

## MESSAGE FROM HEAD OF THE DEPARTMENT



I am delighted to present to you the current issue of "Newslinks" highlighting the activities of the Dept. of Mechanical & Industrial Engg. from January to June, 2023. During this period, we had carried out two important maiden academic activities, one is the NBA accreditation of M.Tech. - CAAD programme and another one is the IET accreditation, which was done for selected academic programmes offered by MIT. I am happy to mention here that M.Tech. CAAD programme offered by the department has been accredited by NBA for 3 years. I am also equally happy to note that selected academic programmes of MIT, which also includes the academic programmes offered by our Dept. has received IET accreditation till August 2025. These two recognitions have not only enhanced the reputation of the institute, but have also widened the scope for MIT students for carrying out further studies abroad. My sincere appreciation and gratitude to all the faculty members, students and alumni who have toiled to achieve this feat and look forward to their continual support in all our future endeavours.

I take this opportunity to convey my best wishes to the graduating batch of 2023 and wish all the students and faculty members a fruitful academic year ahead.

**Dr Sathya Shankara Sharma**

## DEPARTMENT NEWS

### 1. *NBA Accreditation*

M. Tech. - Computer Aided Analysis & Design(CAAD) programme of the department has received maiden 3 year of accreditation (Till June, 2026)) from the National Board of Accreditation (NBA)

### 2. *UNNATI (Work Integrated Learning Program): Diploma in Mechanical Engineering for Employees of CIPLA Ltd.*



*MAHE officials and MIT faculty associated with the programme*

UNNATI (Work Integrated Learning Program) was launched online under the initiative of Dept. of Mechanical & Industrial Engg. on the 27<sup>th</sup> March 2023 for the employees of CIPLA to pursue 'Diploma in Mechanical Engineering' course. The Diploma will be awarded to the employees on completion of six semesters of onsite/online/ student directed learning.

Classes will be held during weekends and is structured in such a way that the entire course will be completed in three and half years. Faculty of various departments of MIT will teach the course modules, including laboratory courses.

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## DEPARTMENT NEWS

Initial batch of sixty students are expected to enroll for the course. Necessary approvals are obtained from AICTE to run the program. Student's will be selected by CIPLA based on a screening test and the first batch of students will be from the Goa facility of CIPLA.

The soft launch of the course on 27<sup>th</sup> March 2023 was a culmination of the efforts put in by the team from MIT Manipal and the team from CIPLA over the last one year. During the launch, Global executive from CIPLA spoke about the need for such a program to develop the core skills of their employees so that they can contribute in their respective domain. He also stressed the need for such a program for employees to give them a growth path in their career. Their shop floor and HR executives spoke about having such an aspirational program for their employees and they were all looking forward for such a program. MAHE management spoke about the university priorities in industry-institute interaction and the commitment to upskilling and reskilling the students, being one of the objectives of the National Education Policy. MAHE welcomed such a program so that the faculty can also interact with industry personnel for further research and collaboration across various disciplines. A MOU has been signed between MAHE and CIPLA to formalize the relationship.

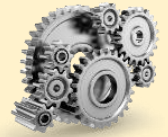
The orientation programme for the first batch of students was scheduled on 28<sup>th</sup> July 2023 following which the classes will commence from the 29<sup>th</sup> July 2023. The orientation programme will be held at the CIPLA Academy in Verna, Goa. The Diploma in Mechanical Engineering is a collaborative effort between various departments of MIT, with the Department of Mechanical and Industrial Engineering taking the lead. The departments of Biotechnology, Computer Science and Engineering, Chemical Engg., Chemistry, Humanities and Management, Instrumentation and Control Engg., Mathematics, Mechatronics and Physics are contributing to the success of the programme.

### ***3. Hands-On Workshop on Digital Image Correlation***

Ocular Tribology Group, MAHE under the initiative of Dept. of Mechanical & Industrial Engg. has organized a one-day Hands-On workshop on "Digital Image Correlation" on 15<sup>th</sup> March 2023, followed by two days of training for faculty and research scholars of MAHE and nearby institutions. The workshop was conducted by experts from Pyro Dynamics Bangalore, an authorized dealer of Correlated Solutions Inc., USA. Tribology is the study of friction, wear, and lubrication of interacting surfaces in relative motion. The principles of Tribology and design benefits are making a major impact in a variety of modern applications such as biomedical, nanotechnology and alternative energies. The application of Tribology in biological systems is a rapidly growing field and extends well beyond the conventional boundaries.



***Workshop on Digital Image Correlation***



## DEPARTMENT NEWS

***Ocular Tribology Group, MAHE***

A group of 20 participants from educational institutions across south canara region participated in the workshop. The workshop was well received by the participants and the sessions were handled by **Mr. Abhishek**, CEO of Pyrodynamics, Bangalore.

