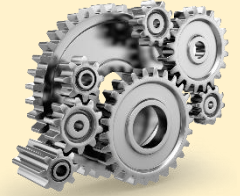




NEWS LINKS



March 2022 | Volume 4 | Issue 1

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

MESSAGE FROM HEAD OF THE DEPARTMENT



Wishing all the readers a very happy and prosperous New Year 2022. I am delighted to present to you the current issue of 'Newslinks' showcasing the important happenings of the Dept. of Mechanical & Industrial Engg. in the second half of 2021. At this juncture it is my foremost duty to welcome the new leaders of MIT Cdr. (Dr.) Anil Rana & Dr. Somashekhara Bhat and assure them of full cooperation and support from our department in ensuring MIT rising to newer heights in the coming days. We also place on record our heartfelt appreciation and gratitude to Dr. D. Srikanth Rao & Dr. B. H. V. Pai for the support and guidance extended to us during their tenure as heads of MIT. Life is slowly and surely limping back to normalcy with the rapid pace of COVID-19 vaccinations in India and due to the declining intensity of the virus. Let's sincerely hope and pray that all academic activities resume in the total offline mode this year. Despite all odds, I am 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, 2021. My sincere 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 Sathva Shankara Sharma

DEPARTMENT NEWS

• *Renaming of the Department*

The Department of Mechanical and Manufacturing Engineering has been renamed as the '**Department of Mechanical and Industrial Engineering**'.

• *Five Day online ATAL FDP*



A five day online ATAL FDP on "**Industrial Automation using CNC Machines and Intelligent Systems**" was organized by the Dept. of Mech. & Ind. Engg. for the faculty of various AICTE approved engineering institutions across the country from August 16 - 20, 2021.

The leading and largest machine tools group in India based in Bangalore, **Ace Micromatic Group** were the industry partners for the programme. Senior experts from Micromatic group and experienced faculty from the Dept. of Mech. & Ind. Engg., Dept. of Mechatronics, MIT, Manipal, Dept. of Mechanical Engg. NITK, Surathkal and faculty from University of New South Wales, Australia were the resource persons for the programme. A total of **184 participants** attended the FDP.

The online **inauguration** of the program was held on August 16, 2021. Mr B Harish, CEO, M/s Micromatic Group Private Limited and an alumnus of the department from the class of 1986 was the chief guest. Cdr (Dr) Anil Rana, Director, MIT presided over the function. Dr S S Sharma, HOD welcomed the virtual gathering, Dr Raghunandan K presented the overview of the FDP and Dr Suhas Y Nayak proposed the formal vote of thanks.

EDITORIAL BOARD

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DEPARTMENT NEWS

• **Five Day online ATAL FDP (Cont..)**

The sessions of the FDP were mainly on contemporary areas such as Industrial Automation using CNC Machines, applying the concept of Industry 4.0 in a machine shop, Automation with IOT solutions, Additive Manufacturing Solutions, Intelligent Systems, Robotic Systems, Collaborative Robots in Automation and the like. Sessions to impart hands on experience on latest software's such as Robot Studio and Robot Analyzer were also held during the programme.

Dr Somashekhara Bhat, Joint Director was the chief guest for the valedictory programme which was held on 21st August, 2021. Dr Raghunandan K, Professor was the convener and Prof Nagaraja, Consultant (Student Projects) & Dr Suhas Y Nayak, Senior Assistant Professor were the co conveners of the programme.

• **R & D Colloboration between MIT and Everest Blowers**



Mr Amit Kapur, Director, Everest Group , New Delhi and alumnus of MIT visited MAHE campus on the 8th October 2021. He is an alumnus of the department from the class of 1995. He was accompanied by Mrs Ameeta Nehra, Lead, Corporate Communications and PR, Everest Turbo New Delhi. MIT already has an MOU with Everest Group for promoting research & academics. Following points were discussed in detail and approved in principle by Cdr (Dr) Anil Rana, Director, MIT Manipal and Mr Amit Kapur:

i. Joint Development Projects with Everest Group for the year 2021-2022

Project 1: Design and Development of Direct Driven High-Speed Centrifugal Blowers.

Project 2: Design and Development of Thrust Air Foil Bearings for Turbo Blowers.

Project 3: Design and Development of Belt Driven High-Speed Centrifugal Blowers.

Project 4: Design and Development of Stainless Steel Modular Spider Air Knife.

Project 5: Design and development of Stainless Steel Air Knife.

Above projects were discussed in detail and reviewed for progress. The projects need to be completed within next 8 months.

ii. Curriculum upgradation and revision

Participation of Everest Group towards inputs in upgradation of existing curriculum and new courses related to niche sectors keeping industrial demand in mind for e.g. B Tech (Vacuum Science & Technology). Everest Group to contribute in the finalization of major curriculum revision of 2022.

iii. Joint venture

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.



