TVAKSATI

BMS INSTITUTE OF TECHNOLOGY AND MANAGEMENT

DEPARTMENT OF CIVIL ENGINEERING



TWAKSATI

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ISSUE #17; January - June 2024

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INSTITUTE VISION & MISSION

VISION

To emerge as one of the finest technical institutions of higher learning, to develop engineering professionals who are technically competent, ethical and environment friendly for betterment of the society.

MISSION

Accomplish stimulating learning environment through high quality academic instruction, innovation and industry-institute interface



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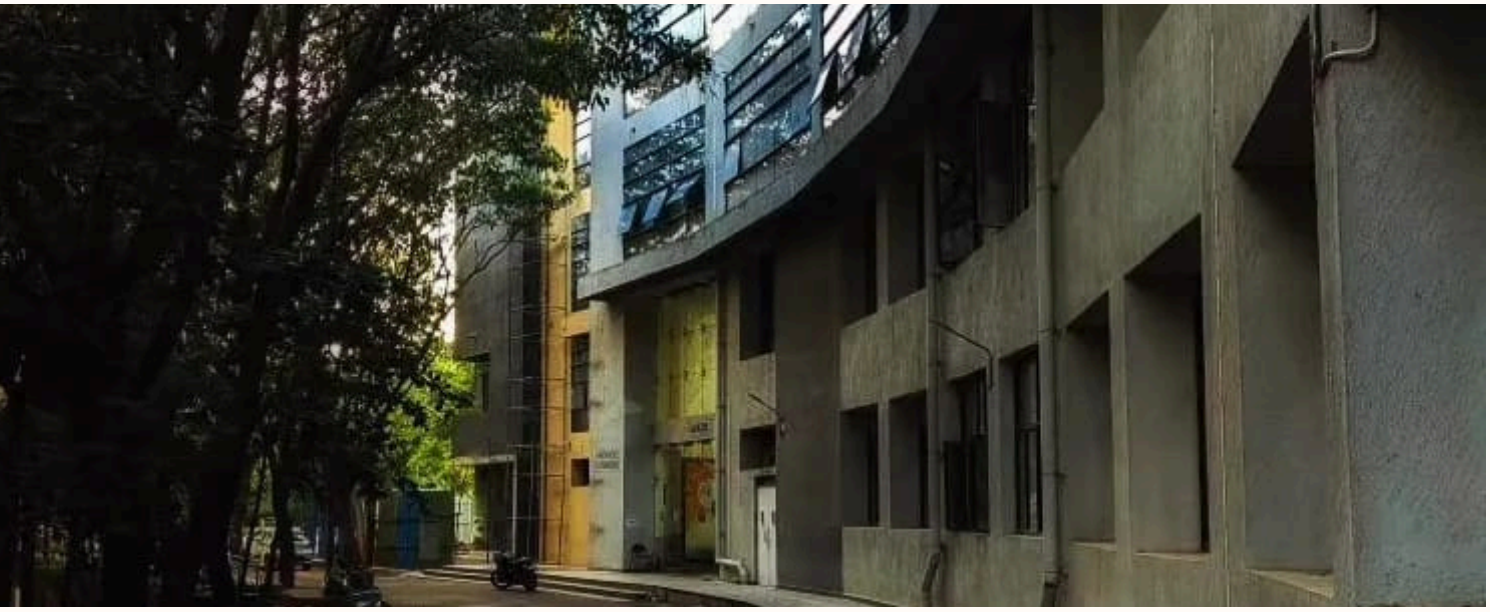
DEPARTMENT VISION & MISSION

·VISION

To be an Exemplary Centre, disseminating quality education and developing technically competent civil engineers with professional integrity for the betterment of society.

MISSION

Impart technical proficiency through quality education.
Motivate entrepreneurship through enhanced industry – interaction and skill-based training.
Inculcate human values through outreach activities.



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SECTION - B

Dear Readers,
This past month has been a transformative one for our department as we reached new heights in research and community engagement. Our collective efforts continue to shine, and I am proud of the strides we are making. As we move forward, let us remain innovative and committed to excellence. Together, the possibilities are endless!"

As we embark on another exciting chapter in our department's journey, I am delighted to share the progress we have made over the past months. From groundbreaking research to successful events, our collective efforts continue to make a significant impact. The dedication and innovation displayed by our team and students have been truly inspiring. Looking ahead, we are focused on fostering collaboration, enhancing our programs, and creating more opportunities for growth and learning. Together, we can continue to achieve remarkable milestones and shape a brighter future for all.



