



THIAGARAJAR COLLEGE OF ENGINEERING

(A Govt. Aided Autonomous Institution Affiliated to Anna University)

-where quality and ethics matter



ALTITUDE

Department of Civil Engineering

SECOND EDITION

NBA ACCREDITED FOR 6 YEARS

(2025 - 2031)

FOR BE CIVIL ENGINEERING

FEATURED

Exquisite technical articles,
department activities,
online events, placement
talk and more...

INTERNATIONAL CONFERENCE
17 DEC 2026 & 18 DEC 2026



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RECORD BREAKING
TECHUTSAV' 26-INFRAVERSE

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MAY 2026

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ACKNOWLEDGEMENT

FROM US,

Every academic year leaves behind countless memories, achievements and experiences that shape our journey. With great pride, we present the Second Edition of Altitude, the official magazine of the Department of Civil Engineering, bringing together the moments that made this year memorable for our department.

Following the success of our first edition, this edition reflects the continuous growth, dedication and enthusiasm shared by students and faculty throughout the year. From technical articles and academic achievements to departmental events and celebrations, every page captures the spirit and progress of our Civil Engineering family.

Altitude is more than just a magazine - it is a reflection of our ideas, creativity, teamwork and passion for learning. It stands as a collective record of the efforts and milestones we have achieved together.

We sincerely thank the Civil Engineering Association, our respected Staff Editor Dr. D. Brinda, our Head Of the Department Dr. S. Arul Mary, our Principal Dr. L. Ashok Kumar, faculty members, students and alumni whose constant support and encouragement made this edition possible.

As we move forward, we hope Altitude continues to preserve our journey, celebrate our achievements and inspire us to keep reaching greater heights together. May every page serve as a reminder of the remarkable journey we have shared and the milestones that still lie ahead.

TEAM MAGAZINE

OUR COLLEGE

Thiagarajar College of Engineering (TCE), Madurai, an Institution affiliated to Anna University is one among the several educational and philanthropic institutions founded by Philanthropist and Industrialist Late. Shri. Karumuttu Thiagarajan Chettiar. It was established in the year 1957. TCE is funded by the Central & State Governments and Management. The courses offered in TCE are approved by the All-India Council for Technical Education, New Delhi. It was granted Autonomy in the year 1987. TCE has been accredited by the National Board of Accreditation. TCE offers Nine Undergraduate Programmes, Ten Postgraduate Programmes and Doctoral Programmes in Engineering, Science and Architecture. The major objective of this institution is to plan and implement a programme of education in Engineering and allied Sciences, to promote research, to disseminate knowledge and to foster co-operation and exchange of ideas between academic community and industrial organisations and to develop entrepreneurship skills among the students. It strives to achieve academic excellence along with harmonious development of personality of the students.

WE AT TCE SHALL STRIVE CONTINUOUSLY,

- Academic excellence in Science, Engineering and Technology through dedication to duty, commitment to research, innovation in learning and faith in human values.
- Enable the students to develop into outstanding professionals with high ethical standards capable of creating, developing and managing global engineering enterprises.
- Fulfill expectations of the society and industry by equipping students with state-of-the-art technology resources for developing sustainable solutions.
- Achieve these through team efforts making Thiagarajar College of Engineering a socially diligent trend setter in technical education.

PRIME MOVER

Kalaithanthai Thiru Karumuttu Thiagarajan Chettiar, son of Thiru Muthukaruppan Chettiar and Thirumathi Sivakami Achi was born on 16th June, 1893 at A. Thekkur in Sivagangai district of Tamil Nadu. He was educated at St. Thomas College, Sri Lanka. He edited a newspaper championing the cause of the plantation workers. After his return to India he started Meenakshi Mills, Madurai in 1925. He actively participated in the struggle for the Indian Independence. He founded 14 textile mills, 19 educational institutions, Bank of Madura, and Madurai Insurance company. He also published a daily newspaper called "Tamil Nadu" for a number of years. He was an ardent lover of architecture, music and literature. This great philanthropist used a large part of his wealth for the development of higher education. Leaving behind a rich legacy, Karumuttu Thiagarajan Chettiar passed away on 29th July, 1974.

DEPARTMENT OF CIVIL ENGINEERING

VISION

To establish process of learning to meet the global standards for sustainable built environment.

MISSION

We are committed to,

- Provide quality education through innovation in teaching and learning practices meeting the global standards.
- Encourage faculty and students to carry out socially relevant and forward-looking research.
- Offer consultancy services using state of the art facilities fulfilling the needs of the industry and society.
- Enable our students, faculty and staff to play leadership roles for betterment of the society in a sustainable manner.

PROGRAMME EDUCATIONAL OBJECTIVES (PEOS)

PEO1: Graduates of the programme will contribute to the development of sustainable infrastructure for the betterment of society.

PEO2: Graduates of the programme, as an employee of an organization or as an employer, will continuously update their domain knowledge for continuous professional development with focus on research and development and industry interaction.

PEO3: Graduates of the programme will accept and create innovations in providing solution for sustainable built environment.

PEO4: Graduates of the programme will discharge their duties as professional civil engineers with quality and ethics.

MESSAGE

PRINCIPAL



Dr. L. ASHOK KUMAR

It is a moment of pride for Thiagarajar College of Engineering to unveil ALTITUDE, the magazine of the Department of Civil Engineering. This publication serves as a dynamic showcase of the department's varied initiatives, highlighting the ingenuity, originality, and passion of its members. A magazine like ALTITUDE is not just a chronicle of events but also a platform to inspire and engage. I congratulate the editorial team for their vision and commitment in bringing this effort to fruition.

HEAD OF THE DEPARTMENT



Dr. S. ARUL MARY

I am truly elated to bring forth the publication of ALTITUDE, the magazine of Department of Civil Engineering that celebrates the spirit of the Department of Civil Engineering. This publication serves as a stage for our students to showcase their technical prowess, and creative pursuits. The magazine is more than a collection of stories, it represents the heart and soul of our department. With every issue, I believe it will set new benchmarks and inspire our students to aim higher.

STAFF EDITOR



Dr. D. BRINDHA

It is my privilege to acknowledge the hard work and creativity of the editorial team of the Department of Civil Engineering, Thiagarajar College of Engineering. This magazine is a testament to the idea that learning extends beyond the classroom. It is a space where ideas converge, talents flourish, and achievements are celebrated. I hope ALTITUDE continues to inspire both its creators and readers in the journey of discovery and excellence.



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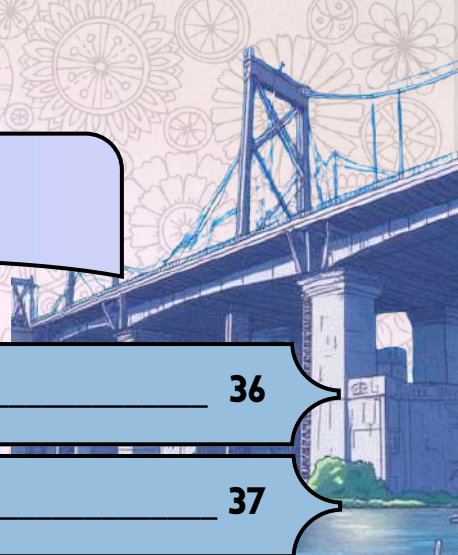
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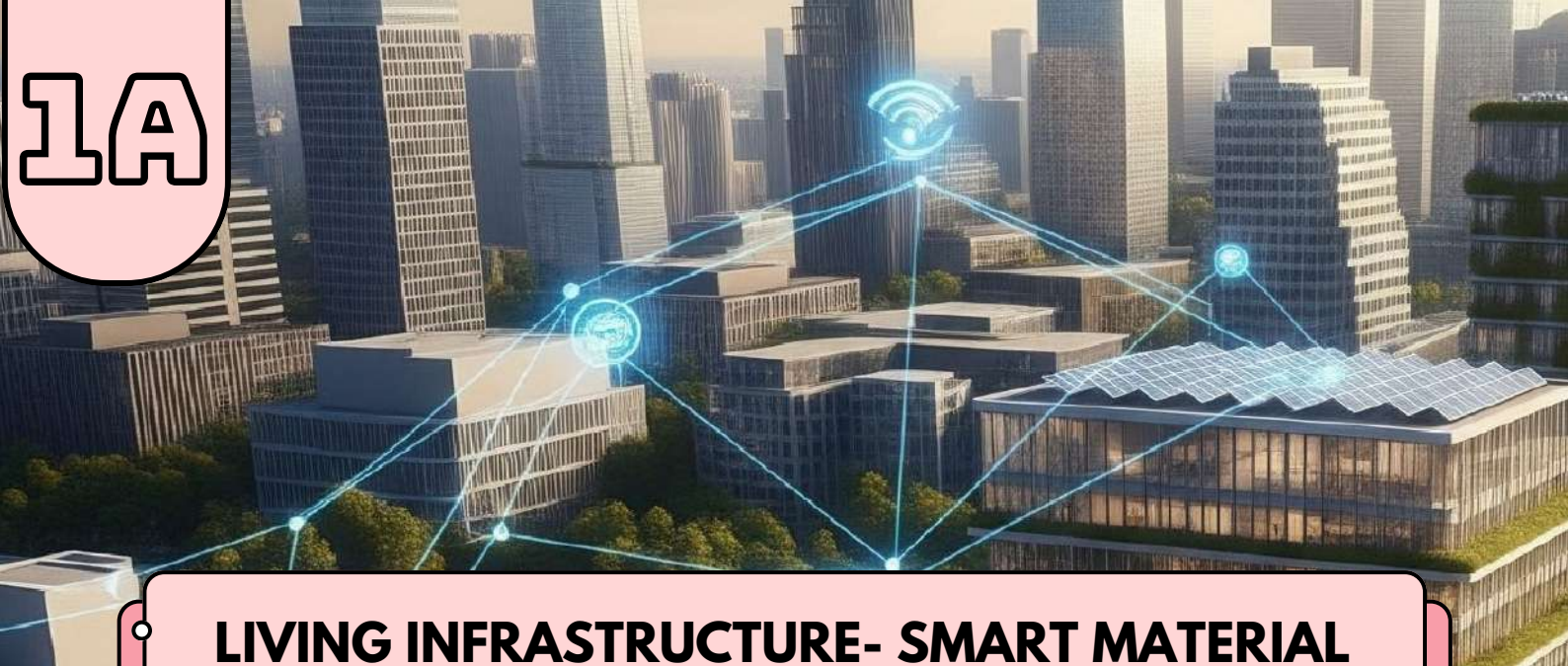
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LIVING INFRASTRUCTURE- SMART MATERIAL

-ABINAYA J, I YEAR

Introduction: A New Biological Approach

In civil engineering, even a minor crack in a structure often requires significant repair by engineers. When the human body gets injured, it heals itself over time. Similarly, if a part of a tree is cut, it gradually grows back. However, our bridges and buildings cannot repair themselves. Once cracks develop in a structure, they remain until engineers intervene.

In today's world of AI and IoT, the idea of developing "Living Infrastructure" is becoming a reality. Scientists and engineers are working on smart, self-healing materials that have the ability to repair themselves through the incorporation of biological agents and smart sensors. When a crack appears in the concrete matrix, the presence of biological minerals enables the material to regenerate its strength and structure, much like how the human body heals its tissues. We are moving toward structures that do not just stand—they sense, react, and heal. This innovation is set to play a significant role in the future of civil engineering.

Concrete is one of the most widely used materials in the world. Although it is strong in compression, it has a major weakness. As a result, small cracks, known as hairline cracks, can easily develop in concrete structures. While these cracks may seem insignificant, the entry of water and harmful substances like chlorides can gradually weaken the structure. This leads to the deterioration of steel reinforcement and loss of bond between steel and concrete, ultimately making it a silent killer of infrastructure.

Engineers fix the damage only after it occurs. The approach is changing with the development of smart material. Now, the focus is on creating materials that can automatically respond to damage and repair themselves, leading to a more sustainable and long-lasting infrastructure system.

