YANTRA NEWSLETTER

YENEPOYA INSTITUTE OF TECHNOLOGY

DEPARTMENT OF MECHANICAL ENGINEERING

2020 - 21 VOLUME IV | ISSUE I

Department Vision:

To strive to impart outstanding education and training aspirants into qualified mechanical engineers who are equipped to serve the globally challenging diverse needs.

Department Mission:

- To support students with enriching education towards achieving the desired expertise in mechanical engineering.
- To maintain state of the art laboratory facilities so as to provide collaborative environment that inspires faculty and students with opportunities to design, analyze, apply and disseminate knowledge.
- To create opportunities and guide students in attaining carrier oriented skills in the field of mechanical engineering.
- To educate students about professional and ethical responsibilities and train them to build leadership and entrepreneurship qualities for their carrier development.

Editor's Desk

It is a matter of great pride and privilege for us being a part of college bi-annual Newsletter **"YANTRA 2020- 21 of Yenepoya Institute of Technology"** provides a platform for every student to develop their learning skills. The main thrust of the college has been to achieve human excellence to shape the personality of pupils through a host of extracurricular and co- curricular activities, and instilling in them the moral values.

Our budding talents have expressed their thoughts, ideas, hopes, feelings aspirants and convictions in a creative way. In fact, this is how they broaden their mental, psychological and intellectual horizons. Thus, the Newsletter reflects how the college has been able to live up to its aim, providing quality education to the students. As you scan through the pages, it will enlighten you with the important milestones that Y.I.T. had achieved this year. We heartily thank our Management for putting faith on me for this creative work, Principal Dr. R. G. D'Souza who guided us at every stage of making this Newsletter. My thanks are also to our H.O.D. and Student members for their co-operation and support and putting in their best in bringing out this issue of our department Newsletter.

Happy Reading...

Program Educational Objectives (P.E.O's)

The objectives of the program are

- Graduates will attain skills in Mechanical engineering in the universal disciplines of design, thermal and manufacturing engineering suitable for industry.
- Graduates will be able apply fundamental technical knowledge and skills so as to discover practical solutions to technological challenges and problems in various areas of Mechanical Engineering.
- Graduates will be trained practice Mechanical Engineering in a responsible, professional and ethical manner for the benefit of the engineering fraternity and society.

From the H.O.D.'s Desk

Dr. Sathisha N.
The H.O.D.
Mechanical Dept.

Mechanical Engineering is a versatile and evergreen branch of engineering. Mechanical engineer can work in various fields like automotive system, airspace engineering, design engineering, dynamic system and control, power plant engineering, etc. and most importantly in software field also.

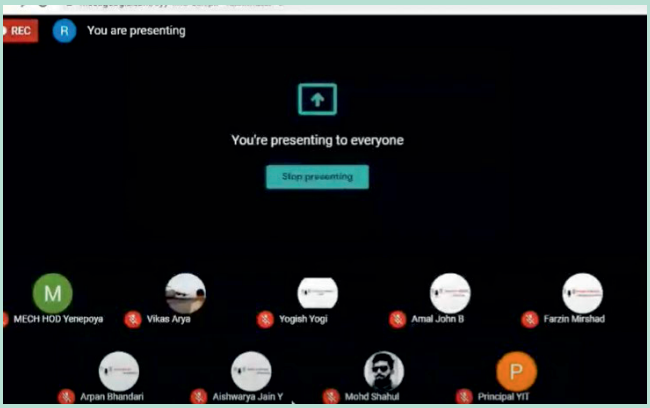
Department has well qualified and dedicated faculty with well-developed laboratories. We impart quality engineering education through sound theoretical knowledge, hands on laboratory as well as computational skill and exposure to recent technologies by visiting industries & expert talk.

We provide opportunities for students to participate in various technical and sports events /competitions. This newsletter is an attempt to highlight the achievements of the department, in spite of the space constrain we have showcased the best and look forward to have more in the future on a quarterly editions.

