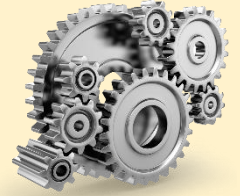




NEWS LINKS



March 2021 | Volume 3 | Issue 1

A BI-ANNUAL E-NEWSLETTER OF THE DEPARTMENT OF MECHANICAL & MANUFACTURING ENGINEERING,
MANIPAL INSTITUTE OF TECHNOLOGY, MANIPAL ACADEMY OF HIGHER EDUCATION, MANIPAL

MESSAGE FROM HEAD OF THE DEPARTMENT



At the outset let me wish all the readers a happy and prosperous new year 2021. With the development of vaccine for COVID-19 and the inoculation drive going on in the country, let us sincerely hope and pray, this year things will get back to normalcy at the earliest.

COVID-19 has indeed opened up new avenues in the teaching learning process since last semester, be it conduction of online classes, assignments, quizzes, examination, seminars etc. I am happy to note that we in the department of MME worked as a team and made a sincere attempt to overcome all the odds in this pandemic situation. I am also delighted to inform you that the department has put up a robust performance on the research front as well as with regard to student activities during July-December 2020. My heartfelt appreciation and gratitude to all the stakeholders and look forward to their continual support in all our future endeavours. Wishing all the present students and faculty members a fruitful semester ahead.

Dr Sathya Shankara Sharma

DEPARTMENT NEWS

• R&D Collaboration between MIT and Everest Blowers



Department of Mechanical & Manufacturing Engineering has entered into R&D collaboration with Everest Group based in New Delhi. Mr Amit Kapur, Director, Everest Group and an alumnus of the department from the class of 1995 visited MAHE campus on 18th November 2020. The following points were discussed & approved in principle by the Vice Chancellor of MAHE, Lt. Gen. Dr M.D. Venkatesh and Mr Amit Kapur.

- i. **Joint Development Projects with Everest Group:** Two projects have already been initiated under the guidance of Dr. Raghuvir Pai and Mr Amit Kapur. Dr Vijay G S and Prof. Vishal Shenoy are the faculty mentors for students Mr Chilla Dhanunjai and Mr Ashish Samaga for the projects.
- ii. **Everest-MIT Technology Centre:** The proposal for conducting joint development activities such as workshops and lectures by experts from both institutions was discussed. Everest Team will explore options for introduction of the Technology Centre under CSR.
- iii. **Everest Group in Curriculum Revision:** Participation of Everest Group towards inputs in upgradation of existing curriculum and new courses related to niche sectors keeping industrial demand in mind.
- iv. **Resource Sharing:** Everest Group to share academic & skill-based resources with MIT for the benefit of students & faculty members. One such workshop has already been conducted for students on 08th December 2020.
- v. **Knowledge Sharing:** Everest Group to share details of Aeration Techniques including Air Lift Pumps with MIT, which may be used as an input for ongoing IOT enabled Aquaculture project.
- vi. **Joint Ventures:** Everest Group and MIT to jointly work on more initiatives to bridge the Industry Academia gap with an idea to develop industry ready employable engineers.

EDITORIAL BOARD

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DEPARTMENT NEWS



- **3D Printer** manufactured by Fractal Works was commissioned at MIT workshop on 8th October 2020. Hands on training was imparted to the laboratory staff by Fractal Works Team headed by Mr Vijay Varda, an alumnus of the Institute.

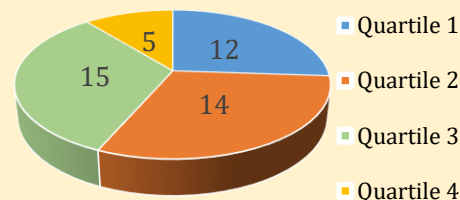
- **Dr N Yagnesh Sharma**, Professor, retired on 30th September, 2020 after serving the department for more than 38 years. He was the Head of the Department from February 2008 to February 2011 and has served as Associate Director (Development) at MIT, Manipal. Dr Sharma, an authority on Combustion has guided six PhD students and has published many research articles in high impact factor international journals and conferences.



- **Dr B Rajendra**, Professor, retired on 30th November, 2020 after serving the department for more than 36 years. Dr Rajendra, an expert on Mechanical Vibrations was instrumental in revising the curriculum of the undergraduate programmes and modernizing the laboratory facilities of the department. He has published many research articles in international journals and conferences.

