



FOCUS

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Manipal Entrepreneurship Summit (MES) 2023

Manipal Entrepreneurship Summit (MES), 2023, the sixth edition of the annual event was held at the institute during 17-25 February 2023. MES is an annual flagship event of Manipal Academy of Higher Education (MAHE) organized to promote a culture of innovation and entrepreneurship among students through online and offline sessions involving panel discussions, keynote talks, startup pitches, and startup fairs.

The event is an initiative of the Entrepreneurship Cell (E-Cell) of Manipal Institute of Technology, Manipal, an all-student body managed and run by the students to promote entrepreneurship among students. With a student population of 30000+ and a range of disciplines covering 300+ programs, MAHE offers a rich ambience for the spurt of innovation and entrepreneurial spirit among the youth.



MES 2023 witnessed a footfall of over 3500, involved 100+ ideas, garnered 200+ internship offers and received accolades from multiple corners. A number of eminent guests/speakers/judges from MIT Alumni network attended the Summit. Significantly, the judges from Venture Capitalists and Funding Agencies supported the events through their involvement. MES 2023 witnessed a variety of events in the form of workshops, bootcamp, pitch tank, money ball, fall out, and panel discussions of young and experienced entrepreneurs, and keynote sessions. Further, the Innovation Mela and Stand-up Comedy organised during the event added vibrancy to the entrepreneurial related activities.

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REVELS 2023 @MIT

Manipal Institute of Technology hosted its annual cultural festival, Revels, themed Taabiir—An Odyssey of Dreams from 18 to 25 March. Revels '23 featured a range of enthralling events. In addition to these, ProShow brought together some of the most prominent artists in the music and entertainment industry.

Comedy took center stage on the first night of the Proshow with an exciting performance. Comedian Aakash Gupta, the joint winner of Comicstaan Season 2, took to stage which was a delight to students and faculty members alike. Aakash is well-known for his sharp observational skills and physical comedy, which sets him apart in the world of observational comedy in India. The second day ProShow was fashion night featuring Prakshi Goyal, the winner of Miss Femina Delhi 2022. She was the judge of the fashion show where teams strutted across the ramp in their beautiful costumes with great elegance and charm.

Revels'23 featured more than seventy cultural events including competitions for dance, music, drama, and art that showcased the diverse talents of the students. The Battle of Bands was one of the most popular events, where several student bands competed against each other. The top three teams from Round 1 performed on the Proshow stage for the title of the best band in Manipal. The many quizzes and literary competitions tickled the minds of the intellectually inclined. The audience was clearly mesmerised by self-written street plays and theatre productions.



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“ It is my firm conviction that one man can only struggle,
but it requires the co-operation of thousands to make his efforts succeed. ”

Dr. T. M. A. Pai

MANNUPALLA TO MANIPAL - AN EPIC SAGA

The story of Sri Venugopalakrishna Temple, Manipal

Sri Venugopalakrishna Temple of Manipal was built in the year 1973 as a site of spiritual renaissance for people belonging to different communities in the region. The history of the temple involves a fascinating story. The farsighted vision of the chief architect of modern Manipal Dr. T M A Pai, his timely interaction with His Holiness Sri Sri Vishweshatheertha Swamiji of Pejawar Mutt, and the fortuitous presence of the idol in the house of Mr. Venugopal Rao came together to realize the emergence of the temple at its present location.

Dr. T M A Pai dreamt of creating a space of worship in Manipal that would serve the spiritual and cultural needs of diverse communities of the region. It was customary for Dr Pai to seek blessings of Sri Vishweshatheertha Swamiji, Pejawar Mutt, Udipi before he ventured into any initiative. Naturally, Dr. T M A Pai expressed his deep felt desire to build a temple at Manipal to Swamiji. Incidentally, at the same time, Mr. Venugopal Rao, a resident of Mangalore, wanted to hand over an idol of Sri Venugopalakrishna to the Swamiji. Mr. Venugopal Rao had the idol for years in his house, and wanted to pass it on to someone who could make proper arrangements for its daily worship. As it turned out, the Swamiji recommended Dr. T M A Pai to build a temple for Sri Venugopalakrishna at Manipal. Soon a site was selected near a pond, and the temple was constructed with the support of the community for the benefit of all the residents.

Dr. TMA Pai conceived the temple as a place of worship for the resident students of all communities. The unique architectural structure of the temple thus envisioned comprises a spire - representing a Church, a dome - representing a Mosque, and in the sanctum sanctorum is the idol of Sri Venugopalakrishna. The place where the pond existed became the beautiful Brindavan Garden, which now overlooks the temple. The idol of Sri Venugopalakrishna was installed by H H Sri Sri Vishweshatheertha Swamiji of Pejawara Mutt on 08 March 1973.

On the completion of its 50th year, the renovation of the temple marked by Swarna Kalasha Samarparna was carried out on 22 February 2023 in the presence of His Holiness Sri Sri Vishwaprasanna Theertha Swamiji of Pejawara Mutt, Udipi.

Art by : A Govinda Naik Senior GDW, ECE Department

Editor's Musings

Dear Reader,

Greetings...!

The calendar quarter that went by i.e., January to March 2023, has been quite an eventful period for the Institute. With the semester-break for the students and faculty ending during the last week of January, the first major event held at the Institute was the sixth edition of Manipal Entrepreneurship Summit (MES 2023), organized during 17-25 February. MES is an annual flagship event of Manipal Academy of Higher Education (MAHE) organized to promote a culture of innovation and entrepreneurship among students through online and offline sessions involving panel discussions, keynote talks, startup pitches, and startup fairs.

Another noteworthy activity conducted in the campus during the last quarter was the *Brahmakalashotsava*, an important ritual held at the Sri Venugopalakrishna Temple on its completion of fifty years. It was in the year 1973 that the distinctively designed temple, with its strikingly unique structure featuring a dome and a spire, signifying *sarva dharma samabhava* was built as a site of spiritual renaissance for people belonging to different communities in the region.

During the second week of March, five M. Tech. programs, offered one each by the Biotechnology, Electronics & Communication Engineering, Computer Science & Engineering, Mechanical & Manufacturing Engineering and Civil Engineering departments, underwent the accreditation process by the visiting Expert Committee of the NBA. The outcome of this visit should be out very shortly. In its earlier visit held during November 2022, the NBA Expert Committee had carried out assessment of four B. Tech. programs, offered one each by Biotechnology, Biomedical Engineering, Mechanical & Manufacturing Engineering, and Chemical Engineering. While the B. Tech. Biotechnology program received accreditation for a period of six years, up to 2028, the other three programs, viz., B. Tech. in Mechanical, Biomedical and Chemical Engineering have been accorded accreditation for three years, up to 2025.

During the period 21-25 March, students' cultural and sports fest Revels '23, with a tagline "Taabiir - An Odyssey of Dreams" was held. As always, the fest attracted student participants from across the country in large numbers. With every passing year the annual fest is becoming bigger and better.

Before signing off, I am glad to inform you that FOCUS - MIT Newsletter is entering into its second year, after it was relaunched during December 2021. We, at Team FOCUS, solicit your continued support and feedback in our journey towards achieving excellence.

Thanks & Happy Reading...!

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Manipal Entrepreneurship Summit (MES) 2023 (Continued from page 01)

A diverse set of resource persons, experts, and successful entrepreneurs made the event meaningful with their presence in the MES 2023. Vikas Gupta, Co-founder & CEO, Creatara, Arvind Sasikumar, CTO, Quinn, Sudhinder Parvatikar-MD & Founder, Kloud Aim IT and IoT Consulting, Lokesh Venkataswamy-CEO and MD, Innomantra, Dr. Tojin T. Eapen-Advisor, Innomantra, Vinod Aravindakshan, Co-Founder-Career Bolt, Yuvraj Tomar-Co Founder-Cloudworx, and Jyoti Bharadwaj, Founder-Teafit (a Shark Tank participant) supported the event by conducting interesting workshops. Bootcamp was conducted by Akshay Johri- Senior Product Manager-Microsoft, Riya Jain-Product Manager, Front Row, Shobhit Saxena-Product and Tech Head, Zee Media. Abhinav Arora-Co-Founder CMO at Avalon Scenes delivered the keynote sessions. Dhruva Goyal, Founder-Bugbase, Anirudh Arun-Founder-Formi, Rishabh Gupta-Founder-Redwings were present during the Youth Panel Discussion. In addition the internal judges Dr. Alapati Vittaleswar, Professor, Department of Humanities & Management, Dr. Vinay Kumar Jadoun, Associate Professor, Department of Electrical and Electronics Engineering, Mr. Chethan Sharma, Assistant Professor (Sr. Scale), Department of Information and Communication Technology supported the event by judging various rounds of Case Maze, Money Ball and Fall Out during MES.



The launch and inauguration of MES 2023 was witnessed by higher officials of MAHE and MIT. Lt. Gen. (Dr.) M. D. Venkatesh, Vice Chancellor, MAHE graced the inauguration of MES with his presence on 23 February 2023. Dr. Niti Nipun Sharma, Pro Vice Chancellor (Strategy and Planning), MAHE was present during Launch of MES on 17 February 2023. Mr. S. P. Kar, Head of PR and Media, Col. Prakash Chandra, Director, General Services, MAHE, Dr. Shrihari Upadhyaya, CEO, MUTBI, Dr. Mohmmad Zuber, CIO, Innovation Centre, MAHE were present during the launch and inauguration of MES 2023 along with many Associate Directors, Heads of the Departments, and faculty members. Cdr. Dr. Anil Rana, Director, MIT supported and guided MES 2023 in all its phases. He was present at all the main events including the innovation mela with his wife Mrs. Shikha Rana. Dr. M. Vijaya Kini, Associate Director (Alumni and International Relations) and the Convenor of MES 2023 played a crucial role in the success of MES 2023 through his continued guidance throughout the event.

Further, a good number of venture capitalists were present during the Innovation Mela which saw a footfall of over 3500 students and participation of people from inside and outside of MAHE. 90+ start-up and research stalls showcased their work. 10 major student projects of MIT also participated in the Innovation Mela and displayed their winning products.

MES 2023 drew to a close on a lighter note with a standup comedy show. Well-known standup comedians Ashish Solanki and Rajat Chauhan regaled the audience with their choicest jokes and humour. More than 2000 students were present to enjoy the show. It was heartening to observe that MCODS, Mangalore; MSAP, Manipal; KMC, Manipal; MSLS, Manipal and MCOPS, Manipal joined hands with the E-Cell to make MES 2023 successful and memorable.



An interesting event named Pitch Tank (on the lines of Shark Tank), was held as a part of MES 2023. It was judged by experienced Entrepreneurs, Angel Investors and Venture Capitalists, such as Manish D'Souza-Partner, Eaglewings Venture, Anuj Batra-Co-founder of Andromeda, Leenesh Singh-Co-founder & CEO of 10KSI, Rohan Choukhar-VP investments of Bharat Innovation Fund, Mrs Jayashree Leenesh- Angel Investor from 10KSI, and also the E-Cell Executives.



Revels Cup saw its resurgence with over thirty sporting events including athletics, hockey, cricket, football, basketball, badminton, table tennis and many more. The matches were intense, and the players displayed great sportsmanship and skill. With the highest outstation participation than ever before, competitive spirit burned through MIT like wildfire.

The music night and live concert took place on the third and fourth days of ProShow. They featured performances by Mohit Chauhan and Zaeden. Mohit Chauhan, renowned for his chart-topping hits like “*Kun Faya Kun*” and “*Tum Se Hi*,” took the audience on a soulful and musical journey with his incredible range. Zaeden, on the other hand, is a trailblazer in the Indian Pop Renaissance and has over 50 million streams on his latest album *Genesis 1:1*. He mixed tapes, played with polyphonic beats, and established himself in the Indie scene with his charisma.

Revels’23 was a great opportunity for students to come together, express themselves creatively, and have fun, while showcasing their talents to a wide audience. The Student Council along with over three hundred Core Committee members and six hundred Organising Committee members worked hard to bring this event to life.

Written by-Ayn Shahabal, Sagarika Seshagiri and Janvi Dhanani

Mathmagic Show by Prof. Arthur T Benjamin

Mathmagic Show, a much-awaited event, was held on 3 March 2023 at MIT Manipal by a well-known mathematician, Professor Arthur T Benjamin from USA. The show drew students from in and around Manipal and Udupi. Around 2000 students from 30 schools and 500 students and faculty from MIT, Manipal participated in the spectacular show, where the Professor displayed his unique talent and his quick and intriguing skills in Maths. In times when technology can do most of our calculations, Professor Arthur brought a unique skill set with Maths and Magic together to attract and make the audience aware that Maths can also be fun. Lt Gen (Dr) MD Venkatesh, Vice-Chancellor and other administrative heads of MAHE was present during the occasion and expressed their appreciation for the world of Math, and Professor Arthur for promoting skills that are vital for students.



Brahmakalashotsava of Sri Venugopalakrishna Temple MIT Campus, Manipal

On the completion of 50th year of Sri Venugopalakrishna Temple, Prathishta Mahotsav, the Punar prathishta and Brahmakalashotsava was carried out during 22-25 February 2023 in the presence of His Holiness Sri Sri Vishwaprasanna Theertha Swamiji of Pejawara Mutt, Udipi.

One thousand parikalasha and brahma kalasha abhisheka was performed by Sri Sri Vidya Vallabha Theertha Swamiji of Sri Kaniyooru Mutt on 24 February 2023. Two hundred and fifty parikalasha with brahmakalasha was also done for Sri Ganapathi and Sri Anjaneya swami on 22 and 23 of February respectively. Sri Vinayakananda Swami



of Ramakrishna Mutt Bailooru inaugurated the 'deepa sthamba' of the temple.

The Rathotsava seva for Lord Krishna was held for the first time on 24 February 2023. Major renovation of temple included granite wall and floor for Garbha griha and Dhyana mantapa. In addition Gaali kindi (Grills), New doors, Antiskid granite, panchavarna painting (Tamilnadu style), and allied renovation work related to the temple were carried out to mark the occasion.

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International Conference on Artificial Intelligence, Computational Electronics and Communication Systems (AICECS) 2023

The Department of Electronics and Communication Engineering, Manipal Institute of Technology (MIT) in association with IEEE Student Branch Manipal (IEEE SBM) organized the second International Conference on Artificial Intelligence, Computational Electronics and Communication Systems (AICECS) 2023, from 16 to 17 February 2023 at MIT, Manipal. The conference received funding from SERB-DST, Govt. of India.

The program started with invoking blessings of the Almighty through a prayer song by Mrs. Sowmya S, Assistant Professor, ECE, MIT, Manipal and an offering of floral tributes to the founder, Dr. T. M. A. Pai.

The conference was inaugurated by the Chief Guest, Dr. Narayana Sabhahit, Pro Vice Chancellor - Technology & Science, MAHE, Manipal, and the Guest of Honour, Dr. Kumar Rajamani, Senior Manager Algorithm, KLA - Tencor, Chennai on 16 February 2023. The inaugural function was presided over by Cdr. Dr. Anil Rana, Director, MIT, Manipal. Dr. Somashekhara Bhat, Joint Director, MIT, Manipal, graced the occasion. Other department Heads, Assistant Directors, MIT-faculty, research scholars, students and delegates were also present for the inaugural function. Dr. Kumara Shama, Head of ECE Department, MIT, Manipal delivered the welcome address. Dr. Pallavi R Mane, General Chair AICECS 2023 spoke about the conference, highlighting its objectives. Dr. Tanweer, General Chair AICECS 2023, presented the theme of the conference with a brief report on the reviews and statistics of papers. The conference received 91 papers out of which 65 were accepted.



