



MANIPAL INSTITUTE OF TECHNOLOGY

MANIPAL

(A constituent institution of Manipal Academy of Higher Education, Manipal)



Diksuchi

Newsletter


January 2025

Volume III



Department of Civil Engineering
Manipal Institute of Technology

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Message from HoD



Dr. Purushotham G. Sarvade
Professor & Head

As we continue to move forward in this academic year, I am thrilled to share the remarkable progress and achievements we have made together. It is with great pride that I share some of the updates from our department in this edition of the newsletter, Diksuchi.

The name “Diksuchi” itself reminds me of the significance of having a clear direction—a guiding compass through unknown terrain. Much like a compass provides purpose and clarity, it is crucial for each of us to stay focused on our goals, navigating challenges and seizing opportunities along the way.

Outcome-Based Education (OBE) has emerged as a “Diksuchi,” guiding both faculty members and students in the right direction, not only to acquire theoretical knowledge but also to develop the practical skills essential for professional growth. OBE promotes a culture of continuous improvement by incorporating regular assessments and feedback. At MIT Manipal, we have adopted OBE as a guiding framework, emphasizing measurable learning outcomes that align with industry needs and global standards. The integration of OBE at our institution ensures that our graduates are not only knowledgeable but also capable of applying their skills effectively in real-world scenarios. The Civil Engineering program is continuously evaluated to ensure that students meet the desired course outcomes. This iterative process allows us to refine our program curriculum, teaching methodologies, and assessments to keep up with technological advancements and changing industry requirements.

I would like to express my appreciation for the efforts of the editorial team in putting together this year's issue. Through this newsletter, the Diksuchi, we are excited to share with you the latest updates and accomplishments from our department, celebrate the talent and dedication of our team. We encourage you to read through the pages, engage with the content, and share your thoughts with us.

Vision and Mission statements

Manipal Institute of Technology

Vision: Excellence in Technical Education through Research, Innovation and Teamwork

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

Department of Civil Engineering

Vision: Excellence in civil engineering education, research and development through innovation and teamwork

Mission: To educate the students in the field of civil engineering, with professional skills and ethical values through holistic teaching learning process To prepare the students to face societal challenges and to meet the needs of the stakeholders through innovative practices

Program Educational Objectives (PEOs)


PEO1: Exhibit technical and professional skills in the field of civil engineering towards sustainable infrastructural needs for the societal benefit.

PEO2: Build competency to be employable by organizations or to be an entrepreneur, maintaining professional integrity and ethics.

PEO3: Pursue higher education in institutes of excellence and exhibit capabilities for research and development in the field of engineering.

PEO4: Develop communication skills to present updated technological changes and necessity of adapting innovative practices to stakeholders in particular and society at large.

PEO5: Apply civil engineering knowledge in conjunction with multidisciplinary approach to adapt to technological advancements with an emphasis on lifelong learning.

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Department Research

Geotechnical Characterization, and Sustainable Ground Improvement (GCSGI)

Innovative soil characterization, stabilization, and foundation engineering. Specialized in in-situ soil strength assessment using Instrumented Free-Fall Penetrometers (IFFPs) for offshore infrastructure, soil-pipe interaction for subsea pipelines, ground improvement techniques, automatic SPT systems, and clay soil characterization for embankment stability. Explore sustainable solutions for municipal solid waste and seismic isolation systems. Through field studies, laboratory testing, and numerical modeling, develop practical geotechnical solutions for infrastructure development.

Geoenvironmental Resources & Monitoring (GERM)

Climate Studies: Antarctic Paleoclimatology, Lacustrine Sedimentology, Remote Sensing, Climatology, and Data Validation Techniques, Improving the Reliability of Satellite-Derived Rainfall Datasets, Particularly in Complex Topographical Areas, Hydrometeorology and Climatology, Statistical Evaluations of Satellite-Based Precipitation Datasets to Improve Accuracy in Rainfall Estimates Over Diverse Terrains, Geospatial Analysis in Accessibility Studies, Especially Relating to Healthcare.

Mineral Exploration: Geoheritage and Petrological Studies with special emphasis on economic mineralization. Environmental Studies: Microplastic Pollution in Terrestrial and Aquatic Ecosystems and Biota, Analytical Techniques in Environmental Monitoring, Marine and Freshwater Systems, Submarine groundwater discharge, Biogeochemistry of potential fishing zones, Geotechnical Characterization of Soils, GIS, and Advanced Geostatistical Methods to Explore Real-World Civil and Environmental Engineering Problems, Environmental Management and Life Cycle Assessment (LCA), Environmental Geochemistry (weathering and riverine flux of nutrients, dissolved elements, trace metals, etc.), Nanoparticle Toxicity, Waste Management, Landfill Leachate Treatment, Methane Emission Monitoring, Improving Hydraulic and Biokinetic Conditions to Optimize Waste Stabilization, Quantitative Measurements of Household and Livelihood Energy Usage to Guide Policy and Improve Energy Equity.

Sustainable Materials and Construction Management (SMCM)

Sustainable Materials: binders, concretes with SCMs, Alkali-activated concrete, no-aggregate concrete, LC3, bacterial self-healing concrete, converting waste into new concrete formulations. Optimization techniques (e.g., Taguchi, RSM) to improve the mechanical properties and sustainability of cement-based composites. Novel aggregate systems, fiber-reinforced concrete, and advanced modeling of reinforced concrete elements. Geopolymer concrete with sustainability metrics, including ecological and economic aspects. Alkali-activated materials, self-compacting concrete, and high-strength concrete are used. Laboratory experimentation with multi-criteria decision-making techniques and microstructural studies to enhance durability and sustainability.

Department Research

Construction Management: Project management, Earned Value Analysis (EVA), and LCA, construction quality and safety management, construction and demolition waste management, sustainable construction materials, and building design with a focus on optimizing heat, light, and ventilation parameters using BIM. Computational and analytical methods to improve occupants' thermal comfort and energy efficiency. Energy access frameworks and sustainable development. Cost-risk analysis and eco-friendly construction solutions in coastal settings. Reducing construction costs while maintaining structural safety and environmental compatibility. Carbon sequestration for concrete curing.

Structural Performance Modelling and Analysis (SPMA)

Application of Finite element analyses (FEA) to assess corrosion in reinforced concrete beams and pile behavior under combined axial and lateral loads. Seismic behavior and base isolation systems in Civil Engineering structures and fluid storage structures. Sliding isolation systems and approaches to modeling advanced seismic isolation. Structural dynamics in reinforced concrete (RC) buildings, the effect of geometric irregularities on fundamental time-periods and overall seismic performance. Exploring the interplay between soil characteristics, earthquake input, and structural design solutions. Structural performance under extreme loading conditions. Examine blast-resistant design approaches. High-rise structural systems, particularly outrigger and hybrid outrigger designs under wind and seismic loads. FRP-based strengthening of concrete elements and parametric analyses of advanced structural systems.

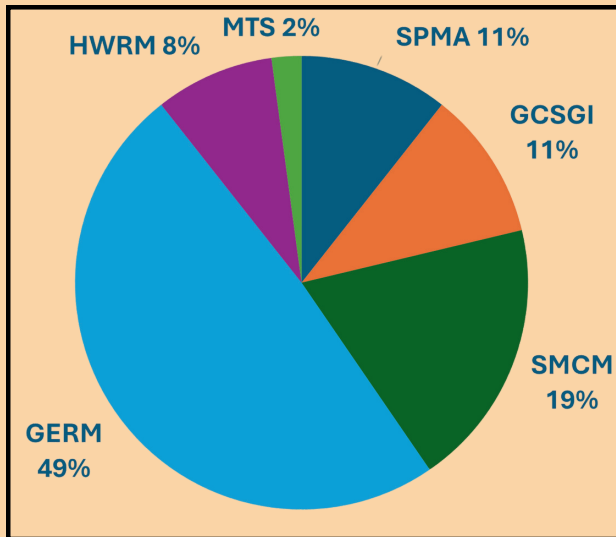
Modern Transportation Systems (MTS)

Pavement engineering and systems including geopolymers concrete, Sustainable initiatives in the field of pavement, traffic and transportation, Optimization of logistics and transportation problems, Development of heuristic algorithms for efficient and economic transportation solutions, Unmanned aerial/ground systems for efficient delivery networks, Efficiency and performance measurements of transport systems, with special emphasis on cross-regional comparisons, data envelopment analysis (DEA), and stochastic frontier analysis (SFA), focusing on emission and accident. Evaluation of public transportation with sustainability metrics, Traffic analysis and Road asset management. AI/ML applications for effective transportation and traffic engineering and management including prediction and forecasting techniques, Advanced Operations Research and hybrid heuristic applications for transportation systems.