I wish good luck to the entire team of editors and look forward for your kind patronage to our newsletter.

DEPARTMENTAL ACTIVITIES

- "METALLONS", the Mechanical Engineering students association was inaugurated on 10th October 2020, by Mr Vikas Arya, Senior Sales and Technical Engineer at OmnAviaTM Interiors LLC, North Carolina, USA. After the inaugural function, oath taking ceremony of office bearers for the academic year 2020-2021 was held. Mr Mohammed Farzin, Mr Amal John and Mr Yogeesh took oath as President, Vice president and Secretary respectively. Later, Mr Arya delivered a webinar on the topic "Soft Skills and Personality Development". In his presentation, Mr Arya explained the importance of effective communication and how developing good practices and habits help us to become successful in life. Dr. R.G.D'Souza, Principal, Yenepoya Institute of Technology, Moodbidri presided over the function. Dr. Sathisha N, Professor and Head, Department of Mechanical Engineering, Staff Coordinators Prof. Raghavendra Baliga, Prof. Harikanth, Prof. Prasanna Shankar and the students of Mechanical Engineering Department were present during the function.



- The Department of Mechanical Engineering, Yenepoya Institute of Technology, Moodabidri in association with METALLONS and ISTE students' chapter (KA-109) Organized personality development program on " Creative Thinking and Interpersonal Skills" on 12th of February 2021.

- Dr. Abdul Khader A A Principal, Karntaka (Govt.) evening Polytechnic, Mangalore was the Resource Person.
- Dr. R G D'Souza, Principal was the president of the function. Teaching, nonteaching staff and 2nd year students were witnessed the occasion.

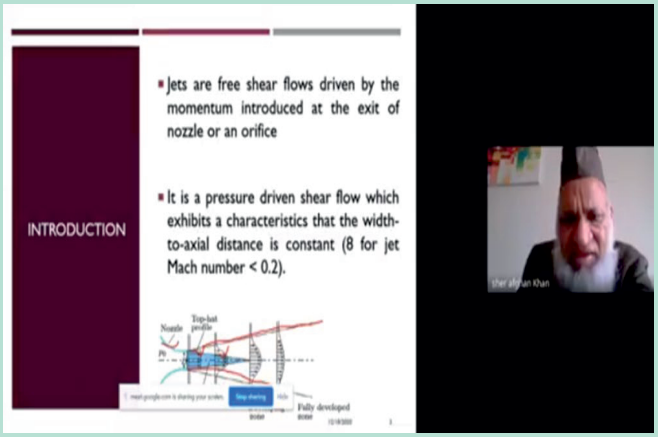
International Conference on Frontiers in Engineering Science and Technology (ICFEST-2020)

Yenepoya Institute of Technology, Moodbidri conducted its first International conference during 18-19 December 2020 and is pleased to publish the selected papers in IOP Conference Series: Materials Science and Engineering. The conference was interdisciplinary and covered several scientific thematic areas from Mechanical, Electronics and communication, Electrical and Computer Engineering..

The organizers were located at Yenepoya Institute of Technology; Moodbidri and the participants across the globe presented their research works through oral presentation. Each registered participant was allotted 12 minutes including questionnaire. The conference was conducted smoothly without any major bottlenecks and the organizers would like to express their gratitude to all the people associated especially the invited keynote speakers, session chairs and the participants who supported this conference. Also, the thanks go to the IOP Science for agreeing to publish the selected papers in its Conference Series: Materials Science and Engineering journal.

Day 1 (Friday, 18-12-2020):

The conference was inaugurated by the Chief Guest Dr. S A Khan, Professor, International Islamic University, Malaysia; Mr. Yenepoya Abdulla Javeed, Director (Operations), Yenepoya Group; Dr. R.G D'Souza, Principal; Dr. N Sathisha, HOD Mechanical Engineering and Convener, ICFEST-2020. After the inaugural function keynote speech was delivered by Dr. S A Khan on Recent Advances in Aerospace Engineering.