Dr. Narayana Sabhahit, Pro Vice Chancellor -Technology & Science MAHE, Manipal, in his address highlighted the significance of organizing and attending conferences that would have benefits and give exposure to research scholars, faculty members and students.

Guest of Honor of the program, Dr. Kumar Rajamani, Senior Manager Algorithms, KLA Tencor, enlightened the gathering with his experience and shared a few important points of attending conferences. One of the suggestions was to get at least one new researcher added to the network list and continue to collaborate and keep sharing knowledge by involvement in various and diverse research or project engagements.

Cdr (Dr.) Anil Rana, Director, MIT, Manipal delivered the presidential address. With his rich experience of serving in the Indian Navy and over 30 years of experience in industry and academics, he shared the advantages of presenting research work and getting professionally connected with people working in similar fields.

The function was graced by other keynote speakers Dr. Devendra Yadav, Scientist F, DRDO Delhi and Dr Alsath. The inaugural function was formally concluded with the Vote of Thanks delivered by Dr. Pramod Kumar, General Chair AICECS 2023. The entire event was live streamed on the YouTube platform.

The conference had 10 invited keynote talks from eminent speakers from Industry and academia working in the cutting-edge research areas in line with the theme of the conference. The keynote talk series details are given below:

Sl.No.	Name & Affiliation	Topic
1	Dr. Kumar Rajamani, Senior Manager , KLA Tencor Software	Advances in deep learning and its applications in semiconductor wafer inspection and in medical imaging
2	Dr.M Gulam Nabi Alsath, Associate Professor,ECE - SSN CoE, kalavakkam	Reflectarray Antennas:Opportunities Design & Development
3	Dr. Bidhan Pramanick, Assistant Professor, IIT Goa	Microfluidic Biomedical Devices
4	Dr. Satyasai Jagannath Nanda, IEEE Senior Member, MNIT Jaipur-Rajasthan	Hyperspectral Image Segmentation using Evolutionary Computing Algorithms
5	Dr. Sandeep Kumar, Assistant Professor, ECE -NITK Surathkal	Wireless RF transceiver System: perspectives and design aspects System
6	Dr. Devendra Yadav, Scientist F, DRDO, Delhi	Ramanujans Sum in Signal Processing
7	Dr. Ravi Kumar Gangwar, IIT Dhanbad	Dielectric Resonator Antenna: A potential radiator for MIMO Antenna Systems
8	Dr. Preetam Kumar, Professor, IIT, Patna	5G:Challenges and Technologies Enabling
9	Dr. Himanshu Shekhar, Assistant Professor, IIT, Gandhi Nagar Member - Center for Biomedical Engineering	Image Guidance and Sensing Approaches for Therapeutic Ultrasound Applications
10	Dr. Jaume Anguera, IEEE Fellow, IEEE Distinguished Lecturer Antennas and Propagation, Founder and CTO at Ignion and Associate Professor at University Ramon LLull Barcelona, Spain, Member of the Smart Society research group	Antenna Booster Technology: From Fundamentals to Applications

The program concluded with a cultural program and a banquet dinner. The deliberations of the conference not only exhibited the platform of vigorous exchange of research ideas and findings, but also witnessed a cultural twilight.

Mr. Gagan Gaonkar, V semester ECE student of MIT-Manipal, who is the winner of Zee-TV reality show 5th Season of Sa Re Ga Ma Pa Lil Champs in 2015, and various national awards participated in the rendition of a few popular songs.

International Conference on Applications and Techniques in Information Security (ATIS) 2022



The Department of Computer Science and Engineering, MIT Manipal, in collaboration with Deakin University, Australia organized an International Conference on Applications and Techniques in Information Security (ATIS) 2022 during 30-31 December 2022, in hybrid mode. Dr. Somashekara Bhat, Joint Director, MIT Manipal was the Chief Guest for the inaugural ceremony of the conference. The Guest of Honor Dr. Deepak Waiker NUS Singapore), EduEnergy Consultants, Singapore and Dr. Ashalatha Nayak, Head of Department Computer Science and Engineering emphasized on the need for the students to take up opportunities in the areas of Cyber Security.

The conference covered topics such as information Security, Cyber Security, Artificial Intelligence, Machine Learning and Deep Learning and other related areas. The Keynote addresses in the areas of Cyber Security were delivered by Dr. Srikanth Prabhu, Dr. Lei Pan, Dr. Qingfeng Chen and Dr. Vivekananda Bhat. Dr. Srikanth Prabhu, Additional Professor, Department of Computer Science & Engineering, and Dr. Tanweer Ali, Associate Professor, Department of Electronics & Communication Engineering from MIT Manipal, and Dr. Shiva Pokhrel from Deakin University,



Australia chaired the sessions organized during the conference. A total of 23 papers were selected from 93 papers submitted for oral presentation. Also, the ATIS conference series is indexed in Springer Proceedings.

CHEMIGNITE-2023

A National Symposium Chemignite-2023 was jointly organized by the Chemical Engineering department, MIT, Manipal, in association with the Student Chapter of the Indian Institute of Chemical Engineers, MIT, Manipal during 03-04 March 2023. The Symposium was sponsored by ONGC-MRPL Ltd and IICHe Mangalore Regional Centre.

The Symposium was inaugurated on 03 March 2023 in the presence of the chief guest, Dr Sathyanarayana Gummadi, Professor, IIT Madras. Joint Director, MIT, Manipal, Prof Somashekara Bhat graced the occasion as the President of the event. The organizing Secretary of Chemignite-2023, and HOD of Chemical Engineering Dr Balakrishna Prabhu, welcomed the gathering. Mr Aakash, the student secretary of IICHe Student Chapter presented the annual report of the chapter activities for the previous year. Dr Gautham Jeppu, the convenor of Chemignite-2023 and the faculty advisor of the IICHe Student Chapter proposed the vote of thanks.

As a part of the event, technical paper presentations, Professor P K Karanth memorial quiz competition and invited guest lectures were organized. A total of nine teams involving MIT and other institutions participated in the technical paper presentation. Thirty one students actively participated in the Prof P K Karanth memorial Quiz competition.

During the Symposium, four distinguished guest speakers enlightened the participants on current and emerging topics of chemical engineering. Prof Sathyanarayana Gummadi from IIT Madras delivered the keynote address on the topic of “Trends in Chemical Engineering” on 03 March 2023. Three special talks were held on 04 March 2023. Mr PVR Sathish, Dy General Manager, IOCL Mumbai,



delivered a special lecture on “Petroleum Industry-An Outlook”; Dr Himanshu Goyal Assistant Professor, IIT Madras spoke on the topic “Scientific Computing in Chemical Engineering”; and Prof M B Saidutta from NITK, Surathkal delivered a lecture on “Chemical Engineering: the enabling discipline for a better future”.

The valedictory session was held on 4 March 2023 in the presence of Director, MIT Manipal, Cdr. (Dr) Anil Rana. Dr M B Saidutta, Professor, NITK Surathkal graced the occasion as the Chief Guest.



STUTI Program at MIT, Manipal

A seven-day Synergistic Training program Utilizing the Scientific and Technological Infrastructure (STUTI) was conducted jointly by the Department of Physics and Department of Chemistry at MIT, Manipal in collaboration with Shivaji University, Kolhapur, Maharashtra during 05 - 11 January 2023. This well-thought-out event was sponsored by the Department of Science and Technology (DST), Ministry of Science and Technology, Government of India, New Delhi. The initiative, STUTI, is intended to build human resources and enhance its capacity building through open access to S&T Infrastructure across the country. It proposes to organize training program on DST supported R&D equipment for the benefit of Scientists/Professors/ Research Scholars and PDFs of various institutions in the country.



The training program was inaugurated on the 05 January 2023 by Prof. R G Sonkawade, PMU Coordinator, STUTI Program, Shivaji University, Kolhapur, Maharashtra in the presence of Dr. Vinod V Thomas, Registrar Evaluation, Manipal Academy of Higher Education, Manipal, Cdr. (Dr.) Anil Rana, Director, MIT, Manipal, Conveners of STUTI program Prof. Mohan Rao K, Prof. Suma A Rao, and Coordinators of the program Dr. Ismayil, Dr. Gurumurthy S C and Dr. Sudhakar Y N.

A total of 14 plenary lectures were delivered during the program on the instrumentation and practical aspects of various scientific instruments such as X-ray Photoelectron Spectroscopy (XPS), XRD, Transmission Electron Microscope (TEM), Nuclear Magnetic Resonance (NMR) etc., by different resource persons from academia and industry. Prof. R G Sonkawade and Dr. Maqsood Waikar from Shivaji University, Kolhapur, Dr. Sankeerth Hebbar from Kumaraswamy College, Subrahmanya, Dr. Shyam Prasad K from NMAM Institute of Technology, Nitte, Dr. Aseefali and Dr. Unnikrishnan V K from Department of Atomic and Molecular Physics, MAHE, Manipal, Dr. Balakrishna K, Dr. Dhananjaya Kekuda, Dr. Vishwanath Managuli, Dr. Ismayil, Dr. Srinivasulu M, Dr. Gurumurthy S C, and Dr. Sudhakar Y N from MIT, Manipal, and Mr. Satya Srinivas, Application Specialist from Carl Zeiss India Pvt. Ltd., Bangalore acted as the main resource persons during the seven-day event.

Further, eighteen lab sessions were conducted during this program. Dr. Ismayil, Dr. Gurumurthy S C, Dr. Sudhakar Y N, Dr. Subrahmanya Bhat, Dr. Santhosh Gaonkar, Research Scholars and Technicians of Departments of Physics, Chemistry, Civil Engineering, and Innovation Center of MIT coordinated the lab sessions. The faculty members and research scholars of the Department of Atomic and Molecular Physics, MAHE, Manipal also contributed to the event.

During the lab sessions participants were given hands-on training on 24 research grade instruments namely X-ray diffractometer (XRD), Atomic Absorption Spectroscopy (AAS), Inductively Coupled Plasma (ICP), UV-Visible spectrometer, Profilometer, Laser Induced Breakdown Spectroscopy (LIBS), Laser Induced Fluorescence (LIF), Raman Tweezer, Atomic Force Microscopy (AFM), Impedance Analyzer, DC/RF Sputtering, NMR, FTIR, DSC/TGA, Scanning Electron Microscope (SEM), Photoluminescence Spectroscopy, thin film fabrication by thermal evaporation set up, Spray Pyrolysis unit, Spin coating unit, Electrochemical work station, Hall effect, Seebeck effect and Resistivity measurement set up.

The valedictory event of the training program was held on 11 January 2023 in the presence of Dr. Ashok Rao, Associate Director (R&C) as the Chief guest and Dr. Somashekara Bhat, Joint Director, MIT, Manipal as the President of the event. The training program witnessed the participation of members from Maharashtra, Andhra Pradesh, Kerala, Karnataka, Assam and Tamil Nadu.

Five-Day FDP on CYBER PHYSICAL SYSTEMS

The Department of Instrumentation and Control Engineering, MIT Manipal organized a five-day Faculty Development Program (FDP) on “Cyber Physical Systems” during 16-20 January 2023.

During the inauguration held on 16 January 2023. Er. Ravin Jolly, a Software Engineer from Liquid Instruments, Canberra, Australia was the Guest of Honour. In his address, Er. Ravin Jolly elaborated on the testing and measuring instruments developed by Liquid Instruments. He also highlighted the utility of software-enabled FPGA-based multi-instrument devices, particularly from the point of view of facilitating faculty and students to conduct hardware-based experiments remotely with ease. Further, Mr. Shinoj Kalyadan, International Marketing & Distribution Manager from Emona Instruments, Sydney, Australia, presented the details on contribution of Emona Instruments in developing remote hardware laboratory facilities during the pandemic. Cdr. (Dr.) Anil Rana, Director MIT, in his presidential remarks emphasized the increasing applications of cyber-physical systems and their prospects. He highlighted the breadth of the utility of cyber physical systems that range from healthcare to transportation and manufacturing to defense. He also opined that the advancements in communication and computation technologies would boost the demand in this domain. Dr. Shreesha, HOD, Instrumentation and Control Engineering welcomed the gathering. The Convener of the FDP, Dr. Santhosh K V briefed on the new B.Tech. program in Cyber-Physical Systems offered by the department and setting up of a Center of Excellence in Cyber Physical Systems.



The highlight of the FDP was that all the sessions were delivered by the industry experts. Moreover, the sessions were conducted in a hands-on mode. About fifteen participants from MIT and other institutions including CSIR attended the Faculty Development Program.

FDP on Deep Learning and Applications

A hands-on workshop on Deep Learning and Applications was organized by office of the Associate Director (FD&W) during 12-14 January 2023. The resource persons were faculty members of IIT Mandi who facilitated the workshop in a hybrid mode.



Dr S N Bhat, Associate Director (FD&W) gave opening remarks and introduced the resource person Dr Arnav Bhavsar, Associate Professor, School of Computing and Electrical Engineering, IIT Mandi on the first day. Forenoon sessions on first and third day were delivered by (Dr) Arnav Bhavsar on basics of deep learning, and on its functions, VAE and GAN with applications in vision and transformers at MIT in physical mode. Lab/Demo sessions scheduled in the afternoon were handled by the Research scholars from IIT Mandi in online mode.

Dr. Padmanabhan Rajan, Assistant Professor, School of Computing and Electrical Engineering, IIT Mandi was the resource person on the second day. He delivered lectures on deep learning applications for audio processing in the forenoon and Lab sessions were handled by the Research scholars from IIT Mandi in the afternoon.

Around 35 faculty members actively participated in the workshop on all three days.

Workshop on Temple Management

A Temple Operations Management Workshop, Health Camp and a Seminar on Indian Culture and Education were inaugurated on 21 January 2023, by Sri Sri Vidyavallabha Theertha Swamiji, Sri Kaniyoor Mutt, Udupi. Swamiji also inaugurated the 5HO, the Kannada version of 5S Japanese Housekeeping System, which was developed by Dr. Nagaraj Kamath, Assistant Professor, Department of Print and Media Technology, MIT Manipal. The Chief Guest Dr. Madhu Veeraraghavan, Director of TAPMI & Pro Vice Chancellor, MAHE, in his address, mentioned the benefits gained by having a Spoke and Wheel system for Temple Operations, in Coastal Karnataka. Cdr. Dr. Anil Rana, Director MIT, welcomed the gathering, Program Coordinator Dr. Nagaraj Kamath, Dept. of Media Technology, MIT, narrated the objectives of the program and Joint Director, MIT, Dr. Somashekara Bhat, delivered a brief talk about the temple and proposed the vote of thanks.

The Health Camp was inaugurated by Cdr. (Dr.) Anil Rana, Director, MIT, in the presence of CA Muralidhar Kini, Manipal, Dr. Nagarathna Shastry, District Surveillance Officer, Udupi, Dr. Sneha Mallya, Community Medicine Department, KMC, Manipal and Sri Mohan Upadhyaya, Parishad Member of Dharmika Datti Dept, Udupi Dist. During the event a General Health Checkup, PM- JAY Health Card, and Booster Dose were provided at the same venue. This was jointly organized by the Department of Community Medicine KMC, Manipal, District Surveillance Department, Primary and Urban Health Care Department, Udupi.

CA Muralidhar Kini, Manipal in his talk on Finance Management in Temple, spoke about maintaining accounts, filing income tax returns, GST and the welfare measures that the temple administration brings to the devotees.

Dr. Nagarathna Shastry, District Surveillance Officer, Udupi, in her talk on Preventing Viral Infection spoke on the precautionary measures that must be adopted to ensure hygiene regarding cooking and cleaning areas, especially during the post pandemic times. She explained some of the Do's and Don'ts to avoid viral infection, and how the department could be of assistance during mass gatherings.