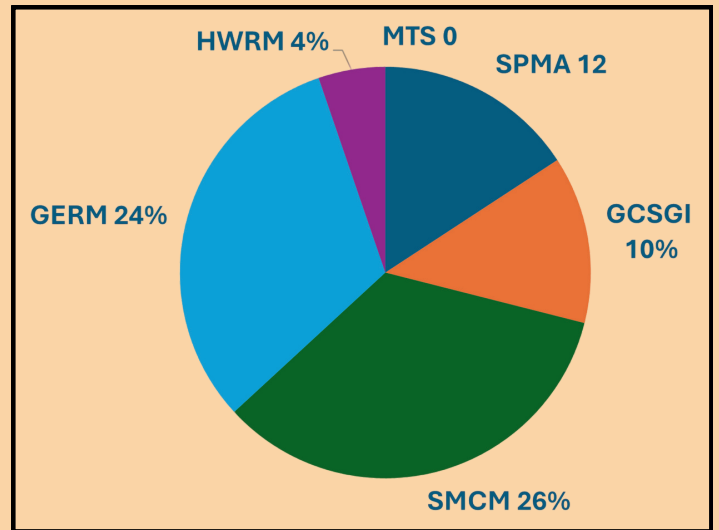
Hydrogeology and Water Resource Management (HWRM)

Isotope geochemistry and groundwater quality assessments, Groundwater-surface water interaction studies, Coastal aquifer management, Assessment of streamflow characteristics using flow duration curves and hydrograph analysis, Morphometric analysis to evaluate the aquifer response, Groundwater flow modeling studies.

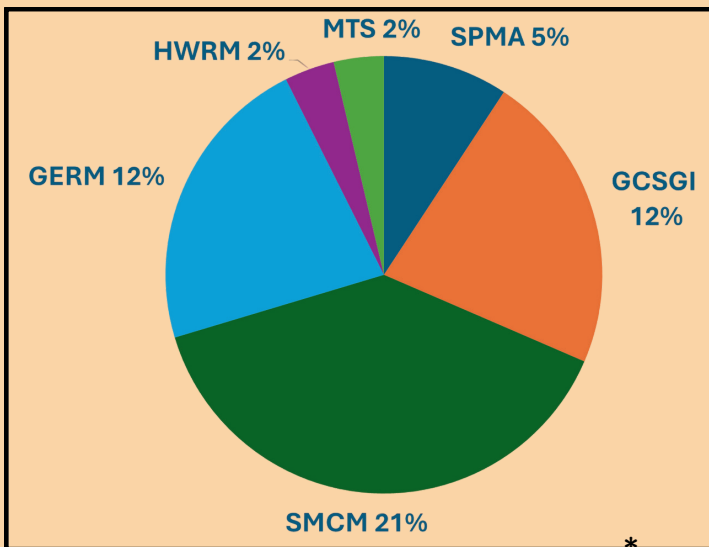
Department Research



Specialization-wise Publication 2022-23

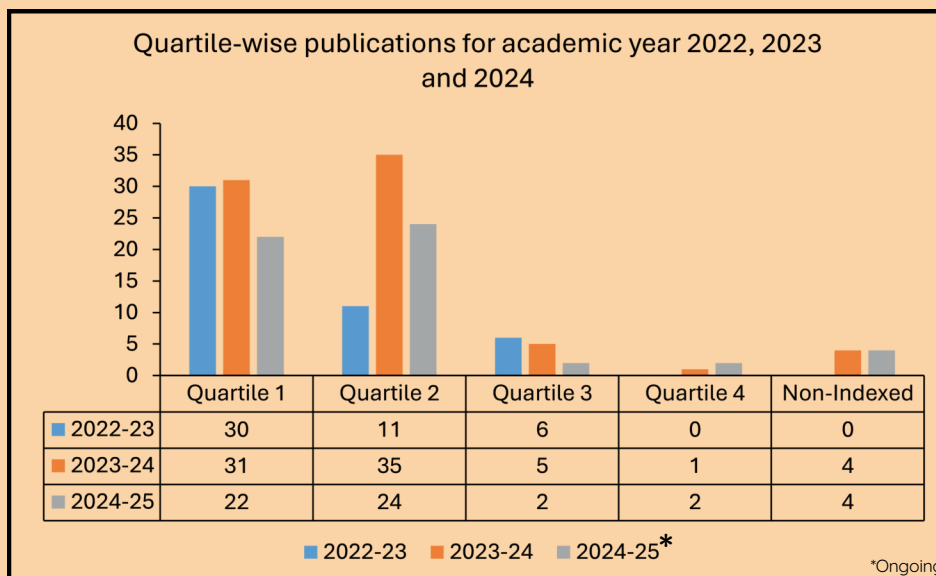


Specialization-wise Publication 2023-24



Specialization-wise Publication 2024-25*

- **SPMA:** Structural Performance Modelling and Analysis
- **GCSGI:** Geotechnical Characterization, and Sustainable Ground Improvement
- **SMCM:** Sustainable Materials and Construction Management
- **GERM:** Geo-Environmental Resources & Monitoring
- **HWRM:** Hydrogeology and Water Resource Management
- **MTS:** Modern Transportation Systems



Department Research

Patents- Granted

Patent holders: Raghavendra K Holla B, Diwakar G Sudhakar, Girish M G., Grahith Ravikiran

Title: Spinal Vehicle Delineator

Year of grant: 2024

Patent holders: Shreelaxmi Prashant, Muralidhar Vaman Kamath, Mithesh Kumar

Title: Composition For A Binding Material And A Process of Preparation Thereof

Year of grant: 2023

Funded Research Projects

Project title: Ultrasonication assisted removal of Per and poly fluoro alkyl substances from wastewater using green synthesized nanomaterial from Lantana camera plant leaves extract

Funding Agency: Vision Group on Science and Technology (VGST)

Year and grant amount: 2024, ₹10,00,000

PI: Dr. Binay Kumar Tripathy, **Co-PI:** Dr. Mahasweta Laskar

Project title: Understanding the biogeochemical processes and dynamics of pelagic fishery resources of Udupi/Mangalore region Validation of the PFZ advisory data.

Funding Agency: Indian National Centre for Ocean Information Services (INCOIS)

Year and grant amount: 2023, ₹93,15,000

PI: Dr. Anish Kumar Warriar, **Co-PI:** Dr. K. Balakrishna

Project title: Genomic surveillance of SARS-CoV-2 from community and hospital wastewater treatment plants in Udupi

Funding Agency: Science and Engineering Research Board (SERB)

Year and grant amount: 2022, ₹63,58,440

PI: Dr. Chiranjay Mukhopadhyay, **Co-PI:** Dr. Anitha J and Dr. K. Balakrishna.

Project title: Understanding the Fluxes of Microplastics in the Coastal Ecosystems of major Rivers of India

Funding Agency: Science and Engineering Research Board (SERB)

Year and grant amount: 2022, ₹46,74,620

PI: Dr. Anish Kumar Warriar, **Co-PI:** Dr. Priya D'Costa and Dr. Kanu Shil.

Project title: Strain distribution and provenance studies on uranium bearing Jaban meta-conglomerate and wacke of Proterozoic Champaner Fold Belt, western India: emphasis on tectonics of Rodinia supercontinent assembly

Funding Agency: Science and Engineering Research Board (SERB)

Year and grant amount: 2022, ₹20,60,872

PI: Dr. Aditya Udayraj Joshi

Faculty Corner



Dr. Anish Kumar Warriar

Professor, Civil Engineering

The project **STAPLES (SpatioTemporal Investigations of Polar Lacustrine Ecosystems)** is one of the crucial projects of the National Centre for Polar and Ocean Research, which is based in Goa. This project aims to recover long, undisturbed sediment cores from the lakes and coastal basins in Antarctica and effectively use them to reconstruct past changes in climate and the environment with special emphasis on sea-level variations in the geological past. The data obtained from these studies will be used in climate models for better forecasting of the future climate. The Manipal Academy of Higher Education, National Institute of Polar Research (Japan), Ghent University (Belgium), Brussels University (Belgium), and the British Antarctic Survey (United Kingdom) are the other active partners of this project.