The Ocular Tribology Group at MAHE is an inter-disciplinary research group comprising faculties across technical and medical domains such as Mechanical Engg., Instrumentation & Control Engg., Optometry and Ophthalmology. The group is addressing issues of contact lens discomfort and quantifying Coefficient of Friction between Eye and Eyelid. Headed by **Prof. Dr. Raghuvir Pai** from the Dept. of Mechanical & Industrial Engg. at MIT, the group consists of strong interdisciplinary research faculties namely **Dr. Ramesh**, Department of Optometry, MCHP, **Dr. Manali Hazarika**, Department of Ophthalmology, KMC, **Dr. S M Abdul Khader** & **Dr. Girish H** from the Dept. of Mechanical & Industrial Engg. and **Dr. S. Meenatchi Sundaram** from the Dept. of Instrumentation and Control Engineering at MIT Manipal. Several post graduate and undergraduate students of the collaborating departments have contributed to the research being done by the group. So far two patents have been applied by the group.

***4. Report on visit to Australia by Prof. Dr. Raghuvir Pai B., President, Asset Management Society, India***

**Dr. Raghuvir Pai B.**, President, Asset Management Society, India (AMSI) and Professor, Department of Mechanical and Industrial Engineering, MIT, Manipal was invited by the Asset Management Council (AMC), Australia to participate in the steering committee meetings of the Global Forum for Maintenance and Asset Management (GFMAM) from 31st March to 2nd April, 2023 and AMPEAK2023 conference from 3rd April to 5th April 2023 in Sydney Masonic Centre, Sydney, Australia.

***Steering Committee meeting of GFMAM***



## DEPARTMENT NEWS

The Global Forum, GFMAM gives the opportunity for societies of different countries to collaborate with the international asset management community. The steering committee meeting was represented by the societies from Australia, USA, France, United Kingdom, Canada, Slovenia, Japan, South Africa, Malaysia and India. The steering committee meeting is working on a Landscape document for setting international standards on Asset Management and is closely working with ISO, for the standards on Asset Management.

Following the steering committee meeting, **Prof. Pai** participated in the AMPEAK23 conference organised by AMC Australia. AMPEAK23 is the meeting place for asset managers and a place to engage in lively discussions on emerging topics of interest in asset management, share new ideas and knowledge, and to enable leaders in asset management to achieve excellence in the management of assets. The conference provided an opportunity to asset management experts, covering lifecycle issues for all assets, take part in interactive sessions, chat to exhibitors and network with professionals across all sectors and industries. The conference theme was “Collaboration through Asset Management”.



***Session Chair on Maintenance Strategies- Case Studies, AMPEAK23***



***Paper Presentation at AMPEAK23***

**Prof. Pai** chaired a session on “Maintenance Strategies- Case Studies” and presented a paper titled “Maintenance and Asset Management of Industrial Assets: Emerging Trends in Tribological Practices” at AMPEAK2023.

Following the conference **Prof. Pai** visited Federation University, Ballarat, near Melbourne, Australia to meet **Prof. Syed Islam**, Deputy Vice Chancellor (Research), Federation University, along with his team, **Dr. Gopinath Chattopadhyay** and **Dr. Joarder Kamruzzaman**. Following the meeting **Prof. Pai** gave a seminar in hybrid mode to Federation University faculty, students and Asset Management Council members spread across Australia.



***Hybrid meeting at Federation University***



DEPARTMENT NEWS

5. One Day Workshop on Natural Circulation Loops - Theory & Applications

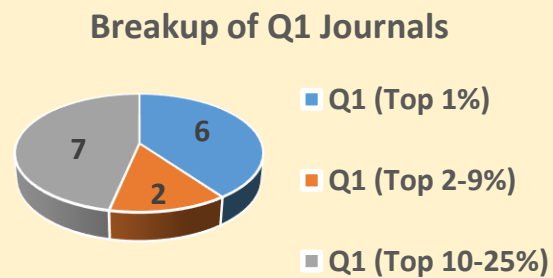
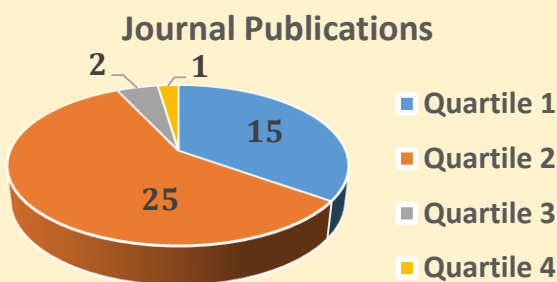
The Dept. of Mechanical & Industrial Engineering organized a one-day workshop on 26<sup>th</sup> April 2023 titled "Natural Circulation Loops - Theory and Applications" (NCL - 2023). The workshop was sponsored by the Department of Science and Technology, New Delhi. Dr. P. K. Vijayan, Professor, Dept. of Chemical Engg., IIT, Jammu, inaugurated the workshop and was the main resource person for the workshop. Dr. Sathya Shankara Sharma, Head - Dept. of Mechanical & Industrial Engineering, MIT presided the inaugural function. Dr. Arunachala U. Chandavar, Professor and Convenor presented the overview of the workshop. Dr. Madhwesh N, Associate Professor and Co-convenor was the master of ceremony for the event.



