

CIVIL CHRONICLE

JANUARY 2026 / VOL. 9



NEWSLETTER BY DEPARTMENT OF CIVIL ENGINEERING
ADI SHANKARA INSTITUTE OF ENGINEERING AND TECHNOLOGY, KALADY
APPROVED BY AICTE, NEW DELHI. AFFILIATED TO APJ ABDUL KALAM TECHNOLOGICAL
UNIVERSITY, KERALA

DEPARTMENT VISION

•“TO EMERGE AS A CENTRE OF
EXCELLENCE IN CIVIL
ENGINEERING WITH GLOBAL
PERSPECTIVES.”

IN THIS ISSUE

INSTITUTE EVENTS

DEPARTMENT EVENTS

STAFF OUTREACH

FOOD FOR THOUGHT



DEPARTMENT MISSION

- TO IMPART QUALITY PROFESSIONAL EDUCATION SO THAT THE STUDENTS EMERGE AS A COMPETENT PROFESSIONAL IN THE AREA OF CIVIL ENGINEERING.
- TO PROMOTE INNOVATIVE THINKING AND LIFELONG LEARNING IN BUDDING ENGINEERS.
- TO PRODUCE CIVIL ENGINEERS WHO HAVE IMBIBED ETHICAL VALUES TO SERVE THE SOCIETY AND NATION.



PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

- GRADUATES WILL HAVE A POTENTIAL TO PURSUE HIGHER STUDIES AND RESEARCH IN THE FIELD OF CIVIL ENGINEERING.
- GRADUATES WILL BE ABLE TO PRODUCE SUSTAINABLE SOLUTIONS WITH PROFESSIONAL ETHICS FOR REAL TIME CIVIL ENGINEERING PROBLEMS.
- GRADUATES WILL HAVE MANAGERIAL SKILLS AND LEADERSHIP QUALITIES IN EXECUTION OF CIVIL ENGINEERING PROJECTS.
- GRADUATES WILL BE ABLE TO WORK WITH INTEGRITY AND ETHICAL VALUES.



PROGRAM SPECIFIC OUTCOMES (PSOs)

AFTER SUCCESSFUL COMPLETION OF B.TECH IN CIVIL ENGINEERING, THE STUDENTS WILL BE ABLE TO:

- CHECK THE FEASIBILITY AND SUSTAINABILITY OF CIVIL ENGINEERING PROJECTS BY CONDUCTING GEOTECHNICAL INVESTIGATION, CIVIL ENGINEERING SURVEY AND ENVIRONMENTAL IMPACT ASSESSMENT.
- ANALYSE AND DESIGN BUILDINGS, HYDRAULIC STRUCTURES AND WATER DISTRIBUTION, WASTE MANAGEMENT AND TRANSPORTATION SYSTEMS.
- EXECUTE CIVIL ENGINEERING PROJECTS WITH THEIR KNOWLEDGE IN ESTIMATION, PROJECT MANAGEMENT, CONSTRUCTION MATERIALS AND TECHNOLOGIES.



**DEPARTMENT OF
CIVIL ENGINEERING**

VICTORY ANNOUNCEMENT - INTER COLLEGE STAFF CRICKET TOURNAMENT



The ASIET Staff Cricket Team has emerged victorious at the All Kerala Staff Cricket Tournament, held at UKF College of Engineering, Kollam. The team showcased exceptional skill and teamwork, outshining 20 other staff teams from across Kerala.

The tournament provided a fantastic platform for our staff members to display their cricketing prowess, and it's heartening to see them bringing laurels to the institution. Heartfelt congratulations to all team members on this outstanding achievement. Mr. Abin Joy, Assistant Professor and Mr. Parthasarathy P N, Technical Staff of the department were members of the winning team.

MEANINGFUL IMPLEMENTATION OF OBE/NEP

Adi Shankara Institute of Engineering and Technology (ASIET) organized an insightful seminar on “Meaningful Implementation of OBE/NEP” on 15th January at the Seminar Hall. The session was delivered by B. N. Chaudhari, Principal of Sardar Patel Institute of Technology, Mumbai.

The seminar focused on the effective and practical implementation of Outcome-Based Education (OBE) in alignment with the National Education Policy (NEP). The resource person shared valuable perspectives on designing curriculum frameworks, defining measurable learning outcomes, enhancing student-centric learning approaches, and strengthening assessment methodologies.