India launched its 44th Indian Scientific Expedition to Antarctica in October 2024. One of the important projects as part of this expedition was the lake-sediment coring campaign at Larsemann Hills, East Antarctica. Team STAPLES assembled at Cape Town on the 21st and 22nd of October 2024. Due to inclement weather in Antarctica, the team was able to fly to Antarctica only on the 28th of October. After a 7-hour flight, the team landed on the Zenit runway (made of hard ice) in Larsemann Hills, East Antarctica. The team stayed in Bharati station (India's 3rd research base in Antarctica after Dakshin Gangotri and Maitri) for 43 days (Fig. 1).

During this period, the STAPLES team indulged in several field activities after the reconnaissance survey: (a) obtained sediment cores from lakes in Larsemann Hills; (b) collected water column and surface sediment samples to study the biogeochemical properties; (c) deployed an advanced conductivity-temperature-depth (CTD) profiler in all the lakes to study the variations in the chlorophyll, conductivity, salinity, temperature, total dissolved solids, dissolved oxygen properties throughout the water column; (d) collected surface soil samples from the lake catchment for scientific studies; (e) collected glacial erratics (rock boulders transported by the ice-sheet in the geological past) from different locations for cosmogenic radionuclide dating.



Fig. 1 A group photo of the STAPLES team at the Larsemann Hills, East Antarctica. (L to R): Ms. Kotoha Kosugi (NIPR, Japan), Dr. Philippe Huybrechts (University of Brussels, Belgium), Dr. Elie Verleyen (Ghent University, Belgium), Dr. Toru Tamura (Geological Survey of Japan, Japan), Dr. Takeshige Ishiwa (NIPR, Japan), Dr. Cheryl Noronha (NCPOR, India), Dr. Mahesh Badanal (NCPOR, India), and Dr. Anish Kumar Warriar (MAHE, India).

Faculty Corner

Due to accessibility issues, the team spent 10 days in the field camp in the Broknes Peninsula, Larsemann Hills (Fig. 2). The camp was established close to the Russian (Progress) and Chinese (Zhongshan) research stations. During the field camp, the team experienced adverse weather conditions; cold temperatures (-10 to -15 °C) combined with strong katabatic winds (winds blowing from the ice sheet (high land) towards the coast (low-lying) during the night). With no provisions for drinking water, the team had to rely on freshly deposited snow to melt it and use it for drinking and cooking purposes. The team sometimes withdrew water from the freshwater lakes near the region. In terms of the fauna, the team witnessed Adelie Penguins, Emperor Penguins, Leopard Seals, and avian species such as Skua, Snow Petrel, and Storm Petrel.

Despite the adverse weather conditions, the STAPLES team were able to successfully complete its sampling objectives and, in the process, recovered the longest sediment core (~ 5.76 metres) from Lake Priddy, Stornes Peninsula, Larsemann Hills (Fig. 3). Around 25 sediment cores (varying in lengths from 30 to 576 cms) were raised from 12 lakes in the region. These cores have been safely transported to laboratories in India, Japan, and Belgium for conducting scientific investigations.

Whilst the team was in Antarctica, an outreach program was conducted by the National Centre for Polar and Ocean Research (Goa) on Antarctica Day (December 1, 2024). During this program, school students were made to interact with the expedition members at Bharati station. Furthermore, as part of the India International Science Festival (IISF), the expedition members also interacted with Dr. Jitendra Singh, the Hon'ble Minister of Science & Technology and Earth Sciences, and Dr. M. Ravichandran (Secretary, Ministry of Earth Sciences) and other dignitaries.

The team concluded its scientific expedition on the 10th of December and flew from the Zenit airfield to Cape Town, after which, the members returned to their respective countries. Dr. Warriar thanks NCPOR (Goa) for making him a part of the STAPLES team. Dr. Warriar is also grateful to the Manipal Academy of Higher Education and Manipal Institute of Technology for deputing him to participate in the 44th ISEA.



Fig. 2 A view of the field camp established by the STAPLES team at Broknes Peninsula, Larsemann Hills.



Fig. 3 Dr. Anish Kumar Warriar (MAHE) is drilling through the lake-ice to measure the water depth in Lake Priddy, Stornes Peninsula.



Achievements...

Department Activities

MoU between **VRTTA Green Solutions, Montreal, Canada, and Manipal Academy of Higher Education (MAHE)** was signed on 12th April 2024 as a strategic collaboration under the ambit of sustainability initiatives. VRTTA will offer paid internships for Master's students specializing in Environmental Engineering.

MOUs



Mr. Shounak Mitra, Head, codes and approval, Hilti India Pvt. Ltd., and Manan Mehta, Technical Engineer- EPMO (Structural) Region A2 (Alumni of Civil Engineering Department, 2020 batch) were present during the MoU signing.

Recognizing the importance of research and development in the area of post-installed fastening technology in the areas of structural rehabilitation and retrofiting, **MAHE and Hilti India Pvt. Ltd** signed an MoU on 29th November 2023 for THREE years. Hilti India Pvt. Ltd is engaged in construction-related tools, fastening, and passive fire protection solutions and services. Under various scopes discussed in the MoU, such as organizing workshops, delivering relevant topics to the UG and PG programs, and jointly organizing Continuous Professional Development (CPD) workshops/seminars, it also includes practical training for MAHE students mentorship for students in thesis and many more.



MoU between **L&T EduTech and MAHE** was signed on 19th February 2024 as a strategic collaboration to bridge the industry academia gap. The courses offered by L&T EduTech will be under the umbrella of flexible core (C) and minor specialization. This is a significant milestone for the department as this collaboration will improve the placement opportunities. The list of courses offered by L&T EduTech are:

- Highway Planning, Design & Construction
- Airports & Seaports Engineering
- Metro Rail Transportation Systems & Construction
- Formwork Engineering Practices
- Deep Excavations, Foundations & Tunnels
- Building Information Modelling in Construction
- Sustainability Practices in Design of Building
- Pre-Engineered Buildings
- Mechanized Construction Techniques
- Integrated Approach to Building Services
- Concrete Building Systems Design
- Bridge Engineering Design & Practices
- Geospatial Techniques in Practice
- Project Management for Professionals

Department Activities

International Conferences

The International Conference on **New Horizons in Civil Engineering (NHCE-2023)** was held on the 13th and 14th of October 2023 at the Auditorium, MIT-KEF R&D Center, MIT Manipal. The conference focused on Sustainable Development Goals 6, 9, 11, and 13, with 62 delegates participating. Keynote speakers included Prof. Wim Van Den Bergh (University of Antwerp) on "Innovations for sustainable and climate-proof pavement structures" and Dr. C.R. Parthasarathy (Sarathy Geotech & Engg Services) on "Challenges in offshore foundations." The conference featured oral and poster presentations by research scholars, concluding with an entertainment program and dinner.



Academics, industrial experts, and researchers gathered for the **International Conference on New Horizons in Civil Engineering**, with the theme "Innovative Civil Engineering Materials and Systems" (**NHCE ICEMS 2024**), conducted from December 12-14, 2024. The conference commenced with an inauguration ceremony held at the MIT-KEF R&D Center Auditorium on December 12. Prof. Madhira Madhav, Professor Emeritus at JNT University, was the chief guest; Dr. Narayana Sabhahit, Pro Vice Chancellor for Technology & Science at MAHE, was the Guest of Honour; and Dr. Somashekhar Bhat presided over the function.



The three-day event **NHCE ICEMS 2024** was supported by delegates from across India and abroad. Oral presentations, conducted in both online and offline modes, spanned 12 sessions. The presentations highlighted the importance of innovation in all major civil engineering systems. Actions to align current and future innovations will pave the way for future generations to achieve sustainable development, ensuring the efficient use of resources and securing a safe built environment for mankind. The event concluded on a high note with the valedictory ceremony, with Dr. Indrani Gogoi as the chief guest. Best Presentation and Best Paper awards were announced and presented during the ceremony. Two agreements were signed with Springer, and selected full-length papers from the conference will be published in two Springer book series: Innovative Building Technologies: Select Proceedings of NHCE-ICEMS 2024 and Recent Advances in Construction Materials: Select Proceedings of NHCE-ICEMS 2024.

Department Activities

Training programs and workshops

Sixteen M.tech (CEM) students and three faculty participated in a two-day **International Conference on Smart and Sustainable Constructions with Futuristic Technologies** during 12-13 September 2024. The conference was themed around contemporary construction technologies, including BIM, VR-AR, LIDAR, IoT, 3D printing, and more. The expert speakers included Prof. (DR.) T G Sitharam, Chairman AICTE, Dr. Navneet Kaur, CSIR-Central Road Research Institute, Dr. Brent Robinson, VP Pile Dynamics Inc., USA among others. There were exhibitions demonstrating cutting-edge technology, modern construction materials, and innovative solutions.