Inauguration of NCL-2023 by Dr. P.K. Vijayan.

The objective of the workshop was to spread awareness about the necessity and benefits of renewable energy and sustainable technologies. Dr. Ajaykumar Yadav, Associate Professor, Dept. of Mech. Engg., IIT Patna, Dr. Arunachala U Chandavar, Professor, Dept. of Mech. & Ind. Engg. MIT, Manipal, Dr. Elton D. Nazareth, Research and Product Development Engineer, Deepchill Technologies Inc. (Previously known as Sunwell), Ontario, Canada, Mr. Nakul Sridhar, Assistant Professor(Senior) & Research Scholar, Mr. Varun K., Research Scholar and Mr. Kiran Mulgi, M Tech (TSES) student, Dept. of Mech. & Ind. Engg., MIT were the resource persons for the workshop. They delivered lectures on fundamentals of NCL and its potential applications. Demonstration sessions in Renewable Energy Laboratory of the department were arranged as part of the event. The lab has several high end instruments and set ups to carry out advanced research in areas of conventional thermal and solar thermal power systems. The salient feature of this lab is most of the research related set ups were designed and fabricated in-house. More than twenty-five participants from neighbouring districts and other states attended the program.

FACULTY ACHIEVEMENTS



- **Publications:** Faculty members of the department have published 43 research articles in Web of Science/Scopus indexed journals during January to June, 2023.

**FACULTY ACHIEVEMENTS****• High Impact Factor/ Cite Score Publications:**

- **Mr. Harish Kumar Kamath**, Assistant Professor (Senior Scale) has published a research paper titled "Effect of Cavitation and Temperature on Fluid Film Bearing Using CFD and FSI Technique: A Review" in "Archives of Computational Methods in Engineering" Vol. 30(3), Q1(Top 2-9) in April 2023 having an Impact Factor of **9.7** and a Cite Score of **14.1**.
- **Dr. Shivamurthy B.**, Additional Professor, **Dr. Nagaraj Shetty**, Associate Professor & **Mr. Nithesh Naik**, Assistant Professor (Senior Scale) have co-authored a research paper titled "Recent Advances in Green Composites and Their Applications" in "Engineered Science", Vol. 21, Q1(Top 1) in February, 2023 having a Cite Score of **15.9**.
- **Dr. Vishwanath Managuli**, Assistant Professor (Sl. Grade) along with **Mr. Yashwanth Sing Bothra**, B. Tech. (Mechanical Engg.) graduate from the class of 2020 has co-authored a research paper titled "Overview of Mechanical Characterization of Bone using Nanoindentation Technique and Its Applications" in "Engineered Science", Vol. 22, Q1(Top 1) in April, 2023 having a Cite Score of **15.9**.
- **Dr. Shivamurthy B.**, Additional Professor, has published a research paper titled "Flexible Linear Low-Density Polyethylene Laminated Aluminum and Nickel Foil Composite Tapes for Electromagnetic Interference Shielding" in "Engineered Science", Vol. 21, Q1(Top 1) in February, 2023 having a Cite Score of **15.9**.
- **Dr. Raghuvir Pai B.** & **Dr. Vasudeva Karanth K.**, Professors have co-authored a research paper with **Mr. Avinash K. Hegde**, research scholar, titled "Performance augmentation of solar air heaters: A comprehensive analysis" in "Solar Energy", Vol. 253, pp. 527-553, Q1(Top 10-24), in March 2023, having an Impact Factor of **6.7** and a Cite Score of **13.1**
- **Dr. Shiva Kumar**, Professor has published a research paper titled "Performance characterization of an adaptive controlled air handling unit to achieve thermal comfort in Dubai climate" in "Energy" Vol. 273, Q1(Top 2-9) in June 2023 having an Impact Factor of **9** and a Cite Score of **14.9**.

**• Patent Awarded:**

- **Mr. Yajnanatha Acharya**, Deputy Engineer, MIT Workshop along with Doctors from the Manipal College of Dental Sciences, Manipal have been awarded two Indian design patents for the devices titled "**Graft Holding Forcep - Straight**" (Application No: 367110-001) and "**Graft Holding Forcep - Curved**" (Application No:367111-001) in April 2023.