Dr. Prabhudev Mane, Chief Security Officer, Campus Safety, MAHE, in his address on Security in Temples, mentioned that Temples should make use of the latest technology such as scanners, detectors, and CCTV. He stressed that one should be vigilant in the temple premises for any suspicious moments as this could avoid future problems.



Prof. Devicharan, Department of Media Technology, MIT, in his talk on Social Media Management explained how social media could be used as it is a powerful marketing tool that allowed businesses to reach a large audience within a short span. By creating a presence on social media platforms, businesses can establish a relationship with potential and current customers and use the platform to promote their products or services. This can be done through a variety of methods, such as posting updates about the businesses, sharing content related to the industry, and running social media ads.

Prof. Girish M.G, Department of Civil Engineering, MIT, in his talk on sustainable materials mentioned that attempts were being made worldwide to replace cement, sand, and stone in construction with fly-ash, pond/bottom ash, steel slag, and other industrial byproducts such as binding and filling materials. As a result, using industrial waste in construction had not only decreased dumping it into the environment, but had also proven to be a sustainable option for construction. As a sustainable alternative to conventional clay bricks and laterite, solid or hollow blocks manufactured from a mixture of fly-ash, cement, lime, and slag are currently employed in the construction of temples.

Prof. Sridevi, Department. of Civil Engineering, MIT spoke on waste management and emphasized that handling wastewater during large gatherings in temple festivals could throw up challenges. Therefore, a well-designed treatment facility was a must for any temple.

Dr. Nagaraj Kamath, Department of Media Technology and the coordinator of the event spoke about how 5HO, the regional housekeeping system could be productively utilized in the organization beneficially. He also mentioned some of the decision-making tools such as Pareto Chart, Why Analysis, Preference Matrix, Decision Tree and Break-even analysis that could help the temple operations management.

In the afternoon session on ‘Navigating across Global Cultures’, Dr. Praveen Shetty, Department of Humanities and Management, MIT and Dr. Srinivasa Acharya, Head, Department of Philosophy, MAHE explained how communication across cultures required sensitivity and understanding of cultural relativism. In the second session, Sri Rohith Chakrathirtha, writer, Bangalore, delivered a talk on Sanskrit Education and Opportunities in the Modern World.



He informed the audience on how the Natural Language Processing is made and how translation takes place with a search engine like Google.

The valedictory session was marked by the presence of Parama Poojya Sri Sri Vidyasagara Theertha Swamij of Paryaya Shri Krishnapura Mutt, Udupi. Lt Gen. (Dr.) M D Venkatesh, Vice Chancellor MAHE was the Chief Guest of the function. In his address he emphasized the importance of Indian culture and its dissemination through efforts of departments of MAHE and cultural hubs like Manipal that would invariably connect to the society. Dr. Somashekara Bhat, Joint Director MIT, welcomed the gathering and Dr.

Nagaraj Kamath, program coordinator, presented the report of the Temple Operations Management Workshop, Health Camp and Seminar on Indian Culture and Education. Dr. Pradeep G Bhat proposed the vote of thanks and Mr. Jayaram Shettigar of Maintenance Department, MIT, Manipal was the Master of Ceremonies. Around 100 representatives from various temples in and around Udupi, Mangalore and Kasaragod districts, and around 50 students participated in the event.

SERB-Sponsored Workshop on DIY Microfluidics for School Students

The Department of Biotechnology, Manipal Institute of Technology conducted a SERB sponsored workshop on “Do-It-Yourself Microfluidics” on 6 March 2023. Around 35 students from the Government PU College participated in this workshop that organized hands-on training for school students to fabricate paper-based microfluidic devices, and further integrate them with biochemical assays. The main purpose of this workshop was to strengthen younger minds with a focus on Scientific Thinking Skills.

Chief Guest Shri Nagendra Pai, Manipal Junior College delivered a talk on “Scientific Thinking Skills at a Young Age”. Cdr.(Dr.) Anil Rana (Director, MIT) and Dr. Somashekara Bhat (Joint-Director, MIT) graced the occasion with their esteemed presence.

The organizing team comprised Dr. Naresh Kumar Mani, Dr. Vijendra Prabhu and Dr. Praveen Kumar, Microfluidics, Sensors and Diagnostics Laboratory, Department of Biotechnology, MIT. This workshop was conducted under “Scientific Social Responsibility Scheme” from the Science and Engineering Research Board. Dr. S Balaji, Head of the Department, Biotechnology, delivered the vote of thanks.



Two-day workshop on Machine Learning for applied Research-MLAR-2022

A two-day workshop on “Machine Learning for applied Research-MLAR-2022” was organized by the Department of Instrumentation and Control Engineering, MIT Manipal, during 29-30 December 2022. Mr. Arockiaraj, a faculty of Manipal School of Information Sciences (MSIS), Manipal was the resource person. A total of 26 participants from within and outside MAHE attended the workshop. A series of hands-on sessions along with conceptual knowledge on the utility of Machine Learning and Python was held as a part of the event. Dr. Shreesha C, HoD inaugurated the program. Dr. Surekha Kamath, Convener from the department and Mr. Samarendranath, faculty from MSIS facilitated the workshop.



Special Lecture on Emerging research trends in EV Technologies and battery charging

A special lecture on “Emerging research trends in EV Technologies and battery charging” by Dr Bhuvanewari G., Professor, Department of Electrical and Electronics Engineering, Mahindra University, Hyderabad, was organized by the office of Associate Director Faculty (FD & W) on 13 February 2023.



Dr Bhuvanewari G, shared with the audience her rich experience in the field of Electrical Vehicle (EV) Technology and Battery Charging techniques. Dr Bhuvanewari spoke on various key issues such as EV technologies and their general aspects, Research trends in EV, Power train architecture for EVs, Battery Technology, Charging infrastructure, and potential Research topics related to EVs. Dr Bhuvanewari drew the attention of the audience on challenges such as

global warming, balancing use of technology for human needs and reduction in carbon emissions. Dr Bhuvanewari finds herself being more concerned for the humanitarian side to the issues at hand. Faculty members, research scholars and students of various departments attended the talk.

Special Lecture on Cyber Security

The Department of Data Science and Computer Application organized an expert session on “How to crack the International Cybersecurity Data Mining Competition 2023?” for the department students on 09 March 2023. The speakers involved the CS mining team of students who won 5th place in CDMC 2022. The team members Khushee Kapoor and Karthikey Tiwari delivered a detailed methodology as to how to crack the competition. The session was very interactive as quite a few students showed interest in participating in the competition in the coming year.

Talk on Sustainable Aviation

The Department of Chemical Engineering organized a Guest talk on “Drop-in Liquid Sustainable Aviation and Automotive Fuels” by Dr Anil Kumar Sinha, Senior Principal Scientist, Head, Biofuels Division, CSIR-Indian Institute of Petroleum (IIP), Dehradun.

Guest talk on Advanced Visualisation

The Department of Mechatronics hosted a Guest talk on “Advanced Visualisation: Augmented and Virtual Reality for Engineers “. Mr. Raja Dheepan, Group Manager- Vehicle Architecture, Volvo, Bangalore was the guest speaker. The event was attended by many students and faculty members, interested in learning about the latest developments in the field of AR, and VR for engineers. The talk started with a presentation providing a brief overview of the history of AR, VR in gaming, and other sectors and its evolution in the engineering areas. The speaker explained how AR has evolved from a simple technique to current devices used in the VR industry. He then discussed the various applications of VR in different domains, including healthcare, transportation, and more. He explained how VR is transforming research in Volvo trucks for safety purposes. He also discussed various skill sets required for a VR engineer.



Guest Talk on Geotechnical Earthquake Engineering

The Department of Civil Engineering, MIT Manipal organized a guest lecture on “Geotechnical Earthquake Engineering” by Dr. Shreyasvi Chandrasekhar on 21 February 2023, at the Auditorium, MIT-KEF R&D Center, MIT, Manipal for the benefit of faculty and PG students of the department.

Guest Talk on Advances in Pre-engineered Buildings

The Department of Civil Engineering, MIT Manipal organized a guest lecture on “Advances in Pre-engineered Buildings” by Mr. Mohammad Rahmatulla , on 25 February 2023, at the Auditorium, MIT-KEF R&D center, MIT, Manipal for the benefit of faculty and PG students of the department.



Talk on MAHE and Binghamton University Partnership: Opportunities and Pathways for Students

On 11 February 2023, the Department of Information and Communication Technology, MIT, Manipal organized a Guest talk on “MAHE and Binghamton University Partnership: Opportunities & Pathways for Students” by Dr. Madhusudhan Govindaraju, Professor, Department of Computer Science; Vice Provost - International Education and Global Affairs (IEGA), Binghamton University, SUNY, NY. The collaborative relationship and academic partnership between Manipal Academy of Higher Education (MAHE) and the State University of New York at Binghamton (Binghamton University)



aims to foster advancement in teaching, research, academic collaboration, and cultural understanding, and to create avenues for enhancing learner experience at both entities, as well as strengthen both entities by finding ways of combining their complementary resources and strengths. Mr. Madhusudhan gave a brief overview of the program (3.5+1.5 Program), which enables students from MAHE to study for three and a half years at MAHE and one and a half years at Binghamton University, allows students to earn a bachelor’s degree from MAHE and a master’s degree from Binghamton University. Dr. Preetham Kumar,

Deputy Registrar-Academics (Technical) graced the occasion. Dr. Smitha N Pai, HOD, Information and Communication Technology welcomed the guest and Mrs. Vibha, Assistant Professor, ICT introduced the guest to the audience. The

talk was followed by Q&A where students put forward their queries and thoughts. There were about 50 students present in the session and the talk was confined to Sustainable Development Goal 4.

Talk on Roadmap to Research

Dr. Lewlyn L.R. Rodrigues, Professor, Department of Humanities and Management, MIT, Manipal delivered a talk on “A Roadmap to Ph.D. research” on 13 January 2023.

The talk was organized by the Office of Associate Director (Faculty Development) for the benefit of all research aspirants and students. Dr. Rodrigues explained the various stages and types of research. He also laid emphasis on the fact that a researcher needs to enjoy the process of research and take it to its logical end. He suggested researchers to plan their research tasks on a yearly basis with strict time plans to ensure achieving the specified targets.



About 130 participants involving research scholars and faculty members from various departments of MIT Manipal attended the talk held in hybrid mode.

Webinar on Trends in Artificial Intelligence

The Department of Biomedical Engineering IEEE EMB Manipal Chapter organized a webinar on “TRENDS IN ARTIFICIAL INTELLIGENCE”, on 16 February 2023. The talk was given by Dr. Kumar Rajamani, a senior Manager Algorithm at KLA Tencor. He mentors his research team at Phillips Research to build state-of-the-art Deep Learning and Machine Learning algorithms. Dr. Kumar Rajamani discussed the various applications of Convolutional Neural Networks (CNNs) in healthcare, as well as alternative options. He also shared recent advancements in deep learning architectures. The talk concluded with a futuristic perspective on the potential of AI to augment the diagnostic process.

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Webinar on Study Abroad

The Department of Biomedical Engineering organised an ALUMNI WEBINAR on “Study Abroad”, on 12 February 2023. This was a live webinar to familiarize the students with the various stages involved in the admission process as well as the numerous aspects of pursuing a master’s degree abroad. It was presented by IEEE EMBS student chapter Manipal in collaboration with the Department of Biomedical Engineering MIT. The talk was delivered by Ms Anoushka Vellara, pursuing her MS-MBID at Georgia Institute of Technology, Mr. Ishaan Gosavi, pursuing Master’s in Bioengineering at Northeastern University and Ms Aishwarya Bose, currently serving as a Graduate Teaching Assistant in Brown University.

Webinar on Functional Verification using System Verilog

Department of Electronics and Communication Engineering organized a Webinar, I-Connect-2023 talk on “Functional Verification using System Verilog”. Mr. Vikranth Malode, Senior Verification Engineer at Synopsys India Pvt. Bangalore was the resource person for the Webinar held on 11 February 2023

MoU between Manipal Institute of Technology, Manipal and Universiti Malaysia Pahang, Malaysia

MIT, MAHE signed a Memorandum of Understanding (MoU) with Universiti Malaysia Pahang, Malaysia, on 28 November 2022. The objective of this MoU is to collaborate on multiple joint activities for enhancing academic and research initiatives through internship support, exchange of graduate or undergraduate students or academic personnel, guest lectures, summer school programs, twinning/dual degree programs, workshops and conferences, exchange of academic and scientific materials and research publications. This MoU was initiated by the Department of Electrical and Electronics Engineering, MIT, Manipal.

MoU with two organizations from Australia

With an objective to facilitate academic interaction, internship, research, and innovation, Department of Instrumentation and Control Engineering, MIT, Manipal has signed MoU with two organizations from Australia viz, Liquid Instruments and

EMONA Instruments. The organizations from Australia entered an MoU with MAHE on 16 January 2023. Dr. Giridhar P Kini, Registrar, Dr. Raviraja N S, Director - Corporate Relations represented MAHE. Cdr. (Dr) Anil Rana, Director, Dr. Shreeshha C, HoD, and Dr. Santhosh KV, Additional Professor, Department of Instrumentation Control Engineering represented MIT, Manipal. Er. Ravin Jolly, Sr. Software Engineer was the signatory from Liquid Instruments, Australia and Mr Shinoj Kalyadan, International Marketing & Distribution Manager, EMONA Instruments signed on behalf of Emona Instruments.



MOU with Ingersoll Rand, Bengaluru

MIT, MAHE has signed an MoU with Ingersoll Rand, Bengaluru with the objective of enhancing interdisciplinary research in the institute. The Department of Mechanical Engineering, Department of Mechatronics, and Department of Chemistry have collaborated in realizing the MoU with Ingersoll Rand. The MoU signed on 7 February 2023 aims to develop nano-lubricants for rotary compressors. As a part of the MoU, Ingersoll Rand would support the purchase of equipment worth Rs 20,00,000 and provide human resources and consumables worth Rs 21, 90, 000. The estimated cost of the project would be 21,90,000 for a period of 22 months.



MIT Retreat 2023 in Kollam

The annual Retreat of MIT Manipal for the year 2022-23 was held in a serene and beautiful location on the banks of Ashtamudi lake, in Club Mahindra Resorts, Kollam, Kerala. The retreat was held from 01 to 04 February 2023 with a theme *Vision MIT 2030*.

The Director MIT, Cdr.(Dr.) Anil Rana, Joint Director Dr Somashekara Bhat, Associate Directors, Heads of the Departments, Assistant Directors and section heads, made up the 48-member strong team that participated in Retreat 2023. Dr Vinod Thomas, Registrar Evaluation attended the retreat as a MAHE representative.

The Director, Cdr. (Dr.) Anil Rana set the tone for the retreat by sharing his vision for MIT. He outlined the measures to attain the expected goals of being reckoned as a pivotal force in the higher education sector at the global level. Associate Directors presented their vision and plans concerning their offices for 2030. The participants discussed and debated on the theme and various aspects related to the future plans of MIT for the next seven years. Group discussions and brainstorming sessions were also interleaved in the business sessions to help generation of ideas as per the theme.

Dr. Vinod Thomas, Registrar Evaluation, MAHE summarized the outcomes of the MAHE Retreat held in December 2022 highlighting its relevance to MIT. He appealed to the team MIT to align their plans to the vision of MAHE and work towards the attainment of common goals.