DEPARTMENT NEWS

iv. Extension of MOU

Everest Group and MIT have extended the tenure of an existing MOU by another 05 years with an objective to support new Master's program in Tribology and Maintenance Engineering and also to offer internships and placements to the students. Everest Group to extend similar support to other disciplines at MIT.

• *International Conference*

International Conference on Maintenance and Intelligent Asset Management (ICMIAM-2021) organised by MAHE at Federation University Australia along with reputed universities and professional bodies around the world



The International Conference on Maintenance and Intelligent Asset Management (ICMIAM2021) was jointly organized by Federation University Australia, IIT Kharagpur and Manipal Academy of Higher Education, India and supported by the Asset Management Council Australia, Institute of Rural Management, Anand, Lulea University of Technology Sweden, University of Huddersfield, UK and the Technical sponsorship by IEEE Victoria Section, Australia from 12th to 15th December 2021.

This event was possible due to collaboration with Federation University Australia and conference partners, especially General Chair Dr Gopinath Chattopadhyay, Joint Chairs Dave Daines, Anne Gibbs, Kai Dong and Jacqui Bates from Asset Management Council, Australia, Prof Jhareswar Maiti, IIT Kharagpur and Dr Raghuvir Pai B, Professor, Dept. of Mech. & Ind. Engg., MIT, Manipal Academy of Higher Education. This also includes Technical Chair Professor Joarder Kamruzzaman, Organisation Chair Dr Harpreet Kandra, Track Chair A/Professor Gour Karmakar, Jo-ann Larkins, Dr Abdul Choudhury, Katrina Southurst and Evan Dekker from Federation University Australia, and Track Chairs A/Professor Sayak Roychowdhury from IIT Kharagpur and Dr Nitesh Kumar, Assistant Professor, Dept. of Mech. & Mfg. Engg., MIT, Manipal Academy of Higher Education, India.

The delegates were registered from 16 countries including Australia, New Zealand, India, Sweden, UK, Bangladesh, Canada, Ireland, Indonesia, Kuwait, South Africa, Ecuador, USA, Philippines, Taiwan, Portugal and many other parts of the world. Full papers were reviewed and accepted based on reviews in line with the requirements of the technical sponsor IEEE's rigorous quality assurance process.

Acknowledgement of the Country and welcome message was delivered by Prof Syed Islam, the acting DVC Research and Innovation and Dean, School of SEITPS, Federation University Australia. Inauguration and welcome speech was delivered by Prof Duncan Bentley, Vice Chancellor and President, Federation University Australia. The session was then followed by messages from Cr Daniel Moloney, Mayor, City of Ballarat and Honorable Jason Wood, Assistant Minister for Customs, Community Safety and Multicultural



DEPARTMENT NEWS

• *International Conference*

Affairs. Opening words were delivered by Mr Dave Daines, National Chair, Asset Management Council and Head of Campus, Assoc Prof Sam Henson welcomed the delegates to Mt Helen Campus.

Messages were presented by collaborators, Prof Virendra Kumar Tewari, Director, IIT Kharagpur, Lt Gen (Dr) M D Venkatesh, VSM (Retd), Vice Chancellor, Manipal Academy of Higher Education, Prof Umakant Dash, Director, IRMA and Dr Enamul Haque, Institute of Electrical and Electronics Engineers (IEEE) Power and Engineering Society, Victoria Chapter, Australia. Prof Joarder Kamruzzaman from the Centre for Smart Analytics, Federation University Australia welcomed the delegates to the technical sessions.

The closing session was addressed by the Indian Consulate General in Melbourne Honorable Mr Raj Kumar. Mr Dave Daines, Dr Harpreet S Kandra, and Professor Jharieswar Maiti thanked delegates on behalf of the Organising Team. Welcome to ICMIAM 2022 was delivered by Professor Raghuvir Pai B, Joint Chair of ICMIAM 2021 and Professor Harekrishna Misra, Institute of Rural Management, Anand (IRMA). IRMA will host the next conference in the series, ICMIAM 2022.

ICMIAM 2021 was an excellent example of engagement, collaborations and partnership with a strong support from industries, universities, professional bodies and wider communities. It was a large online gathering for fostering interdisciplinary collaborations. Positive feedback was widely received from delegates, authors, presenters and communities.

APPRECIATION OF SERVICE



- **Prof Nagaraja**, Associate Professor (Senior Scale) retired on 31st July, 2021 after serving the department for more than 33 years. He has served as the Workshop Superintendent of MIT Workshops for 6 years and as Hostel Warden for 5 years. As Workshop Superintendent he was instrumental in setting up the CNC bay in the workshop and adding modern facilities like EDM Drilling, Wire EDM, 3D Printer etc. and implemented the usage of modern machines in the Workshop Curriculum. He has also played a pivotal role in modernizing the Automation Lab by setting up Hydraulic & Pneumatic trainer kits and table top CNC trainer machines. Prof. Nagaraja has assisted many final year student project teams in carrying out application based projects. He has also published several research articles in prestigious journals and International conferences. Presently he is continuing his service in the institute as Consultant to Major Student Project Teams.