**• Patent Filed:**

- **Dr. Raviraj Shetty**, Professor, has filed 2 patents for the inventions titled "**Quatrefoil Cutting Sonotrode For Ultrasonic Machining**" (Application No. 376717-001: January, 2023) and "**Exhaust Muffler**" (Application No. 376674-001: January, 2023) with the Indian Patent Office, Kolkata.

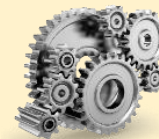


- **Dr. G. Divya Deepak,** Assistant Professor (Selection Grade) & **Dr. Gajanan Anne,** Assistant Professor have filed a patent for the invention titled “Pin-Ring Electrode-Based Atmospheric Pressure Plasma Jet Generating System” with the Indian Patent Office, Chennai in January, 2023 (Application No. 202341004118 A).
- **Mr. Harish Kumar Kamath,** Assistant Professor (Senior Scale) along with Dr. Satish Shenoy B. & Dr. Chandrakant R. Kini, Professors, Dept. of Aeronautical & Automobile Engg. have filed a patent for the invention titled “Lightweight Pad of An Externally Adjustable Fluid Film Bearing” with the Indian Patent Office, Kolkata in March, 2023 (Application No. 380900-001).
- **Dr. G. Divya Deepak,** Assistant Professor (Selection Grade) has filed a patent for the inventions titled “Heat Sink”, with the Indian Patent Office, Chennai in May, 2023. (Application No. 386475-001).
- **Dr. G. Divya Deepak,** Assistant Professor (Selection Grade) & **Dr. Subraya Krishna Bhat,** Assistant Professor have filed a patent for the invention titled “Electric Vehicle” with the Indian Patent Office, Chennai in May, 2023 (Application No. 386814-001).
- **Grants Applied:**

**03** faculty members of the department have applied for research grant amounting to **Rs. 1.95 crore** for research projects from various organizations during January to June 2023.
- **FDP/Workshops Attended:**

A total of **06** faculty members of the department have participated in **09** national level workshop/FDP’s/Training programmes held during Jan to June, 2023.
- **Reviewers:**

**06** faculty members of the department have served as reviewers for **73** various International/National Journals & Conference articles during January to June, 2023
- **Book/Book Chapter Authoring:**
  - **Dr. Raghuvir Pai B,** Professor, **Dr. Shah Mohammed Abdul Khader,** Associate Professor, **Dr. Nitesh Kumar,** Assistant Professor (Senior Scale) and **Mr. Gowrava Shenoy B.,** Assistant Professor have authored a book chapter titled “**Comparison of Newtonian and Non-Newtonian Flow in Abdominal Aorta and Renal Artery Using Numerical Simulation**” in Applications of Computation in Mechanical Engineering - Select Proceedings of 3rd International Conference on Computing in Mechanical Engineering, ICCME 2021, Pages 163-172, ISBN 9789811960314, (Lecture Notes in Mechanical Engineering). Springer Science and Business Media Deutschland GmbH., [https://doi.org/10.1007/978-981-19-6032-1\\_13](https://doi.org/10.1007/978-981-19-6032-1_13) published in January 2023.
  - **Dr. Manjunath Shettar,** Assistant Professor (Sl. Grade), has co-authored a book chapter titled “**Ceramic Materials For Coatings: An Introduction And Future Aspects**” in "Advanced Flexible Ceramics", Elsevier, 2023, Pages 527-540, ISBN 9780323988247, <https://doi.org/10.1016/B978-0-323-98824-7.00026-9>. published in March, 2023.



- **Dr. Vishwanath Managuli**, Assistant Professor (Sl. Grade) has co-authored a book chapter titled "**Atomic Force Microscopy Study of Diatoms**" published in April 2023. <https://doi.org/10.1002/9781119711568.ch4>
- **PhD Guidance:**

Doctoral degree was awarded to **Mr. Sandeep Nambiar S** for his thesis titled "Study on Magnetostructural and Mechanical Properties of Ni-Mn Based Heusler Alloys" by Manipal Academy of Higher Education, Manipal, on 12th January, 2023. The research work was carried out under the guidance of **Dr. Murthy B. R. N.**, Additional Professor, Department of Mechanical & Industrial Engineering, MIT, Manipal and was co-guided by **Dr. Sathya Shankara Sharma**, Professor and Head, Department of Mechanical & Industrial Engineering, MIT, Manipal.
- **BOS Membership:**