On the concluding day of the Retreat, Dr Mathew J Manimala, former Professor of IIM Bangalore delivered a talk on “Promoting Entrepreneurship: The Role of Educators” for the benefit of Team MIT. He narrated his experiences in entrepreneurship development through appropriate anecdotes and examples from his career to make the team aware of the real issues and perspectives of entrepreneurship and the role of educators in nurturing entrepreneurs.



The retreat was filled with icebreaking activities, team building exercises, variety entertainment, cultural activities and meditation sessions.

Dr Somashekara Bhat, Joint Director welcomed the gathering and Dr Ashalatha Nayak, former HoD of CSE department delivered the vote of thanks. Dr S N Bhat, Associate Director, Faculty Development and Welfare meticulously planned and coordinated the retreat along with his team.

Patriotic Run at MIT

Students of MIT and other institutes of MAHE, Manipal participated in the Patriotic Run organized by Manipal Institute of Technology on 26 January 2023 to mark the occasion of the Republic Day. Cdr. (Dr) Anil Rana, Director, MIT Manipal addressed the gathering and flagged off the event.



Orientation Program of the National Service Scheme (NSS)

The National Service Scheme program initiated at Manipal Institute of Technology kick started with the Orientation program held on 16 February 2023. It marked the official beginning of the activities of two NSS Units at the institute each comprising 100 volunteers.



The Program was inaugurated by Former Principal, MPMC and NSS State Trainer & Camp Officer Rtd. Prof Dayanand Shetty. He addressed student NSS volunteers to bring a change in the lives of others which all starts with our thoughts to volunteer for any service that is required in the community. Cdr. (Dr) Anil Rana, Director, MIT presided over the function and informed the need and the purpose of starting this program. Joint Director of MIT, Dr Somashekara Bhat shared the experiences of his college days and the service rendered by the students of MIT as volunteers in contributing to the community service. Dr Balakrishna Maddodi,

Assistant Professor, Selection Grade, Department of Civil Engineering, and Program Officer of NSS Unit-I, welcomed the gathering and Dr Laxman Rao Paragond, Associate Professor, Dept. Of Electrical and Electronics Engineering, and Program Officer of NSS Unit-II delivered the vote of thanks. Dr Asha C S, Associate Professor, Department of Mechatronics Engineering, and Dr Poornima Bhagavath, Assistant Professor, Assistant Professor-Senior Scale, Department of Chemistry, the Program Officers of NSS Units of MIT, anchored the Orientation Program.

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Workshop on Grooming, Team building and Dining Etiquette for MIT Leadership

The top administrative heads of the institute participated in a special workshop on “Grooming, Team building and Dining Etiquettes” hosted by Welcomgroup Graduate School of Hotel Administration (WGSHA) exclusively for MIT Leadership Team. The workshop was held on 10 January 2023.



The primary goal of the workshop was to provide an exposure to the team on the hospitality etiquette so that they can have an enriching experience in their official and personal routines. The Team participated enthusiastically in the multiple sessions effectively facilitated by a team from WGSHA, headed by the Principal Dr Chef Thirugnanasambantham. MIT Team participated in the team building exercise that

involved an exciting activity on cooking. Further, the team attended sessions on grooming and dining etiquette. The workshop concluded with a carefully planned lunch providing an opportunity to apply the dining etiquette into practice.

The program was coordinated by Dr S N Bhat, Associate Director (FD&W). A total of 28 members from the MIT leadership team participated in the event.



Heartfulness Meditation Session at MIT

Heartfulness Meditation sessions were organized with an objective of promoting overall wellbeing of the faculty members during 27 - 29 March 2023 at MIT Manipal by the office of Associate Director (FD&W).



Dr Suresh Baliga and Mr Vivekananda Pai from Heartfulness Meditation facilitated the sessions. The sessions were held in the evening from 4.30 to 5.30 PM in NLH 103 and about 20 faculty members attended the session on all three days.

The institute has plans to regularly organise similar events in future for the benefit of faculty members, staff, and students.

International Women's Day Celebration

International Women's Day was celebrated at MIT with all the pomp and splendour. MIT-FOA Faculty Club felicitated two women achievers to mark the occasion. Smt. Amitha Pai and Smt. Rajeevi R., two women achievers were felicitated by Cdr. (Dr.) Anil Rana, Director MIT, Mrs. Shikha Rana, Dr Somashekara Bhat, Joint Director, MIT, and Mrs. Vandana Somashekara Bhat.

Smt. Amitha Pai is a proud alumna of Biomedical Engineering and a successful corporate professional turned social entrepreneur. Amitha started her career in a technical role at Infosys and advancing to the prestigious Young Leaders Program at Aditya Birla Group. She has worked tirelessly to build the organization named "ONE GOOD STEP", which thrives to uncover needs in communities and conceive successful projects. Her endless zeal for social development has led to the empowerment of children belonging to socially and economically weaker factions of society. Her initiatives have brought nearly 322 economically marginalized children into mainstream education, helped provide night-time electricity to 3731 students in rural schools and girls hostels, improved basic infrastructures in government schools, addressed the English language gap in schools where the rural and urban poor children study, helped to treat nearly 1700+ children from the weaker sections of the society for eye problems. Her initiatives and efforts have helped the differently abled patients with spinal cord injuries and lower limb deformities by providing them with mobility aids, specialized footwear and supporting treatment wherever possible in association with the district health departments.

Another women achiever, Smt. Rajeevi R is known for her work towards the social cause. Rajeevi, hailing from a village named Pernankila near Udupi, has served the society as an ASHA worker and an Auto rickshaw driver. During the testing times of COVID, Rajeevi had provided free rides to pregnant women from remote corners to reach hospital in time. She became the saviour to pregnant women who got their labour pain in the wee hours, to reach the nearest hospital for the urgent care required. Her selfless service to society has been lauded by the district administration also.

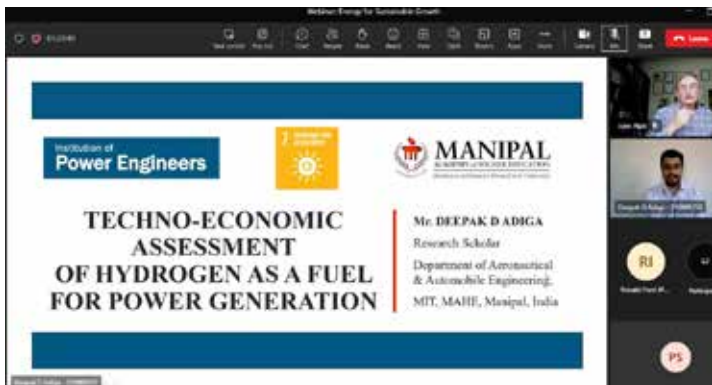


Webinar Report on Energy for Sustainable Growth

The global energy requirement is increasing every day, and the hydrogen economy is seen as a long-term solution for meeting energy needs, with the aim of reducing the dependence on fossil fuels while addressing the pressing issue of climate change and mitigating carbon emissions. The hydrogen economy has the potential to contribute significantly to the shift towards a more sustainable energy future. The development of a hydrogen economy in India could help reduce our dependence on oil imports and increase energy security.

Hydrogen is regenerative and can be produced through a variety of methods, including electrolysis using electricity generated from renewable sources. Hydrogen can be used in fuel cells for transportation and power generation, and

as a fuel in internal combustion engines for heating and industrial processes. The use of hydrogen as a fuel has several advantages over traditional fossil fuels. The only byproduct of hydrogen combustion is water, making it a clean and renewable energy source. Additionally, hydrogen has a much higher energy density than batteries, making it a more practical choice for power and transport applications.



Developing and implementing a hydrogen economy requires significant investments in infrastructure and technology. This includes carbon-free production, the development of storage solutions, and the creation of distribution networks. Despite the challenges, the demand for hydrogen is increasing, as the countries set targets for reducing carbon emissions and investing in hydrogen research and development. The hydrogen economy has the potential to deliver many economic, environmental, and energy security benefits.

The Techno-Economic Assessment (TEA) can be an effective tool in determining the feasibility of various methods of hydrogen production, storage, and distribution. The main aim is to come up with a solution for the development of a hydrogen economy that is technically feasible, economically viable, environmentally sustainable, and socially and politically acceptable. From the case study, it was observed that the estimated average unit cost of electricity generated from green hydrogen is at least five times higher than the average cost of electricity produced from various conventional sources. But it can be reduced with future technological advancements and efficiently planning the usage of resources in production, storage and distribution of hydrogen.

Event Aerospace at MIT

On the 11th of February, IE Aerospace held an event called the AeroFest, a place where the aerospace enthusiasts of MIT could come and share their wisdom with one another. As a part of this fest an offline talk was organized after



two years of operating online. We were honoured to host Dr. AK Ghosh as the speaker at the talk, he is one of the most renowned professors of IIT Kanpur, his experience in the areas of Flight Mechanics, Neural Modelling and UAV's is unprecedented. Over 100 students and our faculty members attended the event. As a part of the AeroFest, a UAV Design Competition was also organised, in which a total of 8 members participated.

MAHE-ISAC Centre of Excellence for Cybersecurity launched

Centre of Excellence (CoE) for Cybersecurity was inaugurated on 23 March 2023 by Dr EV Ramana Reddy, Additional Chief Secretary to the CM, Depts of IT, BT and Higher Education, Govt of Karnataka, at MIT Manipal, as a BFSI Sector Cluster under the KDEM Hub, Cluster and Spoke model for Cybersecurity capacity building. Manipal Academy of Higher Education (MAHE), an Institution of Eminence Deemed to be university and Information Sharing and Analysis Center (ISAC), a leading non-profit cybersecurity organization have collaborated to establish a Cyberange cybersecurity COE for IOT/ SCADA and IT security.



The COE has Cyber Physical System (CPS) at the core while digital simulation platforms are provided with multi level scenarios.

The increasing prevalence of IoT devices and systems, along with the growing complexity of cyber threats, has created a significant need for trained cybersecurity professionals. Multi-layered hands-on training platforms, such as physical-digital simulation labs and virtual labs, can help develop a talent pool that is ready to address these challenges by simulating real-world scenarios and providing participants with the tools and experience needed to secure systems and prevent cyberattacks. These training platforms can make a significant difference in ensuring the safety and security of our increasingly connected world.

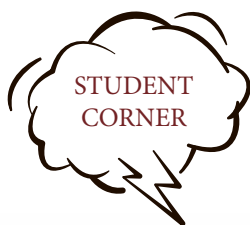
This MAHE-ISAC CoE for Cybersecurity at Manipal Institute of Technology (MIT) is expected to create a pipeline of talent pool to serve the cybersecurity industry for a long time to come.

Lt. Gen. (Dr.) M. D. Venkatesh, Vice Chancellor of MAHE, Dr. Narayana Sabhahit, Pro Vice Chancellor (Tech. and Science), Cdr. (Dr.) Anil Rana, Director MIT, Group Captain P Aanand Naidu (Retd), Director-ISAC, Dr. Balachandra, Coordinator-CoE for Cybersecurity, Dr. Smitha Prabhu, brand Ambassador of ISAC graced the occasion.



Visits to the Institute

- A group of fifty-one students of BSc Mathematics and faculty members of St Aloysius College, Manguluru, visited Department of Mathematics, MIT on 25 March 2023. The team attended a technical talk on Mathematical Software and Applications in the department. The team interacted with the Director MIT, the Head of the Department and other faculty members. In addition, they also visited other departments and facilities such as Physics Department, Data Science Department, Central Library, PSPH MAHE, and Experience theatre MAHE.
- Prof. K D Kini, retired Professor, Department of Mechanical Engineering and former Dean, Student Welfare, MIT, along with his family visited MIT Manipal on 01 January 2023. The office of AD (Alumni, PR&IR) felicitated Prof. Kini on the occasion, and reminisced about the valuable contributions made by Prof. Kini during the period of his tenure at the Institute.
- A select group of students from Kendriya Vidyalaya, Udupi visited Manipal Institute of Technology on 05 January 2023. The students observed the facilities of different laboratories and other infrastructure at the institute.
- Around 43 students and staff from the Kottakkal Farook Arts and Science College visited MIT Manipal on 13 January 2023. The team visited various laboratories in the department of Physics, Biotechnology, Civil, Instrumentation, Mechatronics, Aeronautical and Biomedical Engineering.
- Dr. Purushotham, an alumnus of Kasturba Medical College (MS - Orthopedics) visited MIT Manipal 11 February 2023.



Art by : Snigda Paruchuri
II Year Data Science and Engineering

Interview of Professor Arthur T Benjamin by the MIT Post.

Professor Arthur T. Benjamin, popularly known as the Mathemagician, is an American mathematician specialising in combinatorics. He occupies the chair of the Smallwood Family Professor of Mathematics at Harvey Mudd College. His adept techniques explore and simplify mathematics' quirky side. Often regarded as the Bob Ross of Mathematics, learn more about Professor Benjamin's conversation with our team.

"I guess I approach it as a skill. I think of it as performing a magic show. Maybe like someone who has practiced playing the piano and is performing in front of a large audience. They are not composing music on the spot; they are just performing something that they have gotten to do very well over the years. So, for me, mental math is like my instrument that I am playing for the audience."



What inspired your interest in the domain of combinatorics?

Mathematics has many different facets, including those that have nothing to do with numbers, like Geometry and Topology, but the math that I love is very number oriented. Combinatorics is the mathematics of counting.

In how many ways can we seat 20 different people? How many ways can we seat them if there are certain restrictions? I find questions like those to be great fun and very number oriented. It allows you to think about problems very creatively. I guess it was mathematics that tickled my brain the most; hence I continue to study it because I like to be tickled, mentally, not physically.

When it comes to mental maths, how do you think one can train one's cognitive faculties to achieve a desired level of speed and accuracy?

Accuracy comes from understanding the process, and speed comes from lots and lots and lots of practice. Accuracy comes from the technique of squaring a number. You do this, and as you practice more, for example, if someone said what's 300 times 300, the first time you say that it's, oh, is it nine thousand? Is it ninety thousand? But after a bit of practice, you know that's 90 thousand. But in the beginning, you're trying to figure out what the sizes of things are; after a while, that's not a problem; you know the size of the things, and now you have got to get to the exact answer.

You've also been a vocal proponent of creative visualization as a means to understanding mathematics. To what extent do you think that's applicable, especially when one moves on to higher studies, for instance, if we take higher-order matrices?

I think one of the best things about mathematics is that it can be done in a very creative way. There are often many, many different ways to solve problems. Whether we're talking about an arithmetic problem, algebraic problem, or real-life problems, often there are many promising approaches to a problem, and what's fun about mathematics is that if you can do a problem in different ways, you'll get the same answer. That's true for arithmetic as well as for a lot of real-life problems. I found that consistency of mathematics was absolutely beautiful, which I still do now as a mathematician. Again, I think the ability to look at problems from multiple angles is important; it gives you depth. If you can see it from different angles, you'll see different sides of it. You'll get the big picture of what you got, and I think that's true, in all areas of mathematics, from arithmetic to matrices to calculus. I certainly want to send the message that when people see me, they just see the mental math; they don't see me doing algebra or calculus. I want to send the message that arithmetic is just the beginning, but it's the beginning for everybody, and if people get turned off even at that first step, then they are probably never going to like mathematics at all. If you give them

a good first step, I hope they will take the second and third and fourth and fifth steps.

What would you like to leave as food for thought for the younger generations?

There is a fun and beautiful side to mathematics that you are probably not exposed to in school. It would be as if in school the only music they played for you was opera, and that's all you've ever heard of music. You might like opera, but you wouldn't know about the variety of other music out there. Just because you don't like opera, it doesn't mean you dislike music.

Even if a lot of math in school doesn't interest you, there's a gigantic part of the fun and beautiful mathematics out there that I hope you get to experience.

