering"** on **22nd to 27thJune 2020** for Faculty experts, Research Scholars, Apprentice of under Graduates and Post Graduates of Mechanical Engineering stream by the below listed Resource Persons.

Focusing on the new era in technology, mechanical engineers are being offered new subjects as well as new and better versions of their previous subjects. Several technologies that are emerging are falling fundamentally under the domain of the expertise of mechanical engineers. Modern mechanical engineers can navigate virtual designs and have expertise in adapting to computing.

Some of the trends for Mechanical Engineering. Some of them are listed below:

- Nano-Technology
- 3D Printing (Additive Manufacturing)
- Biomedical Engineering

Few Clippings are presented below

Autonomous Team Visit

"I am happy to announce that our Institute has been conferred UGC Autonomous status for 10 years."

-Principal

Ph.D. Completion

"Congratulations to Dr. Sumeet Hangargi for completion of PhD with the thesis title "Development and Performance Evaluation of Bimetallic Piston" from SSSUTMS university Bhopal, under the guidance of Dr. G. R. Selokar."

Anti-COVID-19 Projects

Students of Lords Institute of Engineering & Technology have designed and developed innovative equipment's that promise to aid in the fight against coronavirus. The equipment's developed included a smart vaporized disinfector cave, pedal driven sanitizer, drone sanitizer and money cure while few more concepts were being planned such as automatic hand sanitizer, thermal screening devices, robotic campus disinfectors.

While the vaporized disinfector cave provides mist-based vaporizer disinfectant which could be installed at public places with a capacity of 10 persons in 1 minute, the pedal driven sanitizer includes sanitizer liquid spray using pedal driven mechanism without any skin contact, a press release said.

To quickly disinfect outdoors, the students have come up with a drone sanitizer that functions through radio frequency operation in entire campus by spraying the disinfectant and money cure is an equipment

which sterilizes and disinfects the currency notes and coins using Far UV rays, the release added.

Students of Hyderabad-based Lord's Institute of Engineering and Technology designed a host of anti Covid-19 gadgets such as "Money Cure, Smart - Vaporized Disinfector Cave, Pedal Driven Sanitizer, Drone sanitizer" are planning few more innovation like Automatic Hand Sanitizer, Thermal Screening devices etc.

Money Cure: An equipment which sterilized and disinfects the currency notes and coins circulating in the economy and has passed many hands. The machine uses Far UV Rays which can be used as disinfectants and also human friendly. Far UV Rays, in general has been used to disinfect wounds for patients. The first level of testing has been successful and the product will be available next week.

Smart - Vaporized Disinfector Cave: This mist-based vaporizer disinfectant can be installed at any public places with a capacity of 10 persons in one minute. Unlike spray-based sanitizer, which is sticky for quite a period of time and consumes more sanitization liquid.

The fog mist covers entire chamber in relatively short period of time and disinfects quickly. Sprinkler or spray based will have 1000µm droplet size whereas mist droplet size is of 150-300µm. The sanitizer chemical formulation is submitted to CCMB for a report on disinfectant. There are a few more such on the cards, the students added.

The unique project Smart – Vaporized Disinfector Cave embarks as the ultimate solution to deal with the problem of the day by providing the mist-based vaporizer disinfectant, which can be installed at any public place with a capacity of 10 persons in 1 minute. Unlike spray-based sanitizer, which is sticky for quite a period of time and consumes more sanitization liquid.

The fog mist covers the entire chamber in a relatively short period of time and disinfects quickly. Sprinkler or spray based will have >1000µm droplet size whereas mist droplet size is of 150-300µm. The sanitiser chemical formulation is submitted to CCMB for a report on disinfectant.

Ultrasonic waves are focused on water. Water can't follow due to the high-frequency movement of the transducer so that a momentary vacuum is created on the negative oscillation of the transducer wherein the water caveats into the mist.

With the help of a piezoceramic disc, the ultrasonic mist maker immersed in water which converts the high-frequency electronic signal, which commonly has a resonating frequency of around 1.6MHz into high-frequency mechanical vibration, converting liquid into the mist.

Pedal Driven Sanitizer includes sanitizer liquid spray by using a pedal-driven mechanism where there will not be any skin contact of the same sanitizer which can be used any number of times.

A project to disinfect outdoors quickly as Drone sanitizer is developed and can function through radio frequency operation in the entire campus by spraying the disinfectant. The drone carries a 5 liters of sanitizer liquid and spray daily throughout campus. This drone is a six-armed, six-rotor propelled helicopter with inherently unstable and nonlinear dynamics.