**Dr. Sathya Shankara Sharma**, Professor & HOD has served as the external committee member for the BOS/BOE committee and attended the BOS meeting at NMAM Institute of Technology, Nitte on 24<sup>th</sup> May 2023.
- **Plenary Lecture / Invited Talk:**
  - **Dr. Vishwanath Managuli**, Assistant Professor (Sl. Grade), has delivered a plenary lecture in the STUTI programme (Synergistic Training Program Utilizing the Scientific and Technological Infrastructure) on the topic titled "Application of Atomic Force Microscopy (AFM) in Scientific Research", jointly organized by Departments of Physics & Chemistry, MIT, Manipal and Shivaji University, Kolhapur, Maharashtra, supported by DST, Govt. of India, New Delhi which was held at MIT Manipal from 5<sup>th</sup> to 11<sup>th</sup> January, 2023.
  - **Dr. R C Shivamurthy**, Assistant Professor (Sl. Grade) delivered a talk on "Fractography Study of Advanced Materials" (Microstructure, SEM, EDS, XRD) at BMS College of Engineering, Bengaluru on 14<sup>th</sup> January 2023.
- **Conference Reviewer Committee Member:**

**Dr. Manjunath Shettar**, Assistant Professor (Sl. Grade) has served as the Reviewer Committee Member for the 11<sup>th</sup> Asia Conference on Mechanical and Materials Engineering (ACMME 2023) held in Sapporo, Japan during June 8-11, 2023.
- **PhD Assessment:**
  - **Dr. Sathya Shankara Sharma**, Professor & Head has served as the external examiner for the PhD-Comprehensive viva voce of the VTU candidate held at University BDT College of Engineering Davanagere on 25<sup>th</sup> May, 2023.
  - **Dr. Vijay G. S.**, Professor has served as the external examiner for the PhD-Comprehensive viva voce of the VTU candidate held at Mangalore Institute of Technology (MITE), Moodabidri on 23<sup>rd</sup> Jan, 2023.
  - **Dr. R C Shivamurthy**, Assistant Professor (Sl. Grade) has served as external examiner for the PhD-Comprehensive viva voce of the VTU candidate held at Siddaganga Institute of Technology, Tumkur on 10<sup>th</sup> June, 2023.





## PhD AWARDEES



**Dr. Ganesh A**, Assistant Professor-Senior Scale, Department of Mechanical & Industrial Engineering was awarded Doctoral degree for his thesis titled “Static and Dynamic Characteristics of Multi Pad Adjustable Bearings with Asymmetric Adjustments” by Manipal Academy of Higher Education, Manipal on 13<sup>th</sup> January 2023. The research work was carried out under the guidance of **Dr. Raghuvir Pai B.**, Professor, Department of Mechanical & Industrial Engg. MIT, Manipal and was co-guided by **Dr. S. M. Abdul Khader**, Additional Professor, Department of Mechanical & Industrial Engg. MIT, Manipal

**Dr. Amar Murthy Ambekar**, Assistant Professor (Selection Grade), Department of Mechanical and Industrial Engineering, was awarded Doctoral degree for his thesis titled “Effect of Non-Newtonian Lubricant with Slip/No-Slip Conditions on the Stability of Multilobe Bearings” by Manipal Academy of Higher Education, Manipal on 28<sup>th</sup> April 2023. The research work was carried out under the guidance of **Dr. Raghunandana K.**, Professor, Department of Mechanical and Industrial Engineering, MIT, Manipal



**Dr. Arunkumar H. S.**, Assistant Professor (Senior Scale), Department of Mechanical and Industrial Engineering, was awarded Doctoral degree for his thesis titled “Design and Analysis of a Solar Air Heater for Improvement in Thermo-Hydraulic Performance” by Manipal Academy of Higher Education, Manipal on 24 June 2023. The research work was carried out under the guidance of **Dr. K. Vasudeva Karanth**, Professor, Department of Mechanical and Industrial Engineering, MIT, Manipal, and was co-guided by **Dr. Shiva Kumar**, Professor, Department of Mechanical and Industrial Engineering, MIT, Manipal.

## ALUMNI ACHIEVEMENTS

**Mr. Rajesh Mehrotra** an alumnus from the 1991 batch of B.Tech. Mechanical Engg. is the National Head - Aftersales at Morris Garages Motor India Pvt. Ltd. He has been associated with Morris Garages India since 2018. Prior to that he has served reputed Multinational and Indian companies like Suhail Bahwan Automobiles LLC, Hyundai Motor India Ltd. And Toyota Kirloskar Motor Pvt. Ltd.





**Mr. Richard Lobo**, an alumnus from the 1993 batch of B Tech Mechanical Engg. has joined BYJU'S as the head of HR Dept. Prior to that he was associated with IT major Infosys for 23 years, during which he had held various leadership roles, culminating in his recent position as Executive Vice President and Head of Human Resources.