FACULTY ACHIEVEMENTS

- **Publications:** Faculty members of the department have published 46 research papers in Web of Science/Scopus indexed journals and 12 papers have been presented in various international conferences held during July to December, 2020.
- **Grants Applied:** 04 faculty members of the department have applied for research grants amounting to **INR 1,21,70,769/-** from various government/industrial organizations during July-December, 2020.
- **Reviewers:** 05 faculty of the department have served as reviewers of international/national journals/conference articles during July-December 2020.
- **Workshop / FDP:** 15 faculty members have attended Workshop/FDPs during July - December, 2020.





FACULTY ACHIEVEMENTS

- **PhD Guidance:** Two research scholars under the guidance of **Dr Raghuvir Pai B**, Professor were awarded their PhD during July-December, 2020.
 - **Mr Girish H**, Associate Professor, Dept. of Mechanical Engg., St Joseph's Engineering College, Vamanjoor, Mangalore on 14th July 2020. The research topic was 'Studies on the Static and Dynamic Characteristics of Multi Pad Externally Adjustable Fluid Film Bearings'.
 - **Mr Ravishankar Baliga**, Assistant Professor, Dept. of Aeronautical and Automobile Engg, MIT Manipal on 26th November 2020. The research topic was 'Effect Of Polyethylene Thickness, Tibial Interface And Tibial Stem Length On Stress And Micromotion Following TKR: A Comparative Finite Element Analysis Study'. The co-supervisor for this thesis was Dr Sharath Rao, Professor, Dept. of Orthopaedics and Dean, KMC Manipal.
- **Book Chapters:** Faculty members have authored book chapters in various reputed books.
 - **Dr Raghuvir Pai B**, **Dr Shah Mohammed Abdul Khader** and **Dr Nitesh Kumar** have authored a book chapter titled "Fluid Structure Interaction Study of Stenosed Carotid Artery Considering the Effects of Blood Pressure and Altered Gravity" published online and in an Open Access book "Finite Element Methods and Their Applications" edited by Prof Mahboub Baccouch, University of Nebraska at Omaha, USA (ISBN 978-1-83962-342-4).
 - **Dr Raghuvir Pai B** and **Dr Shah Mohammed Abdul Khader** along with other faculty & students of MAHE have authored a book chapter in July 2020, titled "Finite Element Analysis of the Human Eye for a Range of Intra-ocular Pressure" published in Advances in Control Instrumentation Systems, Lectures Notes in Electrical Engineering 660, Editors, V. I. George and B. K. Roy, Springer Nature Singapore Pte Ltd, 2020. (https://doi.org/10.1007/978-981-15-4676-1_16).
 - **Dr Sathya Shankara Sharma**, **Dr Gowri Shankar M C**, **Dr Manjunath Shettar**, **Dr Ananda Hegde**, **Mr Pavan Hiremath** and **Mr Rajesh** (PhD scholar of the department) have authored a book chapter titled "Post Solutionising Rolling Sway on the Precipitation Behaviour of Eutectoid Steel Powder Reinforced Al7075 Ternary Alloy Composites" in Materials Science Forum, Volume 995, MSF, 2020, Pages 9-14, published by Trans Tech Publications Ltd in September 2020.
- **Grant Received:** **Mr Nithesh Naik**, Assistant Professor (Sr. Scale) in collaboration with Dr Ramesh S from KMC, Manipal have secured an industrial grant amounting to INR 11,50,000/- for the research project titled "Development and Clinical Validation of Non-Contact Health Screening Kiosk for COVID-19 Patient" on 12th October 2020. The project was headed by Dr Muralidhar Verma, Associate Professor, Department of Infectious Diseases, KMC, Manipal.
- **Start-up Incubation:** Curious Tech Lab Pvt. Ltd., a medical device and technology based start-up company was incubated at Manipal under Government of Karnataka Bio Incubator. **Mr Nithesh Naik**, Assistant Professor (Sr. Scale) in the department is the Founder and Chief Technical Officer and Dr Zeeshan Hameed, Dept. of Urology, KMC, Manipal is the Founder and Chief Executive Officer of the start-up. The start-up has also been awarded a biotechnology ignition **grant of INR 50,00,000/-** by BIRAC.
- **Certified Trainer:** **Mr Rithesh Bhat**, Assistant Professor (Sr. Scale) has been conferred with "Certified OBE Trainer for Faculty and Student Community" by Universiti Kebangsaan, Malaysia on 3rd October 2020.