As students of mathematics, we crack a good number of math jokes. How often do you find yourself indulging in some?

I have certainly heard a lot of math jokes, like, what do you call a hen that counts its eggs? A "Mathmachicken". You know what I'd like to do? I probably have never said this in an interview; I love the musical Hamilton. What I love about Hamilton, you know, is that my daughters learnt the entire musical, including the cabinet meetings between George Washington and Thomas Jefferson, and I was thinking, wow! These kids learn a slightly fictionalized version of American History and get into it. I mean, Alexander Hamilton, before Lin Manuel Miranda, was just some boring guy on a 10-dollar bill, and no one ever knew anything interesting about this guy unless you were a history major. Because of that musical, a whole generation of kids learnt to love a portion of American History. I would love to do and try something like that for mathematics. When I retire, that is one of the things that is on the back of my mind: can we do something that would be interesting enough, cool enough, or popular enough?

I watch kids who invest thousands of hours in memorizing rap lyrics, and cricket statistics, and I wonder if only that energy could be channelled into something like mathematics. Oh my God! How brilliant they could become and how good that would be. If I could create something like that, or if I created a musical or a book so that a generation of kids knew how to prove that there are infinite prime numbers and found that to be astonishing. There is a beautiful side of mathematics that they are not showing you in school. I think that love of mathematics pays so many dividends for science, technology and for the world! Anyway, I can't remember what the original question was, but that is something I would love to do for mathematics, that is, create something that is Hamilton-like.

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By the way, I think everyone should learn multiplication tables till 10. Do you really need it? Yes. Especially at a young age, you have that. What is an 8-year-old or 9-year-old going to think about anyway? They can use some of their brain cells to master a skill that will be useful for them for the rest of their lives. But make it fun. Don't make it monotonous. The worst thing that could happen is for people to take my mental math ideas and say, "Now we are going to make people learn this every night for hours and hours", and everyone will hate mathematics.

Given the rise of ChatGPT and Google Bard, do you think that somewhere computational mathematics may find itself somewhat stagnant as human-paced developments would give way to instant artificial intelligence?

I think we should give it time to evolve. I mean, people made fun of the internet and Google Searches in their infancy. With Wikipedia, they used to be like, look at what this says about Mathematics. I think I am not worried about ChatGPT putting mathematicians out of work, because it cannot think creatively. It just thinks, "What are the most likely words that can appear out of words that are already here?" and it doesn't understand what it is saying. It is just saying. You can ask some very basic questions, questions that a child would get right, and ChatGPT would just bluff its way very authoritatively. But again, to succeed in mathematics requires you to think differently. Think outside the box and think from an angle that has not been explored before, whereas ChatGPT is all about doing what seems to flow the best from what has been written before.

I think as far as technology and mathematics are concerned, no, your advances come from thinking in a new direction, not just thinking in the old direction. I think it is a wonderful tool. It is a wonderful starting point. Let's say I am trying to write a song about the infinity of prime numbers; I may ask ChatGPT to give me some ideas and rhymes. It's like asking a friend. At least I am not using it as the authoritative, that this is THE answer. It surprised me that ChatGPT is being used for software development. You can ask, "give me a computer program that will do this," and maybe partly. This is why we see layoffs in software companies. What took software developers months to develop, you get instantly, and now you can tweak it. Again, it won't put the entire company out of business, because you need people to think in new directions, but a lot of the routine work, forget about mental arithmetic, think about writing code; I

think in the past, you could have Googled things and found things around the internet, but this thing just gives it to you. It is exciting and scary at the same time.

All these big tech companies, we keep hearing- Microsoft is laying off people; Google is laying off people, and Facebook is laying off people. I don't think I have heard the full reason.

In the same way, this generation grew up with iPhones and the internet as a way of life. What would the next generation who grew up with ChatGPT be like? Whatever the next big thing is, that is based on these models that have been at their fingertips since they were born. People are thinking, how is it going to affect education? It can write a college essay that could get a B. You don't learn from that.

We academics are wrestling over things anyway; I mean, there are enough sites out there where we can buy answers to homework problems which makes professors say, "What is the purpose of homework?" I hope the purpose is that it makes people think and solidify the concepts better, but do you make it required? Do you give it weight? Ultimately, you'll have to be given tests, offline exams showing what you know at your fingertips, even though that is not very realistic.

Sir, you're someone who's been working with patterns, sometimes recognizing some which would otherwise go unnoticed. Have you ever contemplated applying it to the share market?

Well, there are certainly people who do, and there's a lot of money paid to people who can discover patterns and correlations. Now, if everybody knows that fact, you can't make money off of it, but if you're one of the first people to make that connection, then yes it can be very rewarding. One of the greatest geniuses in financial math was Edward Thorpe, and he had analyzed a card game that was played in the casinos called Blackjack, and he figured out how to play the game to have an advantage, and the casinos had to change the rules, because he'd figured these things out. He later also applied the same ability to optimize to finding things in the stock market, to say certain things are worth this much, and if people are selling that much then you can make some good money. I am not trained in finance and macroeconomics, but I know some people who are very strong mathematically and who've gone on to do very well in the financial sector, and it's good for people in that sort of field. I used to say if I hadn't gone into teaching I might've gone into financial mathematics, and now I'm saying if I hadn't gone into teaching I might have got into Data Science, because it defines a lot of things I like to do.

When one reads about you, one comes across the fact that you've been deeply involved with skepticism. With due respect, what do you believe is truer about skepticism, is it a constant state of questioning widely accepted standards, or a temporary suspension of belief ?

You know what, I was greatly influenced by another magician by the name of James Randy. He performed as Amazing Randy. A very successful escape artist and illusionist, but like Houdini, was disappointed in seeing magicians deceive the public using magic tricks represented as legitimate science. Millions believe in communicating with dead people and would spend money on these magicians (or worse). I met him early in my career, as I was starting to perform shows. He got very excited because it allowed him to say that these people are full of it and are not telling the truth. They are making you believe in things that are not true, whereas this guy is not cheating. He's doing amazing things with his mind but he's not claiming supernatural powers to do it. This is what we should be paying attention to - science is beautiful all by itself and it doesn't need supernatural mumbo jumbo. If there are things out there that we don't understand, let's study and research them.

For instance, in parapsychology, there is not a single repeatable experiment in that field. Does Extrasensory Perception exist?

Probably not, but no one's been able to measure anything for a little bit of time. As I was transitioning from doing magic to mentalism, I thought this was magic and I could really pull it off, but after meeting Randy and a few others, I felt guilty that I might be spreading misinformation. After my show, if people thought "Oh my gosh look at that guy he really could read your mind", I wouldn't want people to start thinking that was legitimate. I've always performed things that for the most part I was willing to explain afterwards. Most magicians would never do that but when it comes to mathematical magic it should be open, there should be no secrets. I think the explanation can be more fascinating than the effect.

Article by:
Sagarika Seshagiri

Enriching Institute Leadership Dimensions

Dr. Poornima Panduranga Kundapur,

Associate Professor, Department of Data Science and Computer Applications, has been appointed as Associate Director, Student Welfare, MIT Manipal, with effect from February 2023.



Dr. Vishwanatha H. M.,

Assistant Professor-Senior Scale, Department of Mechanical & Industrial Engineering has been appointed as Assistant Director-Quality Assurance, MIT, Manipal with effect from 20 October 2022.



Dr. Kuncham Syam Prasad, Professor in Department of Mathematics has been appointed as Head of the Department of Mathematics with effect from March 2023.



Dr. Diana Olivia, Associate Professor, Department of Information and Communication Technology has been appointed as Assistant Director-Student Welfare, MIT, effective from March 2023.

Dr. Vidya Rao, Assistant Professor, Department of Data Science & Computer Applications appointed as in Charge of Central Computing Facility (CCF), MIT Manipal with effect from 14 March 2023.



Dr. Raghavendra U Receives Prof. Satish Dhawan Young Engineers State Award



Dr. Raghavendra U, Associate Professor, Department of Instrumentation and Control Engineering, MIT and Deputy Registrar, MAHE is honored with the prestigious Prof. Satish Dhawan Young Engineers State Award in the field of Engineering Sciences for the year 2020, instituted by the Government of Karnataka. The awards presentation was held on 23 March 2023 at the J N Tata Auditorium, Indian Institute of Science, Bengaluru. Sri Basavaraj S. Bommai, Hon'ble Chief Minister of Karnataka presented the awards in the presence of Bharat Ratna Prof. C.N.R. Rao and other dignitaries. Dr. C. N. Ashwath Narayan, Hon'ble Minister for Higher Education, Electronics,

IT, BT and S&T, Skill Development, Entrepreneurship and Livelihood Departments, Government of Karnataka presided over the function.

Dr Pallavi R Mane Receives Outstanding Woman Volunteer Award

Dr Pallavi R Mane, Professor, Senior Member-IEEE, Department of Electronics and Communication Engineering, has received the Outstanding Woman Volunteer Award (MSS-OWV) 2022 from IEEE Mangalore Sub-Section (MSS). The Award program was graced by Shree B. S. Bindhumadhava, Senior Director, Centre for Development of Advanced Computing (C-DAC), Ministry of Electronics and Information Technology (MeitY), Govt. of India.

Dr. Pallavi Mane has been associated with the MSS since 2015 and has served as Secretary, Executive Committee member and as Vice Chair of IEEE Mangalore sub-section.



Dr. Mamata Balachandra, Professor, Department of Computer Science and Engineering received a letter of recognition from the International Cyber Security Society, Australia, for being the Lead Organizing Chair of the 15th Artificial Intelligence and Cyber Security Workshop and the 13th Cyber Security and Data Mining Competition. The event was conducted in association with ICONIP2022, New Delhi, India.



Dr. Yogesh Pai, Professor & Head, Department of Humanities and Management, MIT Manipal delivered a talk at Visvesvaraya Technological University, Belagavi on January 5, 2023, on the topic "Drive Safely- Lens for Better Vision".



Dr. Radhika Kamath, Associate Professor and **Dr Mamata Balachandra**, Professor, Department of Computer Science and Engineering guided Mr. Rahat Santosh (graduated from CSE in 2022), Mr. Abhinav Agarwal (VIII Semester B.Tech CSE) and Mr. Pranshu Goyal (VIII Sem B.Tech CSE) for their Samsung PRISM Worklet titled "On Device Native Utility for Creating and Modifying ONNX Models" from January to October 2022. The team was awarded the "Certificate of Excellence" for this Worklet.

The MIT Badminton team (Men below 40 years) consisting of **Dr. Gurumurthy S C**, Department of Physics, **Dr. Chethan K N**, Department of Aeronautical & Automobile Engineering, **Dr. Prateek Jain**, Department of Electrical and Electronics Engineering and **Dr. Pavan Hiremath**, Department of Mechanical & Manufacturing Engineering won the championship title for the fifth time at the International Level Badminton Staff Tournament held from 21 to 24 January 2023 at PES University, Bengaluru.



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Dr. Naresh Kumar Mani, Associate Professor, Department of Biotechnology, MIT, in collaboration with Reckitt Benckiser (a multi-national company producing household items and toiletries), received the first instalment of 49.42 Lakhs (out of 1.03 crores). His research focuses on developing POC systems, which can complement time consuming laborious laboratory protocols and conventional culture-based techniques. His research also focuses on developing novel fabrication techniques and treatment methods for improving sensitivity of detecting analytes. Dr Naresh K Mani, Associate Professor, Department of Biotechnology, MIT received the first installment of Rs. 45.2 Lakhs industrial grant (out of 1.03 crores) from Reckitt Benckiser in November 2022. This collaborative research focuses on product development and is the first of its kind in MIT.



Mrs. Akshatha K.R., Assistant Professor Senior Scale at Department of ECE, MIT under the guidance of **Dr. Karunakar A Kotegar**, Professor at Department of DS&CA, MIT and Director of International Collaborations, MAHE, published a research article entitled "Manipal-UAV person detection dataset: A step towards benchmarking dataset and algorithms for small object detection" at ISPRS Journal of Photogrammetry and Remote Sensing. The paper was published with co-authors Satish Shenoy B., Phani Pavan K., Chinmay V. Dhareshwar, and Dennis George Johnson. The journal article has an impact factor, 11.774.



Dr. Naresh Kumar Mani, Associate Professor, Department of Biotechnology, MIT, **Dr. Praveen Kumar**, Assistant Professor - Selection Grade, Department of Biotechnology, MIT, **Dr. Vijendra Prabhu**, Assistant Professor - Selection Grade, Department of Biotechnology, filed a patent on "Process facilitating Signal Enhancement in Molecular Assays" (2023). IPO (Filing no: 202341014979)



Dr. G. Subramanya Nayak, Professor, Dept. of ECE received the Best Paper Award for his paper entitled "Design and Analysis of Four Port Router for Network-On-Chip Applications" in the Communication Systems track, at the Second International Conference on Artificial Intelligence, Computational Electronics and Communication System (AICECS 2023), organized by the Department of Electronics and Communication Engineering, MIT, Manipal. The paper will be published in IOP: Journal of Physics, a conference proceedings journal by the Institute of Physics, United Kingdom.



Dr. Bharath Raja Guru, Professor, Department of Biotechnology was an invited speaker for the conference called BIOSTERMI held at IIT Guwahati in December 2022, where he also chaired a session. Dr Guru is presently the Vice President of Society of Tissue Engineering and Regenerative Medicine, India (STERMI). He also holds the position of Director of Vyabja Ocular Innovations Pvt. Ltd. and is the Coordinator of the Centre for Ocular Nanomedicine, MIT.

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Dr Dasharathraj K Shetty, Associate Professor, Dept. of Data Science and Computer Applications, MIT chaired a session in SAMAROH-2023, a Two-Day National Conference on Business Management and Social Innovation during 11-12 February 2023 jointly organized by SSIM, Hyderabad and Association of Indian Management Schools.



Dr. K Abhimanyu Kumar Patro, Assistant Professor, Department of Mechatronics Engineering, has been appointed as Editorial Board Member (Academic Editor) of "Advances in Multimedia" Journal, Hindawi.

Dr. Sathish Kumar M, Professor of ECE Department, MIT, Manipal participated in the Half Marathon at the Manipal Marathon 2023 on 12 February 2023 and won the second prize in MAHE Staff, 55+ years age category. He completed the half marathon in 2 hours, 26 minutes and 36 seconds.



Dr. Sumith N, Associate Professor, Dept of ICT and **Dr. Yashwanth N**, Assistant Professor-Sr. Scale, Dept of E&C have successfully completed the prestigious Cyber Security Scholar Program. This is the highest-level cyber security program offered in India, focusing on protection of the Critical Information Infrastructure (CII) sectors. The course was fully sponsored by ISAC for these two participants as a part of the initiatives of the Centre of Excellence (CoE) for Cyber Security, MIT, MAHE, Manipal coordinated by Dr. Balachandra, Professor, Dept of ICT.



Dr. Manish Varun Yadav, Assistant Professor-Senior Scale, Department of Aeronautical & Automobile Engineering acted as a Session Chair and Reviewer at the IEEE CONFERENCE (International Conference on Recent Trends in Electronics and Communication (ICRTEC 23) held at the National Institute of Engineering (NIE), Mysuru, on February 10th and 11th, 2023, under the theme “Upcoming Technologies for Smart Systems”.

Dr. Manish Varun Yadav, Assistant Professor-Senior Scale, Department of Aeronautical & Automobile Engineering and his student Ms. Shivani Ranjan won the Outstanding Contribution award at the IEEE International Conference on Range Technology-2023 (ICORT

23) organized by Integrated Test Range, Chandipur, DRDO in the month of February 2023.