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FROM HOD's DESK



Dr. RAJAKUMARA H. N.

I'm glad to see that the Civil Engineering Departmen publishes the TVAKSATI Newsletter every six months to showcase its initiatives. In this edition, I plan to cover various topics, including departmental activities, industry visits, student achievements, and other co-curricular and extracurricular events. This newsletter serves as a platform to highlight the accomplishments of both the faculty and students in the Civil Engineering Department.

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MOUs/AWARDS/RECOGNITIONS



Dr Deepak M S, Assistant Professor of Civil Engineering, BMSIT&M- Bengaluru, has been granted an Indian Patent (IPR) on 22.02. 2024.It is hereby certified that a patent has been granted to the patentee for an invention entitled COLD FORMED STEEL HYBRID DOUBLE T BOX GIRDERS as disclosed in the above mentioned application for the term of 20 years from the 29th day of March 2021 in accordance with the provisions of the Patents Act, 1970.

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FACULTY AS RESOURCE PERSON

·Dr Rajesh Gopinath (Associate Professor, Department of Civil Engineering, BMS Institute of Technology and Management) has delivered an Expert Talk on "Understanding the Impact of Climate Change on our World" on 06.02.2024 at Christmas University, Kengeri Campus.

· Shimna Manoharan, Assistant Professor, delivered a technical talk on the topic of" Understanding the Deepwater Horizon Oil Spill: Lessons for Environmental Stewardship" as part of the outreach activity of Boomitra Sena Club of Marian Engineering College, Kerala, on 08.02.2024.



·Dr. Vinod B R , Assistant Professor, Department of Civil Engineering has extended his support as a resource person for a one day workshop on “Alternative Building Materials” on 28.02.2024 at Sai Vidya Institute of Technology, Bengaluru.

·Shimna Manoharan, Assistant Professor, Department of Civil Engineering, delivered an expert lecture in a national-level webinar organized by the student chapter of the Indian Geotechnical Society, Government College of Engineering Kannur, on 23rd August 2024. The lecture, titled "Need of AI and ML in Geotechnical Engineering," provided valuable insights into integrating artificial intelligence and machine learning in geotechnical engineering.

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WORKSHOPS

Mrs Archana K. Assistant Professor, Department of Civil Engineering, BMS Institute of Technology, Bengaluru was participant of 5 Days Workshop on Course Design in OBE and NBA Framework conducted by DESE, IISc, Bengaluru from 20 May to 24 May 2024.

Dr Athiyamaan V Assistant Professor Department of Civil Engineering, BMS Institute of Technology has Participated in an Faculty Development programme titled of “BIM- Building Information Modelling” conducted by Atria Institute of Technology under the banner ISCT from 01.04.2024 to 05.04.2024



Mrs Shobha R Assistant Professor, Department of Civil Engineering, BMS Institute of Technology has Participated in an Faculty Development programme titled of “BIM- Building Information Modelling” conducted by Atria Institute of Technology under the banner ISCT from 01.04.2024 to 05.04.2024

Mr Ravikiran K C, Mechanic, Department of Civil Engineering, BMS Institute of Technology has Participated in an Faculty Development programme titled of “BIM- Building Information Modelling” conducted by Atria Institute of Technology under the banner ISCT from 01.04.2024 to 05.04.2024

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SECTION - C

Civil engineering is the foundation of modern infrastructure, shaping the way we live, work, and connect with the world around us. As one of the oldest and most diverse engineering disciplines, it plays a crucial role in designing, constructing, and maintaining structures that define our daily lives–from bridges and buildings to highways and water systems.

This section is dedicated to exploring the incredible scope of civil engineering, showcasing innovative projects, and highlighting the professionals and students who bring these visions to life

In this issue, we'll delve into the latest trends in sustainable construction, advancements in smart city technology, and inspiring stories from our civil engineering community.

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3D PRINTING IN CONSTRUCTION



3D printing technology has found its way into construction, allowing for the creation of intricate and customized structures. Robotic arms with extrusion nozzles can deposit layers of concrete or other building materials according to digital models. This application is particularly promising for constructing complex and unconventional architectural designs.