FACULTY ACHIEVEMENTS

- **App Development: Urostentz**, a Smartphone mobile application was developed by **Mr Nithesh Naik**, Assistant Professor (Sr. Scale) and Dr Zeeshan Hameed BM, Associate Professor, Department of Urology, KMC Manipal, and Chief of KMC Innovation Center for Uretric Stent and Symptom tracking in patients. The application is launched currently in Google Playstore and soon will be launched in iOS App store. The application was of greater help to the patients for remote consultation during Covid-19 lockdown. The project was mentored by Prof Bhaskar K Somani, Department of Urology, University of Southampton, UK and Dr Bhavan Prasad Rai, Robotic Surgeon, Freeman Hospital, UK.
- **Dr Manjunath Shettar**, Assistant Professor (Sr. Scale) has won the Scopus Quiz (South Asia Region) conducted for the first time by Elsevier in September 2020.
- **Dr Deepak D**, Associate Professor was invited as a guest speaker for the online “Global Rubber Conference” held on 12th November 2020 organised by “Rubber Authority of Thailand”.
- **Dr Vishwanath Managuli**, Assistant Professor (Sr. Scale) was invited as a guest speaker for the online “Nano-Scientific Symposium India-2020”, organised by Park Systems Corp., Republic of Korea, held on 15th December 2020.
- **Dr Gururaj Bolar**, Assistant Professor has delivered a technical talk on “Thin Wall Machining” in the webinar on “Numerical Modeling of Advanced Manufacturing Processes” under TEQIP-III, MHRD funded ASTU CRS Project organised by Jorhat Institute of Science & Technology, Jorhat, Assam on 20th November 2020.
- **Mr Suhas Y Nayak**, Assistant Professor (Sr. Scale) has received the best paper award for the paper titled "Influence of Wear Parameters on the Tribological Characteristics of Jute/ E-Glass Epoxy Hybrid Composites of Different Weave Architecture" presented at International Conference on Recent Advances in Design, Materials and Manufacturing, organized by Amity University, Madhya Pradesh in October, 2020.
- **Mr Nithesh Naik**, Assistant Professor (Sr. Scale) has been nominated as the member of Editorial Board of Therapeutic Advances in Urology, Sage Publications.
- **Mr Nithesh Naik**, Assistant Professor (Sr. Scale) was the convener and has chaired a session for the Online International Webinar on “Artificial Intelligence: Transforming Future of Urology” organized by i-TRUE: International Training and Research in Uro-Oncology and Endourology on 12th August 2020.

PhD AWARDEES

- **Mr Gurumurthy B M**, Assistant Professor (Sr. Scale) was awarded the Doctoral degree for his thesis titled “Dual Phase Medium Carbon Low Alloy Steel Heat Treatment and Machinability Related Study” by Manipal Academy of Higher Education, Manipal, in September 2020. The research work was carried out under the guidance of Dr Sathya Shankara Sharma, Professor & Head and Dr U Achutha Kini, Professor, Department of Mechanical and Manufacturing Engineering, Manipal Institute of Technology, Manipal.





PhD AWARDEES

- **Mr Manjunath Shettar**, Assistant Professor (Sr. Scale), was awarded the Doctoral degree for his thesis "Experimental Investigation of Hygrothermal Effects on Mechanical Properties of Glass Fiber-Epoxy-Nanoclay Composites" by Manipal Academy of Higher Education, Manipal, in October 2020. The research work was carried out under the guidance of Dr U Achutha Kini, Professor and Dr Sathya Shankara Sharma, Professor & Head, Department of Mechanical & Manufacturing Engineering, Manipal Institute of Technology, Manipal.



- **Mr Nitesh Kumar**, Assistant Professor (Sr. Scale) was awarded Doctoral degree for his thesis titled "Non-Newtonian Coupled Field Analysis of Blood Flow in Normal and Stenosed Carotid Artery With Varying Haemodynamic Parameters" by City, University of London, London, United Kingdom, in December 2020. The research work was carried out under the supervision of Prof Panicos Kyriacou, School of Mathematics, Computer Science and Engineering, City, University of London and co-supervised by Prof Raghuvir Pai B, Professor, Department of Mechanical and Manufacturing Engineering, Manipal Institute of Technology, Manipal.