Dr. Vijay Tambrallimath, Assistant Professor – Senior Scale, Aeronautical and Automobile Engineering, MIT, edited a book on “Development, Properties, and Industrial Applications of 3D Printed Polymer Composites.” The book is published by IGI Global USA, which is a Scopus Indexed publishing house.



Dr. Poornima Panduranga Kundapur delivered an invited talk on “Time management”

at JSS AHER, Mysore. The talk titled “Interprofessional Education & Collaborative Practice” was delivered on 22 February 2022 and it was organized by Centre for Continuous and Lifelong Learning for Professional Excellence (CCLPE) and Special Interest Group, IPECP under the leadership of Internal Quality Assurance Cell, JSS AHER, Mysore.



Dr. Poornima Panduranga Kundapur, Associate Director, Student Welfare, MIT, Associate Professor, at DS&CA, moderated the symposium session titled “DigitALL: Innovation and Technology for Gender Equality” on Women’s Day, organized by MAHE, Manipal on 8 March 2023.

Dr. Vidya Rao, Assistant Professor, Department of DS&CA delivered a keynote speech on “Smart Applications for Smarter Life” at 3-Day student development program jointly organized by the Department of Information Science and Engineering and Electronics and Communication Engineering of Atria Institute of Technology, Bengaluru on 10 March 2023. She was also invited to deliver a talk on “Applications of Internet of Things” for the online MCA students of Hindustan University, Bengaluru on 12 March 2023.



Dr Jeane Marina D'Souza, Assistant Professor, Dept. of Mechatronics delivered a guest lecture on ‘Robotics in Maritime Domain & Application of Robots in Marine Sector’ at the Indian Naval Academy, Ezhimala, Kerala on 8 February 2023.

Dr. Y Shrihari Upadhyaya, Associate Professor- Senior Scale, Department of Mechanical & Industrial Engineering, MIT, and CEO, Manipal Universal Technology Business Incubator (MUTBI), was interviewed by All India radio on the topic “Shikshana samsathegala moolaka udhyama snehi vathavarana nirmana”, as a part of Yuvavani, Daarideepa Program, AIR, Mangalore on 10 March 2023.



Dr. Nandini Kumari, Assistant Professor, Department of DS&CA, along with Shamama Anwar, Vandana Bhattacharjee, and Sudip Kumar Sahana published a research article titled “Visually evoked brain signals guided image regeneration using GAN variants, Multimedia Tools and Applications”, in Multimedia tools and applications, Springer 2023.



Dr Neelima Bayyappu, Associate Professor, Department of Computer Science and Engineering, organized the 29th IEEE International Conference on High Performance Computing, Data and Analytics, from 18 December to 21 December 2022 in Bengaluru. It is indeed an outstanding achievement as she is the first woman general chair since its inception 29 years ago. She has presented a paper and chaired a session at this prestigious event.

Dr. S. Shanmuga Priya, Associate Professor-Senior Scale, Dept. of Chemical Engg. received a research grant of Rs. 40 lakhs for a period of 2 years from VGST, Govt of Karnataka for the establishment of a Centre of Excellence in Solar Fuels for the project titled “Development of Low Cost and Bio-based MOF for Photocatalytic Reduction of Carbon Dioxide to Solar Fuels” [CESEM/GRD No. 1005] dated 15 February 2023.



MIT, Manipal receives accolades from the Chairman, Institute of Defence Scientists

MIT, Manipal received accolades from the Chairman, Institute of Defence Scientists and Technologists, Bangalore (IDST-B) as the best coordinating institution that offers joint MTech program in Defence Technology. The collaboration with IDST that started two years ago translated into a joint MTech program in Defence at MIT, Manipal in the year 2021 in addition to five other institutions in India. On the successful completion of the first batch, in recognition of the proactive coordination from the Department of Aeronautical and Automobile Engineering, MIT, Manipal, the chairman issued a formal certificate of appreciation to Dr. Pramod B Salunkhe and Dr. Srinivas G.



Team Sushraavya performs “Nadamrutha”- a classical music concert

A musical concert ‘Nadamrutha’ was performed by a team comprising faculty members of MIT, Manipal as part of Sri Venugopalakrishna Temple 50th Pratishta Mahotsav Celebrations on 20 February, 2023.

Team members: Dr Vidya Rao, Assistant Professor, Senior Scale (Instrumentation and Control Engineering), Dr Ramya S, Associate Professor(Electronics and Communication Engineering), Dr Bhagya Navada, Assistant Professor, Senior Scale (Instrumentation and Control Engineering), Ms. Soumya S, Assistant Professor (Electronics and Communication Engineering) , Ms Rajitha KV, Assistant Professor Senior Scale (Biomedical Engineering), Ms Chaithra M, Assistant Professor (Civil Engineering), Ms Prathvi Shenoy, (Electrical & Electronics Engineering), Dr Shilpa Suresh, Assistant Professor (Mechatronics), Mr Suhas Kowshik, Assistant Professor, Senior Scale (Mechanical Industrial Engineering), Dr Arjun (Electrical & Electronics Engineering), Mr Hari Krishnan (2017, Batch, MTech. Thermal Engineering)



Ms. Malvika Agarwal, student of Mechanical Engineering, 2018-2022 Batch, **Dr. Arunachala Chandavar**, Professor, and **Mr. K Varun**, Ph.D. scholar, all from the Department of Mechanical Engineering and Industrial Engineering, MIT Manipal published a paper in Applied Energy, "Sustainable passive cooling strategy for photovoltaic module using burlap fabric-gravity assisted flow: A comparative Energy, exergy, economic, and enviroeconomic analysis" in a Q1 Journal with the Impact Factor of 11.446 and Top 1 % in Scopus.



Dr. Aasif Mohmad Lone, Postdoctoral Fellow, Department of Civil Engineering, who is currently working under the supervision of Dr. K Balakrishna, Professor of Geology, MIT Manipal was selected to participate in the India International Science Festival (IISF-2022) held in MANIT Bhopal during 21 - 24 January 2023. The India International Science Festival (IISF) is an initiative of the Ministry of Science and Technology and the Ministry of Earth Science of the Government of India.

Dr. Keshava Balakrishna, Professor of Geology in the department of Civil Engineering at Manipal Institute of Technology received the award for best research publication in the area of Geology, Earth and Environmental Sciences for the year 2021-22. This award is given by the Vision Group on Science and Technology (VGST), Government of Karnataka to outstanding researchers and faculty, who have published their research in reputed peer-reviewed scientific journals. This award carries a cash prize of Rs 25,000.

Dr. Balakrishna was chosen for this award based on his team's work on identifying pollutants like pharmaceuticals and personal care products, persistent organic pollutants in water bodies and air in coastal Karnataka and selected lakes and rivers near Bengaluru. Dr. Balakrishna and his team also reported pockets of saltwater intrusion in selected regions of coastal Karnataka. These studies are expected to benefit the researchers and decision makers in formulating appropriate guidelines in wastewater treatment, groundwater resource management and air pollution control.



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Dr. Venkatachalam Hillemane, Assistant Professor-Senior Scale, Department of Chemistry received a patent for a chemical synthesis titled "A process for synthesis of 2-(4-benzyloxyphenyl)-3-hydroxychromen-4-one". It is a specific, promising and potential candidate of flavonol as an anti-inflammatory molecule tested on rat models. The work is a part of his Ph.D. work carried out under the guidance of Dr. Jayashree Bellur Srinivas Iyengar, Professor, Department of Pharmaceutical Chemistry, Manipal College of Pharmaceutical Sciences, Manipal along with Dr. Chandra Sekhar Misra, Senior Research Scientist, Glenmark Pharmaceuticals, Pvt. Ltd.

A patent for Dual Emissive Water-Based Security Ink Formulation has been awarded to a research team of MAHE on 27 January 2023. The team comprised **Dr. Dhanya Sunil**, Associate Professor-Senior Scale, Department of Chemistry, MIT Manipal, Ms. Kashmitha K C, Research Scholar, Department of Chemistry, Dr. Suresh D Kulkarni, Associate Professor, Department of Atomic and Molecular Physics, MAHE, Mr. P J Anand, Senior Manager, R&D, Manipal Technologies Ltd., and Mr. Prinston Melroy Lewis, Research Scholar, Department of Atomic and Molecular Physics, MAHE. The area of invention is Polymer Technology and Security Printing.



Ms. Pooja M., Dr. T.M.A. Pai Research Fellow in the Department of Chemistry, MIT, Manipal bagged the Dewan Jawahar Lal Nayar prize for the Best Poster Presentation during 29th National Conference on Liquid Crystals (NCLC-2022) held at CHRIST (Deemed to be University), Bengaluru, during 8th - 10th December 2022. She presented a research paper entitled “Frustrated phases, rich phase sequences, re-entrant phases, and technologically significant mesophases in new liquid crystal dimers derived from cholesterol”. Dr Maddasani Srinivasulu, Department of Chemistry, MIT is her research guide and Dr. C. V. Yelamaggad, Scientist-F, Centre for Nano and Soft Matter Sciences (CeNS), Bengaluru is the co-guide for her doctoral studies.



Dr. Narendra Khatri, Assistant Professor, Department of Mechatronics has filed a patent titled “IOT BASED AGRICULTURAL SPRAY MACHINE” along with Dr. Sandeep Kumar, Professor Department of Computer Science & Engineering, Koneru Lakshmaiah Education Foundation, Andhra Pradesh, Dr. Arpit Jain, Professor, Department of Computer Science & Engineering, Koneru Lakshmaiah Education Foundation, Andhra Pradesh, Ms. Deepika, Research Scholar, Department of Computer Science & Engineering, Om Sterling Global University, Haryana, Dr. S Venkata Achuta Rao, Professor, CSE Department, Dean (Academics), Sree Datta Institute of Engineering and Science, Telangana, on 21 January 2023.



He has also registered a patent titled “IOT BASED ROBOT FOR SANITIZATION” on 25 January 2023 along with Dr. Arpit Jain Professor, Dr. Sandeep Kumar, Professor, Department of Computer Science & Engineering, Koneru Lakshmaiah Education Foundation, Andhra Pradesh, Mr. Tushar Mehrotra Assistant Professor, Department of Computer Science & Engineering, Sharda School of Engineering and Technology, Sharda University, UP., and Dr. S Venkata Achuta Rao Professor, CSE Department, Dean (Academics), Sree Datta Institute of Engineering and Science, Telangana.

Dr. Narendra Khatri, Assistant Professor, Department of Mechatronics, received the Best Paper Award at the Conference on Computational Intelligence and Knowledge Economy-ICCIKE2023 at Amity University Dubai, UAE, technically co-sponsored by IEEE UAE during 9-10 March 2023. He also chaired a session on Artificial Intelligence and the Internet of Things.

A research paper titled ‘Resident Empowerment for Sustainable Tourism: A Bibliometric Analysis’ by Mr. Vageesh Kelkar, Asst. Professor, WGSMA and co-authored by **Dr. Giridhar Kamath**, Assistant Professor (Senior Scale), Department of Humanities and Management, MIT and Ms. Jyothi Mallya, WGSMA received the ‘Second Best Paper Award’ at International Conference: Emerging Trends in Operations and Analytics held at TAPMI, Manipal during 17-19 March 2023.



A research paper titled “An empirical study of consumer satisfaction and Loyalty in B2C E -Commerce Among Indian Youths” by **Dr K V Sriram**, Associate Professor, **Dr Asish Oommen Mathew**, Associate Professor, Department of Humanities & Management, MIT and Bussu Srikar Reddy, Sumanth Chollete, was awarded with the “Outstanding Paper Award” at the 21st International Conference on e-Society, Portugal, Lisbon. The conference was organized by International Association for Development of Information Society (IADIS) during March 11-13, 2023.

Dr. Manohara Pai M M, Professor in Department of Information & Communication Technology, has been granted the Indian patent for ‘Sensor Data Security’.



PhD Awardees: Faculty Members



Dr. Ganesha A, Assistant Professor-Senior Scale, Department of Mechanical & Industrial Engineering has successfully defended his Doctoral thesis titled “Static and Dynamic Characteristics of Multi Pad Adjustable Bearings with Asymmetric Adjustments” for the award of PhD degree by the Manipal Academy of Higher Education, Manipal on 13 January 2023. The research work was guided by Dr Raghuvir Pai B., Professor, Department of Mechanical & Industrial Engg. MIT, Manipal and co-guided by Dr. S. M. Abdul Khader, Additional Professor, Department of Mechanical & Industrial Engg. MIT, Manipal

Dr Yogeesha Pai, Assistant Professor-Senior, Department of Aeronautical & Automobile Engineering has successfully defended his Doctoral thesis titled “Experimental Investigation of Hygrothermal Effects on Low Velocity Impact Behavior of Aramid-Basalt Hybrid Polymer Composites” for the award of PhD degree by the Manipal Academy of Higher Education, Manipal on 25 January 2023. The research work was guided by Dr. Dayananda Pai K, Professor & Head, Department of Aeronautical & Automobile Engineering, MIT, Manipal and co-guided by Dr. M. Vijaya Kini, Professor, Department of Mechanical & Industrial Engg., MIT, Manipal



Dr Sravani Vemulapalli, Assistant Professor-Senior Scale, Department of Instrumentation & Control Engineering has successfully defended her Doctoral thesis titled “Design & Implementation of a Robust Soft Sensing Technique for a Flow Process” for the award of PhD degree by the Manipal Academy of Higher Education, Manipal on 4 February 2023. The research work was guided by Dr. Santhosh K V, Associate Professor-Senior Scale, Department of Instrumentation & Control Engineering, MIT, Manipal.

Dr Jayshish Kumar Pandey, Assistant Professor, Department of Aeronautical & Automobile Engineering has successfully defended his Doctoral thesis titled “Study of Hydrogen Port Injection SI Engine” for the award of PhD degree by the NITK, Surathkal on 7 February 2023. The research work was guided by Dr. Kumar G. N., Associate Professor, Department of Mechanical Enggineering NITK, Surathkal.



Dr. Anand Pai, Assistant Professor-Senior Scale, Department of Aeronautical & Automobile Engineering has successfully defended his Doctoral thesis titled “Fabrication and Analysis of Shielding Armors Employing Partially Auxetic Materials for Enhanced Endurance Against Shock Impact during Low-Intensity Blasts” for the award of PhD degree by the Manipal Academy of Higher Education, Manipal on 25 February 2023. The research work was guided by Dr. Satish B. Shenoy, Professor, Department of Aeronautical & Automobile Engineering, MIT, Manipal and co-guided by Dr. Chandrakant R. Kini, Professor, Department of Aeronautical & Automobile Engineering, MIT, Manipal.

PhD Awardees: Full Time Research Scholars



Dr. Roshan R. Naik, Full-time Research Scholar in the Department of Electronics & Communication Engineering has successfully defended his Doctoral thesis titled “Development of An Image Registration System for the Identification of Vertebral Level and Pedicle Screw Trajectory” for the award of PhD degree by the Manipal Academy of Higher Education, Manipal on 02 January 2023. The research work was guided by Dr. Anitha H., Professor, Department of Electronics & Communication Engineering MIT, Manipal and co-guided by Dr. Shyamasunder Bhat N., Professor & Head, Department of Orthopedics, KMC Manipal.

Dr. Sofia D. Souza, Full-time Research Scholar in the Department of Computer Science & Engineering has successfully defended her Doctoral thesis titled “Prediction of Drug Target Interaction using Machine Learning Approach” for the award of PhD degree by the Manipal Academy of Higher Education, Manipal on 05 January 2023. The research work was guided by Dr. Prema K. V., Professor and Head, Department of Computer Science & Engineering, MIT, Bengaluru and co-guided by Dr. Balaji S., Additional Professor & Head, Department of Biotechnology MIT, Manipal.