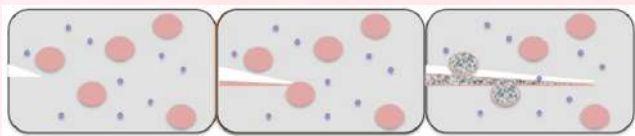
Self-Healing Concrete:

The most interesting developments in modern civil engineering is the idea of structures that can repair themselves. This is possible through

a process called autonomic repair, where materials react and get healed automatically when damage occurs.

A popular method used today is bacteria-based self-healing concrete, often called the microbial mason technique. In this method, special bacteria such as *Bacillus subtilis* and *Bacillus pseudofirmus* are added into concrete during mixing. These bacteria are placed inside tiny clay capsules so they can survive inside the harsh environment of concrete.

When a crack or any form of damage in the structure, these capsules break. If water and oxygen enter through the crack or pores which the bacteria gets activated. Once they are active, the bacteria start consuming nutrients like calcium lactate and produce limestone (calcium carbonate). This limestone slowly fills the crack and pores. They get sealed and restore the strength and durability of the structure.



Source: <https://en.wikipedia.org>

This natural process can repair cracks up to a certain width and helps in preventing water leakage and corrosion of steel reinforcement and preventing the breakage of concrete and steel bond. Because of this, structures become more sturdy and require less maintenance over time.

Chemical Self Healing Methods:

Apart from biological methods, there are also chemical ways to achieve self-healing in concrete. One of the methods is called micro-encapsulation.

In this technique, tiny capsules filled with materials like sodium silicate or epoxy resins are mixed into the concrete. When cracks appear, these capsules break and release the healing agent into the damaged area. The material then reacts and seals the crack.

This method is useful when the concrete is at its early stage where small cracks can develop due to shrinkage. By healing these cracks early, the overall strength and life of the structure are improved.

Beyond Concrete: Smart Materials and Technologies

Self-healing concrete is just one part of a larger concept called smart infrastructure. Modern civil engineering is now combining materials science with digital technology to create intelligent structures.

Shape Memory Alloys (SMAs)

Nitinol (Nickel-Titanium alloy) is the material that has the ability to return to their original shape and structure after deformation. These materials imitate “muscles” in a body. In earthquake-prone areas, they help buildings to absorb the energy and return to their original position, reducing permanent damage.

Embedded Sensing and Digital Twins

Modern smart materials are increasingly paired with fiber-optic sensors. These sensors provide signal with real-time stress and strain data into a "Digital Twin" a virtual replica of the physical asset. Engineers can monitor the bridge from a dashboard thousands of miles away, receiving alerts the moment an autonomous healing event is triggered.

Environmental and Economic Considerations:

The challenge we are facing in using smart materials is their initial cost. Selfhealing concrete can be more expensive than traditional concrete. However, when we consider the life cycle cost, it becomes more economical.

Since these materials require low maintenance and repair work, and less structural failures, they also save money in the long run. They also reduce work delays, labour costs, and impact caused by frequent repairs.

The significant advantages of self-healing infrastructure made positive impact on the environment. The usual construction and repair processes consume large amounts of raw materials such as cement, steel, and water. The global emission of carbon dioxide is contribute largely by cement production.

The self healing materials extending the life of structure and need for frequent repairs and reconstruction are reduced. This leads to decrease in material usage consumption and usage energy As a result, the overall carbon footprint of infrastructure projects is minimized.

The smart technologies like sensors and digital monitoring systems the help engineers to efficiently maintain the schedules. The infrastructure can be maintained properly by reactive repair and it reduces the environmental waste.

Conclusion:

The civil engineering nowadays focus on developing smarter and more sustainable materials. Building structures that simply resist

damage create new innovative in civil engineering Self-healing concrete and smart materials are not just innovation there are essential for long lasting building and good infracture. These materials will play a vital role in creating the smart cities in the future.

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DID YOU KNOW !!

Bacterial Self-Healing Concrete contains dormant bacteria, such as Bacillus subtilis and Bacillus pseudofirmus. When water enters a crack, these bacteria become active and produce limestone, naturally sealing the crack and significantly extending the structure's lifespan.

ROBOTS IN CONSTRUCTION: WILL ENGINEERS BE REPLACED?

-ARI SIVA PRIYA, III YEAR

Introduction

For a long time, the construction industry has been known for manual work, heavy machines, and slow processes. But today, things are changing very fast. With the introduction of robotics and artificial intelligence, construction sites are becoming smarter and more efficient than ever before.

When I first came across this topic, one question immediately came to my mind—can robots really replace civil engineers like us? While robots can work faster and more accurately, engineering is not just about doing work; it is also about thinking, planning, and solving problems. This makes the topic both interesting and important for future engineers.

The Emergence of Robotics in Construction

Robotics in construction simply means using machines to do tasks that were earlier done by humans. These machines are designed to reduce effort, save time, and improve safety on site.

Today, companies like Boston Dynamics have developed robots that can walk on rough surfaces, carry materials, and even assist workers. Similarly, Built Robotics is working on converting normal construction equipment into fully automatic machines.

What once seemed like a future idea is now becoming reality. Robots are already being used in many projects around the world, showing that construction is entering a new phase where humans and machines work together.

Types of Robots Used in Construction

1. Bricklaying Robots

Bricklaying is a time-consuming and tiring task. Machines like the SAM100 bricklaying robot can lay thousands of bricks in a single day with great accuracy. This not only saves time but also improves the quality of work.



Figure 1: Robotic Bricklaying in Construction Engineering

Source : Engineering News-Record Magazine

2. Drones (Unmanned Aerial Vehicles)

Drones are now very common on construction sites. They are used for surveying land, taking aerial images, and monitoring progress. In India too, drones are being used in road and infrastructure projects, making work faster and more efficient.



Figure 2: Drone Used for Site Survey and Monitoring

Source : Pix4D Software

3. Autonomous Construction Equipment

Machines like bulldozers and excavators are slowly becoming automatic. These machines can perform tasks like digging and leveling without much human control. This helps in reducing manual effort and increasing productivity.



Figure 3: Autonomous Excavator in Construction Site

Source : www.highwaysmagazine.co.uk

4. 3D Printing Robots

One of the most exciting developments is 3D printing in construction. These robots can build structures layer by layer. This method saves materials, reduces waste, and allows innovative designs that are difficult to achieve using traditional methods.



Figure 4: 3D Printed Building Structure

Source : YouTube

5. Demolition Robots

Demolition work can be very dangerous. Robots are now being used to safely break down structures, especially in risky environments. This reduces accidents and protects workers.



Figure 5 Demolition Robots

Source : www.mining-technology.com

Advantages of Robotics in Construction

1. Faster Work

Robots can work continuously without getting tired. This helps in completing projects much faster than traditional methods.

2. Better Accuracy

Since robots are programmed, they make fewer mistakes. This improves the overall quality of construction.

3. Improved Safety

Construction sites can be risky. Robots can handle dangerous tasks, which reduces the chances of accidents for workers.

4. Long-Term Cost Saving

Even though robots are expensive initially, they help save money in the long run by reducing labor costs and material waste.

5. Environment-Friendly Approach

Robots help in using materials efficiently, which reduces waste and supports sustainable construction.

Challenges and Limitations

1. High Cost

The biggest challenge is the initial cost. Not all companies can afford advanced robotics.

2. Lack of Flexibility

Construction sites are not always predictable. Sometimes, human thinking and quick decisions are required, which robots cannot easily handle.

3. Need for Skilled People

Robots need trained professionals to operate and maintain them. This increases the demand for skilled engineers.

4. Fear of Job Loss

Many workers worry that robots may take away their jobs. While this is partly true, new job opportunities are also being created in technology-related fields.

Will Engineers Be Replaced?

In my opinion, robots cannot replace engineers completely. They are very good at doing repetitive and heavy work, but they cannot think like humans.

Civil engineers are responsible for:

- Designing structures
- Planning projects
- Solving unexpected problems
- Ensuring safety

All these require creativity, experience, and decision-making skills. Instead of replacing engineers, robots are actually helping them. Engineers who learn to use these technologies will have more opportunities in the future. So, the real question is not about replacement, but about adaptation.

The Future of Construction:

The future of construction is not about humans vs robots. It is about humans working with robots. Machines will take care of hard and repetitive tasks, while engineers will focus on planning and innovation.

This combination will lead to:

- Faster project completion
- Safer construction sites
- Better quality structures
- More sustainable development

As technology grows, engineers will need to upgrade their skills and stay updated with new tools.

Conclusion

Robots are definitely changing the construction industry in a big way. They bring speed, accuracy, and safety to the work. But they cannot replace the human mind and creativity that engineers bring.

As a civil engineering student, I feel that we should not fear technology. Instead, we should learn how to use it effectively. The future belongs to those who can combine engineering knowledge with modern technology.

Final Thought:

“Robots will not replace engineers, but engineers who know how to use robots will lead the future.”

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CITIES ON MARS – NO MORE A SCIENCE FICTION

-DHAKSHATHA K, I YEAR

Introduction:

The idea of building cities on Mars has shifted from science fiction to a serious scientific goal. Organizations like NASA and SpaceX are actively exploring the possibility of human settlement on Mars. However, turning this vision into reality requires solving complex engineering challenges. Civil engineers will be responsible for making Mars a place where humans can live- without freezing, suffocating or floating.



The many ways Mars make life difficult:

Mars presents an environment that is extremely hostile to human life. Unlike Earth, it has a very thin atmosphere composed mostly of carbon dioxide, offering little protection from radiation. Temperatures can drop as low

as -60°C on average, making survival difficult.

On Mars, gravity is so low that even a small jump could make you feel like a superhero – just not a cool landing. Additionally, Mars lacks liquid water on the surface and has frequent dust storms that can cover entire regions for weeks.

When You Can't Import Materials from Earth

Building on Mars comes with one major problem—there are no hardware stores, no cement factories and definitely no delivery trucks from Earth. Transporting construction materials across space is extremely expensive, so engineers must rely on what is already available on Mars.

The most useful material is Martian soil, known as regolith. Instead of traditional bricks, scientists are exploring how to turn this dust into strong building materials using advanced techniques like 3D printing. In simple terms, robots could “print” entire houses layer by layer using the soil beneath them.

In a way, building on Mars is like the ultimate survival challenge—engineers must create everything from scratch using limited resources, creativity and advanced technology.

Structural Design Considerations:

Buildings on Mars must be designed to withstand extreme conditions. Since the atmosphere is thin, structures need to be airtight and pressure-resistant to maintain a livable environment inside.

Radiation is another critical concern. One effective solution is constructing habitats underground or covering them with thick layers of Martian soil to act as shielding. Structures must also be designed to handle temperature variations and dust accumulation.

Infrastructure Requirements:

On Mars, buildings need more than structures—it needs life-support systems:

- **Oxygen Production:** Converting carbon dioxide into oxygen
- **Energy Sources:** Solar panels and possibly nuclear power
- **Waste Management:** Recycling systems to minimize resource usage
- **Transportation:** Pressurized vehicles and tunnels for safe travel

Each of these systems must be efficient, reliable and capable of operating in isolation.

The Superheroes- Us, Civil Engineers!

From extreme temperatures to low gravity and zero resources, Mars challenges every rule of construction and civil engineers will be the ones rewriting those rules to make life possible. Developing new construction materials, designing sustainable infrastructure

systems, ensuring structural safety under extreme conditions, planning city layouts for efficiency and expansion, etc will require innovation beyond traditional engineering practices used on Earth.



Source : <https://www.gentube.app>

Conclusion:

In the end, building cities on Mars isn't just about engineering. It's about learning how to live on a planet that clearly doesn't want us there. It may sound impossible, but then again, so did many things on Earth—until engineers showed up and made them work. Mars could one day become humanity's second home.

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WHEN NATURE BECOMES THE ENGINEER - BIOMIMICRY IN CIVIL ENGINEERING

VAISHNAVI S, IV YEAR

Introduction:

For centuries, civil engineering has been about control-controlling loads, forces, materials, and environments. We built dams to stop water. Walls to block waves. Structures to resist wind. But nature has never worked this way.