- **Mr Sudhakar Bairy**, Deputy Engineer, retired on 31st July, 2021 after serving the department for more than 32 years. Mr. Bairy has assisted the faculty members in engaging the practical classes in the workshop and has supervised the institute's repair and maintenance work pertaining to carpentry, welding and fabrication. Prior to his retirement he has served as the in charge of Mechanical Laboratory and has contributed towards the modernization of the lab facilities.





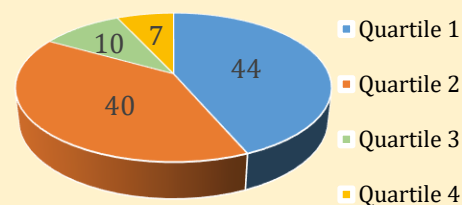
HOMAGE



- **Mr Mohan Kamath**, who had retired as general duty worker on 31st March 2016 after serving the department for 32 years passed away on 27th June 2021. As a support staff of the department, Mr Kamth was known for his dedication, honesty, sincerity, honesty and integrity. The department deeply mourns his sad demise and prays sadgati for the departed soul.

FACULTY ACHIEVEMENTS

- **Publications:** Faculty members of the department have published 101 research articles in Web of Science/Scopus indexed journals and 17 papers have been presented in various international conferences held during July to December, 2021.
- **Grants Applied:** 09 faculty members of the department have applied for research grants amounting to **INR 2,24,78,181/-** from the Department of Science & Technology (DST) during July-December, 2021.
- **Grants Received:** Dr Raghunandana, Professor, Dept. of Mechanical & Industrial Engg, has received an ATAL-AICTE grant of ₹ 93,000.00/- for organizing and co-ordinating the FDP on “Industrial Automation Using CNC machines and Intelligent Systems” during August 2021.
- **FDP/Workshop attended:** 26 faculty members of the department have participated in various international/national level workshop/FDP’s/courses during July-Dec 2021.
- **Reviewers:** 11 faculty of the department have served as reviewers for various international/national Journals & conference articles during July-Dec 2021.
- **PhD Guidance:**
 - Doctoral degree was awarded to **Mr Rajesh** for his thesis titled “Hybrid Heat Treatment for Eutectoid Steel Powder Reinforced Al-Zn-Mg Alloy Composites” by Manipal Academy of Higher Education, Manipal, in November 2021. The research work was carried out under the guidance of **Dr Sathya Shankara Sharma**, Professor and Head, Department of Mechanical and Industrial Engineering, MIT, Manipal.
 - **Dr M Vijaya Kini**, Professor, Department of Mechanical and Industrial Engineering & Associate Director (Practice School, Public & International Relations), was the co- supervisor for **Mr Padmaraj**, Department of Aeronautical and Automobile Engineering, MIT Manipal who was awarded doctoral degree for his thesis titled “Fatigue Life Analysis and Erosion Behaviour of Glass Fiber Reinforced Epoxy Composites in Marine Environment” by MAHE in October 2021.





FACULTY ACHIEVEMENTS

- **Patents filed:**
 - **Dr Raghuvir Pai B**, Professor along with **Dr Ramesh S Ve**, from MCHP, Manipal, **Dr Manali Hazarika** from Dept. of Ophthalmology, KMC, Manipal, **Dr Shah Mohammed Abdul Khader**, Associate Professor, **Dr Girish H**, Assistant Professor, **Dr Meenatchi Sundaram**, Associate Professor (Senior Scale), Dept. Instrumentation & Control Engg., **Mr Rakshath Poojary**, JRF, Dept. of Mech. & Indl. Engg. and **Mr Vivek Suganthan** from SRM University have filed a patent for the invention titled “A system and method for in-vivo measurement of coefficient of friction in the human eye with contact lens” with the Indian Patent Office, Chennai in July 2021 (Application No. 202041025410).
 - **Dr Sathya Shankara Sharma**, Professor & HOD, **Dr Rajesh Nayak**, Associate Professor, **Dr Gurumurthy B M**, Assistant Professor (Senior Scale), **Dr Ananda Hegde**, Assistant Professor and **Mr Nithish Kashimath**, Research Scholar have filed a patent for the invention titled “Method for varying properties of aluminium” with the Indian Patent Office, Delhi in October, 2021 (Application No. 202141048000).
 - **Dr Suhas Y Nayak**, Assistant Professor (Senior Scale) along with **Dr Mohammad Zuber**, **Dr Satish Shenoy B** and **Dr Chandrakant R Kini** from the Dept. of Aeronautical & Automobile Engg. and **Dr Shyamasunder Bhat** from KMC Manipal have filed a patent for the invention titled “Terminal Device for Lower Limb Prosthesis” with the Indian Patent Office, Delhi in August, 2021 (Application No. 202141038317).
 - **Dr Vishwanath Managuli**, Assistant Professor (Senior Scale) along with other inventors from different institutes across India have filed a patent for the invention titled “Carbon fibre material based mechanical gripper for mini drone system” with the Indian Patent Office, Chennai, in November, 2021 (Application No. 202141053210A).
 - **Dr Vishwanath Managuli**, Assistant Professor-Senior Scale along with other inventors from different institutes across India have filed a patent for the invention titled “Shear compression tool for soft materials” with the Indian Patent Office, Kolkata, in November, 2021 (Application No.353542-001).
- **BOS Member:** **Dr Sathya Shankara Sharma**, Professor & HOD has served as external committee member for the BOS meeting at NMAM Institute of Technology, Nitte, Karnataka for both UG and PG engineering programs held on 27th July 2021.
- **Best Paper Award:** **Dr Sathish Rao U**, Associate Professor(Senior Scale), **Dr Sathya Shankara Sharma**, Professor & HOD, & **Dr Manjunath Shettar**, Assistant Professor(Senior Scale), have received the best paper award for the paper titled “An integrated approach of Taguchi - Grey Relational Analysis technique to optimize the drill process factors in the machining of Glass Fiber Centered Polymer Composite Laminates”, presented in the 1st International Conference (IEEE sponsored) on Simulation, Automation & Smart Manufacturing (SASM-2021) held at GLA University, Mathura, from 20th – 21st August, 2021.
- **Session Chair:** **Dr Sathya Shankara Sharma**, Professor & HOD has Chaired a session for International Conference on Smart and Sustainable Developments in Materials, Manufacturing and Energy Engineering (SME-2021) organized by NMAM Institute of Technology, Nitte, Karnataka on 19th November 2021.