Dr. Nimitha S. Prabhu, Full-time Research Scholar in the Department of Physics has successfully defended her Doctoral thesis titled “Irradiation Effects on Er³⁺, Yb³⁺ And Sm³⁺ Doped Barium Zinc Borate Glasses” for the award of PhD degree by the Manipal Academy of Higher Education, Manipal on 06 January 2023. The research work was guided by Dr. Sudha D. Kamath, Professor, Department of Physics, MIT, Manipal.



Dr. Sandeep Nambiar S., Full-time Research Scholar in the Department of Mechanical and Industrial Engineering has successfully defended his Doctoral thesis titled “Study on Magnetostructural and Mechanical Properties of Ni-Mn Based Heusler Alloys” for the award of PhD degree by the Manipal Academy of Higher Education, Manipal on 12 January 2023. The research work was guided by Dr. Murthy B. R. N., Additional Professor, Department of Mechanical & Industrial Engineering, MIT, Manipal and co-guided by Dr. Sathyashankara Sharma, Professor and Head, Department of Mechanical & Industrial Engineering, MIT, Manipal.



Dr. Shraddha Pai, Full-time Research Scholar in the Department of Chemical Engineering has successfully defended her Doctoral thesis titled “Acid Blue 113 Dye Removal from Aqueous Solution using Green Synthesized Magnetic Hydroxyapatite Nanocomposite” for the award of PhD degree by the Manipal Academy of Higher Education, Manipal on 08 February 2023. The research work was guided by Dr. Srinivas Kini, Professor, Department of Chemical Engineering, MIT Manipal and co-guided by Dr. Raja S., Additional Professor, Department of Chemical Engineering, MIT Manipal.



Dr. Suraj Mangavati, Full-time Research Scholar in the Department of Physics has successfully defended his Doctoral thesis titled “Investigation on Structural and Thermoelectric Properties of Cu₂Se and ZnO Systems” for the award of PhD degree by the Manipal Academy of Higher Education, Manipal on 28 February 2023. The research work was guided by Dr. Ashok Rao., Professor, Department of Physics, MIT, Manipal.



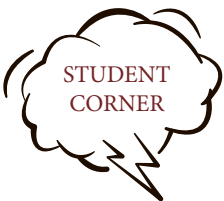
Dr. Nisha B. K., Full-time Research Scholar in the Department of Civil Engineering has successfully defended her Doctoral thesis titled “Geochemistry of Payaswini-Chandragiri River System, South-West Coast of India” for the award of PhD degree by the Manipal Academy of Higher Education, Manipal on 09 march 2023. The research work was guided by Dr. K. Balakrishna, Professor, Department of Civil Engineering, MIT Manipal and co-guided by Dr. Udayashankar H.N, Retired Professor, Department of Civil Engineering, MIT Manipal.



Dr. Akshitha, Full-time Research Scholar in the Department of Civil Engineering has successfully defended her Doctoral thesis titled “Assessment of Groundwater Resource in Selected Subwatersheds of Udayavara River Basin, Karnataka, South-West India” for the award of PhD degree by the Manipal Academy of Higher Education, Manipal on 11 March 2023. The research work was guided by Dr. K. Balakrishna, Professor, Department of Civil Engineering, MIT Manipal and co-guided by Dr. Udayashankar H.N, Retired Professor, Department of Civil Engineering, MIT Manipal.



Dr. Fiona Concy Rodrigues, Full-time Research Scholar in the Department of Biomedical Engineering has successfully defended her Doctoral thesis titled “Development of Nano Drug-Delivery Systems of Curcumin Derivatives and Analogues for the Na-Nagenient of Breast and Colon Cancer” for the award of PhD degree by the Manipal Academy of Higher Education, Manipal on 29 March 2023. The research work was guided by Dr. Goutam Thakur, Additional Professor, Department of Biomedical Engineering, MIT Manipal and co-guided by Dr. N. V. Anilkumar, Additional Professor, Department of Chemistry, MIT Manipal and Dr. Suja Ann Mathew, Former Assistant Professor, Manipal Institute of Regenerative Medicine (MIRM), Bengaluru.



Art by : Prem Shirodkar
II Year Automobile Engineering

M.Sc. students from the Department of Chemistry emerge victorious in the National Level Intercollegiate Fest UTKHANAN

M.Sc. students from the Department of Chemistry participated in the National Level Intercollegiate Fest UTKHANAN on 21 January 2023 at NITK, Surathkal. With a total of 500 points, MIT bagged the Overall College Championship, UTKHANAN 2023. The students participated in all 8 events and bagged 6 prizes.

The prize winners' details are as follows:

Trashion (First Prize) - Shri Gauri K N, H D Chinmayi

Scientific Poster Presentation (First Prize) - Sithara Rao

Just a Minute (First Prize) - Srishti Suman Bhol

The Big Bang (First Prize) - Gowthami G Kamath, Anith Naik, Maithri Rao

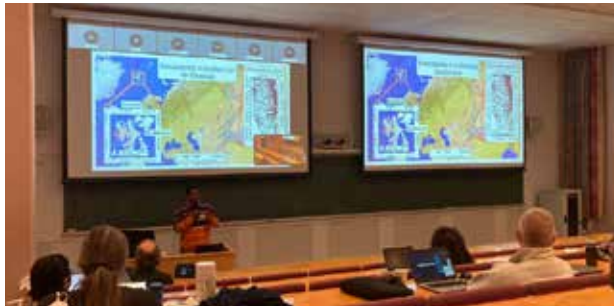
Debate (Runner up) - Achania Chandran

Reel it (Runner up) - Anush

Other participants: Stress Interview - Anjali Jaison, Chem Rangoli, Vasavi Nayak & Ashika.



Manipal PhD student bags international award and visits Arctic



Mr. Sagar Filipe Wankhede, a PhD Research Scholar from the Dept. of Civil Engineering, Manipal Institute of Technology, MAHE was awarded the Svalbard Integrated Arctic Earth Observing System (SIOS) Early Career Researcher (ECR) award recently. SIOS is an international consortium comprising of 28 member institutions across 10 countries. It is a consortium for facilitating access, data, and funding to work in the freezing high Arctic Archipelago.

This award was granted to Mr Sagar to present his research during the Polar Night Week conference, held at Longyearbyen, Svalbard. He spent one month in the Arctic, at the international observatory SIOS between January 20 and February 20, 2023, presenting his research paper and interacting with the researchers of SIOS. He presented his work on the mapping of Himalayan and Arctic glaciers using various image processing tools. His work is expected to improve understanding of the melting properties of glaciers, in the context of global warming. Mr Sagar was the only recipient of this travel award from Asia, and the first person to travel to Svalbard, Arctic from the Manipal Academy of Higher Education.

The MIT Men's Basketball Team has emerged as the Winners of the Inter-MAHE Basketball Championship held on 4 March 2023.



MIT Team Wins MAHE Football Tournament



The MIT Team won the first place in the Intercollegiate MAHE Football tournament, and Revels 2023. Inter-MAHE competition was conducted on 1 March 2023 with a total of 7 teams; MIC, MSAP, MCODES Mangalore, KMC Mangalore, KMC Manipal, MCHP and MIT. Team MIT won the quarter finals against MIC 4-0 and won the semi-final against MCODES Mangalore (home team) 5-0. The finals was between MIT and MCHP, and Team MIT Manipal won 3-1. For the Revels 2023, MIT were pitted against NIT Trichy in the finals on March 18th and it won the match with a scoreline of 4-0.

Schneider Electric India Foundation scholarships to meritorious students

Schneider Electric India Foundation provides scholarships to meritorious students pursuing Electrical Engineering. Each year 20-30 students are given this scholarship to encourage more students to explore avenues in the field of Electrical Engineering.

The following students from MIT Manipal have been selected as recipients of the scholarship:

Mr. Vedant Singh (B.Tech. Electrical and Electronics Engineering)

Ms. Anna Maria James (B.Tech. Computer and Communication Engineering)

Mr. Sandeep Kumar Rai (B.Tech. Computer and Communication Engineering)

AAAI Undergraduate Consortium Scholars 2023



Mr. Aman Priyanshu (4th Year, Department of Information & Communication Technology), Supriti Vijay (4th Year, Department of Computer Science), and Pratinav Seth (3rd Year, Department of Data Science & Computer Applications) were among the eleven undergraduate students selected worldwide as AAAI Undergraduate Consortium Scholars 2023. Each of them was awarded a Travel Grant of \$2000 and presented their work at the Thirty-Seventh

AAAI Conference on Artificial Intelligence (AAAI-23) {A* Conference} at the Walter E. Washington Convention Center, Washington, DC, USA during 7-14 February 2023.

Ms Kashmitha Muthamma, Research Scholar, Department of Chemistry, MIT Manipal has been selected for the award of Kundapur Mohan and Latha Bhandarkars' merit-cum-means Scholarship, MAHE, Manipal for Ph.D. candidates for the academic year 2022-2023. The award will be presented on the Founder's Day- 30 April 2023.



Ms Shruthi U, Research Scholar, Department of Mathematics received INSPIRE fellowship from DST Govt. of India for her Ph. D. program.

Ms Shivani Ranjan, Department of Electronics and Communication Engineering, MIT Manipal received an Outstanding contribution Award as an author of technical article presented at 3rd IEEE International Conference on Range Technology, 2023 organized by ITR-DRDO, Chandipur, Odisha during 23-25 February 2023.



Mr Deepesh Garg, third year student of Information Technology Engineering, has been selected for international round for the “2023 New York University Abu Dhabi (NYUAD) Hackathon for Social Good” focusing on Quantum Computing and the UN SDGs, (27 April - 1 May 2023).

Arushi Gandhi, a third-year student of Information Technology and founder of *Fundinc*, was granted the eHer cohort acceptance. This is awarded to her as a recognition of female founder initiative. Team *Fundinc* was among the top 8 teams selected across India, amongst a pool of 500 students. This will be a 6-week cohort designed to mentor and upskill its participating startups and founders, culminating in a demo day and Grad Capital’s potential offer of \$40,000. The team also has Mr. Deepesh Garg, 3rd Year Information Technology and Mr. Arnav Lohiya, 2nd Year Chemical Engineering.



Team Helios, a student team of MIT, including **Mr. Ronan Mark D’Souza**, student of third year Data Science Engineering, **Ashwinraj Manikandan** and **Darpan Theng**, students of third year Aeronautical Engineering, along with Karan Gandhi, student of second year Computer Science and Engineering, won the FOSS Hack 3.0. The winning team received a prize money of INR 1,00,000.

Mr. Shreepathy Ranga Bhatta B, a Ph.D. scholar in the Department of Humanities and Management, MIT Manipal has performed in a Carnatic Vocal concert at the MARGAZHI SANGEETHA SEVA, Chennai, on 6 January 2022. Top Artistes aspire to be invited to perform in this unique 30-day series of Carnatic Vocal concerts featuring over 100 well-known Artistes



MIT team wins prizes at iACT 2023



Team ISA Manipal, a student team of MIT, Manipal participated and won prizes in the Ideathon event, iACT 2023. It was organized by B.M.S. College of Engineering, Bengaluru, in collaboration with I.S.A. Bangalore from 31 March to 1 April 2023. The event consisted of four phases, which allowed the participants to showcase their talent and teamwork skills. In the first phase, the participants were divided into teams of 4-5 members, and each team was assigned a mentor to observe their work. In the second phase, the teams were presented with three themes focusing on Industry, Innovation, and Infrastructure, Quality Education, and Good Health and

Well-being. In the third phase, the teams presented their ideas to their respective mentors, who evaluated their solutions based on various criteria, including innovation, practicality, outreach, scalability, technique, and thoroughness. In the fourth phase, the judges evaluated the presentations based on the same criteria, and the winning team was announced.

News from Techshila...

Team Manipal Racing Electric

At the conclusion of Phase-2 of E-BAJA SAEINDIA 2023 (Electric All-Terrain Vehicle competition in 3 phases), out of 80 participating teams, Team Manipal Racing Electric (TMR-E) has secured 2nd position in All India in Design, 5th in Computer Aided Design, 8th in cost and earned the 3rd overall position. The competition now moves towards Phase-3 as the team works tirelessly to get the car ready for the Technical Inspection and gruelling physical events.



Formula Manipal team participates in the Formula Bharat



Formula Manipal team participated in the Formula Bharat event held at Kari Speedway, Coimbatore during 19- 24 January 2023. Formula Bharat is an Indian Formula Student-style engineering design competition, in which students from colleges and universities all over the country, compete in making a life-size formula-style vehicle in areas of engineering design, overall cost, marketability, and dynamic performance. The series replicates the global Student Formula series hosted in around 11 countries every year.

The team stood 5th Overall, out of 31 teams that participated under Combustion Vehicle category. Under Static Events, the team stood 2nd in Cost & Manufacturing, 6th in Business Plan and 13th in Engineering Design. Under Dynamic Events, the team stood 4th in

Acceleration and 3rd in Autocross. The team is now working on the vehicle for Formula Student Austria 2023 and Formula Student East (Hungary) 2023, where it is one of the two Indian teams, and it is a matter of pride to represent the nation and the university.

Mars Rover Manipal Team participates in the International Rover Challenge

Mars Rover Manipal Team participated in the International Rover Challenge (IRC) 2023, during 28 - 31 January 2023 at Presidency University, Bangalore. The event is organized by Space Robotics Society, India. It challenges university students to conceptualize and design Next-Gen Mars Rovers, which shall be fully equipped and mission ready for future astronaut-assistive exploration operations on Mars. The team stood in 3rd position, out of 36 participating teams, including international teams. The team is now working on the Rover, for participation in University Rover Challenge (URC) 2023 in USA in May 2023.



Manipal BioMachines Team



The Manipal Biomachines Team participated in the International Genetically Engineered Machine (iGEM) Competition - 2022 at Paris during 26 - 28 October 2022. The team's project for 2022, "AMPifin", focused on improving coastal aquaculture operations through a novel approach by targeting *Vibrio parahaemolyticus*, one of the most prevalent bacteria involved in spreading the vibriosis disease in fish. The team was amongst 173 Gold Medal winning teams, selected out of 350 teams that had participated in iGEM 2022. It was also amongst the 5 nominees selected for the Best Track prize, out of the 23 teams participating in the Food and Nutrition track at the competition. Furthermore, of the 350+ teams participating in iGEM,

it was amongst the 11 teams nominated for Best Software and 13 teams nominated for Best Education.

AeroMIT Team participates in SAE Aerothan 022

AeroMIT Team participated in the event, “SAE Aerothan 022 at S.J.C. Institute of Technology, Chikballapur, during 18 -19 November 2022. The team won first position out of 52 participating teams. During the event, the team prepared the design report of the autonomous UAV model based on a unique problem statement, that involved target identification and a Payload Drop, followed by technical presentation, inspection and was concluded with 03 Flight Rounds.



Team AeroMIT is rewarded with several significant achievements at SAE Aero Design EAST 2023 competition held in Lakeland, Florida during Mar 1-17, 2023.

Snapshot of achievements:

World Rank #4 Overall, #2 in Design Report, #4 in Technical Presentation, #4 in Mission Performance.

Team Mars Rover Manipal participates in the International Rover Design Challenge



Team Mars Rover Manipal participated in the International Rover Design Challenge held on 28 October 2022. International Rover Design. IRDC is an online space engineering design and research competition by the Space Robotics Society. It challenges university students to conceptualize and design Next-Gen Mars Rovers, which shall be fully equipped and mission ready for future astronaut-assistive exploration operations on Mars. Team Mars Rover Manipal won the overall second place in the final rankings among the 36 participating teams.