It doesn't resist - it adapts. It doesn't overdesign - it optimizes. It doesn't waste - it evolves. Biomimicry from bios, meaning life, and mimesis, meaning to imitate, is a new discipline that studies nature's best ideas and then imitates these designs and processes to solve human problems. Studying a leaf to invent a better solar cell is an example; it is "innovation inspired by nature." The core idea is that nature, imaginative by necessity, has already solved many of the problems grappling with. Animals, plants and microbes are the consummate engineers.

Inspiration From Nature

One of the earliest examples of Biomimicry was the study of birds which enabled humans

to gain the technology of flight. Though, it could be argued that our ancestors mimicked the techniques of the animals around them to become more successful hunters or gatherers, or to create better shelter. Sustainable development is moving to a new level where buildings are integral to nature, supporting nature's work rather than interfering with life-sustaining ecosystems. Nature has been offering immense ideas and inspirations to designers for creating architecture.

Water Cube Structure At Beijing



Source : <https://www.caleffi.com>

The Water Cube, officially known as the National Aquatics Center, features a unique

structure inspired by soap bubbles. From an architectural point of view it is exciting to watch the construction of amazing Water Cube. These buildings are not only energy efficient and eco-friendly but also inspired by nature. The Watercube's architectural design is based on water bubbles in foam.

This structure is derived from principles of geometry and crystalline systems. The building's structure is framed in steel, while the bubbles themselves are made from Ethylene tetrafluoroethylene pillows. The membrane lets in more light and heat than traditional glass does, which keeps all 5 pools warmer, thus reducing energy costs by 30%. Rainwater from the roof is collected and recycled with efficient filtration and backwash system.

Tree Pod Influx Studio



Source : <https://www.archdaily.com>

One of the interesting examples of beneficial biomimicry are the Treepods designed by Influx Studio. These Treepods (Fig.2) take the working concept of trees and incorporate these elements into the design of the structures. The aim of this project is to create air cleaning by creating a system that catches CO₂. The tree that Influx Studio focused on mimicking is the Dragon tree because of the large canopy that provides maximum shading which also allows

the structure to support solar panels used to power the air cleaning system.

This approach to creating biomimicry is successful in many ways, it takes in consideration of the visual aspects as well as the working and functional aspects of the Dragon tree. These Treepods are not designed to replace natural trees, but to act like small air cleaning infrastructures, increasing in many times CO₂ absorption. This is interesting because the structures are not only mimicking the qualities of trees but pushing them further by enhancing the working aspects of the Treepods. Taking this approach to biomimicry is more beneficial to the earth than sculptural and visual biomimicry.

Tent Tower



Source : <https://www.designboom.com>

Another example of Biomimicry is Looking like a strange sort of man-made volcano, the All Seasons Tent Tower (Fig.3) by OFIS Architecture is a multi-function cylindrical tower powered with solar energy and covered in a mesh skin that filters sunlight for temperature regulation. As the city of yerevan is situated in a region prone to earthquakes, the main driver when deciding on a suitable structural system for the building was safety during earthquakes.

The vertical structure, which resists gravity load and forces resulting from earthquake action, was rationalized to reinforce the tower's concrete cores and composite columns. Special care has been taken to optimize environmental conditions and minimize the energy demands of the tower. The external facades will feature a high performance skin with an adaptable external shading device to reduce solar gains in the summer.

A concrete slab embedded pipe system provides cooling without draft problems and in winter comfortable heating. In the summer, the cooling of internal spaces is achieved primarily through the use of the slab system. During winter, the fresh air will be heated inside the units and distributed into the rooms using the displacement ventilation principle.

Conclusion: Learning From The Oldest Engineer

Nature has been solving engineering problems for over 3.8 billion years. Every leaf, every bone, every ecosystem is a result of continuous optimization - efficient, sustainable and resilient. Biomimicry is not about copying nature's appearance. It is about understanding its intelligence. As civil engineering moves toward a future defined by climate challenges and resource limitations, the answer is not to build harder, but to build wiser. Because the next revolution in civil engineering will not come from stronger materials or taller structures. It will come from a simple shift in thinking: The best engineer has always been nature. We are just beginning to learn from it.

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DID YOU KNOW !!

The honeycomb structure, created by bees, is one of the strongest natural designs for its weight. This geometry is widely used in bridges, building panels, aerospace structures, and lightweight construction materials.

GREEN BUILDING MATERIALS: SUSTAINABLE CONSTRUCTION TECHNOLOGY

SAKTHI G, III YEAR

Introduction:

Buildings consume a large amount of the earth's natural resources and require significant energy, which contributes to pollution and climate change. The production of common construction materials such as bricks, cement, and steel uses a great deal of energy and often creates waste. In recent years, there has been growing interest in more sustainable alternatives, driven by concerns about environmental damage. Strong yet environmentally friendly materials are now being used in places where traditional methods once dominated, offering durability while reducing environmental impact.

From rooftops to foundations, the materials chosen play a major role in how sustainably we build. Selecting materials with a lower environmental footprint helps reduce energy consumption and minimize waste generation. As future infrastructure like bridges and roads still demands strength and reliability, engineers are increasingly turning to eco-friendly solutions that maintain high performance standards.

When concrete is poured, it represents more than just structural strength—it carries environmental responsibility. Engineers carefully consider these impacts each time they select materials or design structures.

Concept of Green Building Materials

Green building materials begin as environmentally responsible choices that support nature rather than harm it. These materials are designed not only to withstand wear and last long, but also to reduce environmental impact throughout their entire life cycle—from production to disposal. Many of them are made from recycled materials or renewable sources that can grow back quickly, helping to avoid heavy pollution. Instead of consuming excessive energy, they are often produced using smarter and more sustainable methods.

The benefits of these materials can be seen where it matters most—cleaner air, healthier indoor spaces, and reduced pressure on natural resources. Buildings made with eco-friendly materials create better indoor

environments, allowing occupants to breathe cleaner air compared to older, more polluting materials. Their purpose goes beyond construction; they help reduce waste, improve indoor air quality, and protect valuable natural resources.

Buildings also become more energy-efficient when such materials are used, as they provide better insulation, reduce energy consumption, and require fewer resources over time. In addition, these materials tend to have a longer lifespan, making them a reliable long-term choice. Choosing eco-friendly construction materials supports sustainable development, ensuring that today's buildings meet present needs without compromising the ability of future generations to meet theirs.



Fig 1: Modern house with green roof

Source: Green Roofs for Healthy Cities-website

Types of Green Building Materials

1. Fly Ash Bricks

- Furnace leftovers turn into raw stuff. From what burns comes new form. Heat work byproduct gets another life. Smoke stacks' discard becomes useful matter.
- Fewer natural clays get pulled from the ground when this method steps in. Because of that, less mess winds up in the air and soil.

2. Bamboo

- A fast-growing renewable material used for structural and decorative purposes.
- It holds up well yet feels light. Unlike wood, it's kinder to forests. Toughness meets less weight plus better planet impact.



Fig 2: Bamboo structure eco construction

Source: ArchDaily-website

3. Autoclaved Aerated Concrete (AAC) Blocks

- Blocks made light so they press less on buildings. Their weight drops when put together, easing stress overall.
- Heat stays in better, so less power gets used. A tighter seal keeps warmth from escaping easily.

4. Recycled Steel

- Recycled metal keeping its toughness. Old beams still holding firm when reshaped. Material that bends back into new forms but never weakens. What once stood tall now rises again elsewhere. Strength remains, even after many lives.
- Less digging for new stuff means factories use less power. Because fewer resources get pulled from the ground, making things takes a lighter toll on nature.

5. Recycled Wood

- Found inside walls of forgotten houses, now placed where fresh wood once stood. Old beams breathe again under different roofs, held by nails that remember past storms. What was torn down gets lifted up elsewhere, fitting into corners it never knew.
- Slowing forest loss comes through smarter choices in how materials are sourced. A shift toward lasting methods makes a difference over time.

6. Low-VOC Paints

- Paints that release fewer harmful chemicals into the air.
- Breathing inside gets easier when the air cleans up, which also means fewer health worries pop up now and then. Over time, cleaner surroundings tend to quietly lower chances of getting sick.

7. Solar Roofing Materials

- Roofing materials integrated with solar panels.
- Fuelled by nature, cutting bills slowly. Power comes alive without draining resources



Fig 3: Solar panel roof installation

Source: U.S. Department of Energy-website

Advantages of Green Building Materials

1. Environmental Protection

- Pollution drops when harmful emissions shrink. Nature stays safer because fewer toxins enter ecosystems.
- From old things come new ones -renewable stuff cuts down waste. Materials that grow back replace what we take, slowing depletion.

2. Energy Efficiency

- Better insulation means less need for heat or air conditioning. Needs drop when warmth stays put through colder times plus escapes slower during warmer stretches. Efficiency climbs because buildings keep temperatures more steady without constant mechanical help.
- Buildings use less power when this is applied. Energy demand drops because of it.

3. Cost Savings (Long-Term)

- Budgets stay healthier when fixes happen less often. Equipment that runs longer without attention saves money quietly behind the scenes.
- Saves money through lower electricity and water usage.

4. Improved Indoor Air Quality

- Burning less fuel means cleaner air above homes. Smoke stacks breathe easier when engines run lean.
- Creates healthier living and working environments.

5. Waste Reduction

- Encourages recycling and reuse of materials.

- Fewer leftovers end up buried underground.

Sustainable Construction Technology

Construction that cares for nature uses smart ways and better stuff to leave less harm on Earth without slowing down work. Instead of old habits, it brings together clever designs, clean power sources, one step at a time. With tools like digital building plans, teams track every detail early, cutting extra trash while getting things right more often. Water caught from rooftops feeds gardens later; sunlight captured on roofs powers lights inside. These pieces fit into bigger efforts - quietly doing their part where possible. Buildings made in factories cut waste, finish faster. When eco-friendly supplies meet new methods, results last longer - both for nature and budgets.

Challenges in Using Green Building Materials

1. High Initial Cost

- Costs sometimes run higher when choosing eco-friendly options instead of standard ones.
- Initial investment may discourage builders and owners.

2. Limited Availability

- Where you live can limit what stuff you find nearby.
- Transportation costs may increase project expenses.

3. Lack of Skilled Workers

- Putting things together right takes people who know how. These folks also handle fixes when needed.
- Mistakes during setup can weaken performance.

4. Lack of Awareness

- Folks putting up buildings often overlook what eco-friendly supplies can do. Though some know a bit, most don't see how much it matters.
- Even today, many stick with older building techniques. People often choose familiar ways over new ones. Old-school approaches remain common across the field. Outdated? Maybe. But they hold their ground anyway.

Applications of Green Building Materials

1. Residential Buildings

- Some homes rely on it to cut down power use while boosting how well energy works. Efficiency gets a quiet lift where it's installed, simply by using less juice over time.
- Makes rooms feel just right while cutting down on power costs.

2. Commercial Buildings

- Where lights stay on for hours, savings begin quietly. Places like shops or lobbies see bills drop without effort. Even busy hallways benefit when smarter systems take over.
- Helps buildings achieve green certifications and improve environmental performance.

3. Educational Institutions

- Found inside classrooms where clean air matters most. Sometimes seen hanging near windows or tucked beside doors. Helps reduce stuff floating in the air that could bother breathing. Pops up in lecture halls just as often as smaller rooms. Keeps working quietly while lessons go on around it.
- Over time, upkeep costs drop along with power bills.

4. Hospitals and Healthcare Buildings

- Breathing cleaner air inside helps patients stay healthier. Freshness indoors matters more than most realize.
- Maintaining cleanliness often ties into lasting environmental balance. When systems stay tidy, they tend to function longer without harming nature around them.

5. Industrial Buildings

- Once helped cut down waste while making better use of materials. Efficiency grew where pollution once lingered. Less mess came through smarter handling. Progress showed up quietly in cleaner processes
- Builds tougher materials while cutting down on trash output.

Future of Green Building Materials

Buildings tomorrow might lean on eco-friendly materials more than ever. Innovation pushes scientists, builders to craft options kinder to Earth - tougher, cheaper too. Bioplastics rise; old plastic finds new life in walls and beams. Composites evolve quietly behind the scenes.