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THE RISE OF ROBOTIC CONSTRUCTION

In civil engineering, the integration of technology has significantly transformed the construction landscape. One such revolutionary advancement is the incorporation of robotics in the building process. Robotic construction represents a paradigm shift in the way structures are designed, planned, and executed. This blog post delves into the world of robotic construction, exploring its applications, benefits, challenges, and the transformative impact it has on the traditional building process.

Using robots in construction is not entirely new, but recent advancements in robotics, artificial intelligence (AI), and automation have elevated their capabilities. Robotic construction encompasses a wide array of applications, ranging from bricklaying and concrete pouring to complex assembly tasks. The primary objective is to increase efficiency, reduce construction time, and enhance overall safety on construction sites.



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SEISMIC DESIGN AND RETROFITTING OF EXISTING STRUCTURES

Seismic design and retrofitting of existing structures are critical measures to enhance resilience and safety against earthquakes. Seismic design involves creating structures that can withstand earthquake forces, minimizing damage and risk to occupants, while retrofitting existing structures modifies or upgrades buildings to improve their seismic resilience. Effective seismic design considers factors such as soil conditions, building geometry, and material properties, employing techniques like bracing systems, shear wall reinforcement, and foundation upgrading. Retrofitting existing structures poses challenges, including cost, feasibility, structural integrity, material compatibility, and occupant disruption. Despite these challenges, advancements in technology and engineering expertise have made retrofitting more feasible and effective, as evident in successful projects like the seismic retrofitting of San Francisco City Hall and Los Angeles City Hall. By prioritizing seismic design and retrofitting, governments, building owners, and engineers can protect human life, property, and infrastructure, ensuring communities are better prepared to withstand devastating earthquakes.



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STUDENT CORNER









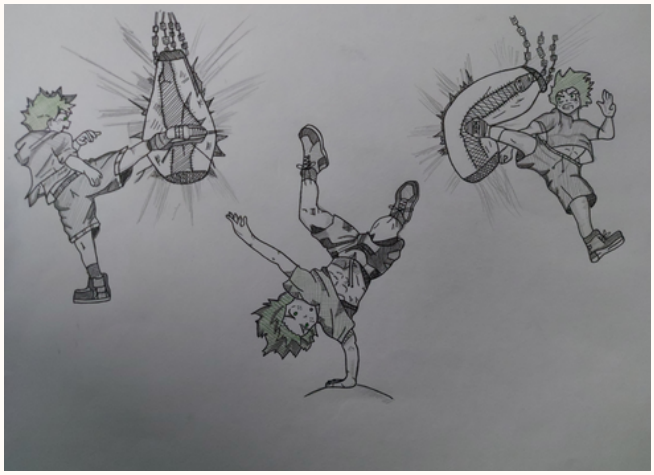
Welcome to the Student Corner, your gateway to the vibrant and dynamic world of student life at BMSIT&M.

This section is dedicated to showcasing the achievements, talents, and perspectives of our exceptional students. From outstanding academic accomplishments to innovative research projects, club initiatives, and creative endeavors, we celebrate the diversity and excellence of our student community. Whether you're a current student, alumni, or faculty member, this corner aims to inspire, inform, and connect you with the heartbeat of our department. Dive in and discover the exciting stories, achievements, and experiences that make BMSIT&M a hub of intellectual curiosity and creativity.



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STUDENT CORNER - ART



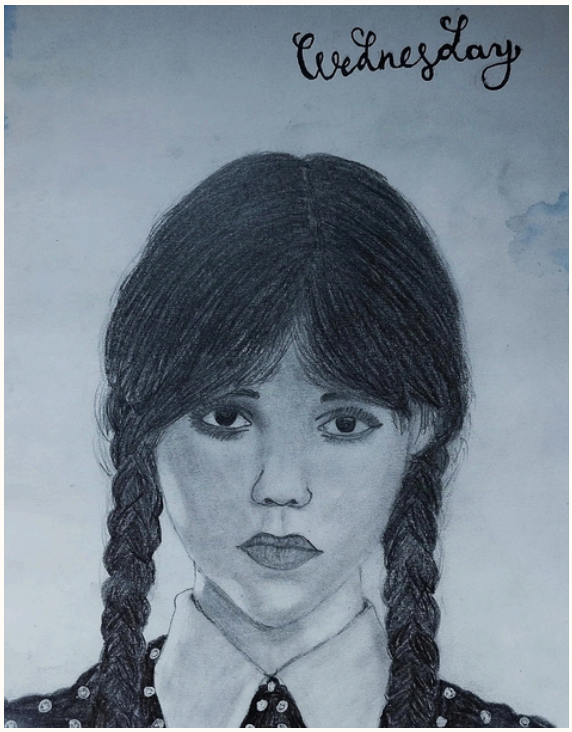
~Aashish Gyawali



~Rakshitha V



~Meghraj CB



~Amrutha G

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STUDENT CORNER - POEM

A Goal in Sight

A dream takes shape, a vision clear,
A goal is born, and progress near.
To reach the summit, high and bright,
Focus is key, day and night.