A one-day workshop on **"Building Resilient Infrastructure - Focus on Earthquake and Fire Safety"** was organized by the Department of Civil Engineering at Manipal Institute of Technology, in association with Hilti India Pvt. Ltd., on 4th October 2024 at the MIT-KEF R&D Centre, aligning with SDGs 4, 9, and 11. The event, began with a Menti Quiz by Mr. Shounak Mitra (Head-Codes and approval, fastening systems, Hilti India Pvt. Ltd.), followed by an introduction to earthquake-resistant design by Dr. Rupen Goswami from IIT Madras. Dr. Palanisamy from NIT Surathkal discussed about enhancing seismic resilience through innovative materials, and Mr. Mitra returned to present the design of non-structural elements and retrofitting. The afternoon sessions focused on fire safety in buildings by Mr. Leslie Joseph Dsouza, and passive fire protection by Mr. Raghavendra Kumar V from Hilti India. The day concluded with a session by Dr. Amarnath CB on BIM and digital adoption trends.

A Sensitization talk on **"Skilling Engineers for Professional Success"** by Konkan Railway experts was held for Civil Engineering students at the KEF R&D Center auditorium on 8th Nov 2024. Experts from Konkan Railway Corporation Limited (KRCL), Shridhara Avabhrath, (Manager-Training & Development), Wilson Vaz (Manager-Training & Development), and Prashun Gowtham (Engineer) visited our department to appraise students about the training programs which intend to give practical training in railway functioning and showcase the overall train operations, including front-end and back-end verticals.



Department activities

Training programs and workshops

A three-day Short Term Training Program on "Application of Abaqus for Finite Element Analysis" was organized by the Department of Civil Engineering, MIT, Manipal, from November 18th-20th, 2024, at the Building Modelling & Automation Lab - AB2. The event was attended by 20 participants, including students and faculty of the Civil Engineering department. The training, conducted by Mr. Praveen B N from EDS Technologies, covered Abaqus features, material properties, loading, meshing, and Civil engineering applications. The event contributed to SDGs 4, 8, and 9.



A three-day Hands-on training on Open Road Designer software was organized by the Department of Civil Engineering, MIT, Manipal, in collaboration with Capricot Technologies and Bentley Institute as part of the MOU from 9th-11th February 2024 at Computer Lab, MIT-KEF R&D center. 23 M.Tech students and two faculties participated. The training equipped participants with the skills to create a Digital Terrain Model, design Highway Alignment, develop Corridors with templates, and perform Quantity estimation using Open Roads Designer. The trainers were Ms. Shagufta, Mr. Darshan and Mr. Chethan (Capricot Technologies).

A four-day software training on Revit 2025 was conducted in collaboration with Arkance India Private Limited (Formerly Capricot). Mr. Darshan M Athnur, Solution Specialist in Architecture, Arkance India, was the trainer for the faculty and students for the four-day event. The workshop, held from August 7th-10th, 2024, at the Building Automation Lab, was attended by 8 faculty members and 15 students, and it contributed to Sustainable Development Goals 4 and 9.



Department Activities

Training programs and workshops

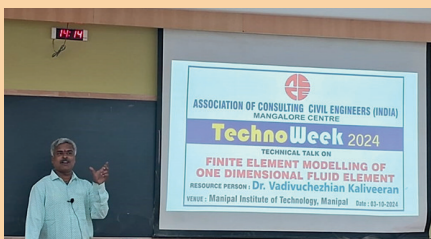


Department of Civil Engineering organized a **3-day hands-on training course on Primavera P6**, a project planning and management tool, in association with NG Technosol Pvt. Ltd between 7 - 9th April 2023. 27 participants from B.Tech Civil Engineering, M.Tech (CEM), and faculty from Civil Engineering attended the program.

A Sensitization talk on **“Skilling Engineers for Professional Success”** by Konkan Railway experts was held for Civil Engineering students at the KEF R&D Center auditorium on 8th Nov 2024 from 10:30 am to 11:30 am. Experts from Konkan Railway Corporation Limited, Mr. Shridhara Avabhath, Mr. Wilson Vaz, and Er. Prashun Gowtham visited our department to appraise students about the training programs which intend to give practical training in railway functioning and showcase the overall train operations, including front-end and back-end verticals.



On account of **TechnoweeK 2024**, the Department of Civil Engineering and the Association of Consulting Civil Engineers (India) organized series of guest lectures to the VII semester B.Tech students. The topics and speakers were Contract Management in Construction by Mr. Ujwal Dsouza, Steel Structures by Mr. Anil Hegde, Structural Engineering Today, by Dr. K. S. Babu Narayan, Finite element modelling of one-dimensional fluid element by Dr. Vadivuchezhian Kaliveeran, Types of Bridges and Flow Forces in Bridges by Dr. J. Vijaya Vengadesh Kumar, and more. The lectures were interactive, engaging, and filled with real-time experiences from the eminent speakers.



Department Activities

A 3-day Faculty Development Program (FDP) on “Elevating Perspectives: Build, Capture, and Process UAV Data with AI Tools” was jointly organised by the Civil Engineering and Mechatronics Departments in collaboration with Manipal Skill Development Center (MSDC), Manipal and the IEEE Geoscience and Remote Sensing Society (GRSS) Bengaluru chapter. The workshop covered the fundamentals of drone anatomy and the rules governing drone operations, and a hands-on drone assembly session in the first day. The day-2 covered session on drone calibration, focusing on the crucial steps to ensure accurate and stable flight performance, a simulation on drone flying before the actual flight, drone data analysis using WebODM. The day-3 covered the applications of drones in the construction industry, a session on drone-based mapping as a tool for decision-making, and concluded with a session on drone computing, exploring the computational aspects of drones and emphasizing the integration of AI tools for enhanced data processing capabilities. ▼

Resource Persons:

Dr. SN Omkar (IISc)

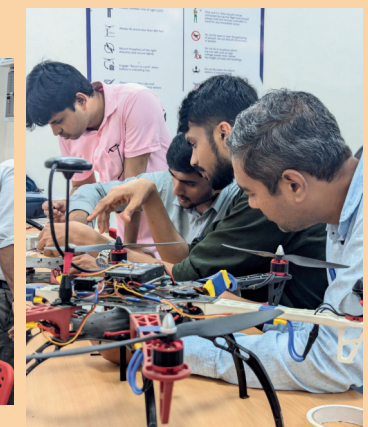
Dr. Pruthviraj U (NITK)

Dr. Chandan MC (NIE)

Dr. Jagadish Pai (MIT)

Dr. Raghavendra K Holla (MIT)

Mr. Vishwadarshan, Mr. Rishi Jain, and Mr. Gururaj (MSDC)



Department Activities

Site Visits

On 4th November 2023, a site visit to **Baje Dam** and its associated water treatment plant offered insights into its operations. The dam, located on the Swarna River, raises water levels for easier extraction, while a small hydroelectric plant powers the treatment process. The 27 MLD capacity plant, operating at 25 MLD during the visit, uses cascade aeration, flocculation, radial flow sedimentation, and rapid sand filtration to purify water. The visit highlighted the efficient use of natural resources and sustainable practices, with 60 students and 3 faculty members attending.



On Monday, 11th November 2024, 24 M.Tech. Structural Engineering PG students visited the under-construction **Konkan Railway bow-string girder steel bridge** across the Udupi railway line. The students observed various components and construction processes, while the second site visit was to a pre-engineered building (PEB) for a large cloth store, where students learned about structural components like Z purlins, brace rods, and lightweight concrete used in wall construction. The resource person at the site was Mr. Manjunath Shenoy, an Engineer at NHAI.

On March 27, 2024 and 14th September 2024, the Civil Engineering Department and IE Civil organised the site visit to **Varahi Underground Hydroelectric Power Project**. Upon arrival at the power plant, the students proceeded to the control room, where they were given information about the capacity, the location of the supply of power, and the location of the source of water. The total generation on that day was ranging from 115-120 MW. 35 students and 7 faculty of the department, accompanied by the Head of the Department, participated in the visit, explored the underground facility, located 900 m through a tunnel, and learned about its power generation mechanism using four Pelton turbines. The plant, operational since 1989, utilizes a main dam, a balancing reservoir, and a system of pipes to generate electricity.



The visit provided valuable insights into hydroelectric power generation, transmission, and its significance in regional power supply.