ALUMNI ACHIEVEMENTS



- **Mr Aneesh Bhardwaj**, an alumnus of the department (B.Tech, Mechanical Engg., Batch of 2014) has been appointed as the Director of Strategy & Partnerships at **Siemens Advanta, Bavaria, Germany**. Aneesh actively shapes and manages strategies to always build and grow. A crucial part of his role is to create sustainable strategies that can be conveniently comprehended and implemented throughout the organization.

- **Mr Gopal Krishna**, B.Tech. Mechanical Engg. Alumnus (Batch of 2014) is the Co-founder and CEO of **3D Usher Inc. based in New York, USA**. The organization is involved in the development of 3D printing platform designed to offer customized printing at low volumes. The company's platform processes the client-uploaded documents with cutting edge technology, run quality checks on products and delivers the results at desired locations, enabling clients to get their desired printouts conveniently.



- **Shreyans Mehta**, an alumnus from the batch of 2012 B.Tech. Industrial & Production Engg., is the Co-founder of **MedCords** a startup firm that has provided a platform for individuals to consult with doctors and procure medicines online. Headquartered at Kota, Rajasthan, the firm is making healthcare accessible, affordable and efficient for all by leveraging data-science and is becoming a 'real time' healthcare decision making tool for citizens, organizations and state governments. It generates insights for patients and doctors. Medcords is moving towards preventive healthcare by utilising data-driven decisions.



STUDENT ACHIEVEMENTS

- **Mr Rakshith Mallya**, B.Tech. Mechanical Engg. student from the class of 2020 and an NCC cadet has been selected by the Indian Navy under the University Entry Scheme after clearing the SSB selection process.



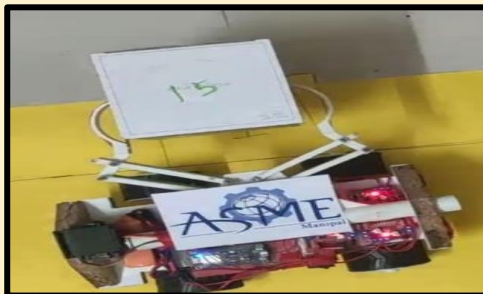
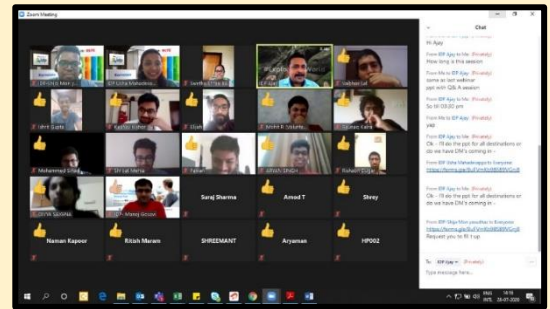
- **Mr Karan Hiranandani**, B.Tech. Mechanical Engg. student from the class of 2020 has co-authored and published a research article titled “Development of an Ultra-High Capacity Hydrocarbon Fuel Based Micro Thermoelectric Power Generator” along with Mr B Aravind and Dr Sudarshan Kumar from IIT, Bombay in the journal “Energy”.
- **Mr Karan Hiranandani**, B Tech, Mechanical Engg. student from class of 2020 has been listed as a co-author for a book chapter in two highly reputed Springer textbooks namely “Advances in IC Engines and Combustion Technology” and “Sustainable Development for Energy, Power, and Propulsion”.
- **Mr Sreerag Mahadevan Cheeroth**, from final year B.Tech. Mechanical Engg. along with three more final year students of MIT, Manipal has won the first place at the TechFest conducted by IIT, Bombay for developing a model that could prevent the spread of COVID-19. The team has developed a model which involves a vest consisting of wearable electronics and sensors that could be used to keep track of various physiological data of the user’s body, including heart rate, pulse rate, oxygen content and body temperature.
- **Mr Anarghya Acharya** from final year B.Tech. Mechanical Engg. has received “Best Paper Certificate” for his research paper titled “Influence of Stacking Sequence on the Mechanical Properties of 3D E- Glass/Bamboo Non-woven Hybrid Epoxy Composites” presented at the “International Conference & Exposition on Mechanical, Material and Manufacturing Technology” (ICE3MT2020), organised by the Dept. of Mechanical Engg., CVR College of Engg., Hyderabad, Telangana in October, 2020. Mr Suhas Y Nayak, Assistant Professor (Sr. Scale) in the department has co-authored the research paper.
- **Mr Udit Rathee** a final year B.Tech. Mechanical Engg. student and his team (Two from MIT and One from KMC, Manipal) received the Certificate of Appreciation from the judging panel for having the “Best Presentation Style” in the UQ Engineering Design Hackathon organised by the Faculty of Engineering, Architecture and Information Technology, University of Queensland, Brisbane, Australia. Mr Nithesh Naik, Assistant Professor (Sr. Scale) in the department was the faculty mentor for the team.
- **Shrinivasa Prabhu** from 5th semester B.Tech. Mechanical Engg. presented a paper titled "Effect of Chemical Treatment on the Physical and Mechanical Properties of Flax Fibers: A Comparative Assessment" at the “International Conference & Exposition on Mechanical, Material and Manufacturing Technology” (ICE3MT2020), organized by the Dept. of Mechanical Engg., CVR College of Engg., Hyderabad, Telangana in October, 2020. Mr Suhas Y Nayak, Assistant Professor (Sr. Scale) in the department has co-authored the research paper.
- **Pranav Hegde** and **Ajith Kamath** from final year B.Tech. Mechanical Engg. co-authored a research paper along with Mr Srinivas Shenoy H., Assistant Professor (Senior Scale), titled "Influence of Stack Sequence on the Mechanical Characteristics of Hybrid Composites Analyzed Using Cone Beam Computed Tomography and Scanning Electron Microscopy", which is published in journal “Polymer Composites” (Quartile 2; IF: 2.265).