Rules shift slowly as officials back greener choices with rewards, badges of approval. Change creeps in where policy meets practice. Buildings getting smarter mix sunlight power with clever controls - green stuff inside them matters more now. People noticing Earth's struggles push builders to go eco-friendly; it is shifting from extra choice to must-have rule.

Conclusion

Starting with nature in mind changes how buildings come together. Instead of relying on

old methods, new choices cut down waste while saving resources. Because they last longer, some materials lower expenses over time even if prices start higher. With clearer understanding, more builders begin to see shifts not as hurdles but as steps forward. When planning city spaces, using cleaner supplies helps air stay clean and systems run smoother. Civil experts notice better results when solutions grow from earth-conscious ideas. Seeing progress means watching neighborhoods thrive alongside smarter designs. Through careful picks today, lasting strength shows up where people live and work tomorrow.

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4. Kibert, C. J. (2016). Sustainable Construction: Green Building Design and Delivery (4th ed.). John Wiley & Sons.
5. International Energy Agency. (2024). Buildings Sector. <https://www.iea.org/topics/buildings>

DID YOU KNOW !!

Buildings account for nearly 39% of global energy-related carbon emissions, making the use of green building materials a key solution for sustainable development.



INTERNATIONAL CONFERENCE '26

AI FOR SUSTAINABLE CONSTRUCTION AND BUILT ENVIRONMENT - ICAIC 2026

The International Conference on AI in Construction and Sustainable Built Environment brings together researchers, academicians, industry experts, and professionals to share innovations in AI, construction technology, and sustainable infrastructure. Conducted in hybrid mode (online and offline), it promotes the integration of AI with civil engineering for smarter, more efficient, and sustainable built environment solutions.



Conference Leadership

Chief Patron

Mr. K. Hari Thiagarajan

Chairman & Correspondent, TCE

Conference Chair

Dr. L. Ashok Kumar

Principal, TCE

Convener

Dr. S. Arul Mary

Professor & Head, Dept of Civil Engineering,
TCE

Objectives

- To promote AI-based innovations in the construction sector
- To encourage research collaboration among academia and industries
- To explore sustainable materials, smart technologies, and digital transformation in civil engineering
- To provide a platform for presenting emerging research and practical applications

Organizing Secretaries

Dr. D. Brindha

Professor, Civil Department, TCE

Dr. G. Chitra

Professor, Civil Department, TCE

Dr. R. Indrajith Krishnan

Assistant Professor, Civil Department, TCE

Themes & Tracks

ICAIC 2026 explores 15 specialized tracks focusing on AI and sustainable construction:

- Advanced Structural and Construction Materials
- Sustainable, Green and Circular Materials
- Smart and Functional Materials
- Nanomaterials and Advanced Characterization
- Materials for Energy and Environmental Applications
- AI and Data-Driven Materials and Construction
- Advanced Materials & Structural Integrity
- Electronic and Functional Materials for Smart Infrastructure
- Smart and Resilient Urban Planning
- Emerging and Bio-Inspired Materials
- Smart & Automated Construction Execution
- Sustainable Water & Waste Management
- Circular Economy and Resource Management
- Urban Resilience and Climate Adaptation
- Innovative Binders and Matrix Reinforcement

Keynote Speakers

Dr. Krishna Kumar

UT Austin, USA

Dr. Claudio Cameselle

University of Vigo, Spain

Dr. Mohammed Firdows Zakkaria

CEC, UAE

Dr. U. Johnson Alengaram

University of Malaya, Malaysia

Dr. Bala Monica Saravanan

Zaheen Systems, Singapore

Dr. P. Priyadharshini

University of Oulu, Finland

Dr. N. Anandavalli

CSIR-SERC, Chennai

Dr. Koshy Varghese

IIT Madras

Dr. S. Surya Prakash

IIT Hyderabad

Er. Sevvell Poomozhi

Sobha Developers, Bangalore

Dr. V. Senthil Kumar

IIT Palakkad, Kerala

Dr. Surya Maruthupandian

United Kingdom

Dr. R. Thenmozhi

GCT, Coimbatore

Dr. J. Daniel Ronald Joseph

CSIR-CECRI, Karaikudi

Dr. P. Ganesh Kumar

L&T Construction, Chennai

Er. V. Vignesh

NHSRCL, New Delhi

Er. Arockia H. Pandian

Reliance Infrastructure

Dr. B. Thirugnana Sambandam

Annamalai University, Chidambaram

Dr. M. Nithyadharan

IIT Tirupati

Dr. C. Rajasekaran

NITK, Surathkal

Dr. Prabha Mohandoss

NIT Trichy

Dr. Arum Sundaram

CSIR-SERC, Chennai

Dr. Mahendrakumar Madhavan

IIT Hyderabad

Dr. K. Marimuthu

ILCE, Chennai

Dr. T. Hemalatha

CSIR, Chennai

Looking for more information?

Scan the QR code to access the official conference website, where you can find complete details, important announcements, and answers to your queries.



Important dates

- 3 August 2026
Abstract Submission Deadline
- 17 August 2026
Intimation of Selected Abstract
- 21 September 2026
Full Paper / Poster Submission Deadline
- 19 October 2026
Acceptance Notification
- 30 October 2026
Camera Ready Paper Submission Deadline
- 6 November 2026
Final Registration Deadline with Payment
- 17 December 2026
Conference Begins

Sponsorship

ICAIC 2026 acknowledges the valuable support of its industry and academic partners who contribute towards promoting innovation, research collaboration and advancements in Artificial Intelligence, Construction Technology and Sustainable Built Environment.

Industry Sponsors:

GOLD SPONSOR
TECTON ENGINEERING AND CONSTRUCTION



Representative:

Er. S. Lakshmanan
Managing Director

Tecton supports ICAIC 2026 by strengthening industry-academia collaboration and encouraging innovation in smart construction, sustainable infrastructure and AI-driven solutions.

BRONZE SPONSOR

TECHBRO ENGINEERING SOLUTIONS



Representative:

Er. Lakshmanan Balakrishnan
Chief Executive Officer

Techbro Engineering Solutions supports ICAIC 2026 by promoting innovation and knowledge sharing in construction and engineering.

Conference Highlights

- Keynote lectures by eminent experts
- Technical paper presentations
- Research discussions and knowledge sharing
- Interaction with academicians and industry professionals
- Exposure to recent advancements in AI-driven construction technologies

Conference Best Paper Awards

ICAIC 2026 recognizes outstanding research contributions through Best Paper Awards. The awards are presented to papers demonstrating:

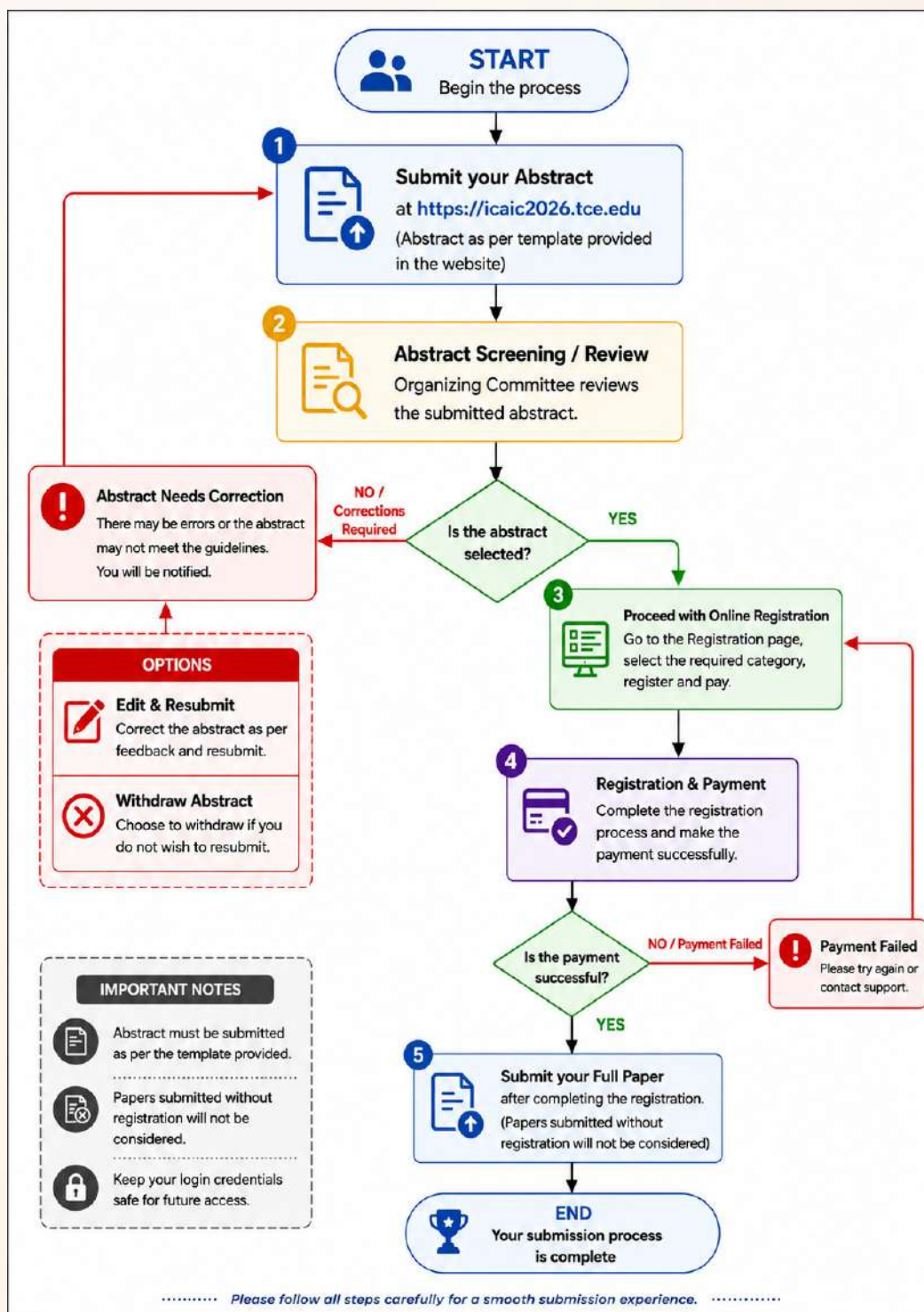
- Originality and innovation
- Scientific excellence
- Research quality
- Significant contribution to the field of AI and Sustainable Built Environment

The evaluation is based on the quality of research presented during technical sessions.

Scopus Indexed Publication

Selected papers, after peer review, will be recommended for publication in SCOPUS-indexed journals as per conference guidelines.

Registration and Payment details



For industries



For UG/PG Students



Faculty / PG scholars



Attendees / Co-Authors / Only Participation

NBA VISIT '26

The Department of Civil Engineering continues to uphold academic excellence through its remarkable achievement in securing accreditation from the National Board of Accreditation (NBA). During the recent NBA expert peer team evaluation conducted at Thiagarajar College of Engineering (TCE), Madurai, the institution successfully reached an important milestone by obtaining Tier-I accreditation status, reflecting the high standards maintained in academics, infrastructure, faculty expertise and student outcomes. This recognition stands as evidence of the department's consistent commitment towards quality technical education and professional excellence.

As part of the latest NBA evaluation cycle, the B.E. Civil Engineering programme has been awarded 6-Year Full Accreditation (2025–2031) under GAPC Version 4.0 guidelines, marking a significant achievement for the department. This accreditation strengthens the department's focus on Outcome-Based Education (OBE), encouraging students to develop strong technical knowledge, practical problem-solving abilities and industry-ready skills. The accomplishment further reinforces the department's vision of shaping future civil

engineers capable of contributing effectively to sustainable infrastructure development and the nation's progress.

The successful accreditation reflects the collective efforts of the management, faculty members, students, alumni and industry partners in maintaining high standards of engineering education. It reinforces the department's commitment to continuous improvement, innovative teaching-learning practices, research excellence and industry collaboration. With this prestigious recognition, the Department of Civil Engineering continues to nurture competent civil engineers equipped to address contemporary engineering challenges and contribute effectively to sustainable infrastructure development and the nation's progress.