The session witnessed active participation from faculty members, who engaged in meaningful discussions and interactive exchanges. The seminar served as a platform for understanding strategic approaches to implementing OBE effectively while meeting the broader goals of NEP.

WORKSHOP ON MASTERING PROMPT ENGINEERING



The Department of Civil Engineering organized a workshop on “Mastering Prompt Engineering: From Basics to Best Practices” on 21 January 2026 at the CCF Lab for the students of Semester 8. The session was conducted by Dr. Sarika S, Professor & HOD, Artificial Intelligence and Data Science.

The workshop introduced students to the fundamentals of prompt engineering and its practical applications, providing valuable insights into effective interaction with AI tools. The session was coordinated by Mr. Abishek Kumar A A and Ms. Dona Joy, Assistant Professors of the department.

SEMINAR ON OPPORTUNITIES IN QUANTITY SURVEYING



The Department of Civil Engineering organized a seminar on “Opportunities in Quantity Surveying” in association with the Entri App on 20th January 2026 for S4 and S8 students. The session was led by Mr. Jubair K V, Senior Quantity Surveyor at CBG Qatar.

The seminar provided valuable insights into career prospects, industry requirements, and professional growth in the field of quantity surveying, making it highly informative and beneficial for students. The session was coordinated by Dr. Parameswaran T G, Associate Professor and Ms. Dona Joy, Assistant Professor of the department.

ALUMNI INTERACTION



The Department of Civil Engineering organized an Alumni Interaction Session for S8 and S2 students on 9th January 2026. The session was handled by Mr. Vijay Krishnan N, alumnus (2020–2024 batch) and currently at IC & SR, IIT Madras. He shared valuable insights on higher studies, research opportunities, and career development in civil engineering. The session was informative and motivating, helping students gain practical perspectives and guidance for their future careers.

DEPARTMENT EVENTS

CAMPUS PLACEMENTS

Congratulations 

ON GETTING PLACED @ WHITEHOUSE ENERGY SOLUTIONS

		
Abinraj M R	A.V Ramanathan	Minnu T M
		
Krishnaveni E. K	Amal A A	Sethulakshmi K D
		
Sethulakshmi K R	Shins Shaju	Sibiya Sabu

DEPARTMENT OF CIVIL ENGINEERING
2022 -2026 BATCH

 **Adi Shankara**
INSTITUTE OF ENGINEERING AND TECHNOLOGY
Approved by AICTE & Affiliated to APJ Abdul Kalam Technological University
Vijaya Bhaskara Nagar, Maheswara, Kollam, Kerala, India. Pin-686174

      

STUDENT ACHIEVEMENTS

STUDENT INTERNSHIPS

Congratulations

On your paid Internship at
IIT Madras



Gopika Shanavas



Midhuna Mani



Sibiya Sabu



Sivani P Anil Kumar

DEPARTMENT OF CIVIL ENGINEERING
2022 -2026 BATCH



Adi Shankara
INSTITUTE OF ENGINEERING AND TECHNOLOGY
Approved by AICTE & Affiliated to ABU Abdul Kalam Technological University
Vidya Bharathi Nagar, Mettoor, Kandy, Ernakulam District, Kerala State Pin-683574



STUDENT ACHIEVEMENTS

PUBLICATIONS



Dr. A N SWAMINATHEN
PROFESSOR

Dr. A N Swaminathen, Professor of the department has successfully published a book titled “AI & Digital Technologies in Construction”.

FACULTY PARTICIPATION IN NATIONAL ROAD SAFETY INITIATIVES



Ms. DONA JOY
ASSISTANT PROFESSOR

Ms. Dona Joy, Assistant Professor of the department has participated in the Five-Day Online Short-Term Course on “Emerging Trends and Recent Advances in Road Safety Practices” organised by the department of Civil Engineering, National Institute of Technology, Puducherry, during 19th - 23rd January 2026, in observance of National Road Safety Month 2026.

She has successfully participated and rendered valuable support in Road Safety Month - January 2026 programmes conducted by the Kerala Motor Vehicles Department.

CLIMATE-RESILIENT & RISK-FOCUSED DESIGN IN GEOTECHNICAL ENGINEERING

Climate-resilient and risk-focused design aims to ensure that geotechnical systems (foundations, slopes, embankments, tunnels, retaining structures, etc.) remain safe, functional, and serviceable under climate change impacts and extreme events.