**Mr. Sanjay Naik**, an alumnus from the 1985 batch of B Tech Industrial and Production Engg. has been appointed as the Consulting Director of "flydubai" in June, 2023. Prior to that he has served as Vice President - Enterprise Effectiveness at Emirates Group, Manager, Sales, Operations Planning & Efficiency at Colgate Palmolive Company, India & Malaysia and as Industrial Engineering Manager at SIEMENS (Cable Corporation of India).



**Mr. Rajan Bedi**, an alumnus from the 1988 batch of B Tech Industrial and Production Engg. has recently joined "Xoriant" a digital engineering firm with offices in the USA, Europe, and Asia, as the Head of Sales Transformation. Prior to that he was associated with reputed organisations such as HCL Technologies, ITC Infotech, Navision India, C1 India, Ramco Systems and Yamaha Motor India Pvt. Ltd.

**Mr. Manmohan Shetty**, an alumnus from the 2005 batch of B Tech Industrial and Production Engg. has been elevated to the position of General Manager - Supply Chain Management at JSW Steel. Mr. Manmohan is associated with JSW for the past 18 years and he had started his career with JSW through campus selection during its maiden visit to MIT Manipal.



**Mr. Rohan S.**, an alumnus from the 2010 batch of B Tech Industrial and Production Engg. has been elevated to the position of Managing Director, MENA (Middle East and North Africa) at Gates Corporation in May, 2023. Prior to that he had held several prominent leadership positions in the same organisation. He has done M.Sc in Engg. Business Management from University of Warwick, UK.



**Mr. Aditya S. Prasad**, an alumnus from the 2012 batch of B.Tech. Mechanical Engg., has recently secured admission in Harvard Business School. He is already a graduate from MIT, Boston (M. Engg. in Advanced Manufacturing and Design), USA. He was associated with Rivian, USA as Manager - Battery Manufacturing Engineering till May 2023. Prior to that he was also associated with companies such as Tesla, Apple, JLR etc. During his B. Tech period at MIT, Manipal, he was a part of the team Formula Manipal from 2009 to 2010.



**Mr. Arjun Upadhyaya**, an alumnus from the batch of 2021 B.Tech. Mechanical Engg. was awarded the title “Superstar of the Badminton Club of Cranfield University for the year 2022-2023”. Currently, Arjun is pursuing his Masters in Advanced Mechanical Design at Cranfield University, Bedfordshire, United Kingdom.

## STUDENT ACHIEVEMENTS

### • **Technical Article Publications:**

- **Mr. Sourabh Kumar & Mr. Mithesh Bangera**, B. Tech. Mechanical Engg. graduates from the class of 2022 have co-authored a research paper with **Dr. Sathya Shankara Sharma**, Professor & HOD, **Dr. Jayashree P. K.**, Associate Professor, **Dr. Ritesh Ramakrishna Bhat & Ms. Bhagyalaxmi S. Hegde**, Assistant Professors (Senior Scale), titled “Tension and Impact Analysis of Tungsten Inert Gas Welded Al6061SiC Composite” in “Journal of Composites Science”, Q2(Top 25-49), Vol. 7(78), pp. 1-10, in February 2023.
- **Mr. Sachin Bangera, Mr. Rushal Kalkura & Mr. Lester Fernandes**, B. Tech. Mechanical Engg. graduates from the class of 2022 have co-authored a research paper with **Dr. Muralishwara K.**, Assistant Professor (Senior Scale), titled “Effect of Surface Modified Montmorillonite Nanoclay on Tensile and Flexural Properties of Pineapple Leaf Fiber Reinforced Epoxy Composite” in “Materials Research”, Vol. 26: e20220437, pp. 1-9, Q2(Top 25-49), in March 2023.
- **Mr. Suraj Patil**, B Tech Mechanical Engg. graduate from the class of 2022 has co-authored a research paper with **Dr. Ganesh A**, Assistant Professor (Senior Scale), titled “Synthesis and characterization of size controlled nano copper oxide structures for antioxidant study and as eco-friendly lubricant additive for bio oils” in “Ceramics International”, Vol. 49(7), pp. 10402-10410, Q1(Top 10-24), in April 2023.
- **Ms. Numa Shaikh**, B. Tech. Mechanical Engg. graduate from the class of 2023 has co-authored a research paper with **Dr. Sawan Shetty**, Assistant Professor (Senior Scale) and Dr. Satish Shenoy B. & Dr. Chetan K. N., Dept. of Aeronautical & Automobile Engg. and Dr. Shaymasunder Bhat N., Dept. of Orthopaedics, KMC, Manipal, titled “Wear estimation at the contact surfaces of oval shaped hip implants using finite element analysis” in “Cogent Engineering”, Vol. 10: 2222985, pp. 1-13, Q2(Top 25-49), in June 2023.