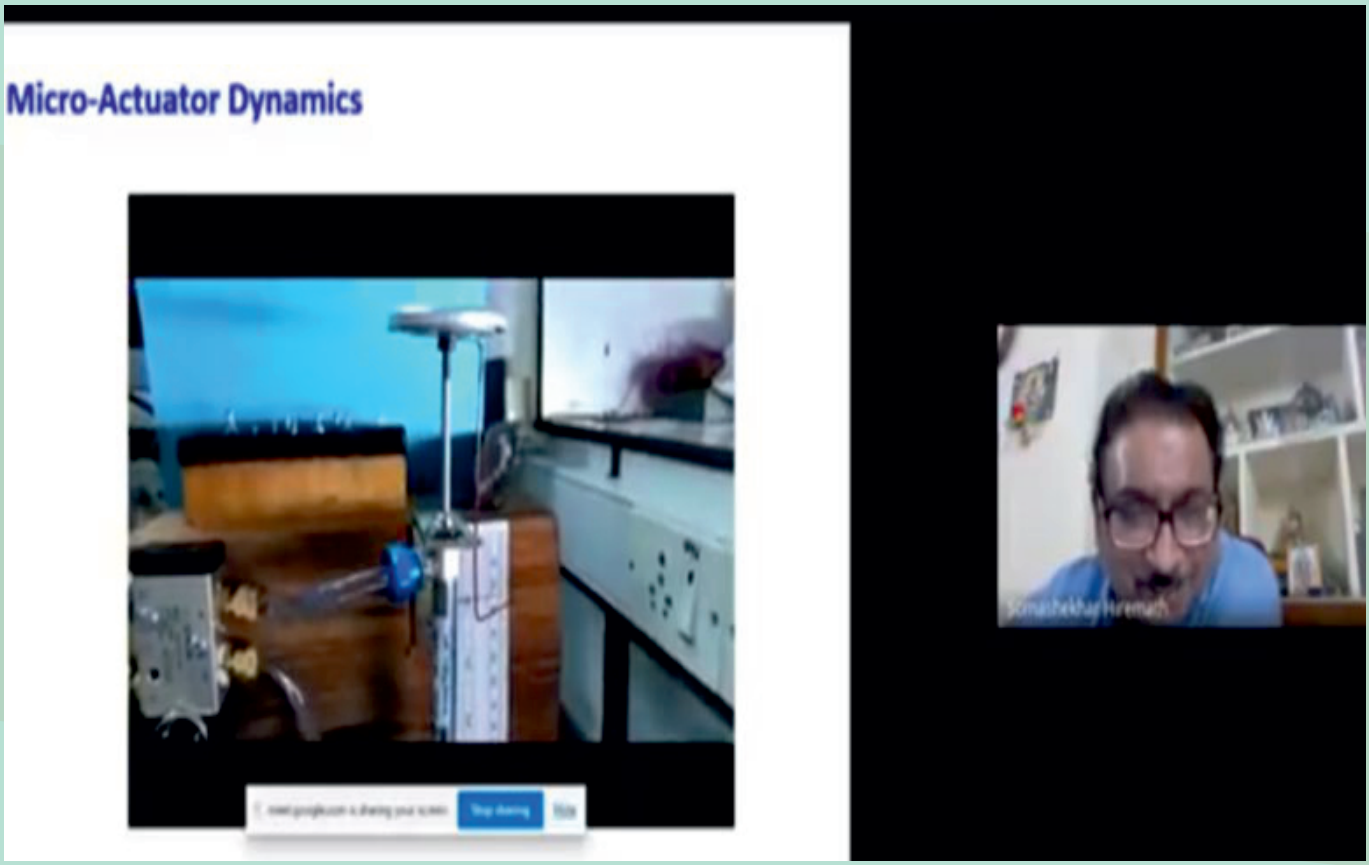
Keynote presentation by **Dr. S A Khan**

ICFEST-2020 received a total of 92 papers; however, after a preliminary review process only 74 papers were selected for presentation. Three parallel sessions were conducted from 11 AM to 5 PM in different streams such as Design/Materials Characterization, Thermal Science, Production and Industrial Management, Computer and Wireless Sensor Networks, Artificial Intelligence, VLSI and Embedded Systems and Renewable Energy Sources. Each session was chaired by the experts from several reputed institution across the country and abroad.