FACULTY ACHIEVEMENTS

- **Article Publication:** *Dr Shiva Kumar*, Associate Professor (Sr. Scale), in association with research scholar Mr. Salins, S.S., MAHE Dubai campus & Dr. S.V. Kota Reddy from VIT, Amaravati has published a research paper titled “Experimental Investigation and Neural network based parametric prediction in a multistage reciprocating humidifier” in “Applied Energy”, Volume 293, July 2021 (116958) having an Impact Factor of 9.74, DOI: 10.1016/j.apenergy.2021.116958
- **Keynote address:** A keynote address was delivered by *Dr Dinesha P*, Associate Professor for the online AICTE-ATAL sponsored Faculty Development Program on “Alternate Fuels” organised by Goa College of Engineering on 8th December 2021.
- **Seed Money:** A seed money funding of ₹ 19,760.00/- has been sanctioned by MAHE to *Dr Manjunath M S*, Assistant Professor -Selection Grade, Dept. of Mechanical & Industrial Engg. and *Dr Pramod Balwantrao Salunkhe*, Dept. of Aeronautical and Automobile Engg., for the project titled “Active and Passive Cooling of Lithium-Ion Battery of an Electric Vehicle” in October 2021.
- **Technical Committee Member:** *Dr Manjunath Shettar*, Assistant Professor- Senior Scale has served as Technical Committee Member for the “4th International Conference on Advanced Composite Materials” (ICACM 2021), held online during August 25-27, 2021.
- **Technical Book Authoring:** A book titled “Boundary Integral Equation Method for 3D Linear Elastostatics - An Introduction” is authored by *Dr Kirana Kumara P*, Assistant Professor- Senior Scale. The book is published by Mahi Publication, First Edition in December, 2021. ISBN: 978-93-91556-84-6.
- **Invited Speaker:** *Dr Suhas Y Nayak*, Assistant Professor- Senior Scale was the invited speaker for the AICTE-ATAL sponsored online faculty development program on “Industrial Automation Using CNC machines and Intelligent Systems” organized by Dept. of Mechanical & Industrial Engg., MIT, Manipal from 16th to 20th August 2021.
- **Fellowship Award:** Engineered Science Society, Knoxville, USA, conferred the Fellowship Award to *Mr Nithesh Naik*, Assistant Professor- Senior Scale, in December 2021, in appreciation of significant contributions made towards advancements in Science and Engineering.

PhD AWARDEES



- **Mr Ashwin Kumar Devaraj**, Assistant Professor (Sl. Grade), was awarded the Doctoral degree for his thesis “Numerical investigation of the effects of medial meniscal tears and meniscectomies on biomechanics of human knee joints” by Manipal Academy of Higher Education, Manipal, in December 2021. The research work was carried out under the guidance of Dr Raviraja, Professor, Department of Mechanical & Industrial Engineering, and Associate Director (Academics), Manipal Institute of Technology, Manipal and Dr. Kiran Kumar V Acharya, Professor & Head (Unit IV), Department of Orthopaedics, Kasturba Medical College, Manipal.



PhD AWARDEES



- **Mr Subash Acharya**, Assistant Professor (Sl. Grade), was awarded the Doctoral degree for his thesis "Synthesis and Characterization of Magnetorheological (MR) Fluid for Different Engineering Applications" by National Institute of Technology Karnataka (NITK), Suratkal in October 2021. The research work was carried out under the guidance of Dr Hemantha Kumar, Associate Professor, Dept of Mechanical Engineering, NITK, Suratkal.