CLUB ACTIVITIES - ASME

- **ASME Manipal-IDP Webinar: Navigating Higher Education Abroad during COVID 19**

ASME Manipal organised a webinar on 28th July 2020 collaborating with IDP Education, a global leader in overseas education & student placement for more than 50 years. Participants were explained the entire application process, the various courses offered by the universities and the variations that may come into picture due to COVID-19 protocol. The speakers discussed at length the student finance, loan application process and scholarships offered by the universities. The United Nations, and trusts such as The Rotary Ambassadorial Scholarship were also brought to light.



- **Cozmoclench**

ASME Manipal successfully participated in Cozmoclench, a competition hosted by IIT Bombay as a part of Techfest 2020. The team had built a mobile robot that had to solve an obstacle course while gripping multiple objects. The team methodically built a robot that was sound in design principles, safe and robust.

- **How Motorsport makes Engineers Better**

In August 2020, ASME Manipal Student Chapter successfully hosted a webinar in partnership with **Scotsgrad** and **ReynLabs** on 'How Motorsport makes Engineers better'. The webinar gave the attendees a clear picture of the motorsport industry's functioning and education in the UK.



- **Student Leadership Training Conference 2020**

Mr Ishrit Gupta and **Mr Mohit Rao** were among the few chosen to attend the SLTC Conference from across the globe. The conference organised by ASME.org's Student and Early Career Development team was a 2-day event that focused on cultivating leadership, teamwork and project execution skills and understanding the power of industry networking.



CLUB ACTIVITIES - ASME

- **Team Building activities**

In November 2020, ASME Manipal received applications from 150 first-year students for Working Committee recruitments. The team successfully held interviews for all 150 applicants and recruited 49 first year students as Working Committee members for 2020-2021. The President of the club went live on Instagram for a contact session to highlight the importance of cultural activities and balancing the same with academics. This event reached 1532 views.



- Throughout the lockdown, the team has stayed in touch with technological developments and has kept their social media handle live with posts on exciting topics. ASME Manipal's social media reach has increased by as much as 300%. The team is actively networking with professionals on a global level via LinkedIn and ASME.org's international community.
- The team participated and attended webinars and networking meets like the E-Fest Careers Global 2020 and Career Town Hall, organised by ASME International, to encourage networking and collaboration amidst the pandemic.
- The team also conducted internal workshops for the benefit of new members. During the workshops, the senior members provided skill training on software such as Fusion 360 and Adobe Premiere Pro in addition to training on content writing.
- The team also laid down foundations for projects to be executed in the near future such as the launch of ASME Manipal's website, technical projects like Human Powered Vehicle Challenge and IAM3D(3D Printed Drone manufacturing).