Dr. Nusrathulla, Manager (Planning and Operations), Nardoni Institute of Advanced NDT, Muscat in his invited talk spoke about the importance of **Inevitable Renewable Sources of Energy.** Afternoon session was chaired by Dr. Manjaiah M, Asst. Professor, Department of Mechanical Engineering, NIT Warangal. His topic of presentation for the invited talk was **Evolution in Digital Manufacturing.** Dr. Suresha D, Assoc. Professor, Department of Computer Science and Engineering was session chair for computer and information science stream while, Dr. Subramanya Bhat, Assoc. Professor, Department of Electronics and Communication Engineering, NMAMIT, Nitte chaired the session for Electrical and Electronics stream. At the end the of the Day-1 total of 46 papers were presented by the registered authors from various institution across the globe.

Day-2 (Saturday, 19-12-2020):

On Day-2 two sessions were conducted from 10 AM to 5 PM. Each session was chaired by the experts from various reputed institution across the globe. Morning session started with the invited talk by session chair Dr. Ahammed Saleel C, Associate Professor, Department of Mechanical Engineering, King Khalid University, Saudi Arabia. The topic of presentation was **Use of coconut oil as an organic phase change material-scope and applications.** The afternoon session started at 2 PM with the invited talk by Dr. S Somashekhar Hiremath, Associate Professor, Department of Mechanical Engineering, IIT Madras. In his talk Dr. S Somashekhar Hiremath addressed on the issues in **Micromachining: Present and Future Challenges.** Total of 28 papers were presented by the registered authors from various institutions across the globe.



Dr. S. Somashekhar Hiremath in his invited talk

During the valedictory session Dr. Rajesh D'Souza, Principal, Yenepoya Institute of Technology, expressed the need of research in current scenario with the innovative areas of Engineering. He expressed his satisfaction about quality of paper presented in the conference.

Out of total 92 registered papers, 74 papers were presented. 53 papers will be published in the IOP Conference Materials Science and Engineering Journal. The program came to an end with concluding remarks by Dr. N Sathisha, Convener and HOD of Mechanical Engineering followed by vote of thanks.