NEW FACES TO THE DEPARTMENT

- **Dr Subraya Krishna Bhat**, has joined the department as Assistant Professor on 1st August, 2021. He did his Ph. D. in the area of Vascular Biomechanics titled "Characterization of nonlinear mechanical behaviour of arterial tissues by incompressible hyper elastic models with initial elastic moduli: formulation and application to atherosclerosis and arterial dissection" from Kyushu Institute of Technology, Japan. His research interests are in the areas of Biomechanics, Continuum Mechanics, Finite Element Analysis, and 3D Printing.



- **Dr Mithun Vijay Kanchan**, has joined the department as Assistant Professor on 25th August 2021. He did his Ph. D. in the area of Computational Fluid Dynamics titled "Investigation on the dynamics of flexible filaments in viscous fluid". from NITK, Surathkal. His research interests are in the areas of Computational Fluid Dynamics, Fluid-Structure Interaction, Microfluidics & Machine Learning.

- **Dr Girish H** has joined the department as Assistant Professor on 1st September, 2021. He did his Ph. D. in the area of Tribology titled "Studies on the static and dynamic characteristics of multi pad externally adjustable fluid film bearings" from MAHE, Manipal. His research interests are in the areas of Adjustable Bearings, Water Lubricated Bearings & Ocular Tribology.



- **Dr Guruprasad Shetty**, has joined the department as Assistant Professor on 1st October, 2021. He did his Ph. D. in the area of Solid Mechanics & Design titled "Size effects in plastic deformation of FCC metals" from IIT Kanpur. His research interests are in the area of Mechanics of Deformation in Metals and Polymers and Constitutive Modelling.



ALUMNI ACHIEVEMENTS



- **Mr Nikhil Bansal**, an alumnus from 2005 batch of B Tech Mechanical Engg. has been appointed as Industry Head – Gaming and e-services at Google India. Prior to joining Google India, he was associated with KPMG, PricewaterhouseCoopers Pvt. Ltd., Nestland and Ingersol Rand.

- **Mr Yogesh Pandey**, an alumnus from 1996 batch of B Tech Mechanical Engg. has been appointed as Head of Talent Acquisition India Global Technology and Digital at Fidelity Intl. Mr Yogesh started his career at Eicher Ltd., which he had secured through campus placement.



- **Mr Tanuj Jain**, an alumnus from 1995 batch of B Tech Mechanical Engg. is currently the CEO of Etgo Corporation, which has collaborated with Moto Sphere to offer consultations to Auto start-ups and Auto OEMs. Moto Sphere is an organization working under Etgo Corporation that aims to offer top-quality motorcycle services to bike enthusiasts.

- **Mr Mobin Muhammed**, an alumnus from 2000 batch of B Tech Mechanical Engg. is the CIO/COO at Sleeve Techs and was awarded the first prize in the CIO's Quiz competition (Tech Nerds Quiz – August Edition) conducted by CIO News.



- **Mr Jacksy Verghese**, an alumnus from 1995 batch of B Tech Industrial and Production Engineering has been appointed as Senior Director, Strategic Planning & Operations for the Global Capability Center at Sabre India. Prior to joining Sabre he was worked in Tech chefs software Pvt. Ltd., VBIS, Quadrock services and solutions Pvt. Ltd., SAP Ariba, Motorola Solutions, Samsung SDS & SGI. He has done his masters from Texas A&M University, Commerce, Texas.