**• Technical Article Publications:**

- **Mr. Subhransu S Parida**, B. Tech. Mechanical Engg. graduate from the class of 2021 has co-authored a research paper with **Dr. Shiva Kumar**, Professor & **Dr. Nitesh Kumar**, Assistant Professor (Senior Scale) titled “Dehumidification performance improvement by using liquid desiccant blends – An experimental study” in “Indoor and Built Environment”, Vol. 32(5), pp. 1020–1032 Q1(Top 1), in January 2023.
- **Mr. Manu Krishna Reddy**, M.Tech. (TSES) graduate from the class of 2022 has co-authored a research paper with **Dr. Vasudeva Karanth K.**, Professor, **Dr. Madhwesh N.**, Associate Professor & **Dr. Arunkumar H. S.**, Assistant Professor (Senior Scale), titled “Numerical Analysis of an Aerofoil Fin Integrated Double Pass Solar Air Heater for Thermal Performance Enhancement” in “Sustainability”, Vol. 15(591), pp. 1-22, Q1(Top 10-24), in January 2023.
- **Mr. B. S. Sowrabh**, research scholar has co-authored a research paper with **Dr. Sathya Shankara Sharma**, Professor & HOD, **Dr. Shivaprakash Y.M.** Associate Professor & **Dr. Gurumurthy B.M.** Assistant Professor (Senior Scale), titled “Characterization Studies on 7075 Aluminium Alloy Under As-Cast and in Multiple Step T6 Conditions” in “Journal of The Institution of Engineers (India): Series C”, Vol. 104, pp. 69-92, Q2(Top 25-49), in January 2023.
- **Mr Nithesh Kashimat & Mr. Doddapaneni Srinivas**, research scholars, have co-authored a research paper with **Dr. Sathya Shankara Sharma**, Professor & HOD, **Mr. H. Rajaram Hande**, Additional Professor, **Dr. Gowri Shankar M. C. & Dr. Rajesh Nayak**, Associate Professors, titled “Dual role of trace elements in magnesium dissolved age hardened A356 alloy on microstructure and peak micro hardness” in “Manufacturing Review”, Vol. 10(5), pp. 1-14, Q2(Top 25-49), in February 2023.
- **Mr. Y Shriraj Rao**, research scholar has co-authored a research paper with **Dr. Mohan N.S.**, Retired Professor, **Dr. Nagaraj Shetty**, Associate Professor & **Dr. Subash Acharya**. Assistant Professor (Senior Scale), titled “Drilling Response of Carbon Fabric/Solid Lubricant Filler/Epoxy Hybrid Composites: An Experimental Investigation” in “Journal of Composites Science”, Vol. 7(46), pp. 1-41, Q2(Top 25-49), in February 2023.
- **Mr. Supreeth Dinesh Kumar**, & **Mr. Amarsh Jalaik** research scholars have co-authored a research paper with **Dr. Siddappa I. Bekinal**, Additional Professor, & **Dr. R.C. Shivamurthy** Assistant Professor (Sl. Grade), titled “Damping System for an Optimized Rotation Magnetized Direction Permanent Magnet Thrust Bearing”, in “Progress in Electromagnetics Research C”, Vol. 130, pp. 15-30, Q3(Top 50-74), in February 2023.
- **Mr. Y Shriraj Rao**, research scholar has co-authored a research paper with **Dr. Mohan N.S.**, Retired Professor, **Dr. Shivamurthy B.** Additional Professor & **Dr. Nagaraj Shetty**, Associate Professor, titled “Investigation of tensile properties, hardness, and morphology of h-BN and MoS2 filler modified carbon fabric/epoxy composites” in “Cogent Engineering”, Vol. 10: 2178129, pp. 1-24, Q2(Top 25-49), in February 2023.