The control of the drone or UAV is manual or automatic depending on the operator. The spraying mechanism is connected to the drone which is programmed and on giving the command, the system gets activated and starts spraying disinfectant on the desired area. The speed of the sprayer module can be controlled easily, which prevents excessive use of a disinfectant. The batteries and the electronic speed controller are essential components to control the speed and other operations of the drone.

Face Recognition Attendance System which is must to avoid biometric attendance system in many organizations. Maintenance and monitoring of attendance records play a vital role in the analysis of the performance of any organization.

The purpose of developing an attendance management system is to computerize the traditional way of taking attendance. Automated Attendance Management System performs the daily activities of attendance marking and analysis with reduced human intervention. The prevalent techniques and methodologies for detecting and recognizing face fail to overcome issues such as scaling, pose, illumination, variations, rotation, and occlusions.

There may be various types of lighting conditions, seating arrangements, and environments in various classrooms. Most of these conditions have been tested on the system and the system has shown 100% accuracy for most of the cases. There may also exist students portraying various facial expressions, varying hair styles, beards, spectacles, etc.

All of these cases are considered and tested to obtain a high level of accuracy and efficiency. Thus, it can be concluded from the above discussion that a reliable, secure, fast, and efficient system has been developed replacing a manual and unreliable system. This system can be implemented for better results regarding the management of attendance and leaves. The system will save time, reduce the amount of work the administration has to do and will replace the stationery material with electronic apparatus and reduces the amount of human resource required for the purpose.

Hence a system with expected results has been developed but there is still some room for improvement. The Management, The Principal, especially the Head of the Department of Mechanical Engineering along with the department staff, has appreciated this discovery and congratulated students. They also encouraged and expressed their best wishes for their future endeavour.

Inauguration of Biogas Plant

Inauguration of **Biogas plant** was done in **Lords Institute of Engineering and Technology** by **Dr. N. Suresh Kumar, Dean Faculty of Engineering OU** on **5th February 2021.**


8 WED 10-02-2021

بائیوگیاس پلانٹ کی تیاری

لارڈس انجینئرنگ کالج کے طلبہ کا کارنامہ

This project was done under the supervision of **Dr. Syed Nawazish Mehdi. Mr. Syed Aslam and Dr. Syed Azam Pasha Quadri.**

The following Mechanical Engineering Final Year Students Have Designed and Fabricated a Biogas Plant whose **capacity is 1000lts (1 m^3).**

Mohammed Sattar, Rabin Aswak, Tabrez Alam, Kausar Farooqui.

This Biogas generates 5L/hr. of Biogas with 50kg of biowaste. The Biogas produced is supplied to the canteen for cooking purpose and for the operation of the VCR engine, for research and Development purpose.

Faculty Achievements

Patents Publications

S. No.	Application Number	Name of Faculty	Title of the Invention	Date of Publication
1	202141008812 A	Dr. Syed Azam Pasha Quadri, S. Raghavendra and D H Pachchinavar,	Performance, Combustion and Exhaust Emissions Analysis of HCNG Fuelled Single Cylinder Diesel Engine at Different Injection Opening Pressures	12/03/2021
2	202141007370 A	Ramavath Suman, S. Raghavendra and D. Sai Suman	Study on The Effect of Cryogenic Cooling on Microstructure and Mechanical Properties of Friction Stir Welded 2014 Aluminium Alloy	26/02/2021
3	202141011034 A	S. Raghavendra, Dunga Simhana Devi	Comparison on Thermal Analysis of Aluminum Alloy 1199 Fins With Aluminum Alloy 204 By Variation Temperature Distribution	19/03/2021