STUDENT ACHIEVEMENTS

- **National Innovation contest winners: Mr Soumik Roy**, student of 5th Sem B Tech Mechanical Engg. and **Mr Ruchit Bhaktan** student of 7th Sem B Tech Mechanical Engg. along with **Dr Mahima Mishra** from Manipal College of Dental Sciences (MCOADS), Mangalore, have won the National Innovation Contest (NIC) conducted by the Central Ministry of Education. They were mentored by **Dr Arun Shanbhag**, Chief Innovation Officer, MAHE and **Dr Dilip G Naik**, Pro-Vice-Chancellor, MAHE.
- **Technical Article Publications:**
 - **Mr Aditya Bantwal Satish Kumar, Mr. Aditya Singh** and **Mr. Abhay Ramachandran Menon**, B Tech Mechanical Engg. Graduates from the class of 2021 have co-authored a research paper with **Dr Nitesh Kumar**, Assistant Professor (Senior Scale), titled “Pathogenesis of atherosclerosis and its influence on local hemodynamics: A comparative FSI study in healthy and mildly stenosed carotid arteries” published in “International Journal of Engineering Science”, Vol 167 (Q1, Top 1%) in October 2021.
 - **Mr Sooraj Mohan**, research scholar has co-authored a research paper with **Dr Dinesha P**, Associate Professor, titled “NOx reduction of biodiesel engine using pongamia ester with oleic acid and optimization of operating conditions using particle swarm optimization” published in “International Journal of Hydrogen Energy”, Vol 46, No 52, (Q1, Top 2-9) in July 2021.
 - **Mr Elton Dylan Nazareth**, research scholar has co-authored a research paper with **Dr Arunachala U Chandavar**, Professor, titled “Stability enhancement in large diameter rectangular natural circulation loops using flow restrictors” published in “International Communications in Heat and Mass Transfer”, Vol 126, (Q1, Top 10-24) in July 2021.
 - **Mr Meet Doshi** and **Mr Ayush Kumar Rawat**, B Tech Mechanical Engg. Graduates from the class of 2021 have co-authored a research paper with **Dr Manjunath Shettar**, Assistant Professor (Senior Scale), titled “Study on mechanical properties and water uptake of polyester-nanoclay nanocomposite and analysis of wear property using RSM”, published in “Journal of Materials Research and Technology”, Vol 14, pp 1618-1629 (Q1, Top 10-24) in August 2021.
 - **Mr Dhruv Deshwal**, M Tech (CAAD) graduate from the class of 2021 has co-authored a research paper with **Dr Siddappa I Bekinal**, Associate Professor, titled “Analysis of Novel Eddy Current Damper for Multi-Ring Permanent Magnet Thrust Bearing”, published in “Progress in Electromagnetics Research”, Vol 104, pp 13-22, (Q3, Top 50-74) in August 2021.
 - **Mr T Shivakumar**, M Tech (MET) graduate from the class of 2020 has co-authored a research paper with **Dr Shivamurthy B**, Associate Professor (Senior Scale), titled “Tribomechanical properties of epoxy cashew nutshell liquid crumb rubber friction dust banana fibre composites”, published in “Cogent Engineering”, Vol 8, No 1, (Q2, Top 25-49) in September 2021.
 - **Mr Abhishek D Shetty** M Tech (T&M) graduate from the class of 2020 and **Mr Yash Parmar** B Tech Mechanical Engineering graduate from class of 2021 have co-authored a research paper with **Dr Shivamurthy B**, Associate Professor (Senior Scale), titled "Heat treatment and quenching effects on wear of electroless nickel-phosphorous plating" published in “Cogent Engineering”, Vol 8, No 1, [Q2, Top 25-49] in August 2021.



STUDENT ACHIEVEMENTS

• *Technical Article Publications:*

- **Dr Sridhar T**, Ph D graduate has co-authored a research paper with **Dr Anupama Rajendra Hiremath**, Assistant Professor (Senior Scale) titled “Synergistic effect of ZnO and TiO₂ nanoparticles on the thermal stability and mechanical properties of glass fibre reinforced LY556 epoxy composites” published in “Polymer Composites”, Vol. 42, No. 9, (Q2, Top 25-49) in September, 2021.
- **Mr Shahabaz S M**, research scholar, **Mr Dhruv Jaykumar Devji Rathod**, **Mr Mihir Jaykumar Devji Rathod** and **Mr Patel Ronak Rahul** B.Tech Mechanical Engg. Graduates from the class of 2021 have co-authored a research paper with **Dr Nagaraj Shetty**, Assistant Professor (Sel. Grade), titled “A review on strengthening, delamination formation and suppression techniques during drilling of CFRP composites” published in “Cogent Engineering”, Vol 8, No 1, [Q2, Top 25-49] in July 2021.
- **Mr Aditya Bantwal Satish Kumar**, **Mr Aditya Singh** and **Mr Abhay Ramachandran Menon** B Tech Mechanical Engg. Graduates from the class of 2021 have co-authored a research paper with **Dr Nitesh Kumar**, Assistant Professor (Senior Scale), titled “Hemodynamic study of blood flow in the carotid artery with a focus on carotid sinus using fluid structure interaction” published in “Journal of Fluids Engineering, Transactions of the ASME”, Vol 144, No 2, (Q1, Top 10-24) in September 2021.
- **Mr Elton Dylan Nazareth**, research scholar has co-authored a research paper with **Dr Arunachala U Chandavar**, Professor, titled “Status, Trends and Significance of Single Phase, Single and Coupled Natural Circulation Loops in Sustainable Energy Technologies – A Comprehensive Review” published in “International Journal of Renewable Energy Research”, Vol 11, No 3, (Q2, Top 25-49) in September 2021.
- **Mr Pranav Hegde**, B Tech Mechanical Engg. Graduate from the class of 2021 has co-authored a research paper with **Mr Gowrava Shenoy B**, Assistant Professor, **Dr Shah Mohammed Abdul Khader**, Associate Professor, **Dr Raghuvir Pai B**, Professor and **Dr Nitesh Kumar**, Assistant Professor (Senior Scale), titled “ CFD Analysis on Effect of Angulation in A Healthy Abdominal Aorta Renal Artery Junction” published in “Journal of Advanced Research in Fluid Mechanics and Thermal Sciences”, Vol 88, No 1, (Q3, Top 50-74) in December 2021.
- **Mr Pranav Hegde** and **Mr Kanjalkar Shreyas Makarand**, B Tech Mechanical Engg. Graduates from the class of 2021 have co-authored a research paper with **Mr Gowrava Shenoy B**, Assistant Professor, **Dr Shah Mohammed Abdul Khader**, Associate Professor and **Dr Raghuvir Pai B**, Professor, titled “Quantitative Haemodynamic Study in Renal Artery Bifurcation Using CFD” published in “Journal of Engineering Science and Technology”, Vol 16, No 5, (Q2, Top 25-49) in October 2021.
- **Mr Nithesh Kashimat**, research scholar has co-authored a research paper with **Dr Gowri Shankar M C**, Associate Professor, **Dr Rajesh Nayak**, Associate Professor and **Dr Sathya Shankara Sharma**, Professor and HOD titled "Effect of light weight reinforcement and heat treatment process parameters on morphological and wear aspects of hypoeutectic AlSi based composites a critical review" published in “Journal of Materials Research and Technology”, Vol 15, (Q1, Top 10-24) in November 2021.