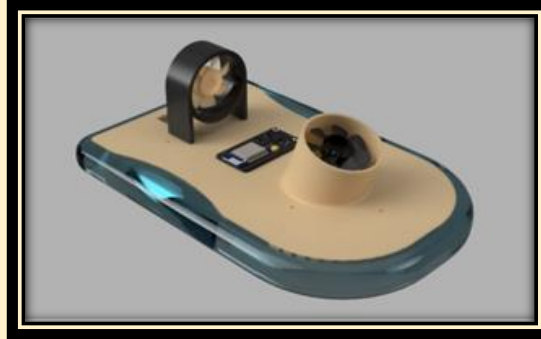
**• Technical Article Publications:**

- **Mr. Sourabh Kumar & Mr. Mithesh Bangera**, B. Tech. Mechanical Engg. graduates from the class of 2022 have co-authored a research paper with **Dr. Sathya Shankara Sharma**, Professor & HOD, **Dr. Jayashree P. K.**, Associate Professor, **Dr. Ritesh Ramakrishna Bhat & Ms. Bhagyalaxmi S. Hegde**, Assistant Professors (Senior Scale), titled "Tension and Impact Analysis of Tungsten Inert Gas Welded Al6061SiC Composite" in "Journal of Composites Science", Q2(Top 25-49), Vol. 7(78), pp. 1-10, in February 2023.
- **Mr. Doddapaneni Srinivas**, research scholar has co-authored a research paper with **Dr. Sathya Shankara Sharma**, Professor & HOD, **Dr. Gowri Shankar M. C.** Associate Professor, **Dr. Ananda Hegde**, Assistant Professor (Sl. Grade) & **Dr. Manjunath Shettar**, Assistant Professor (Sl. Grade), titled "Effect of precipitation hardening treatment on hardness and tensile behaviour of stir cast LM4 hybrid composites through TEM and fractography analysis" in "Journal of Materials Research and Technology", Vol. 23, pp. 1584-1598, Q1(Top 10-24), in March 2023.
- **Mr. Avinash K Hegde**, research scholar has co-authored a research paper with **Dr. Raghuvir Pai B. & Dr. Vasudeva Karanth K.**, Professors, titled "Performance augmentation of solar air heaters: A comprehensive analysis" in "Solar Energy", Vol. 253, pp. 527-553, Q1(Top 10-24), in March 2023.
- **Mr. Doddapaneni Srinivas**, research scholar & **Mr. Rakesh Ranjan**, M.Tech.(Manufacturing Engg.) graduate, have co-authored a research paper with **Dr. Sathya Shankara Sharma**, Professor & HOD, **Dr. Gowri Shankar M. C.** Associate Professor, **Dr. Manjunath Shettar**, Assistant Professor (Sl. Grade) & **Dr. Vishwanatha H.M.**, Assistant Professor (Senior Scale), titled "Individual and Combined Effects of Reinforcements on Fractured Surface of Artificially Aged Al6061 Hybrid Composites", in "Journal of Composites Science", Vol. 7(91), pp. 1-25, Q2(Top 25-49), in March 2023.
- **Ms. Diya Sen**, B. Tech. Mechanical Engg. graduate from the class of 2022 have co-authored a research paper with **Dr. Srinivas Shenoy H.**, Assistant Professor (Senior Scale), **Dr. Raghuvir Pai B. & Dr. M. Vijaya Kini**, Professors, titled "Thermogravimetric analysis of flax, jute, and UHMWPE fibers and their composites with melamine and phenol formaldehyde resins", in "Cogent Engineering", Vol. 10: 2209990, pp. 1-16, Q2(Top 25-49), in June 2023.
- **Mr. Nithesh Kashimat**, research scholar has co-authored a research paper with **Dr. Sathya Shankara Sharma**, Professor & HOD, **Dr. Gowri Shankar M. C. & Dr. Rajesh Nayak**, Associate Professors, **Dr. Manjunath Shettar**, Assistant Professor (Sl. Grade) & **Mr. Karthik B.M.**, Assistant Professor, titled "Experimental Investigation of Mechanical Property and Wear Behaviour of T6 Treated A356 Alloy with Minor Addition of Copper and Zinc" in Journal of Composites Science, Vol. 7(149), pp. 1-19, Q2(Top 25-49), in April 2023.
- **Mr. Doddapaneni Srinivas**, research scholar has co-authored a research paper with **Dr. Sathya Shankara Sharma**, Professor & HOD, **Dr. Gowri Shankar M. C.** Associate Professor, **Dr. Ananda Hegde**, Assistant Professor (Sl. Grade) & **Dr. Manjunath Shettar**, Assistant Professor (Sl. Grade), titled "Comparative Study on Mechanical Property and Fracture Behaviour of Age Hardened LM4 Monolithic Composites Reinforced with TiB<sub>2</sub> and Si<sub>3</sub>N<sub>4</sub>" in "Materials", Vol. 16(11), pp. 1-19, Q2(Top 25-49), in June 2023.



## CLUB ACTIVITIES

- **ASME:**



### **IAM3D- Competition**

**ASME Student Chapter Manipal** attempted the IAM3D problem statement which included manufacturing a Hovercraft and a Gripper using only **Additive Manufacturing**. This experience allowed the team to apply theoretical knowledge to practical engineering challenges, leveraging **3D Printing Technology** to optimize components for functionality. Moreover, the club members were exposed to the fact that 3D printing is not just a buzzword, it's a game-changer. By harnessing this technology, the team designed components that were not only functional but also efficient, lightweight, and customizable.



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### **Higher Studies Guidance Webinar**

As a collaboration with **WiseUp Communication**, on 23<sup>rd</sup> July, a webinar was conducted and hosted by the founder of WiseUp Communications. Advice regarding portfolio building, university application processes, and letters of recommendation were discussed. The event proved to be a valuable session for the 30+ members as well as non-members who had attended the same.