STAFF ACHIEVEMENTS '26

Dr. S. Arul Mary
Professor and Head

- ★ Organized and coordinated Civil Railway Engineering Skill Training Batch I for Southern Railway Engineers, Madurai division from 18th May 2026 to 23rd May 2026.
- ★ Organized and coordinated Civil Railway Engineering Skill Training Batch II for Southern Railway Engineers, Madurai division from 22nd June 2026 to 27th June 2026.
- ★ Coordinated the 2-credit course on “Structural Design of Bridges” handled by Er. Vadivel Raja, Founder & Design Engineer, Keezhadi Structural Engineering & Consultancy, Madurai.
- ★ Coordinated the Fundamental Training Program on MIDAS for M.E. Structural Engineering students.

Dr. D. Brindha
Professor

- ★ Patent granted on titled “A Process for Preparing a High Performance Concrete Mixture with Enhanced CO₂ Absorption.”
- ★ Patent granted on titled “Geopolymer Blocks and Method of Manufacturing thereof.”
- ★ Published a research article titled “Density Reduction and Performance Evaluation of Sustainable Reactive Powder Concrete Incorporating Diatomite Powder” in the Journal of Wuhan University of Technology – Materials Science Edition

Dr. S. Chandran
Professor

- ★ Published a research article titled “A Combined GIS–DRASTIC–Machine Learning Approach for Assessing Groundwater Vulnerability in Madurai District, India” in the journal Applied Ecology and Environmental Research.

- | | |
|---|---|
| Dr. R. Sanjay Kumar
Associate Professor | ★ Published a research article titled “Sustainable Soil Improvement Using Bakery Waste: A Study on Eggshell Powder as a Stabilizing Agent” in the journal Rasayan Journal of Chemistry. |
| Dr. D. Rajkumar
Assistant Professor | ★ Published a research article titled “Thermal Comfort Analysis in an Educational Building in a Hot Climate Area Using CFD” in the journal Thermal Science, 2026, Volume 30, Issue No. 1, Pages 275–285. |
| Dr. R. K. C. Jeykumar
Assistant Professor | ★ Published a research article titled “Sustainable Soil Improvement Using Bakery Waste: A Study on Eggshell Powder as a Stabilizing Agent” in the journal Rasayan Journal of Chemistry.
★ Authored a research article titled “Utilization of Crab Shell Waste as a Sustainable Cementitious Additive in Ferrocement: Effects on Mechanical and Durability Properties” in the journal Next Sustainability
★ Published a research paper titled “Thermophysicochemical Evaluation of Waste LDPE-Derived Pyrolysis Oil Compared with Market-Grade Diesel and Petrol” in the Next Materials.
★ Research article titled “Adsorption Kinetics Study of Sawdust Biochar as a Sustainable Solution for the Removal of Hexavalent Chromium in Contaminated Water” published in Canadian Journal of Chemistry,
★ Authored a research article titled “Eco-Friendly Plastic-Quarry Dust Bricks: Fabrication and Performance Study” in the Thiagarajar Journal of Engineering, Science, Design and Technology.
★ Research article titled “Experimental Analysis of M-Sand Concrete Beams Partially Replaced with Vermiculite” featured in Thiagarajar Journal of Engineering, Science, Design and Technology.
★ Published a research article titled “Evaluation of Hydrophilic-Coated Ceramic Membranes for Cost-Effective Treatment of Dye-Contaminated Wastewater” in the Archives of Environmental Protection.
★ Secured a sponsored project grant of ₹24.5 Lakhs from the Agricultural Engineering Department. |

Ms. J. Eunice
Assistant Professor

- ★ Published a research article titled “A Combined GIS–DRASTIC–Machine Learning Approach for Assessing Groundwater Vulnerability in Madurai District, India” in the journal Applied Ecology and Environmental Research.
- ★ Successfully completed the requirements of the CEEE Program as a Mentee at Regional Centre- IIT Madras from May 2025 to December 2025 in the domain Civil and Environment Engineering, hybrid mode covering 2 weeks in offline and 3 weeks in online mode.

Dr. G. Angelin Lincy
Assistant Professor

- ★ Coordinated a series of events for National IPR Day 2026, organized by the IPR Cell (R&D) and IP Innovators Club in collaboration with iTNT Madurai Region on 16th April 2026 at TCE.
- ★ Coordinated the Training Program for PG Students on “Fundamental Training Program on MIDAS”, jointly organized by MIDAS, Techapps and the Department of Civil Engineering through the Centre of Excellence for Civil Infrastructure, from 6th to 12th April 2026.
- ★ Coordinated the webinar on “GATE: Gateway to your Career” organized through the Career Guidance Cell, TCE, Madurai, on 20th December 2025.
- ★ Served as Reviewer for Reliability Engineering & System Safety (Elsevier), Journal of Structural Design and Construction Practice (ASCE), and Thiagarajar Journal of Engineering, Science, Design and Technology
- ★ Published a paper titled “Artificial Intelligence for Building Defect Detection: A Systematic Review of Techniques and Benefits”, in the Journal of Structural Design and Construction Practice.

Dr. V. Ganga
Assistant Professor

- ★ Published a research article titled “Performance Evaluation and Codal Assessment of Double-Skinned Solid-Core CFST Columns with Varying Steel Configurations” in Scientific Reports, 2026.
- ★ Published a research article titled “Performance Evaluation of Light-Gauge CFST Columns Incorporating Expansive Self-Compacting Concrete” in Scientific Reports, 2026.
- ★ Patent granted on titled “A Concrete Admixture infilled in a composite column.”
- ★ Organized and coordinated Civil Railway Engineering Skill Training Batch I for Southern Railway Engineers, Madurai division from 18th May 2026 to 23rd May 2026.
- ★ Organized and coordinated Civil Railway Engineering Skill Training Batch II for Southern Railway Engineers, Madurai division from 22nd June 2026 to 27th June 2026.

Dr. P. Manikandan
Professor -Research Faculty

- ★ Received International Collaborative Research Funding as Co-Principal Investigator for the National Research Fund – Emerging Research Grants Project (NRF: ERG25-05) titled “Sustainable Utilization of C&D Waste-Derived Recycled Coarse Aggregates in Conventional Concrete and Geopolymer Binder Systems to Reduce Aggregate Import Dependency in the Maldives”, funded by the National Research Council and Ministry of Higher Education and Skills Development (MVR 49,500 for 12 months).
- ★ Authored a research article titled “Experimental Investigation on Mechanical and Durability Characteristics of Metakaolin-Based Fibre Reinforced Concrete” in the journal Australian Journal of Structural Engineering.
- ★ Published a research article titled “Setting Time, Compressive Strength, and Microstructural Characterization of High Early Strength Cement Mortars Containing Metakaolin, Calcium Nitrate and Triethanolamine” in the journal Frontiers in Built Environment.
- ★ Served as a Session Chair for the 7th International Conference on Sustainable Environment and Civil Engineering (ICSECE-2026), organized by the Department of Civil Engineering, Easwari Engineering College, Ramapuram, Chennai, on 10th April 2026.
- ★ Acted as a Co-Chairperson for the Second National Level Research Conclave 2026, organized by the Department of Research & Development, Thiagarajar College of Engineering, Madurai, on 26th & 27th March 2026.
- ★ Seismic Analysis of Multistorey Building with Shear Walls using ETABS Software”, 4th International Conference & Exposition on Materials, Manufacturing and Modelling Techniques (ICE3MT2025), EDP Sciences – EPJ Web of Conferences, 2025.

We sincerely express our heartfelt gratitude to our respected Staff Editor, **Dr. D. Brindha**, for her constant guidance, valuable support and unwavering encouragement in bringing both editions of Altitude to life. Her dedication, insightful suggestions and commitment to excellence have inspired us to present this magazine with confidence and quality. We are truly thankful for her mentorship and the encouragement she has extended throughout this journey.



KEY MILESTONES' 26

Dr. D. Brindh

Congratulations on securing a patent, marking another milestone in research excellence.



Dr. V. Ganga

Congratulations on securing a patent, reflecting excellence in research and innovation.





STUDENT ACHIEVEMENTS



**TANISH MILIND
SALUNKHE**
(IV Year)

- Won 2 medals (1 Gold and 1 Bronze) at the State Rifle Shooting Championship.
- Represented TCE at the Inter-Zone Shooting Championship held in Coimbatore and secured 1st place.
- Represented Anna University in the Inter-University College games (Shooting).
- Represented Tamil Nadu in the National Rifle Shooting Championship held in Bhopal.
- Represented Anna University in the Khelo India Inter-University Games held in Rajasthan.

- Third Place - Model Mania, Build Our Bharat 2047, Chennai Institute of Technology (CIT).
- Second Place - Brain Byte, Build Our Bharat 2047, Chennai Institute of Technology (CIT).
- First Place - Bid2Build, Build Our Bharat 2047, Chennai Institute of Technology (CIT).
- First Place - Bid to Build conducted by National Institute of Technology (NIT, Trichy).



SHENBAGAVALLI S
(III Year)



RESHMA S
(III Year)

- Published a Manuscript titled “BIM-GIS Integration for Improving Cost and Time Management in Construction Projects” in International Research Journal on Advanced Engineering Hub (IRJAEH).

- Published a Manuscript entitled “BIM-GIS Integration for Improving Cost and Time Management in Construction Projects” in International Research Journal on Advanced Engineering Hub (IRJAEH).



MUTHUSIVANESAN M
(III Year)



AMIRTHU RIKAA S
(III Year)

- Finalist of BIM Contest conducted by L&T Edutech in collaboration with Autodesk.



INAUGURATION OF CEA '26

The inauguration of the Civil Engineering Association (CEA) for the academic year 2025–2026 was held with great enthusiasm on 2nd September 2025 at the KS Auditorium. The ceremony, conducted from 3:00 PM to 4:30 PM, witnessed the gracious presence of faculty members, students and office bearers, marking a promising beginning to the association's activities for the year.

The ceremony commenced with a prayer song rendered by students, creating a serene and respectful atmosphere. This was followed by the traditional lighting of the Kuthuvilakku, symbolizing the pursuit of knowledge and the dispelling of ignorance. The lamp was lit by the Chief Guest, Mrs. M. Kavitha, along with the Head of the Department, Dr. S. Arul Mary, the Staff Advisor, Dr. R. Indrajith Krishnan, and the newly elected office bearers of the association.

In her Welcome Address, Dr. S. Arul Mary warmly greeted the gathering and highlighted the department's achievements and vision for the academic year. The ceremony then featured an inspiring address by the Chief Guest, Mrs. M. Kavitha, Senior Manager (Planning Head), AIIMS Madurai Project at L&T Construction,

Chennai, and a distinguished alumna of the department. She delivered an insightful talk on "Campus to Career," sharing her professional journey and offering valuable guidance to students on building a successful career in civil engineering.



The key highlight of the ceremony was the formal recognition of the newly elected office bearers of the Civil Engineering Association for the academic year 2025 - 2026. The team, comprising Secretaries, Treasurers, and Coordinators for Events, Club Activities, Extra-Curricular Activities, Discipline, Magazine, Media and the Women Development Cell (WDC), was introduced and entrusted with their responsibilities, marking the beginning of their leadership

journey and commitment to the growth of the department.

General Secretary, Mr. R. Naveen Raj, CEA presented an overview of the Civil Engineering Association's planned activities for the academic year 2025 - 2026, aimed at fostering academic, professional and personal development among students:

- **Connaissance:** A series of house-wise technical competitions
- **Civil Pro:** An annual non-technical event designed to enhance interpersonal and creative skills
- **Techutsav'26:** The flagship national-level symposium
- **Altitude:** The bi-annual magazine showcasing departmental achievements and student contributions

Innovation-driven initiatives such as Ideafest and the Cube Contest were outlined to encourage practical problem-solving and technical application. In addition, Student Interactive Sessions and Talent Tales were planned to promote peer learning and recognize extracurricular talents.