FACULTY ACHIEVEMENTS

- **Dr. Sathisha N** published paper entitled "Prediction of material removal rate and surface roughness in hot air assisted hybrid machining on soda-lime-silica glass using regression analysis and artificial neural networkhttps://doi.org/10.1007/s12633-020-00729-2.
- **Dr. Sathisha N** published paper entitled Parametric optimization on hot air assisted hybrid machining of soda-lime glass using Taguchi - based grey relational analysis. https://doi.org/10.1007/s41939-020-00085-z.
- **Dr. Sathisha N** published paper entitled An experimental study of process parameters on material removal rate in ECDM process. https://doi.org/10.1016/j.matpr.2020.01.510.
- **Dr. Sathisha N** published paper entitled Optimization of process parameters in electro chemical discharge machining of silica glass through analysis of means, IOP Conference Series: Materials Science and Engineering 1065 (1), 2021.
- **Dr. Sathisha N** published paper entitled A study on the effect of chill casting on A356 reinforced with hematite metal matrix composite. BTC.
- **Dr. Sathisha N** published paper entitled Fabrication and Characterization of Al-8011 alloy and nano ZrO2 Metal Matrix Composite IOP Conference Series: Materials Science and Engineering 1065 (1), 2021.
- **Dr. Ravindra Badiger** published research paper entitled Microstructure and Mechanical properties of TiO2 Reinforced ZA22 Metal Matrix Composite, Materials Today Proceedings,2021,35(3), 303-307.
- **Dr. Ravindra Badiger** published research paper entitled An investigation on effects of wire-EDT machining parameters on surface roughness of Inconel-718,Materials Today Proceedings; 2021, 35(3), 474-477.
- **Dr. Ravindra Badiger** published research paper entitled, An experimental investigation of microwave developed nickel based clads for slurry erosion wear performance using Taguchi approach. Metallography, Micro structure and Analysis; 2020, 9: 293-304.
- **Dr. Ravindra Badiger** published research paper entitled Effect of input power and interfacial powder size on microwave joining of different materials: A review, Materials Today Proceedings;2020.(https://doi.org/10.1016/j.matpr.2020.07.351)
- **Dr. Ravindra Badiger** published research paper entitledAnalysis of effect of friction stir welding parameters on joint hardness and tensile strength of AA3003/SiC composites. Materials Today Proceedings. (https://doi.org/10.1016/j.matpr.2020.10.106).
- **Dr. Ravindra Badiger** published research paper entitledA comparative study on characteristics of inconel-625 joints developed through microwave hybrid heating and tungsten inert gas welding. Transactions of the Indian Institute of Metals 2021.
- **Dr. Ravindra Badiger** published research paper entitledANOVA studies and control factors effect analysis of cobalt based microwave clad.
- **Mr. G Sujay Kumar** Published a paper entitled Investigation of temperature on solar chimney efficiency in AIP Conference Proceedings 2236, 030011 (2020).
- **Mr. G Sujay Kumar** completed an online NPTEL course "DESIGN THINKING - A PRIMER" with 93%.
- **Mr. G Sujay Kumar** guided a prototype "A complete sanitizing system for public transport" has been shortlisted in top 100 projects in a National Level Innovation contest KPIT sparkle 2021.
- **Mr. G Sujay Kumar:** A Biomedical project idea "Spastha Chithran - A warm mattress for clear scanning images" has been selected for BIRAC Idea Exposition -2020 in top 15 and presented as an idea in the final round.
- **Mr. G Sujay Kumar** coordinated a national level Ideathon 2020 in July 2020
- **Mr. G Sujay Kumar** Organized a college level ideation contest in July 2020.
- **Mr. G Sujay Kumar** - Resource person for a webinar on "Design thinking and Innovation " organized by department of mechanical engineering on 14th August 2020.
- **Mr. G Sujay Kumar,** Selected as a Mentor for ATAL tinkering lab under ATAL Innovation Mission
- **Mrs. Vani R** published research paper entitled Mechanical characterization of MMT nano clay/epoxy/ basalt fiber composites:IOP Conf. Series: Materials Science and Engineering.
- **Mrs. Vani R** published research paper entitled Inhibition effects of banana and orange Peel extract on the corrosion of bright steel in acidic media: IOP Conf. Series: Materials Science and Engineering.

STUDENTS ACHIEVEMENTS

- **Prajwal Hosalli, John Ison D-Souza** has successfully completed latex test organized at Yenepoya Institute of Technology by Keerthi Kumar H M with course material provided by The Spoken Tutorial Project, IIT Bombay. Passing an online exam, conducted remotely from IIT Bombay, is a pre-requisite for completing this training.

- **Yogish** has successfully completed OpenFoam test organized at Yenepoya Institute of Technology by Keerthi Kumar H M with course material provided by The Spoken Tutorial Project, IIT Bombay. Passing an online exam, conducted remotely from IIT Bombay, is a pre-requisite for completing this training.

- Abhinand Anand, Aishwarya Jain y, Alosious Antony George, Abhishek B Shetty, M R Harshith, Joel Vaz, Manjunatha Nayak, Mohammed Farzin Mirshad, Arpan Bhandari, Mr Swasthik, Mohammed Kaif, Mohammed Thayyab, Rohit Krishnan, Royston Prajwal D Souza has successfully completed Scilab test organized at Yenepoya Institute of Technology by Keerthi Kumar H M with course material provided by the Spoken Tutorial Project, IIT Bombay. Passing an online exam, conducted remotely from IIT Bombay, is a pre-requisite for completing this training.