STUDENT ACHIEVEMENTS

• *Technical Article Publications:*

- **Dr Sridhar T**, Ph D graduate has co-authored a research paper with **Dr Anupama Rajendra Hiremath**, Assistant Professor (Senior Scale) and **Mr Amar Murthy A**, Assistant Professor (Sel. Grade) titled “Nanoparticles Filled Polymer Nanocomposites: A Technological Review” published in “Cogent Engineering”, Vol 8, No 1, (Q2, Top 25-49) in October 2021.
- **Mr Elton Dylan Nazareth**, research scholar has co-authored a research paper with **Dr Arunachala U Chandavar**, Professor, titled “Influence of orifice in entropy generation and exergy analysis under transient condition for large diameter natural circulation loops” published in “International Journal of Exergy”, Vol 36, (Q2, Top 25-49) in September 2021.
- **Mr K Varun**, research scholar has co-authored a research paper with **Dr Arunachala U Chandavar**, Professor, titled “Thermohydraulic and exergy analysis of parabolic trough collector with wire matrix turbulator: an experimental investigation” published in “International Journal of Exergy” Vol 36, (Q2, Top 25-49) in October 2021.
- **Mr Y Shriraj Rao**, research scholar has co-authored a research paper with **Dr Shivamurthy B**, Associate Professor (Senior Scale), **Dr Nagaraja Shetty**, Assistant Professor (Sel. Grade) and **Dr Mohan N S**, Professor, titled “Thermomechanical Properties of Carbon Fabric Reinforced Epoxy Laminates with hBN and MoS₂ Fillers” published in “Materials Research”, Vol 24, (Q2, Top 25-49) in November 2021.
- **Mr Sooraj Mohan**, research scholar and **Mr Chirag Goel** student of 7th semester, B Tech. Mechanical Engg. have co-authored a research paper with **Dr Dinesha P**, Associate Professor, titled “CO₂ capture by adsorption on biomass derived activated char: A review” published in “Science of the Total Environment”, Vol 798, (Q1, Top 2-9) in December 2021.
- **Mr K Varun**, research scholar has co-authored a research paper with **Dr Arunachala U Chandavar**, Professor and **Dr Manjunath M S**, Assistant Professor (Sel. Grade), titled “Role of solar indoor cooker with natural circulation in mitigation of carbon emissions” published in “International Journal of Global Warming”, Vol 25 (Q3, Top 50-74) in December 2021.
- **Mr Shahabaz S M**, research scholar has co-authored a research paper with **Dr Gowri Shankar M C**, Associate Professor, **Dr Nagaraja Shetty**, Assistant Professor (Sel. Grade) and **Dr Sathya Shankara Sharma**, Professor and HOD, titled “Influence of Temperature on Mechanical Properties and Machining of Fibre Reinforced Polymer Composites: A Review” published in “Engineered Science”, Vol 16, (Q1, Top 2-9) in November, 2021.
- **Mr Tushar S Shetty**, M Tech (CAAD) graduate from the class of 2021 has co-authored a research paper with **Dr Raghavendra Kamath C**, Associate Professor (Senior Scale), **Mr Ritesh Bhat**, Assistant Professor (Senior Scale), **Dr Siddappa I Bekinal**, Associate Professor and **Dr Vijay G S**, Professor, titled “Design and Optimization of Multi-ring Permanent Magnet Bearings for High-speed Rotors- A Computational Framework”, published in “Engineered Science”, Vol 16, pp 194–202, (Q1, Top 2-9) in September 2021.