Department Activities

Site Visits

The students of M.Tech (SE, CEM, and EE), Department of Civil Engineering, MIT, visited **M11 Industries** at Padubidri, Mangalore, on the 9th of November 2022. On reaching the site, a toolbox talk was given by Dr. Raghavendra Holla regarding precautionary & safety measures to be taken on the site. Thereafter, Dr. Premanand Shenoy briefed the project, and the people involved in it. Mr. T S Kamaraju, the General Manager for the project, gave a brief insight into the oil refinery's workflow. Later, Mr. Prajwal Shetty, a representative from M11 Industries, gave details regarding the industry documentation process and safety measures that should be taken on the site. Mr. Ajith, the structural fabricator for the entire project, gave basic information regarding structural steel fabrication which is to be done on the site. Mr. Yashwanth, the primary mechanical consultant for the project, briefed the project in detail.

On March 2nd, the M.Tech (CEM) students had the opportunity to visit the **Ready Mix Concrete plant**, gain valuable insights into the operations of the RMC plant, observe various testing procedures, and learn about quality maintenance practices. The UltraTech RMC Plant, located in Manipal is strategically positioned in the industrial area, making it a viable and advantageous location.

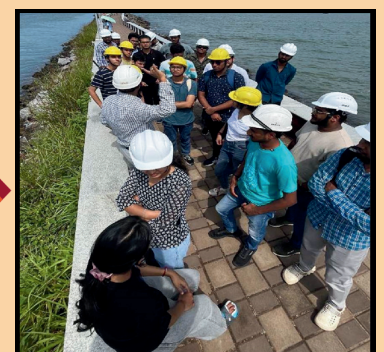


Students of M.Tech (CEM) and B.Tech Civil Engineering visited **NorthernSky Excelsa**, which is a prestigious residential development located in Kadri Hills, Mangalore, covering an area of 1.49 acres. The apartments are characterized by large living spaces that maximize natural light and ventilation, complemented by landscaped balconies and high-quality finishes such as timber door frames.



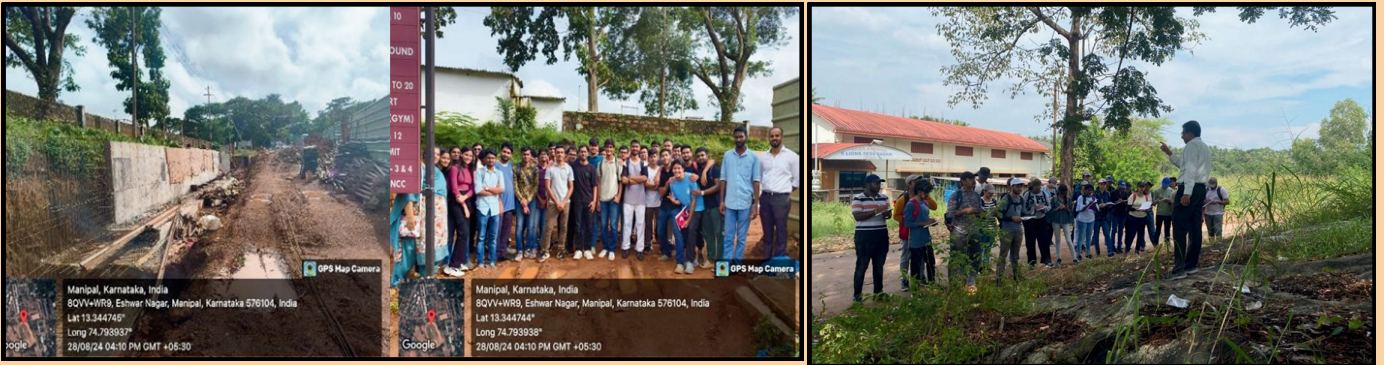
As a project certified by the Indian Green Building Council, NorthernSky Excelsa emphasizes sustainability and quality in its construction practices, providing residents with a luxurious yet eco-friendly living environment.

On 29th September 2024, the Civil Engineering Department of MIT Manipal conducted a site visit to **Malpe Harbour**, located in the Udupi district of Karnataka. The objective of the visit was to assess the existing infrastructure and identify key areas for port development. Malpe Harbour, traditionally known for its fishing industry and emerging as a tourist destination, holds potential for further development in both cargo handling and tourism. The purpose of this visit was to identify areas of improvement in the port's facilities, infrastructure, and operations that could enhance its capacity, efficiency, and overall functionality. The site was visited by 16 M.Tech students, 12 B.Tech students, and 1 Faculty.



Department Activities

Site Visits



A Visit to MIT TechShop

MSc 1st year students explored Udipi and **St. Mary's Island** on the 8th and 16th of November, 2023, under the guidance of Dr. K. Balakrishna and Dr. Aditya Udayaraj Joshi. The fieldwork focused on studying stratigraphy, structural geology, and sedimentary and igneous processes. The Udayavara region revealed dolerites and gneisses with migmatization, while St. Mary's Islands exhibited pyroxene-bearing rhyolites, contributing to the understanding of the geological evolution of both sites.



On 16th October 2024, and 13th November 2024 a site visit was made to the pre-cast girder plant operated by KNR Construction, and the ongoing flyover construction project was located on Kalladka Road. **KNR Constructions Limited (KNRCL)** is a prominent infrastructure development company based in Hyderabad, India. The Kalladka project, part of KNR's broader strategy to enhance transportation infrastructure in Karnataka, involves the construction of a key roadway under the Hybrid Annuity Model (HAM) in the Kalladka area of Mangalore to improve connectivity and foster economic growth in the region. The objectives of the visit included examining the production processes of pre-cast girders and understanding their application in bridge construction. M.Tech (SEM and SE) B.Tech students, and faculty of Civil Engineering visited the site.

Department Activities

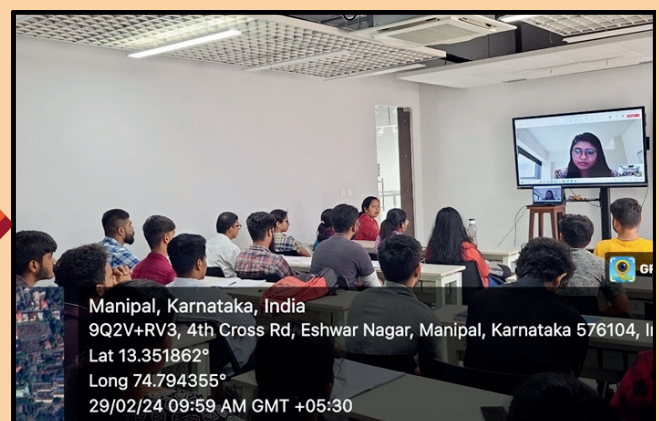
Alumni Interactions

On 10th April 2023, the Department of Civil Engineering organised a guest lecture on **"Practical Relevance of Primavera as a Tool for Effective Project Management"** for M.Tech Construction Engineering and Management students. Delivered by Mr. Sunil M.L., Senior Engineer at Al Habib & Co, Muscat, Oman, the session focused on using Primavera P6 for managing Extension of Time (EoT) claims in construction projects. Mr. Sunil shared his 15 years of industry experience, emphasising effective project breakdown, activity interdependencies, and the dynamic nature of project schedules. The session concluded with a Q&A, and students gained valuable insights on simple and flexible project planning.



The event on **"Career Opportunities in Civil Engineering - Government Sector,"** organised by the Department of Civil Engineering, Manipal Institute of Technology, was held on 31st August 2024 at Sir M. V. Seminar Hall, Academic Block 2, MIT, Manipal. The resource person, Ms. Sushma S., a 2014-16 graduate, holds an M.Tech in Structural Engineering and an MA in Social Work (Counselling) and currently serves as the State Technical Coordinator for Gender Responsive Budgeting at UN Women. The event contributes to SDGs 4, 8, and 9. The session, attended by 81 students and faculty, focused on career opportunities in the government sector for Civil Engineers without the need for clearing exams, highlighting recruitment procedures, benefits, and fellowships, and was well-received by the students.