To support career readiness, sessions on competitive exam preparation, aptitude training, and mock group discussions were proposed. Practical exposure was enhanced through Real-Time Project Experience initiatives, along with guest lectures by alumni and experts to provide industry insights.

The association emphasized inclusivity and leadership through Women Development Cell (WDC) activities. Overall, the initiatives reflected its commitment to developing well-rounded, socially responsible engineers with strong technical and professional skills.

The event concluded with a sincere Vote of Thanks delivered by the General Secretary, Ms. B. Nandhana, followed by the National Anthem. Refreshments were served to all attendees, bringing the ceremony to a pleasant close.

The CEA Inaugural 2025 - 2026 stood as a reflection of unity, vision and renewed purpose, marking a promising beginning to an eventful and enriching academic year ahead.





TEACHER 'S DAY

The Civil Engineering Association celebrated Teacher's Day on 5th September 2025 with enthusiasm and heartfelt appreciation, honoring the invaluable contributions of faculty members. The event provided an opportunity for students to express their gratitude towards their mentors, whose guidance plays a crucial role in shaping their academic journey.

As a token of respect, gifts along with greeting cards were presented to each faculty member, reflecting the admiration students hold for their teachers. Adding a creative touch, classrooms boards were decorated with sketches, quotes and heartfelt messages, transforming them into vibrant expressions of appreciation.

Faculty members were pleasantly surprised upon entering their classrooms, creating moments of joy and strengthening the bond between students and teachers. The celebration highlighted the importance of acknowledging educators, who not only impart knowledge but also inspire and guide students.

Overall, the event was a meaningful and memorable occasion, reinforcing the spirit of gratitude and respect within the department. It also fostered a sense of unity and appreciation within the academic community. Such initiatives encourage a positive learning environment and strengthen the culture of mutual respect. The celebration truly reflected the values and spirit of the department.





ALUMNI MENTORSHIP PROGRAM SERIES

The Alumni Mentorship Program Series (AMPS #8) was organized by the TCE Alumni Association in collaboration with the Department of Civil Engineering on 23rd September 2025 at the Civil Engineering Seminar Hall. The session aimed to strengthen the alumni-student connection by providing valuable insights from experienced professionals and distinguished alumni.

The resource person for the session was Dr. R. Rani, an alumna of the 1985 Civil Engineering batch of TCE and a retired Special Chief Engineer from the Water Resources Division, Government of Tamil Nadu. With over three decades of experience in planning and executing major water resource projects, she has made significant contributions in the areas of irrigation, flood control, and groundwater management.

Dr. Rani delivered an insightful lecture on the topic “Integrated Water Resources Management in Tamil Nadu: An Overview.” Through her presentation, she emphasized the importance of sustainable water management, highlighting the challenges faced in the state and the strategies adopted for effective planning and utilization. She also shared practical insights from her professional experience, offering students a deeper understanding of real-world applications in water resource engineering.

The session concluded with an interactive segment, where students actively engaged with the speaker by posing thoughtful questions. A total of 43 final-year and 49 third-year students participated in the program, making it a highly engaging and informative session.





HOUSE EVENTS

The house system was created with the vision of strengthening teamwork, leadership, and the spirit of togetherness among students. Representing unique identities and values, each house brought individuals together under a common purpose, creating an environment filled with collaboration, enthusiasm, and healthy competition. More than just teams, the houses became a platform where students shared experiences, built connections, and created memorable moments throughout the journey. Carrying forward the spirit of previous year, the five existing houses - **Augustus**, **Dinocrates**, **Eupalinos**, **Hawksley**, and **Lavoisier** continued their journey of inspiring participation and collaboration among students.

Adding a new chapter to this tradition, a sixth house, **Copernicus - Kingdom of Strength**, was introduced this year, represented by the mystic creature Griffin, symbolizing strength and determination. To ensure equal participation and interaction, all the three year students were divided among all six houses, creating a more engaging and vibrant atmosphere.

HOUSES SYNOPSIS:

AUGUSTUS - KINGDOM OF VICTORY

The mystic creature representing this house is the GHIDORAH.

DINOCRATES - KINGDOM OF POWER

The mystic creature representing this house is the DRAGON.

EUPALINOS - KINGDOM OF HARMONY

The mystic creature representing this house is the LION.

HAWKSLEY - KINGDOM OF PROSPERITY

The mystic creature representing this house is the PHOENIX.

LAVOISIER- KINGDOM OF MAGIC

The mystic creature representing this house is the PEGASUS.

COPERNICUS - KINGDOM OF STRENGTH

The mystic creature representing this house is the GRIFFIN

HOUSE CAPTAINS:

AUGUSTUS - Asimithaa K, Ajay Deepak Raj M, Suba akshatha banu V

DINOCRATES - Mahalakshmi K, Prasanna kumar M, Sugitha A

EUPALINOS - Bharathi V, Kayalvizhi B, Tanish milind salunkhe

HAWKSLEY - Deepadharshini G R, Dhinesh kumar M, Jeeva karunya V

LAVOISIER - Jayashreelavanya S, Siva balan S, Sivaranjani S

COPERNICUS - Madhusri R, Nivashini K, Srinidhi R

To strengthen the bond among house members and create a sense of togetherness, Know Your Housemates was organized as an interactive and fun-filled session. The event served as a platform for students to step beyond introductions and engage with one another through exciting activities that encouraged communication, coordination, and teamwork.

Participants actively engaged in a series of exciting activities that encouraged interaction and strengthened teamwork among house members. Challenges involving puzzle-solving, action continuation tasks, and coordination-based games created an energetic atmosphere where participants relied on observation, communication, and team spirit. Each activity brought enthusiasm and excitement while helping students connect with one another in a fun-filled manner.

Filled with laughter, enthusiasm, and memorable moments, the event successfully transformed unfamiliar faces into teammates and strengthened the connection among house members. More than just a series of activities, Know Your Housemates became a memorable experience that laid the foundation for stronger friendships and a united team spirit.





AYUDHA POOJA

The Department successfully organized the Ayudha Pooja celebration on 30th September 2026 with great enthusiasm, devotion, and cultural spirit at the Materials Testing Laboratory. The event was conducted to honor the traditional significance of Ayudha Pooja and to express gratitude towards the tools, laboratory equipment, instruments, and resources that contribute significantly to academic learning, practical knowledge, research activities, and professional development.

The celebration commenced with a traditional pooja ceremony held in the Materials Testing Laboratory, where faculty members, students, research scholars, and lab technicians actively participated with devotion and enthusiasm. The laboratory premises were decorated beautifully with flowers and traditional arrangements, creating a pleasant and spiritual atmosphere. The pooja was performed seeking divine blessings for knowledge, wisdom, prosperity, academic excellence, research success, and the overall well-being of students, scholars, faculty members, and staff.

As a part of the department's long-standing

tradition, colorful and attractive kolams were drawn at the entrance of all laboratories to enhance the festive spirit and preserve our cultural values. This practice has been traditionally followed in the department, reflecting the importance of maintaining and respecting our customs and heritage.

The event also provided an opportunity to strengthen unity, teamwork, and togetherness among faculty members, students, research scholars, and lab technicians. The successful organization of the celebration reflected the collective efforts, coordination, and active participation of everyone involved, making the occasion meaningful, memorable, and spiritually enriching for all.





GUEST LECTURES

AI IN TRANSPORTATION

The Department of Civil Engineering organized a guest lecture on “AI in Transportation” on 26th November 2025 at the Civil Seminar Hall. The session was delivered by Dr. Gitakrishnan Ramadurai, Professor, IIT Madras, who shared his expertise on the growing influence of Artificial Intelligence in the transportation sector.

The lecture focused on the application of AI in traffic management, road safety, intelligent transportation systems, and sustainable mobility solutions. The speaker explained how advanced technologies and data-driven approaches are transforming conventional transportation networks into smarter and more efficient systems. Through real-world examples, students gained valuable insights into the role of AI in addressing modern transportation challenges.

The session was highly informative and interactive, providing students with a deeper understanding of emerging technologies and their future applications in Transportation Engineering. It served as an excellent learning opportunity and inspired students to explore

innovative solutions for developing smarter transportation infrastructure.



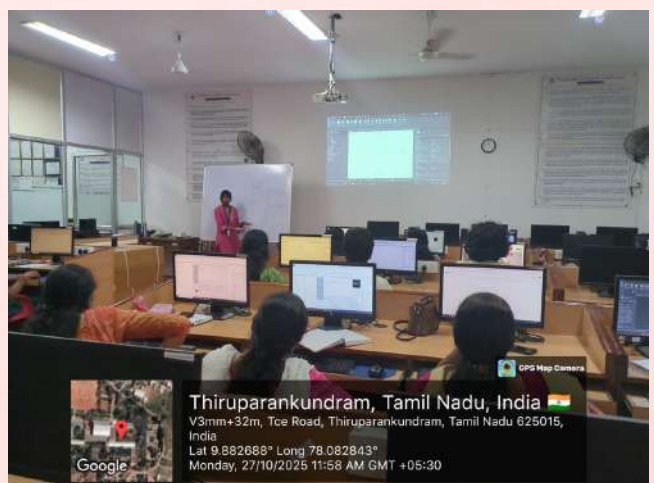
ADVANCES IN BIM – REVIT

The Department of Civil Engineering, Thiagarajar College of Engineering, in collaboration with Autodesk USAM, organized a Three-Day Faculty Development Program on “Advances in BIM – Revit” from 27th to 29th October 2025. The program was conducted for Civil Engineering and TSEDA faculty members with the objective of enhancing their knowledge and practical skills in Building Information Modeling (BIM) and Revit.

The FDP featured hands-on training sessions conducted by industry experts, enabling participants to gain practical exposure to advanced BIM tools and workflows. The program emphasized the integration of Autodesk technologies into academic and professional practice, thereby bridging the gap between industry requirements and classroom learning.

The sessions were led by Ms. Bharathi Balaji, Team Leader – Technical, USAM Technology Solution (P) Ltd., Chennai, who provided valuable insights into the latest developments in BIM and Revit. The program served as an excellent platform for faculty members to upgrade their technical expertise, explore industry-oriented applications, and strengthen their capabilities in delivering modern engineering education.

The FDP concluded successfully with active participation from faculty members, contributing to professional development and promoting the adoption of advanced digital technologies in Civil Engineering education and practice.





TALENT TALES & RENOWN

The Civil Engineering Association also launched Talent Tales, an initiative aimed at discovering and promoting the diverse talents of students. Recognizing that education extends beyond academics, Talent Tales provides a platform for students to showcase their skills in areas such as art, music, dance, photography, literature, and public speaking. By encouraging students to share their unique abilities, the initiative fosters self-confidence and creativity while strengthening the vibrant culture of the department.



To recognize and celebrate the achievements of Civil Engineering students, the Civil Engineering Association (CEA) introduced Renown, an initiative dedicated to highlighting student accomplishments in academic, technical, sports, and extracurricular activities. Through the official CEA Instagram page, the achievements of participants and winners are showcased, providing them with well-deserved recognition. The initiative motivates students to excel in their respective fields and encourages active participation in various competitions and events.



MONOCHROME AND PRISM

Monochrome was organized to encourage artistic expression and creative thinking among students through black-and-white themed creations. The event provided a unique platform for participants to explore the beauty of simplicity, contrast, and visual storytelling while showcasing their artistic skills. Students expressed their ideas through innovative and thought-provoking submissions, demonstrating remarkable imagination, originality, and attention to detail.



The Civil Engineering Association also conducted Prism, an online creative event designed to celebrate diversity, imagination, and self-expression. The event encouraged students to present their ideas and talents through colorful and innovative creations, reflecting different perspectives and artistic approaches. Prism served as a platform for students to think beyond conventional boundaries, allowing them to showcase their creativity while engaging in healthy competition with their peers.



PONGAL CELEBRATION

The Civil Engineering Association (CEA), with the support of enthusiastic students and faculty members of the Civil Engineering Department, successfully organized a vibrant Pongal Celebration in the department courtyard. The event showcased the rich cultural heritage and festive spirit of Tamil Nadu while encouraging teamwork, participation, and enjoyment among students.