Determination fuels the fire,
Faith guides the heart's greatest desire.
Through obstacles and challenging times,
Resilience shines, like a beacon's rhymes.

Staying focused, the path unwinds,
Each step forward, leaves doubts behind.
With every fall, rise once more,
Learn from mistakes, and forge ahead anew.

Clarity of purpose, a guiding light,
Illuminates the darkest night.
A goal achieved, a triumph won,
Is testament to will, forever done.

So set your sights, on what you seek,
And let determination speak.
With faith as anchor, and heart aglow,
Your goal awaits, for you to know.

For a goal to flourish and thrive,
Nurture it with passion, and stay alive.
Through trials and tests of time,
Stay focused, and your dreams will align.

~ Name: ADILAKSHMI K
USN: 1BY22CV002



I know
No matter how much we surround each other
Everything can't be melted down like snow under the sun ..
May it require a lot of time. To melt it down one or two
Maybe we already knew that
Like that, all of a sudden it comes to a strong land.
It feels blended but at the same time it's not . Our notes harmonized together to form a single performance .

~ Name: Sridevi C R
USN: 1BY22CV0333

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STUDENT CORNER – ARTICLE

THE SANATANA DHARMA

"Dharmo Rakshati Rakshitaha" as the saying goes if a person protects dharma, dharma will protect him. In Sanatana Dharma, dharma means the "right way of living". Dharma is oftenly discussed in various Hindu scriptures such as Vedas, Upanishads, Mahabharata, Ramayana and the Puranas. Bhagavadgita a part of Mahabharata provides clear understanding about dharma through the conversation between Lord Krishna and Arjuna. Lord Krishna emphasizes that following dharma in any kind of situation is the most important thing than anything else.

Types of Dharma :-

• Sanatana Dharma - Sanatana dharma represents the universal laws that apply to all beings, irrespective of their caste, creed and gender. These include principles like truth, non-violence and compassion.

• Swadharma - This term refers to an individual's own duty. Swadharma emphasizes the importance of performing one's duty faithfully and sincerely.

• Varna Dharma - This is based on one's caste. But the caste is classified on the basis of the person's job. The hindu society specifies certain duties and responsibilities for Brahmana ,Kshatriyas , Vaishyas and Shudras.

• Ashrama Dharma - This classification relates to the four stages of life(ashramas) : Brahmacharya, Grihasta, Vanaprasta and Sanyasa.

Dharma upholds the universe. If dharma is upheld there is harmony in the Society. Conversely, when dharma is neglected people will suffer .

Importance of Bhagavadgita in understanding dharma :-

Living in accordance with dharma involves performing one's duty without an attachment to the outcomes . This is highlighted in Bhagavadgita where Krishna advises Arjuna to focus on his duties as a warrior without thinking about the results. Dharma in contemporary society :-In modern times, the way of following.

Dharma has evolved, but the roots of dharma remain relevant. Dharma continues to guide every individual's behavior. Application of dharma in present scenario helps to solve issues such as justice in a right way which also encourages equity and respect for all lives.

Conclusion:–

By understanding dharma and sticking on to dharma, individual can lead a peaceful life and also contribute to the development of the country. The wisdom of dharma continues to inspire and guide the humans towards a path of righteousness and harmony.

BY: ARPITHA PANDIT
USN: 1BY23CV010

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STUDENT CORNER – ARTICLE

KARNATAKA

I am proud to be a Kannadiga. Even you will wish to be born in this state hearing its contribution to India.

History of Karnataka:

• Its name :- The "Karnataka" is derived from the word 'Karu + nadu' which means land of fertile black soil or an elevated land. It got its name on 1st Nov. 1973 (celebrated as Kannada Rajyotsava). Earlier it was called as Mysore derived from the word Mahishasur (Baffalo demon).

Empire :-

• The Great Vijayanagar empire stood as a barrier from the Mughals attacking South India.