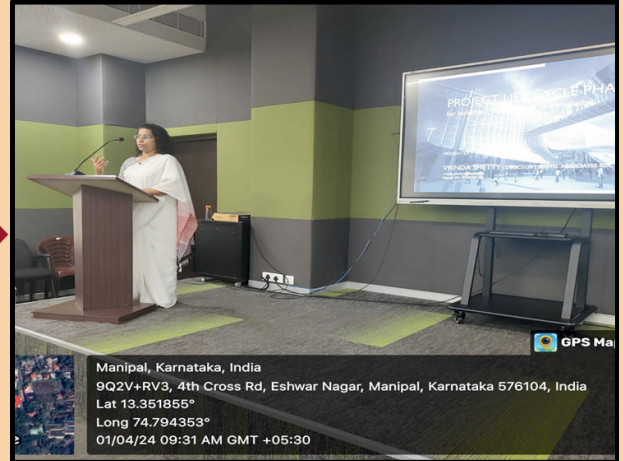
The event on **"Building Information Modelling and Safety: Automatic Safety Checking of Construction Models and Schedules"** was organized by the Department of Civil Engineering, Manipal Institute of Technology, on 29th February 2024 at Tutorial-2, MIT-KEF R&D Centre, MIT, Manipal, contributing to SDGs 9 and 11. The session featured Ms. Rashmi Kishore, a 2018 Civil Engineering graduate, MS in building construction and facilities management and currently working as a construction manager in Jacob Engineering Group, Atlanta, US, as the resource person. Ms Rashmi Kishore's presentation highlighted the importance of incorporating safety from the conceptual stage, integrating BIM with OSHA for safety checks, and presenting a case study on automated, rule-based safety systems in construction.



Department Activities

Alumni Interactions

A session on **"Project Life Cycle Phases for Buildings/Design Board to Completion,"** organised by the Department of Civil Engineering, Manipal Institute of Technology, was held on 1st April 2024 at the Auditorium, MIT-KEF R&D Centre, MIT, Manipal, contributing to SDGs 4 and 9. The resource person, Ar. Vrinda Shetty, a 1993-1998 B. Arch graduate, with a PG Diploma in Construction Management from NICMAR, Pune. Ms Vrinda is currently serving as the Director at Bentel RDC, India. Ar. Vrinda Shetty's presentation on the Vegas Mall project emphasised the importance of clear design strategies, collaboration among experts, strategic planning in budgeting and value engineering, and efficient resource utilisation to overcome challenges and ensure the successful execution of construction projects.



The session on **"Manipal to Manipal - My Journey as an Entrepreneur,"** organised by the Department of Civil Engineering, Manipal Institute of Technology, was held on 11th March 2024 at the Auditorium, MIT-KEF R&D Centre, MIT, Manipal, contributing to SDGs 4 and 9. The resource person, Mr. Ashish Sahu, a 2015 Civil Engineering graduate, and partner at M/s Ashish Associates and Developers, Raipur, Chhattisgarh, shared insights on entrepreneurship and the future of Civil Engineering at MIT Manipal. In his talk, Mr Sahu shared his journey from project manager to the founder of a successful firm. He discussed career opportunities, technical insights, and the importance of practical experience and mentorship in Civil Engineering for students.



The session **"The Road to Success is Always Under Construction,"** organised by the Department of Civil Engineering, Manipal Institute of Technology, was held on 16th August 2024 at the Building Automation Lab, MIT, Manipal, contributing to SDGs 4, 9, and 11. The resource person, Mr. Anurag, a 2015 Civil Engineering graduate and Regional VAP - Sales and Marketing at Nuvoco Vistas Corp. Ltd., Bengaluru, shared her insights. The session, attended by 45 students and faculty, featured Mr. Anurag, who shared his academic journey, emphasised the importance of civil engineering, discussed career decisions regarding placements versus higher education, and discussed the "white-topping" technology in pavement construction, leaving a positive impact on students through interactive discussions and feedback.



Department Activities

Alumni Interactions

On 27th January 2024, the Department of Civil Engineering organized an Alumni Talk featuring Mr. Udit Rastogi, a 2005 Civil Engineering graduate and Senior Engineer/Structural Engineering Associate at Walter P Moore, USA. The event provided valuable insights from Mr. Rastogi's career in structural engineering. He explained the stress-strain diagram, material behaviour, diaphragm functionality, lateral load transmission to vertical resisting elements like shear walls and frames, and the role of coupling beams in enhancing stiffness while also discussing techniques for drawing bending moment diagrams.



Students' Corner

I.E. Civil Manipal is a student chapter of the prestigious "Institution of Engineers" based in Kolkata. The objectives are to cement a platform for our student community to showcase their talents in the field of Civil Engineering by organising various events such as seminars and workshops, to disseminate knowledge, gain exposure and build expertise.

A few of the key events organised in 2023 and 2024 are:

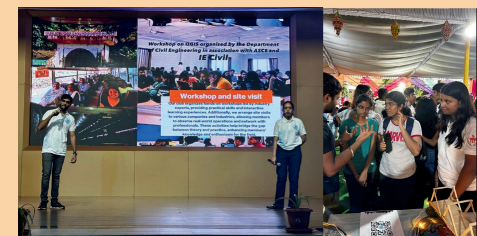
- TechTatva- Nexus
- Field visits (Varahi site visit)
- Workshop- Innovation in Engineering



The ASCE student chapter at MIT Manipal is a dynamic community focused on innovation, leadership, and technical excellence in civil engineering. At our booth, we showcase workshops, guest lectures, technical competitions, and site visits to key infrastructure projects. Members can engage in discussions with faculty and peers, explore membership benefits like industry events and research opportunities, and discover our contributions to conferences and sustainability efforts.

A few of the key events organised in 2023 and 2024 are:

- ASCE club expo
- Nexus: City Scaping
- Guest Lecture
- Site visits
- Technical conference



ASCE club Expo



Nexus: City Scaping



Technical Conference





Certificate of Participation

This is to certify that

Namitha Mudigere Kempegowda

participated in the

Research Internship Program


with Deakin University's Faculty of Science, Engineering and Built Environment between **20/02/2024 – 08/07/2024**

Research Topic: HYDROLOGY AND WATER QUALITY MONITORING AND MODELLING STUDIES FOR SPARROVALE TREATMENT WETLANDS

Lloyd Chua

Dr Lloyd Chua, Associate Professor
School of Engineering
Deakin University
deakin.edu.au

Deakin University CRICOS Provider Code: 00113B


Certificate of Achievement

Awarded to **Mohit Bhayani**

from Team **AIKYAM**

from **Manipal Institute of Technology**

Runner-up
of the Construction Worker Housing Division
in Solar Decathlon India 2023-24

Aromar Revi *Ashok B Lall* *Nisha Mendiratta* *Prasad Vaidya* *Satish Kumar*





Certificate of Achievement

Awarded to **Ujjwal Sharma**

from Team **TATTVA**

from **Manipal Institute of Technology, Manipal University**

Runner-up of the Community Resilience Shelter Division
in the Solar Decathlon India 2022-23 Challenge.

RUNNER-UP

Aromar Revi *Ashok B Lall* *Chaitali Bhattacharya* *Prasad Vaidya* *Satish Kumar*




CERTIFICATE OF ACHIEVEMENT

India-Ireland Poetry Fest

This is to certify that Takte Writers and Publishers on the recommendation of the jury have awarded this certificate to

Aaryaman Sharma

for writing a winning poem in the book
'Care, Courage and Commitment: An Anthology of Poems'

Shivani

Shivani Kasturia
Head Takte
Editor-in-Chief,VOV

Coldie Kasturia
Founder
Takte & VOV





Certificate of Achievement

Awarded to **Johann Paulose George**

from Team **TATTVA**

from **Manipal Institute of Technology, Manipal University**

Runner-up of the Community Resilience Shelter Division
in the Solar Decathlon India 2022-23 Challenge.

RUNNER-UP

Aromar Revi *Ashok B Lall* *Chaitali Bhattacharya* *Prasad Vaidya* *Satish Kumar*





Certificate of Achievement

Awarded to **Adithya Kamath**

from Team **AIKYAM**

from **Manipal Institute of Technology**

Runner-up
of the Construction Worker Housing Division
in Solar Decathlon India 2023-24

Aromar Revi *Ashok B Lall* *Nisha Mendiratta* *Prasad Vaidya* *Satish Kumar*

Makers' Space


MANIPAL
 ACADEMY of HIGHER EDUCATION
 (Institution of Eminence Deemed to be University)



Plastic Recycling Facility for Sustainable Construction Products

The Department of Civil Engineering, MIT, MAHE, in collaboration with Replastiko Pvt. Ltd., has plans to establish a Center of Excellence (CoE) for Plastic Recycling and Research & Development (R&D) as part of a Memorandum of Understanding (MoU) between MAHE and Replastiko Pvt. Ltd. This joint initiative is aimed at promoting circular economy practices and advancing innovative, sustainable construction technologies through focused research and development of plastic waste-derived construction materials.