STUDENT ACHIEVEMENTS

• *Technical Article Publications:*

- **Mr Akhil Appu Shetty** and **Mr Aldrin Claytus Vaz**, research scholars have co-authored a research paper with **Dr Raviraj Shetty**, Associate Professor (Senior Scale), titled “A Study on the Effect of Radiometric Variations on a Fuzzy Stereo matching algorithm: A Statistical Analysis” published in “Engineered Science”, Vol 16, (Q1, Top 2-9) in December, 2021.
- **Mr K Rajath Shenoy, Ms Rashmi Samant** and **Mr Praneeth P Sarvade**, B Tech. Mechanical Engg. graduates from the class of 2020 have co-authored a research paper with **Dr Suhas Y Nayak**, Assistant Professor (Senior Scale) and **Dr Satish Shenoy B**, Professor, Dept. of Aeronautical and Automobile Engg., titled “Effect of alkali treatment on physical and mechanical properties of bamboo short fibres” published in “Journal of Computational Methods in Sciences and Engineering”, Vol 21, No 3, (Q4, Top 75) in November, 2021.
- **Ms Rashmi Samant, Mr K Rajath Shenoy**, B.Tech. Mechanical Engg. graduates from the class of 2020 and **Mr Anil Baby** graduate from M Tech Manufacturing Engg.& Tech., from the class of 2020 have co-authored a research paper with **Dr Suhas Y Nayak** and **Mr Srinivas Shenoy H**, Assistant Professors (Senior Scale), titled “Influence of biofiller on the mechanical properties of glass/nylon fibre reinforced epoxy based hybrid composites” published in “Journal of Computational Methods in Sciences and Engineering”, Vol 21, No 3, (Q4, Top 75) in August, 2021.
- **Mr Sandeep Nambiar S**, research scholar and **Mr Ramu H C** student of 2nd semester M Tech (T&M) have co-authored a research paper with **Dr Murthy B R N**, Associate Professor (Senior Scale), titled “Process parameters optimization of pin and disc wear to Minimize the wear loss of general purpose aluminium grades by Taguchi and simulation through response surface methodology” published in “Engineered Science”, Vol 16, (Q1, Top 2-9) in December, 2021.
- **Mr Sowrabh B S**, research scholar has co-authored a research paper with **Dr Gurusurthy B M**, Assistant Professor (Senior Scale), **Dr Shivaprakash YM**, Associate Professor and **Dr Sathya Shankara Sharma**, Professor and HOD, titled “Reinforcements, production techniques and property analysis of AA7075 matrix composites a critical review” published in “Manufacturing Review”, Vol 31, (Q2, Top 25-49) in December, 2021.
- **Ms Prajakta Kandarkar** and **Mr Akash Kamoji**, M Tech(MET) graduates from the class of 2021 have co-authored a research paper with **Dr Sathish Rao U**, Associate Professor (Senior Scale), titled “Investigation on the influence of Lead Zirconate Titanate Piezo material on different diaphragm materials in the mechanical deformation process”, published in “Materials Today Proceedings”, Vol 47, 2021, pp 3251-3255 (SJIR Impact Score: 0.345).



CLUB ACTIVITIES - ASME

- **Website Launched**

In July 2021, ASME, Manipal launched its purely coded website. The website secured multiple awards and received 32,000 views on the launch post.

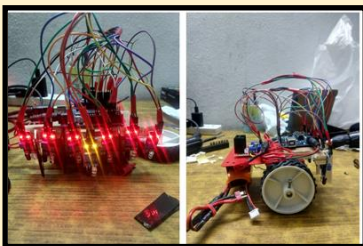


- **Webinar on GRE**

In July, 2021 the newly elected board of ASME signed an MOU with IDP(International Development Programme), its primary sponsor and conducted a webinar on GRE in partnership with them. The webinar was helpful for students planning to pursue higher studies abroad so as to get more information about the GRE.

- **Webinar on Industrial Automation**

ASME Manipal was contacted by Technalogy, a startup in SRM Institute of Technology and was presented with an opportunity to partner with them for a 6-Day workshop on Industrial Automation. ASME Manipal Student Chapter contributed to around 100 registrations out of which about 75 attended for all 6 days from July 16 to July 21, 2021.

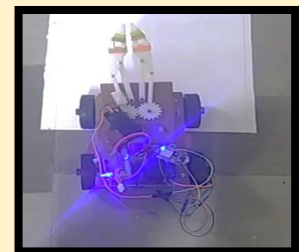


- **Meshmarize at IIT Bombay's TechFest 2021**

ASME Manipal Student Chapter registered for the competition Meshmerize in IIT Bombay's Tech Fest 2021. The team was able to successfully design and assemble a Line Follower Bot.

- **Meshmarize at IIT Bombay's TechFest 2021**

ASME Manipal Student Chapter registered for the competition CozmoClench in IIT Bombay's Tech Fest 2021. The team was able to successfully design and assemble a Gripper bot and make the circuit. It also received 800 followers on Instagram.



- **Providentia**

The club hosted its flagship event Providentia in collaboration with IE Aerospace, MIT Gaming, The Astronomy Club, Manipal, ESOM, ASCE Manipal, and IEEE EMBS. The event was for the freshers to get information about some of the technical clubs in Manipal. The event was hosted on Youtube Live, and had about 150 concurrent viewers. The event on Youtube has over 900 views.

Link to the video: <https://youtu.be/5QOGY7pki4s>