• The Mysore kingdom's Hyder Aliwas the first king to attack on the British.

• Karnataka is known for its heritage destinations and its wildlife/national parks .

Contributions of Karnataka to India :-

• Sandalwood : Nearly 85% of sandalwood supply of India is from Karnataka.

• Coffee: 71% of coffee is produced here

• GDP : It has 8.2% of contribution for India's GDP • Silk : 45% of silk is contributed by Karnataka.

• Gold: 80% of Indians gold is extracted in Karnataka (KGF) • Magnetite : 73% of magnetite ore is extracted in Karnataka .

• Plane and Helicopter : 67% of Aeroplane and Helicopter is manufactured here .

• ISRO's head quarters are located here .

• Software exports : Alone Bangalore manages 38% of the world's software exports .

• Richness : Karnataka is the 4th richest state with GDP of $ 247 B .

• Biotech : 60% of Biotechnology companies are located in Bangalore .

• Exportation: Karnataka holds 1st rank in Electronic and computer software exportation .

• Ports and harbour : New Mangalore port which is 7th largest port in India .

• The 1st Post office in India is from Karnataka .

• Hydro electricity came into existence by Karnataka (Mandya) whole of Asia .

• Language : Kannada is the second oldest of 4 Dravidian language. Kannada literature has been presented/ honoured with 8 Jnanapitha awards .

• Heritage : Beluru , Halebeedu , Hampi , Shravanabelagola have a rich heritage with no competitors.

BY: AMRUTHA G
USN: 1BY23CV006



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STUDENT- ALUMNI CORNER

The journey at BMSIT was truly filled with memorable moments. The curriculum was meticulously designed to blend the theoretical knowledge with practical application, allowing us to engage deeply with the fundamental principles of civil engineering. Faculty members and their passion for teaching ensures that students are not only academically proficient but also prepared to tackle real-world engineering challenges with confidence.

Beyond academics, the campus life at BMSIT is vibrant and diverse. The Annual cultural fests of our college is the most awaited event each year.

The lush green campus, is a refreshing escape from the urban hustle. It provides such a soothing environment & interest for learning as well as creativity. Eco club - OIKOS is a proud initiative of our institution, which plays an active role in every student's life ensuring students to contribute to a cleaner, greener future while enjoying the beauty of nature with responsibility that surrounds them.

Varsha G 2019-2023 Batch



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STUDENT- ALUMNI CORNER

Once upon a time, in the quaint village of Twilight, surrounded by lush meadows and sparkling streams, lived a girl named Luna. Every night, she would climb to her favorite hill, where the view of the sky was breathtaking. Luna adored the moon, watching it transform from a delicate crescent to a brilliant full orb, filling her heart with wonder and dreams. As the crescent moon appeared, she felt a sense of hope. “It’s a time for new beginnings,” she would whisper, imagining all the adventures yet to come. With each passing night, she put her thoughts in a little notebook, sketching the moon's phases and weaving tales of magic and mystery.

One night, as Luna sat beneath the crescent moon, she noticed a faint twinkling light in the woods nearby. Curious, she ventured into the trees, following the glow until she stumbled upon a hidden glade. There, stood a shimmering pool that reflected the moon’s light like a mirror.
Suddenly, a figure emerged from the wate, a graceful moon fairy named Selene. Her wings sparkled like stars, and her voice was as soft as a lullaby. “Welcome, Luna,” she said, smiling warmly. “I’ve seen your love for the moon. Tonight, I grant you a wish.”
Luna’s heart raced. “I wish to experience the magic of the moon!” she exclaimed, her eyes shining with excitement. With a gentle wave of Selene’s hand, a silvery glow surrounded Luna, lifting her into the sky. In an instant, she was on the moon, surrounded by a breathtaking landscape of craters and glowing dust. “Welcome to the Moonlit Realm!” Selene’s voice echoed around her. “Here, you can feel the magic of each phase!” As the crescent moon illuminated the surface, Luna felt a rush of inspiration. She twirled, capturing the essence of new beginnings in her heart. The half-moon appeared, and she met playful moon sprites who danced around her, teaching her about balance and harmony. Finally, Luna reached the full moon, which shone brighter than she had ever imagined. Below her, she saw her village celebrating, laughter and joy filling the air. She felt a longing to be part of it.

“Remember,” Selene said gently, “the magic of the moon is strongest when shared with others.”