Dr. Kishor Kumar M. J.
 Director & CTO
 Replastiko Pvt. Ltd
 (Alumni of Chemical
 Engineering, MIT,
 MAHE)



Dr. Vishnu Sharma A.
 Director & CEO
 Replastiko Pvt. Ltd
 (Alumni of Civil
 Engineering, MIT,
 MAHE)


As part of these efforts, a state-of-the-art plastic recycling facility has been set up including Plastic shredders, Washing and Drying units, Agglomerator for blending plastics with inorganic fillers, Extrusion units, and Pelletization systems. This advanced facility enables the processing of post-consumer plastic waste into high-quality recycled materials, which are being developed and tested for use in eco-friendly building construction applications, such as paver blocks, bricks, and tiles.

Once established, the facility will serve as a platform for students, researchers, and industry experts to collaborate on developing innovative material solutions aligned with global sustainability goals, particularly focusing on reducing plastic waste and lowering the environmental footprint of construction materials. This facility will offer a multidisciplinary team of researchers and students in developing, testing, and optimizing recycled plastic-based construction products.

Makers' Space

DroneView Solutions LLP





MANIPAL UNIVERSAL
TECHNOLOGY BUSINESS INCUBATOR
Supports to NITEST, Dept. of Science & Technology, Govt. of India and MIT, Manipal


About

DroneView Solutions LLP is a MUTBI Incubated Startup undertaking Drone Survey with key interest in Asset Management through the power of aerial data


Services

Provides drone-surveys with outputs such as-


- **2D Maps** with measurements such as distance, area, stockpile and Volumetric calculation.
- **3D Model and Digital Twin** for better planning and communication.
- **Geo-Tag** of all individual points rather than a set location which happened traditionally.
- **Overlay** Auto-Cad file and BIM Models.
- **Engineering Data** such as DSM and Contours




Droneview is a DaaS (Drone as a Service) startup earning revenue primarily from consulting and technical solutions




Working for Zila Panchayat, MAHE and other architectural and contracting firms.




The startup is envisioned by two civil engineering students of MIT along with Prof Holla of MIT as Mentor



Aadi Anand Jain
Co-Founder



Dr. Raghendra K Holla
Mentor



Adwait Sharma
Co-Founder

Drone-Survey Startup incubating under MUTBI Manipal Academy of Higher Education. We are a team of two 3rd year budding civil engineers at MIT Manipal and our expertise lies in harnessing the potential of advanced drone technology to provide accurate, efficient, and cost-effective surveying, inspection services and professional aerial videography/photography services.

- Construction Survey
- Railway Survey
- Road Survey

Our Deliverables

- Drone Survey
- 2D Ortho-Rectified Maps
- 3D Model and Digital Twin
- Digital Surface Model (DSM)
- Digital Elevation Model (DEM)
- Digital Terrain Model (DTM)
- Geotag
- Contours



Makers' Space



The Civil Engineering Department has been a constant source of encouragement to me. The vision of the department strongly aligns with my career goals and objectives. The professors of the department have constantly encouraged me to strive more.



Mr. Karthik Prabhu
B.Tech Civil Engineering
(Batch of 2021).

An undergraduate in Civil Engineering (2021 batch), Karthik Prabhu has demonstrated strong leadership in student academics. As the class representative throughout his academic journey, he consistently showcased leadership qualities within the civil engineering department.

In 2021, he started the non profit social outreach organisation, Manipal OSF. Manipal OSF has been a primary source of academic information for students, and has been recognised and lauded by students of the entire Institute. As of December 2024, more than 13,000 students of MIT use Manipal OSF on a regular basis.



Manipal OSF



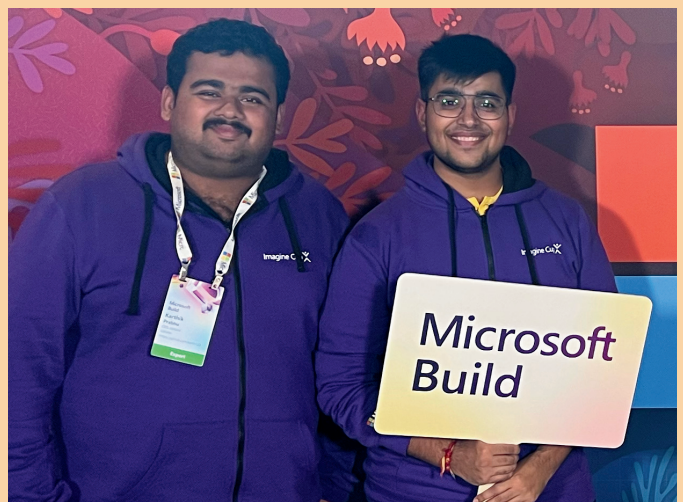
Manipal OSF was started with a vision of improving the perception of MIT as an institution of academic eminence. We consistently work towards communicating this perception and helping MIT students becoming more rooted towards academics.



UpEase was founded in 2023 as an Innovation Centre incubated start-up. It was founded out of a necessity to build modern technological tools for Indian universities. UpEase works on building AI-enabled student information systems for university campuses.

In 2024, UpEase won the Microsoft Imagine Cup, considered as the Olympics of Technology. They were sponsored by Microsoft Corporation to give multiple presentations at their premier developer conference, Microsoft Build, in Seattle, USA. Microsoft also recognized them as the top student startup built using AI technology. Karthik Prabhu cofounded this startup and is heading it as CEO.

UpEase



UpEase was built with the primary purpose of assisting students, educators and administrators to do more with their academic data. With UpEase, universities can feel reassured that they can focus on what matters most, their students.



Alumni Testimonials

After completing her B.Tech. in Civil Engineering from Manipal Institute of Technology (MIT), Ms. Yoshita embarked on a career journey that spanned government construction projects in rural India, rigorous structural design roles in San Francisco, and ultimately led her into management consulting in Los Angeles. She earned a master’s degree in Structural Engineering at UC Davis, California, where she tackled advanced coursework in non-linear analysis, concrete design, and MATLAB coding. This foundation propelled her into positions at Tipping Structural Engineers in Berkeley and DCI Engineers in San Francisco, where she managed a variety of high-profile projects—from wood retrofit jobs to a 21-story mass timber affordable housing endeavor. Recently, she graduated with an MBA from UCLA and started a consulting career, driven by her desire to explore broader challenges beyond structural engineering.



Ms. Yoshita Manne
B.Tech in Civil Engineering

“In Manipal, I considered myself a humble 8-pointer, fully aware that a higher GPA might be pivotal for MBA or MS plans, yet I refused to let that number define my potential. After graduating, I prepared for the GATE exam, aiming to pursue a master’s in structural engineering. My decent rank led me to a PSU job at an NTPC subsidiary, rather than going straight to graduate school. At the 800 MW thermal power plant in Kothagudem (Andhra Pradesh), I found the work initially exciting and wide-ranging: I conducted steel weld inspections, monitored soil compaction tests, and learned the value of daily progress reports while collaborating with BHEL professionals. Although I was the only woman on-site, often overseeing the cooling tower’s deep mat foundation amid a large crew of male contractors, supervisors, and workers, this intense environment ultimately boosted my confidence and shaped my determination.”

“When I joined Manipal, I was a humble 8-pointer and unsure where life would lead. I assumed I’d just follow the usual path—perhaps a stable job or further studies. But Manipal showed me that GPA isn’t everything and that I could explore many more possibilities than I ever imagined.”

My time here has been immensely rewarding, providing me with countless opportunities for both personal and academic growth, which has prepared me to confidently face the challenges ahead. The Department of Civil Engineering has played a pivotal role in shaping my journey. The faculty members, including the Head of Department, have always been supportive and approachable, creating a nurturing environment where students feel comfortable seeking help and advice.

“The Department has played a pivotal role in shaping my career by creating a nurturing environment where I felt most comfortable in seeking help and advice.”

My time here has been immensely rewarding, providing me with countless opportunities for both personal and academic growth, which has prepared me to confidently face the challenges ahead. The Department of Civil Engineering has played a pivotal role in shaping my journey. The faculty members, including the Head of Department, have always been supportive and approachable, creating a nurturing environment where students feel comfortable seeking help and advice.



Ms. Darakshan Anjum
B.Tech in Civil Engineering

Thought Canvas

Innovation as the way to riches

If we take a careful look at the history of human civilizations, we would see that the main driver of change was technological changes. Primitive weapons changed humans, the start of agriculture, language for communication, counting numbers, and the printing press all have been game changers for good. Who would have thought the invention of gunpowder as a means of war one day would reach the point of hypersonic missiles, nukes, ICBMs, and so on? In modern times, the great advent of electronics, computer science, AI, and ML are changing our lives at a blinding pace. It is worth noting these changes have all complemented each other in practical application level. Look at today's modern buildings, just how integrated technologies really are.