Paper Publications

S No	Title of paper	Name of the Author/s	Name of Journal	ISSN Number	Vol/ Month	Index UGC/ Scopus
1	Elevation Mechanism for Sensitive Equipment Transport	Gyara Ajay Kumar/Sumeet Hangargi/D Sai Suman/Nithin Chandra Manas.	International Journal of Mechanical and Production Engineering Research and Development (IJMPERD)	ISSN(P): 2249–6890; ISSN(E): 2249–8001	Vol. 10, Issue 5, Oct 2020, 133-144	Scopus
2	Experimental Approach with Nano Coolant Fluid Effects on Performance for Shell & Tube and Compact Heat Exchanger	Naseema/Dr. S. Nawazish Mehdi/Dr.M. Mazoor Hussain.	International Journal of Advanced Science and Technology	ISSN: 2005-4238	Vol. 29, No. 12, (2020), pp. 10480 - 10489	Scopus
3	Design and Fabrication of Solar Powered Faulty Product Detection and Separation System	Kumara Naik/ Abdul Arif Hussain/Mohd Shafee/ Mohd Niyaz Ahmed.	International Journal of Engineering Research and Applications	ISSN: 2248-9622,	Vol. 10, Issue 10, (Series-V) October 2020.	UGC
4	Design, Analysis and Fabrication Of 3 Wheel Electric Go-Kart	Ramavath Suman/MD Ahad Pasha/ Mohd Ilyas/ Mohd Mastan/ Abdul Faisal/ Abdul Rawoof Khan.	Mukt Shabd Journal	ISSN NO: 2347-3150	Volume IX, Issue XII, DECEMBER/2020	UGC
5	Smart-vaporized disinfector cave	Nithin Chandra Manas/Mohd Abdul subhan/Muneeb uddin/Gulam Omer Qureshi	Journal of Natural Remedies	SSN: 2320 - 3358 (e) ISSN: 0972 - 5547(p)	Vol. 21 , No. 5(S2), (2020)	Scopus
6	CNC coding using Siemens 810D control system for manufacturing konkurs-m-missile	Syed Shoeb Pasha/Mohammed Abdul Rahil Juned/ Mohammed Furqan Uddin/ Mohammad Owais /Dr. Syed Azam Pasha Quadri,	Journal of Emerging Technologies and Innovative Research (JETIR)	ISSN-2349-5162	Volume 7, Issue 11	UGC

7	Pedal operated wash basin	Mohd Mujtaba Omer ullah/ sohail mohammed iftekhar/syed fazal hussain/ sabhavt srinivas/syed sohail ahmed/Mrs D Simhana Devi.	International journal Of Multidisciplinary educational research	ISSN:2277-7881	Volume:9, Issue:11(5), November:2020	UGC

NPTEL Certifications

National Programme on Technology Enhanced Learning (***NPTEL***) is a project of MHRD initiated by seven Indian Institutes of Technology (**Bombay, Delhi, Kanpur, Kharagpur, Madras, Guwahati and Roorkee**) along with the Indian Institute of Science, Bangalore in 2003, to provide quality education to anyone interested in learning from the IITs. The main goal was to create web and video courses in all major branches of engineering and physical sciences at the undergraduate and postgraduate levels and management courses at the postgraduate level.

Some of the Faculty Data are given below:

Name	**Course Name (Jul-Dec 2020)**	**Certificate Type**
Mohd Khalid Ahmed	Engineering drawing and computer graphics	Elite+Silver
Md Misbah Uddin	Engineering drawing and computer graphics	Elite+Silver
Syed Aslam	Steam and Gas Power Systems	Elite+Silver
Syed Aslam	Aircraft Propulsion	Elite
Salman Shah Quadri	Designing learner-centric e-learning in STEM disciplines	Elite
Ramavath Suman	Fluid Machines	Successfully completed
Mohammed Asif Kattimani	Operations Research	Successfully completed
Dr. Mohammed Yousuf Ali	IC Engines and Gas Turbines	Successfully completed

Invited Lectures

Dr. Syed Nawazish Mehdi has delivered a talk on **Use of Hydrogen in IC Engines** on **22/01/2021**, Faculty development program Sponsored by Faculty development cell, AICTE & JNTUA, Anantapuram.

JNTUA College of Engineering (Autonomous)
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DEPARTMENT OF MECHANICAL ENGINEERING
FACULTY DEVELOPMENT CELL, AICTE & JNTUA, ANANTAPURAMU
Sponsored
FACULTY DEVELOPMENT PROGRAMME (FDP)
on
THERMODYNAMICS & ITS APPLICATIONS
(20th - 25th January, 2021)

Dated
27.01.2021

To
Dr. Syed Nawazish Mehdi,
Professor,
Department of Mechanical Engineering,
Lords Institute of Engineering & Technology,
Himayat Sagar,
Hyderabad

Dear Sir

Sub: Thanking you for serving as a Resource Person for the Faculty Development Programme (FDP) sponsored Faculty Development Cell, AICTE & JNTUA, Anantapuramu - reg

On behalf of Department of Mechanical Engineering, JNTUA College of Engineering, Anantapuramu, we thank you very much for accepting our invitation to be one of the Resource Persons and delivered a lecture on

Use of Hydrogen in IC Engines

on 22/01/2021.

As one of the resource persons with vast experience, expertise and vision your association helped the institution to run the program effectively and to the entire satisfaction of the participants.

With warm regards.

Dr. D.R.Sreenivasan
(Coordinator – FDP)
Assistant Professor
Department of Mechanical Engineering
JNTUA College of Engineering
Anantha pura mu

Principal
JNTUA College of Engineering
Anantha pura mu