With that, Luna found herself back on her hill, the moon glowing brightly above her. Inspired, she rushed down to Twilight and gathered her friends and family. “Let’s celebrate the moon together!” she declared. As the residents of Twilight sang and danced, Luna shared her stories and their hearts connected beneath the radiant glow.
As she watched the moon cycle through its phases, Luna knew that its light would always guide her. The moon had taught her that the true magic lay not only in its glow but in the connections they shared.
And so, under the moonlight, the village of Twilight flourished, forever inspired by the dreams of a girl who loved the moon.

VATSALA 2014-2018 BATCH



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STUDENT- ALUMNI CORNER

Grateful Beginnings: My Journey as a Project Assistant at IISc

Stepping into the Indian Institute of Science (IISc) for the first time felt like entering a world of endless possibilities. Known as one of India's top research-oriented institutes, IISc was not just a workplace; it was a hub of innovation and knowledge. I still remember the excitement mixed with a touch of anxiety as I prepared for my first day as a project assistant.

I owe this incredible opportunity to my mentor, Shimna G M, who believed in me when I didn't quite believe in myself. Her encouragement was the wind beneath my wings, pushing me to embrace challenges and step out of my comfort zone.

In the realm of soil and stone,
A guide like you, I've never known.
With wisdom deep and heart so true,
My journey began, all thanks to you.

As an expert in Geotechnical Engineering, she was not only amazing at what she did but also made the subject come alive in ways that were truly inspiring.

On my first day, I was introduced to Professor Anazhagan, known for his discipline and, let's be honest, his rather strict demeanor. As he outlined my responsibilities, I couldn't help but feel a mix of admiration and intimidation. Here was a man who had dedicated his life to earthquake engineering, and I was fortunate enough to work under his guidance. His expectations were high, but so was his passion for teaching. I quickly learned that his discipline was not just about rules; it was about instilling a sense of responsibility and excellence.

Throughout my time at IISc, I had the privilege of assisting PhD students on their research journeys. Watching their dedication inspired me every day. I found joy in organizing workshops, classes, and laboratory sessions. Each event was a new opportunity to learn, to connect, and to contribute to the vibrant academic community.

I was also fortunate to have a wonderful partner in this journey—Mala. Her support was invaluable, and she taught me so many things, both technical and emotional. Our connection went beyond work; we shared a bond that made every challenge easier to navigate.

In moments shared and lessons learned,
With you beside me, my heart burned.
Through laughter and tears, we found our way,
In each other's strength, we chose to stay.

There were moments of triumph—like when I successfully coordinated a workshop that received rave reviews—and moments of doubt, like when I feared I wasn't measuring up to the high standards set by my peers and professors. Yet, each challenge became a stepping stone, and each mistake turned into a lesson. I learned to embrace feedback, to ask questions, and to never shy away from seeking help.

Looking back, my first job was more than just a title; it was a transformative experience. It taught me the value of hard work, the importance of collaboration, and the thrill of contributing to groundbreaking research. The friendships I forged with fellow students and colleagues became an invaluable part of my journey.

As I reminisce about those days, I feel a swell of gratitude—not only for the opportunity itself but especially for Shimna G M, whose belief in me and expertise in Geotechnical Engineering made it all possible, and for Mala, who stood by my side, enriching my experience in ways I will always cherish.

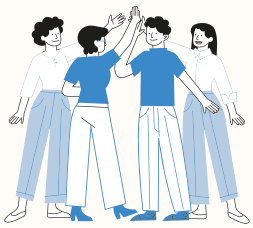
With every lecture, every glance,
You sparked in me a thirst to dance
Through challenges and dreams to weave,
In gratitude, I truly believe.

My first job at IISc wasn't just a starting point; it was the foundation of my career—a career built on curiosity, resilience, and a commitment to learning.

In the end, I realized that every journey begins with a single step, and my first step at IISc led me to a path filled with knowledge, growth, and endless possibilities.

YAKSHA 2017 - 2020 BATCH

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Srustee patra



Lepana S Mallappa

Dear Readers,
It brings us immense joy to present to you the latest edition of our newsletter, crafted to inform, inspire, and connect everyone in our civil engineering community. This publication is a reflection of the dedication and passion of our students, faculty, and professionals who contribute tirelessly to the ever-evolving field of civil engineering.

~Faculty coordinator
Shimna Manoharan(Asssistant Professor)