The highlight of the celebration was the preparation and distribution of traditional Pongal by the Civil Engineering Association (CEA). The Association enthusiastically organized the activity and served Pongal to students and faculty members, symbolizing gratitude, prosperity, and togetherness. The gesture reflected the true spirit of the harvest festival and strengthened the bond among members of the department.

To make the celebration more engaging and enjoyable, several fun-filled games were conducted.

Event Name : Water Balloon

Participants were required to carry and pass water-filled balloons carefully without bursting them. The event tested coordination, concentration, and teamwork while providing

a fun and refreshing experience for the students.

Event Name : Tap with Bat:

In this game, participants had to strike a target using a cricket bat within the given rules and time limit. The event enhanced hand-eye coordination and brought out the competitive spirit among the students.

Event Name : Bucket to Bottle:

Participants transferred water from a bucket to a bottle using limited resources within a specified time. The activity required strategic thinking, patience, and teamwork to maximize the amount of water collected in the bottle.





CONNAISSANCE 26

Connaissance emerged as one of the most exciting and memorable events of the academic year, bringing together innovation, teamwork, and technical excellence under one platform. Organized by the Department of Civil Engineering, this intra-department technical event series created an energetic atmosphere filled with learning, creativity, enthusiasm and healthy competition among students.

The event witnessed an overwhelming response with a record participation of 135 students, making it the highest participation achieved so far. To encourage interaction and collaboration among students, Connaissance was conducted in two phases, creating an opportunity for participants to actively engage in various technical and interactive activities. To make the event more dynamic and inclusive, students were divided into six houses, promoting unity, leadership, coordination, and team spirit throughout the competition.

A variety of events were designed year-wise to ensure equal opportunities and active participation for students across all academic levels.

First-year students participated in events such as BPL, Dice and Decode, Buzz and Bingo, Crossify and Card Mania, which focused on logical thinking, communication skills and team coordination. Second-year students showcased their skills through events including Mystery Grid, Structural Stack, Tech Grid, Letter League, Tech Drafter, Mind Clash and Dice and Decode 2.0, which challenged their technical understanding and problem-solving abilities.

Third-year students actively participated in intellectually stimulating events such as Codebook Conclave, Spot Think Solve, Bid Quest, Deck of Decisions and Wordwar. These events provided a platform for students to exhibit their analytical thinking, creativity, technical knowledge and decision-making skills. Additionally, common events such as Connections and Civil Conquest were conducted for students of all academic years, strengthening collaboration and encouraging interaction among participants. Beyond competitions, Connaissance served as a platform where students could discover their strengths, improve their confidence and develop essential interpersonal skills. The event provided an opportunity for participants to

think beyond academics and engage in activities that promoted leadership, creativity, and teamwork. The enthusiastic participation and energetic involvement of students added vibrancy and excitement throughout the event series.

The event was coordinated successfully by student coordinators under the guidance and support of faculty members. Winners and participants were appreciated through certificates and tokens of recognition for their active involvement and performance. The dedication and collective efforts of the organizing team played a major role in making the event a grand success.

Connaissance ultimately became more than just a technical event series. It turned into a celebration of knowledge, collaboration and talent. The event created unforgettable memories and left a lasting impression on students by providing them with an enriching experience that combined learning with enjoyment. It served as an inspiring platform that encouraged students to participate actively, challenge themselves and continue exploring their potential beyond classroom learning.

**“Knowledge is not just about learning facts,
it is about transforming ideas into
innovation.”**





TECHUTSAV'26

With this vision in mind, the Civil Engineering Association of Thiagarajar College of Engineering proudly organized **TECHUTSAV'26 - INFRAVERSE**, a National Level Civil Symposium that brought together **enthusiastic minds from 32 colleges under one roof**. The symposium served as a platform where innovation met creativity, technical knowledge met practical exposure, and competition met collaboration.

TECHUTSAV'26 was designed not merely as a series of events, but as an inspiring experience that encouraged students to explore the ever-evolving world of civil engineering. Through workshops, technical events, innovation challenges, and interactive activities, participants had the opportunity to learn, compete, and showcase their skills.

One of the proudest achievements of this edition was the **remarkable participation of 424 students**, making it one of the highest participation records in the history of Civil Engineering events. The success of the symposium was further strengthened by the generous support of our valued sponsors -

RPC Infra Designs, Anuj Tiles, Sastha Soil Testing Services, TechApps, and Sri Constructions - whose encouragement and partnership played a significant role in making the event a grand success.

The symposium featured an exciting lineup of **4 Fixed Events, 3 Open Events, Presentation, Ideafest, and 2 expert-led workshop sessions**, creating a perfect balance of technical learning and engaging activities. Every event was thoughtfully designed to test technical knowledge, encourage creativity, and promote teamwork, innovation, and strategic thinking.

WORKSHOPS:

Centered around the theme **“Next Gen Structural Practices”**, the workshop sessions of **TECHUTSAV'26 – INFRAVERSE** provided participants with valuable insights into the evolving landscape of Civil Engineering. Through expert talks and knowledge-sharing sessions, students explored modern construction approaches, emerging technologies, and industry-oriented practices shaping the future of infrastructure. The sessions created an informative platform that connected academic understanding with real-world engineering perspectives.

Session 1:

Sustainable Construction: What's New, What's Next

Speaker: Mr. S. Arun Kumar - Secretary, Indian Concrete Institute, Madurai Chapter

This session focused on the rapidly growing importance of sustainable construction and modern environmentally friendly building practices. Participants gained valuable insights into innovative construction techniques and materials shaping the future of infrastructure. The session encouraged students to adopt sustainability as a key element in engineering practices.

Session 2:

Post-Installed Anchors: Engineered Decisions (IS 1946:2025 – Part II)

Speaker: Mr. V. Srivikram - Specification Consultant, Hilti (India) Pvt Ltd, Chennai

The session introduced participants to advanced anchoring systems and their role in modern construction applications. Engineering standards and real-time industry practices were discussed to bridge theoretical concepts with practical implementation. The session also provided students with valuable industry exposure.

EVENTS DESCRIPTION

The events were designed to provide participants with an exciting platform to showcase their talents, creativity, and technical abilities. Each event offered a unique experience that encouraged learning, collaboration, healthy competition, and active participation.

TECHNICAL EVENTS

Clash of Cross

A technical crossword-based competition designed to test participants' civil engineering knowledge and analytical thinking abilities.

Teams competed through exciting buzzer rounds and strategic gameplay while showcasing their subject expertise and quick-thinking abilities.

Riddles to Riches

This event combined riddles with strategic bidding techniques, creating a highly engaging environment. Participants earned virtual money through problem-solving and used it to gain advantages in later rounds, making intelligence and strategy equally important.

Game of Stack

A unique card-based technical challenge that tested analytical thinking and planning skills. Participants carefully built structures using strategic rules and teamwork, demonstrating the importance of coordination and decision-making.

CAD Conquest

An AutoCAD-based challenge that assessed drafting and design skills among participants. Students demonstrated their technical proficiency and creativity while solving engineering design problems with precision.

Model Masters

This hands-on construction event tested participants' ability to transform ideas into practical structural models. Innovation, accuracy, and teamwork were key aspects that determined success in this competition.



NON-TECHNICAL EVENTS

Lights, Camera, Action

Adding a touch of entertainment to the symposium, this event challenged participants through movie-related clues, visuals, and audio segments. The event created a fun-filled atmosphere and brought excitement among participants.

Lots & Ladders

An entertaining event where cinema and cricket met strategic gameplay. Participants answered questions and moved through a life-sized snakes-and-ladders format, creating a highly energetic and interactive experience.



Presentation Event

The presentation event served as a stage for participants to share ideas and research across multiple domains of Civil Engineering. Through effective communication and technical discussions, participants showcased their understanding and problem-solving abilities while learning from one another.

Ideafest

Innovation becomes meaningful when ideas are transformed into solutions, and Ideafest provided exactly that opportunity. Participants

presented creative solutions for real-world engineering challenges and demonstrated their ability to think critically. The event encouraged innovation, creativity, and entrepreneurial thinking among students.

With remarkable participation, enthusiastic engagement, and a spirit of innovation, the event left behind memorable experiences and valuable learning opportunities. It stood as a reflection of creativity, collaboration, and the passion of young minds working towards shaping the future of engineering.



“From vision to reality, every moment became a milestone and every participation became a part of success.”

Bringing innovation beyond the stage, TECHUTSAV'26 launched its dedicated website to create a smarter and more connected experience for everyone.



TCE CELEBRATES 68TH COLLEGE DAY

COLLEGE DAY '26

The 68th College Day of Thiagarajar College of Engineering was celebrated on 24th March 2026 at the Karumuttu Kannan Auditorium, TCE Campus, Madurai, in the presence of faculty members, students, and distinguished guests. The event was presided over by Mr. K. Hari Thiagarajan, Chairman and Correspondent of TCE, and was graced by the Chief Guest, Mr. Rajesh Mittal, President & Managing Director of Isuzu Motors India Pvt. Ltd., who delivered an inspiring address to the gathering.

The celebration recognized outstanding academic and extracurricular achievements of students and faculty members. Among the awardees from the Department of Civil Engineering:

- Ms. Sivaranjani S – Final Year B.E. Civil Engineering – Best Outgoing Student
- Mr. Tanish Milind Salunkhe – Final Year B.E. Civil Engineering – Best Outgoing Sports Person (Boys)
- Ms. Mini Prem – M.E. Structural Engineering, II Year – Best Outgoing Student

The event served as a proud celebration of excellence and achievement, reflecting the institution's commitment to holistic development and academic distinction.





CIVIL PRO '26

CIVIL PRO was organized as a vibrant non-technical event aimed at bringing together creativity, enthusiasm, and teamwork through a series of engaging activities. Designed to provide participants with an enjoyable experience beyond academics, the event created a lively platform where students showcased their talents, explored new skills, and actively participated in exciting challenges.

One of the major highlights of CIVIL PRO was the successful organization of seven diverse events within a single day, making the occasion energetic and memorable for all participants. Each event was uniquely designed to encourage interaction, entertainment, creativity, and healthy competition, ensuring that every participant experienced something different throughout the day.

Brush and Blush

An event that provided participants with an opportunity to showcase their artistic and creative abilities through imaginative expressions. The event encouraged originality and brought out the creative side of participants.

Cinemystery

A fun-filled challenge that tested participants' observation skills and movie knowledge through engaging clues and activities. The event created an exciting atmosphere and kept participants actively involved.

Fireless Fiesta

An event that combined creativity and presentation skills through innovative food preparation without the use of fire. Participants demonstrated teamwork and transformed simple ideas into attractive creations.

Guess the Mess

A challenge designed to test participants' observation and quick-thinking abilities through exciting tasks and hidden clues. The event encouraged curiosity and active participation.

Hair Craft

An event that allowed participants to express creativity through unique styling ideas and artistic presentation. It served as a platform to showcase imagination and coordination skills.

Henna Studio

Henna Studio created an opportunity for participants to exhibit artistic talent through elegant and intricate designs. The event highlighted creativity, precision, and visual expression.

Turf Premium League

A sports-based event that brought enthusiasm and excitement through teamwork and competitive spirit. It created an energetic environment and encouraged active participation among students.

SUBMISSION EVENTS

Voice Stage

Voice Stage provided participants with an opportunity to showcase their singing abilities and express their talent through melody and rhythm. The event created a platform where participants performed with confidence and shared their passion for music.

Sketch Spot

Sketch Spot encouraged participants to bring their imagination to life through creative caricatures and artistic expressions. The event highlighted originality and allowed students to showcase their unique perspectives through sketches.

Meme Time

Meme Time served as a fun-filled platform where participants transformed ideas into creative and humorous content. The event brought together imagination and entertainment through engaging visual expressions.

Campus Reimagined

Campus Reimagined encouraged participants to redesign the familiar campus environment with creativity and humor. Through imaginative concepts, participants presented unique perspectives and ideas.