Team Manipal Racing Electric participates in Hackathon

A team consisting of Akshit Gaurav (200932118), Rushil Saxena (190906136), Aman Shrivastava (200906188), Pranav Huilgol (200906056) from the Department of Electronics and Instrumentation Engineering represented MIT, Manipal as Team Manipal Racing Electric in a hackathon named “Techflame” organised by Mercedes Benz Research and Development. The team finished as overall runners-up in the EE category. The competition began in August 2022.

In addition to the above, the team consisting of Aganith Shanbhag (190907630), Yugesh Panta (190907366), Lakshya Narain (190907638), Amol Jalan (190907152), Department of Electronics and Communication Engineering represented MIT Manipal as Team ‘MangO(4) and secured the 1st Runner Up at the All-India Level competition organized by Mercedes Benz Research and Development.

Team SolarMobil participated in SOLAR ELECTRIC VEHICLE CHAMPIONSHIP 2023 held at Coimbatore from 29 March to 2 April 2023.

The team has won following awards:

- Solar Endurance Award - Team SolarMobil
- Optimum Cost Award - Team SolarMobil
- Femina Award - Ms. Aryaa Yadaw - VI Sem Mechanical Engineering (Team Vice Captain).
- Inspiring Faculty Award - Dr. Vijay Babu Koreboina - Team Faculty Advisor.



Mr Ranjit Bawa, Principal and Lead, Cloud & Modern Engineering Business, Deloitte has been recognized as one of the Top 25 Technology Consultants and Leaders of 2023 by The Consulting Report, New York. He is an alumnus of the institute who completed Electronics and Communication Engineering in the year 1996.



The startup established by **Mr Gaurav Agarwal** (Biomedical Engineering, 1996 batch), an alumnus of the institute, has been recognized as one of the Top 10 MedTech startups of 2023 Silicon India.

Mr Tejasvi Parupudi, an alumnus of MIT Manipal (Electronics and Communication Engineering, Batch of 2011) received an extension of funding of \$ 1,400 for the year 2022-23. This Global Venture Fund was awarded for the proposal "Unit MIT MAHE Manipal Collaborative Research Exchange". He is currently a Clinical Assistant Professor at the Department of Computer Science and Engineering, University of North Texas.



Group Captain Debakinandan Sahu, Electronics and Communication Engineering, 1993 Batch, received Vishisht Seva Medal on the occasion of the Republic Day Celebrations.

Ms. Jyoti Bhardhwaj an alumnus of MIT (Electronics and Communication Engineering, Batch 2006) participated in the recent season of Shark Tank India contest. Ms Jyoti has developed a brand TeaFit that produces zero-calorie health drinks made with natural herbs and ingredients, without sugar or a sweetener. The brand TeaFit got pitched in Shark Tank India contest and received Rs 50 Lakhs from the panel of judges for 8 percent equity. Further, the judges estimated Jyoti's new venture at Rs 6.25 crore.



Five alumni of MIT, MANIPAL reached the summit of Kala Patthar and Everest Base Camp

A group of alumni of 2016 and 2021 batches - Khushboo Khatri (Mechatronics), Noble Prince (Mechanical), Rachit Sharma (Computer Science), Milind Dudi (Automobile), Arpit Agarwal (Mechatronics) made a successful attempt to reach the summit of **Kala Patthar** and **Everest Base Camp**. On December 31, 2022, the group reached the Base Camp of the world's highest mountain, **Mt Everest Base Camp**, which stands at an altitude of 17,600 feet/5364 m. They then began the climb for Kala Patthar at 3:30 AM on January 1, 2023, facing a temperature of -30° C, oxygen levels at 60%, and fierce winds. Despite these challenging conditions, all 5 of them were able to complete the climb and **reach the summit of Kala Patthar** 18519 ft/ 5644 m. The entire trip took 12 days and covered a distance of 140 km on foot. They were part of a larger group of 16 people, and it is a great moment for MIT Manipal. These alumni were consistently in the top 6 group members to complete the trek of the day.



Dr. Subhamoy Mandal, Biomedical Engineering 2007 Batch has been recently inducted into the 2022 Class of #EuropeIndia40 leaders by a virtual ceremony attended by officials from EU Embassy in India and Indian Embassy in London. Dr. Subhamoy is an Assistant Professor at the School of Medicine and Science & Technology, IIT-Kharagpur. He has also been a visiting Faculty Researcher at TU, Munich since 2022, and an adjunct Faculty Member, as well as Ph.D. Supervisor at MAHE since January 2021.



Mr. Anand Verma, Printing Technology, 2009 Batch - Founder and CEO of PEROVSKIA SOLAR AG, Zurich took part in the World Economic Forum on invitation. PEROVSKIA SOLAR AG is a cleantech startup that provides customizable perovskite solar cells. Mr. Anand Verma also discussed the vision of PEROVSKIA, making everyday devices self-sufficient in energy by using solar power with Mr. Rajesh Gopinathan, CEO of TCS.



Indian Business luminaries like Mr. Anil Agarwal, Chairman and Managing Director, Vedanta Resources Ltd, Mr. Sunil Bharati Mittal, CEO, Bharti Airtel, Mr. Adar Poonawalla, CEO of Serum Institute of India Pvt. Ltd. also attended the event.

Mr. Mohit Chandra Saxena invited to ITU area office inauguration event

Mr. Mohit Chandra Saxena, an alumnus of Manipal Institute of Technology, was invited to attend the ITU area office inauguration event, hosted by the Department of Telecommunications, Government of India, on 22 March 2023, at Vigyan Bhavan in New Delhi marking the start of the Hindu New Year.

Mr. Saxena was invited by the DoT as an innovator, scientist, and entrepreneur contributing to the Make-in-India endeavour of the government. Mr. Saxena is a research scholar and CTO of Infinity Labs Ltd, which is the OEM for India's leading SDWAN, NGFW, and Network/Security automation solution indigenously developed in the country.

Mr. Saxena's presence at the event was a testimony to his significant contributions to the Indian tech industry. As an innovator and entrepreneur, Mr. Saxena has been instrumental in driving the development of cutting-edge technology

solutions in the country. His expertise in the field of SDWAN, NGFW, and Network/Security automation has helped India become a leader in these areas. The ITU area office inauguration event was an opportunity for Mr. Saxena to interact with other prominent figures in the tech industry and share his insights and knowledge. His presence at the event was a source of pride for the Manipal Institute of Technology and the entire Indian tech industry.



The ITU area office inauguration event was graced by the Honourable Prime Minister of India, Shree Narendra Modi, Minister of External Affairs, Sri Jaishankar, and the Minister of Railways, Communication, and Information Technology, Sri Ashwini Vaishnav, along with Sri Devusinh Chauhan, MoS. Many delegates from G20 nations also graced the occasion.

Ms. Priya Mallya becomes Managing Director - AWS Business Group Ms. Priya Mallya, Computer Science Engineering, 2003 batch is associated with Accenture as Managing Director - AWS Business Group. Her ascent to this coveted position is commendable considering the short span of her career.



Mr. Vishal Sharma, Mechanical Engineering, 1992 Batch, has been appointed as the Chief Executive Officer of Godrej Industries (Chemical Business) in March 2023.

Naman S Lawania, Civil Engineering, 2015-19 batch, has made it into the Indian Army through NCC Special Entry, 53rd Course, 2023.



Mr. Saurav Kumar, Mechanical Engineering, 2012 Batch, has led the Indian Railway Police Force in the 74th Republic Day Parade in New Delhi. He is currently Assistant Security Commissioner, IRPFS.

Alumni Visit

- **Mr Mudit Jhunjunwala**, MD Nimbus Solar visited MIT Manipal in this quarter. He graduated with a BTech in Biotechnology from MIT in 2010.
- **Mr Umanath Nayak**, Information/Cyber Security Leader at GE Aerospace, Ohio, USA visited the institute in this quarter. He graduated with a BTech in Electronics and Communication Engineering from MIT in the year 1990.
- **Vivek Menon**, from Train Validation, Alstom visited the institute on 07 January 2023. He graduated with a BTech in Mechanical Engineering from MIT, Manipal in 2015.
- **Kunal Bhan**, is a Filmmaker (Short movies) visited the institute on 07 January 2023. He graduated as a Computer Science engineer from MIT, Manipal in the year 2016.
- **Neeraj Mohan**, User Experience Manager- Adya Care visited the institute on 07 January 2023. He graduated as a Mechatronics engineer from MIT, Manipal in the year 2016.
- **Mr Savinder Singh Aurora**, from Mechanical Engineering of the batch 1985, visited MIT Manipal in this quarter. His son, Mr Fateh Singh Aurora, Computer Science Engineering, 2016, also an alumnus of MIT Manipal.
- **Ms Sharvi Khawte**, Geoinformatics expert at Royal HaskoningDHV visited the institute on 9 January 2023. She graduated with a BTech in Civil engineering from MIT in the year 2020.
- **Mr. Pawanpreet S Nagi**, Associate Vice President at JPMorgan Chase & Co visited the institute on 10 January 2023. He graduated as an Electrical and Electronics engineer, MIT in the year 2008. He also served Indian Navy for 12 years as Technical Staff Officer.
- **Mr Praneeth P Sarvade** (Mechanical Engineering, Batch 2019) visited MIT Manipal on 10 January 2023. After his MS in Digital Design and Manufacturing at University of Edinburg, he will be joining The High Precision Alignment Technologies Team at CERN, Geneva.
- **Mr Raaghav Wadhwa**, Civil Engineering, 2016 Batch, Founder of WadCo Solutions was in MIT, Manipal on 19 January 2023. He works as a consultant for Turnkey Projects: building construction, fenestrations and interiors.
- **Mr Manohar Kamath**, Electronics & Communication Engineering, 1985 Batch visited MIT Manipal on 18 January 2023. He is currently the Co-founder and an angel investor in the company Manastu Space. He possesses rich experience in VLSI domain particularly in EDA tool development.
- Alumni of 1975-1980 batch visited MIT Manipal in this quarter.

- A group of alumni from the 1983 Batch visited MIT on 27 March 2023. Mr Mathew M K, Haridas Mr Mani T S, Mr Paulson P Varkey, Mr Rajan P Thomas, Mr Ahamad Ali K, Mr Ashok Kumar M, Mr Joby John, Mr Alex Kuriackose, Mr Seby Joseph, Mr Paulus Eapen, Mr K C Jayakumar and Mr Kunjambu, being the batchmates of Dr. Vinod V Thomas, Registrar Evaluation MAHE, shared their nostalgic experiences during their student days at the Institute.
- Mr Sanjay Sachdeva, Industrial Production, 1990 Batch visited MIT in this quarter. He is currently a small Business Broker/Management Professional/B2B Sales, Edmonton, Alberta, Canada.
- Mr Sudhir Alva, Mechanical Engineering 1971 Batch, visited MIT on 13 January 2023. He presently lives in Bangalore and is a Senior Consultant -Self Employed.
- Mr Francis Periera, Chemical Engineering 1987 Batch is working on an idea for Air Suspended Windmills. He hails from and owns a company, P Energy, Giridham, Chilimbi, Mangalore. He visited MIT MANIPAL in this quarter.
- Mr. Sahas Gembali and Ms. Neha Srivastava, Electronics and Communication Engineering, 2018 Batch, visited MIT Manipal in this quarter. Mr Sahas Gembali is currently pursuing MS in Engineering Management - Integrated Design and Management at the Massachusetts Institute of Technology, and Ms Neha Srivastava is working for Qualcomm in Bengaluru.
- Ms. Snehal Rathi and Mr Rachit Aggarwal, Electronics and Communication Engineering, 2012 Batch, visited MIT Manipal in this quarter. After working for Bosch for a few years, Rachit is now part of his family-run textile business. They have also ventured into “Kids’ Indoor Play Area” with a brand ‘Toddle Town’.
- Mr. Sandeep Dutta, Electrical and Electronics Engineering, 1993 Batch, visited MIT Manipal on 6 February 2023. He is presently the Managing Director - Accenture Consulting Sales and Strategic Accounts Lead - India.
- Mr. Vimal Kumar Safaya, Mechanical Engineering, 1980, visited MIT, Manipal on 31 January 2023.
- Mr. Sundar Venkatraman, Industrial Production, 1980 - 84 Batch visited MIT, Manipal accompanied by his wife on 16 March 2023.
- Mr. B S Mandanna, M.Tech. in Construction Engineering & Mangement, 2018 - 2020 batch, visited MIT, Manipal on 17 March 2023. Presently, he is the Engineer-Executive Assistant to CEO at SECON Private Limited, Bangalore
- Mr. Ananjan Basu, Industrial Production, 2020 Batch, visited MIT Manipal, on 20 March 2023. Presently, he is with GE Appliances, under its Digital Leadership Development.
- Mr Shivang Gupta, Civil Engineering, 2012-2016 Batch visited MIT, on 17 March 2023. He presently serves as a Bridge Engineer at T.Y.Lin International, Seattle, Washington, USA.
- Mr. Abhinav Bhargav, Mechatronics, 2018 batch visited MIT, Manipal in this quarter. After working for NXP, presently he is with INTEL as SOC designer. When he was at MIT, he had a been part of Robomanipal.
- Professor Srijib Mukherjee, Senior Scientist, Oak Ridge National Laboratory and Professor, Bredesen Center, University of Tennessee, an alumnus of MIT Manipal gave an offer Mr Arjun Bhattacharyya, a Final year BTech student (Electrical and Electronics Engineering with minor specialization in Control Systems) at the Manipal Institute of Technology, Manipal to pursue PhD Program under his supervision.

APPRECIATION OF SERVICE

MIT, Manipal recognizes the immense contribution of the following personalities who superannuated from service.



Dr Lewlyn Lester Raj Rodrigues

Professor, Department of Humanities & Management
Date of Joining: 12-06-1990
Date of Superannuation 31-01-2023



Dr Sudhakara G

Professor - Senior Scale, Department of Mathematics
Date of Joining: 19-08-1987
Date of Superannuation 28-02-2023



Mr. Prakash B. Rao

Associate Professor - Senior Scale, Department of Civil Engineering
Date of Joining: 18-02-1987
Date of Superannuation 28-02-2023



Dr Sripathi Punchithaya K

Professor, Department of Physics
Date of Joining: 15-09-2001
Date of Superannuation 31-03-2023



Mr. Krishna Amin

Senior Technician, Department of Electrical and Electronics Engineering
Date of Joining: 03-05-1987
Date of Superannuation: 31-01-2023



Mr Padmanabha Bhat K

Senior Clerk, Department of Mechatronics Engineering
Date of Joining: 05-08-1986
Date of Superannuation: 31-01-2023



Mr. Alwyn D'Souza

Security Supervisor - I, Department of Security
Date of Joining: 21-08-2018
Date of Superannuation: 31-01-2023



Mr. Muralidhara Bhat A

Senior Library Assistant, MIT Library
Date of Joining: 24-03-1986
Date of Superannuation: 28-02-2023



REVELS 2023



STUDENT CORNER



Art by : Prem Shirodkar
II Year Automobile Engineering

VISION

Excellence in Technical Education through Innovation and Teamwork.

MISSION

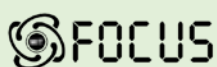
Educate students professionally to face societal challenges by providing a healthy learning environment grounded well in the principles of engineering, promoting creativity, and nurturing teamwork.

VALUES

*Discipline
Integrity and Trust
Holistic Learning
Ethics and Professionalism
Concern for Society and Environment*

GOAL

To be a world class technical institution fostering innovation, leadership and entrepreneurial spirit.



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