As professionals, it is in our interest to embrace and adapt to these changes and, better still, be a driver of these changes for good. A student of economics learns several growth models in economic theories. Stagnation, rapid growth, slow, continuous sustained growth, exponential growth, and so on and so forth are the nature of some of these growth curves. These growth curves are used for projections in various economic theories. These are often applicable not just to economies of nation-states but also to particular sectors in engineering and technology, a company, or a society at large. Very often, an exponential growth curve kicked off a few decades ago, which may have served well for years, observably starts slowing down and tends to be asymptotic.

Historically, this mathematical jump is known to be caused invariably by any one of the following. Some major inventions are scalable. Or a government reform, sometimes even during a war with dire necessities to adapt and improvise. Often these are interlinked intricately. Many of the civil applications today we take for granted have been invented initially during wars for military use. Whatever the origins of inventions may be, the fact is, during these major disruptions in market, often entire sectors of industries go out of business. New ones will take their place, with their new billionaires and newer millionaires. Countries lose prominence, new powerhouses emerge. This is an ever-undergoing phenomenon. For instance, no landline phone manufacturers of yesteryears are now leading smart phone manufacturer. No gramophone manufacturer is now in market selling music players. Google did not enter business in a market that was already existing. No postal service people invented such a thing as e-commerce even though they had all the means. You can notice this phenomenon unfolding in almost all sectors. Because of the institutional inertia of old systems, which are unwilling to or unable to change, usually, it takes an outsider to disrupt these systems and force a jumpstart.

“

One cannot expect significant growth once a sector or industry enters this phase of the curve. Unless...What if.. what if you ditch this growth curve altogether, and “jump” to another exponential growth curve? Suddenly you unleash a new era of rapid growth.

”

What are the recipes for these changes?

Government reforms free up hurdles from the paths of people who are willing to innovate and, more importantly, reward these success stories rather than get them shackled to a rigid bureaucracy. In terms of core engineering, such as civil engineering, there is an important component of government intervention. To this day, civil engineering practice has not become fully organized at all levels. Especially in small to mid-town small-scale projects, there is no robust mechanism for engineer oversight. Such is the need for an Act that regulates who can practice the engineering profession. The absence of such a gatekeeper is not only a theft of opportunity from students and professionals who have paid their dues in cash and years of toil in academia but also a significant public safety risk, as many structural failures and fire safety hazards have shown us. Much like how the government won't allow just about anyone to conduct a surgery, why would they turn a blind eye towards an unqualified person to provide structural design or oversee the concreting at the site regardless of the size of the building? For future professionals, lobbying for such a legal mechanism is an effort worth undertaking.

As students, one should note that learning needs not only classroom learning, exams, and so on but also time to evaluate perspectives from around the world and ponder upon them, and eventually, these can lead to a distillation of thoughts toward meaningful, innovative works. During the middle part of the last century, the universities in the West, especially the US, have attracted the best of minds from around the world. They were able to dominate the world in their industrial capacity for decades precisely because of their universities and not the other way around at all. They were always ahead of the curve.

What Am I supposed to do?

What lies ahead of us is options to do things differently. It is my firm belief that the new generation of students have in front of them a gold mine hidden in plain sight. Core branches like civil engineering has been on slow burner in terms of technological revolution for decades, with progress only incremental. Here, a great opportunity lies ahead for the entrepreneurial breed of people to completely disrupt the market with a newer way of doing engineering. This is where the future billions will be made in a country like India with a huge domestic market. Our goal should be to look at everything we study and apply in terms of accumulation of IP: Intellectual property and Patents. The historical ascent of the USA as an economic powerhouse was essentially possible because they were able to create such a large number of IPs that were scalable and futuristic. Just have a cursory look at the origins of current technological products that we use today. It is astounding what patents and IP can do to a country. Fundamental science doesn't change but the applications of it can and should change. Why only concrete and steel? Is there a ultra faster way of construction? Is there a safer way of demolition? Can we export ideas from civil to mechanical to electronics and vice versa? Can we make a building that tells its occupants its needed repairs or damaged locations like a patient tells the symptoms to doctor? Answers are not in text books but within the brains of some of our future market leaders.

“Academia that has the backs of its teachers and students should sustain the spirit of enquiry and free & fearless exchange of ideas, however controversial or unconventional these ideas may be. Sow 100 random seeds and you can expect a few to give economic yield eventually.”



Mr. Abhimanyu U.



Accomplishments

Congratulations on earning your PhD!



Dr. Sridevi H.
Assistant Professor
(senior scale)



Dr. Bhagyashree
Assistant Professor
(senior scale)



Dr. Sharanappagouda K.
Assistant Professor



Dr. Arun Kumar Y. M.
Assistant Professor
(senior scale)



Dr. Sugandhini H K.
Assistant Professor
(senior scale)



Dr. Suja T.P.
Assistant Professor



Dr. Praveen Kumar P.
Assistant Professor



Dr. Laxman Kudva P.
Assistant Professor
(senior scale)



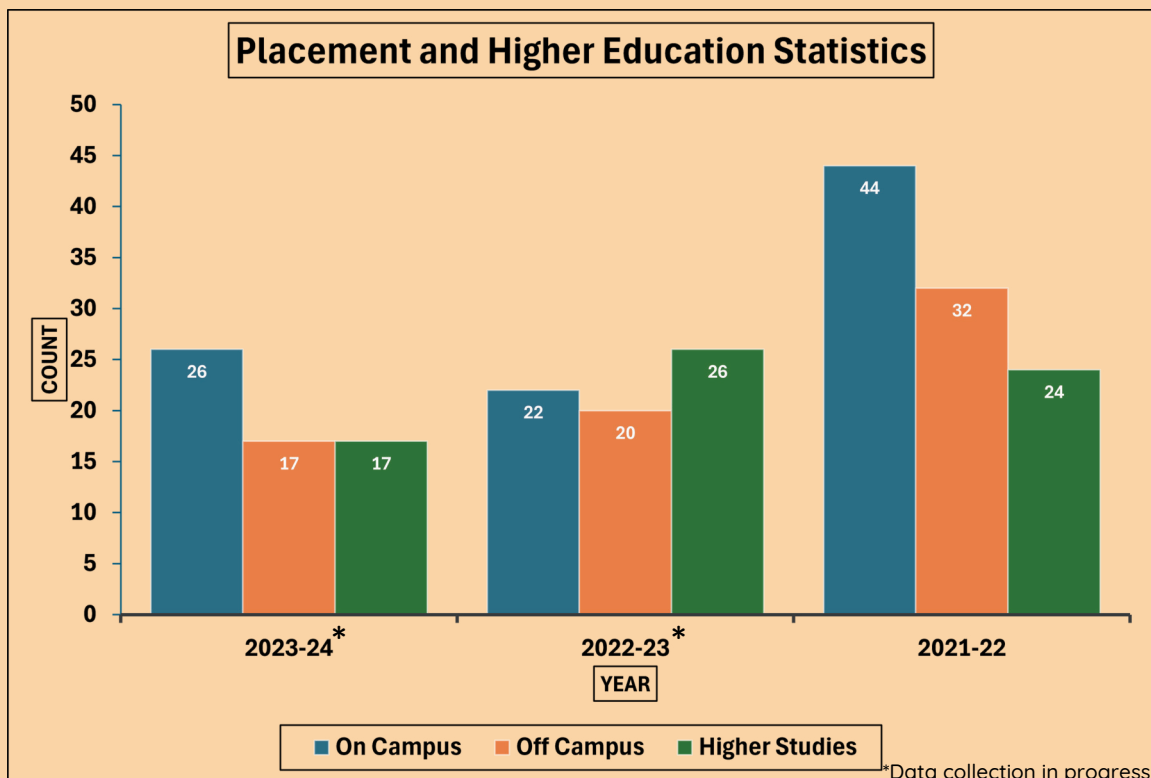
Dr. Vishnu Sharma A.
Assistant Professor



Dr. Avinash A. R.
Assistant Professor
(senior scale)

Accomplishments

Student Progression- Placements and Higher studies





Diksuchi

Newsletter

MENTORS

Dr. Purushotham G. Sarvade
Professor & Head

Dr. Laxman Kudva P.
Assistant Professor (Sr. scale)

Dr. Sugandhini H. K.
Assistant Professor (Sr. scale)

Ms. Chaithra M.
Assistant Professor (Sr. scale)

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VII sem




Ms. Anjali Sajayan
III sem




Ms. Pavana
III sem

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