Doodle Diaries

Doodle Diaries provided participants with the freedom to express thoughts and ideas through artistic doodles and illustrations. The event celebrated creativity and encouraged originality without limitations.

With enthusiastic participation and engaging activities throughout the day, CIVIL PRO became more than just a collection of events; it evolved into a memorable experience filled with creativity, teamwork, and enjoyable moments that left a lasting impression.





VALEDICTORY CEREMONY

The academic year concluded with the Valedictory Ceremony of the Civil Engineering Association, held on 15th April 2026 (Wednesday) from 2:30 PM to 5:00 PM at KS Auditorium. The function was presided over by Dr. L. Ashok Kumar, Principal, along with Dr. S. Arul Mary, Head of the Department, faculty members, and students of the department. The ceremony was graced by Mr. K. Thangavel, Retired Joint Chief Engineer, Highways Department, who delivered an inspiring lecture on “Career Pathways: Shaping Futures, Creating Opportunities.”

The Civil Engineering Association (CEA) had a productive and memorable academic year filled with technical, cultural, and creative activities that promoted student development and engagement. The year began with the CEA Inauguration Ceremony and was followed by various events including Teacher's Day, Ayudha Pooja, Pongal Celebration, Connaisance, Civil Pro, Techutsav'26 Infraverse, and the publication of the departmental magazine, Altitude'26.

The Pongal Celebration was one of the highlights of the year, bringing together

students and faculty members to celebrate Tamil culture and tradition. The Civil Engineering Association organized fun-filled games and activities and prepared and distributed traditional Pongal, fostering a spirit of unity and togetherness among students.

To encourage student participation and recognize achievements, the Association introduced innovative initiatives such as Renown and Talent Tales. Renown highlighted the accomplishments of students in academic, technical, sports, and extracurricular activities through the official CEA platform, while Talent Tales provided students with an opportunity to showcase their talents in areas such as art, music, dance, photography, literature, and public speaking.



The Association also organized online creative events such as Monochrome and Prism, which encouraged students to express their creativity and originality through unique and engaging activities. These initiatives provided a platform for students to explore their artistic abilities beyond academics.

The ceremony showcased the highlights of the Association's activities throughout the year and recognized the achievements of students through various awards and honors. Office bearers, coordinators, volunteers, and the magazine team were also appreciated for their dedication and contributions to the successful functioning of the Association.

The Valedictory Ceremony also served as a platform to recognize and celebrate the outstanding achievements and contributions of students throughout the academic year. Various awards and honors were presented to appreciate excellence in academics, technical activities, and student participation. As a token of appreciation for their dedication and service, shields were presented to all the office bearers in recognition of their hard work and commitment towards the successful functioning of the Association. The members of the Magazine Committee were also honored with trophy for their valuable efforts in bringing out the departmental magazine. The title of Overall Connaisance Winners was awarded to **Augustus**, while **Copernicus** received recognition as the Star Performers for their remarkable contributions and achievements. In addition, **Class II-B** was declared the Overall Winner of Civil Pro, showcasing exceptional teamwork and performance throughout the event.

The Civil Engineering Association extends its sincere gratitude to the management, Principal, Head of the Department, faculty

members, student office bearers, volunteers, and participants for their unwavering support throughout the academic year 2025–2026. As another successful chapter comes to an end, the Association looks forward to reaching greater milestones and continuing its journey of growth and excellence in the years ahead.



"Success is not measured by the destination alone, but by the journey undertaken. May this valedictory be a stepping stone to greater accomplishments ahead."



FAREWELL '26

The Department organized a **Farewell Celebration** on 30th March 2026 with great enthusiasm and joy to bid a memorable farewell to the outgoing senior students. The event was conducted with the objective of celebrating the journey, achievements, and contributions of the seniors while creating a platform to cherish the memories and experiences shared throughout their academic life in the department. The program served as an opportunity for students, faculty members, research scholars, and staff members to come together and celebrate the strong bonds formed over the years.

The event commenced with a warm **Welcome Address**, where the gathering was greeted and the significance of the occasion was highlighted. It was followed by the HOD and Faculty Address, during which the Head of the Department and faculty members shared their valuable thoughts, guidance, and best wishes for the outgoing students. Their inspiring words motivated the students to move forward confidently in their professional and personal journeys.

A **Special Message** session was arranged as a part of the program, where meaningful and encouraging messages were shared, making the event more memorable and emotional. Various entertaining activities and fun-filled sessions were conducted to create an energetic atmosphere among the participants.

The celebration included interactive games and entertainment segments based on movie dialogues and fun awards, which encouraged active participation and created joyful moments among students. These activities brought excitement and laughter to the event and strengthened the bond among juniors and seniors.

One of the most emotional and memorable moments of the event was the **Memory Lane Video presentation**. The video beautifully showcased photographs, memorable moments, achievements, and experiences of the seniors throughout their academic journey in the department. The presentation brought back nostalgic memories and created an emotional atmosphere among everyone present.

The program concluded with the **Vote of Thanks**, where gratitude was expressed to the management, faculty members, students, organizing committee members, research scholars, and all those who contributed to the successful conduct of the event. The celebration ended with refreshments, allowing everyone to interact and spend quality time together.

**ALTITUDE / 2026**



PLACEMENT RECORD '26

SNO	REGNO	NAME OF THE STUDENT	NAME OF THE COMPANY
1	22B038	JAYAPRAKASH M	SOBHA CONSTRUCTIONS
2	22B039	JAYASHREELAVANYA S	SOBHA CONSTRUCTIONS
3	22B065	NAVEENRAJ R	SOBHA CONSTRUCTIONS
4	22B088	SHYAM SUNDAR S	SOBHA CONSTRUCTIONS
5	22B109	VAISHNAVI S	SOBHA CONSTRUCTIONS
6	22B116	VISHAL R	SOBHA CONSTRUCTIONS
7	22B133	YOGESVAR R S	SOBHA CONSTRUCTIONS
8	22B004	AISHWARYA R	VA TECH WABAG
9	22B011	ASIMITHAA K	VA TECH WABAG

10	22B040	JEEVA KARUNYA V	VA TECH WABAG
11	22B046	KAYALVIZHI B	VA TECH WABAG
12	22B064	NANDHANA B	VA TECH WABAG
13	22B084	SANJAY G	VA TECH WABAG
14	22B085	SANJAY BALA S	VA TECH WABAG
15	22B093	SIVARANJANI S	VA TECH WABAG
16	22B061	MURALI M	PINNACLE INFOTECH
17	22B098	SRINIDHI R	PINNACLE INFOTECH
18	22B111	VANISRI E	PINNACLE INFOTECH
19	22B041	JUSLIN RAFENA	COMCAST
20	22B013	BHARATHI V	TRIMBLE
21	22B050	MAHALAKSHMI K	TECHBRO ENGINEERING SOLUTION
22	22B075	PRIYANKA SHERLLYN S	TECHBRO ENGINEERING SOLUTION
23	22B106	SUVETHA M	TECHBRO ENGINEERING SOLUTION

24	22B130	SRI NANDHINIE M	TECHBRO ENGINEERING SOLUTION
25	22B023	DHARSHINI M	RCI DIGITAL SOLUTIONS
26	22B100	SUBA AKSHATHA BANU V	RCI DIGITAL SOLUTIONS
27	22B102	SUBHASHINI P	RCI DIGITAL SOLUTIONS
28	22B129	SREE SUNDARA RAGHAVI B	RCI DIGITAL SOLUTIONS
29	22B087	SHRINTHI B	TATA CONSULTANCY SERVICES
30	22B026	GANESH RAM R	AAA ENGINEERING CONSULTANTS
31	67SE001	ARAVIND BABU G S	STRUCTUNEERING
32	67SE004	MINIPREM P	L & T CONSTRUTIONS
33	67SE006	RAJA DEVA ARUL D	TECHBRO ENGINEERING SOLUTION



PLACEMENT TALK

SOBHA

Jayashreelavanya S

For placement preparation, regular practice and strong basics are essential. Aptitude skills can be improved by practicing from platforms like CareerRide and FresherWorld. Group discussion performance improves with regular practice on platforms like Talk, focusing on clear communication, logical points, and confident presentation. For technical interviews, having strong fundamentals in all core subjects is crucial, as conceptual clarity plays a key role in success.

VA TECH WABAG

Asimithaa K

Placement preparation requires a balanced focus on aptitude and core subjects. Along with this, confidence and effective communication skills play a crucial role in group discussions and interviews, helping candidates express their ideas clearly and professionally. Consistent practice, self-discipline and a focused approach across all these areas are significant for placement.

PINNACLE INFOTECH

Srinidhi R

Preparation for Pinnacle Infotech mainly requires a strong foundation in aptitude, communication and clarity in technical knowledge. The aptitude round included basic general aptitude questions along with questions related to engineering drawing, so practicing fundamentals is essential. Group discussion plays a crucial role, where confidence and clarity of thought matter more than content alone. In the technical interview, questions were primarily based on the area of interest mentioned in the resume, so being thorough with your chosen domain is very important. Additionally, the LSWR test emphasized the need for good English communication skills. Overall, consistent preparation, confidence and effective communication are key factors for success in the selection process.

COMCAST

Juslin rafena

The selection process at Comcast comprised four rounds focusing on aptitude, 2 technical

interview and HR interaction. The first round was an aptitude test with questions from ages, time and work, trains, blood relations, logical reasoning, networking-based output questions and concepts related to satellite imaging and GIS.

The second round was a detailed technical interview lasting about 50 minutes, where questions were mainly based on my resume, core subjects, GIS concepts, networking fundamentals, basic DevOps, OOPS concepts, software design & in 2nd technical round, common aptitude questions, grammar, phrases, e-mail writing, core concepts were asked. A clear self-introduction also played a crucial role in this round. The final HR interview was conducted in a friendly manner and included questions about my journey from the first day of engineering till now, strengths and weaknesses and willingness to relocate. Overall, the process emphasized strong fundamentals, resume clarity, communication skills and confidence.

TRIMBLE

Bharathi V

A strong foundation in surveying fundamentals plays a crucial role in placements at Trimble, as the company places high importance on core domain knowledge. In addition to theoretical clarity, it is essential to clearly explain internship experiences and academic projects in detail, highlighting individual roles, technical learning, challenges faced, and practical exposure. Along with technical preparation, students should also be well-prepared for basic HR questions, such as self-introduction, strengths and weaknesses, career goals, and reasons for choosing Trimble. Clear communication, confidence, and honesty during HR interactions significantly enhance the overall impression.

TECHBRO ENGINEERING SOLUTION

Priyanka Sherilyn S

To prepare for Techbro, ensure your basics in RCC, steel, and soil mechanics are clear. You don't need very deep knowledge, but your concepts should be strong. Try to understand practical aspects like reading drawings and basic estimation, as they are important in real projects. Practice online test regularly to improve your speed and accuracy. Also, focus on communicating your answers clearly and confidently. Overall, they look for candidates with good fundamentals and a willingness to learn.

TATA CONSULTANCY SERVICES

Shrinithi B

I prepared for the TCS placement by practicing aptitude from IndiaBIX and focusing on coding using Python (you can use any programming language you are strong in). The coding round included moderate and tough problems; I was able to solve the moderate one and partially solve the tough one. If you are not strong in coding, focusing on advanced aptitude can help clear the first round. In the interview, basic coding concepts were asked, and I was required to write simple code and explain my approach.

RCI DIGITAL SOLUTIONS

Suba akshatha banu V

Maintaining a record with no standing arrears is an important factor for placement eligibility. A confident self-introduction creates a strong first impression during interviews. It is essential to have in-depth knowledge of your final year project, as it reflects your technical understanding and practical exposure. Additionally, being clear about your internship experience (including your role and learnings), will help you answer questions effectively. Being Confident and clarity in communication helps succeeding in all rounds.

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CROSSWORD PUZZLE SOLUTION



WHERE OUR JOURNEY BEGAN...



WHERE OUR MEMORIES BECAME OUR LEGACY



**"THIS IS NOT THE END OF OUR STORY
—JUST THE CLOSING OF ANOTHER
BEAUTIFUL CHAPTER."**