Climate change is increasing.

- Sea-level rise & coastal erosion
- Temperature variations (freeze–thaw, drying–wetting cycles)
- Landslides, debris flows, and soil erosion

Traditional designs based on historical data are no longer sufficient → engineers now design for future uncertainties and risks.

○ Climate-Resilient Design

We can go for designing a geotechnical systems that adapt to changing climate conditions, withstand extreme events and recover quickly after damage (resilience).

○Risk-Focused design

The design approaches can be based on probability of failure, consequences of failure and prioritization of high-risk zones and structures.

Major Design Strategies

A. Flood & Rainfall-Resilient Design

- Improved drainage systems in slopes and embankments
- Design for higher pore water pressures
- Use of permeable materials and filters
- Stability analysis under saturated soil conditions

B. Landslide & Slope Stability Risk Management

- Rainfall-triggered landslide modeling
- Real-time slope monitoring (pore pressure, displacement)
- Reinforcement using: Soil nailing, Rock bolting, Geosynthetics
- Early-warning systems

C. Coastal & Marine Geotechnical Resilience

- Design foundations considering Sea-level rise and Scour and erosion
- Use of Deep foundations, Ground improvement, Armored slopes
- Integration with coastal protection systems

D. Temperature-Sensitive Soil Design

- Addressing Freeze–thaw effects, Expansive soils (shrink–swell), Permafrost degradation
- Use of insulation layers and adaptive foundations



Ms. AKHILA VIJAYAN
ASSISTANT PROFESSOR

THE IMPORTANCE OF ARTIFICIAL INTELLIGENCE IN CIVIL ENGINEERING

Civil engineering is one of humanity's oldest professions. From ancient roads and aqueducts to modern skyscrapers and smart cities, civil engineers design, build, and maintain the infrastructure that supports daily life. Today, however, the scale, complexity, and expectations placed on infrastructure have grown enormously. Rapid urbanization, climate change, sustainability demands, limited resources, and the need for safer structures require more intelligent solutions than traditional methods alone can provide.

This is where Artificial Intelligence (AI) is transforming civil engineering — not as a replacement for engineers, but as a powerful partner that enhances decision-making, efficiency, accuracy, and safety

1. Smarter Planning and Design

Traditionally, civil engineering design relied heavily on manual calculations, experience-based assumptions, and iterative trial-and-error modeling. Engineers would analyze loads, soil conditions, materials, and environmental effects through simplified mathematical models. While effective, this approach can be slow and sometimes limited in predicting complex real-world behavior. AI changes this dramatically.

a) Generative Design

AI-driven generative design tools can produce thousands of design alternatives in minutes. Instead of manually drawing one bridge layout, engineers can input requirements such as:

- Load capacity
- Budget
- Material availability
- Environmental constraints
- Safety factors

The AI then evaluates millions of possibilities and suggests the most efficient structures — often lighter, stronger, and cheaper than traditional designs.

b) Structural Optimization

Machine learning algorithms analyze past structural failures, performance data, and environmental impacts. This allows engineers to:

- Predict weak points in structures
- Optimize reinforcement placement
- Improve earthquake resistance
- Reduce unnecessary material usage

This leads to safer buildings and significant cost savings.

2. Construction Automation and Project Management

Construction projects often suffer from delays, cost overruns, and miscommunication. AI helps manage these problems through predictive and automated systems.

a) Schedule Prediction

AI studies past project data and predicts:

- Possible delays
- Weather impacts
- Labor shortages
- Material supply issues

Project managers can then adjust schedules before problems occur instead of reacting afterward.

b) Robotics and Automation

AI-controlled machines now perform repetitive or dangerous tasks such as:

- Bricklaying robots
- Concrete pouring automation
- Autonomous excavation equipment
- 3D printing of buildings

These technologies: Reduce human risk, Increase precision, Speed up construction, Lower labor costs

3. Structural Health Monitoring and Maintenance

Infrastructure deteriorates over time due to weather, traffic loads, corrosion, and aging materials. Traditionally, inspections were manual — slow, costly, and sometimes unsafe.

AI enables predictive maintenance.

a) Smart Sensors

Modern bridges, tunnels, and buildings contain IoT sensors that continuously measure:

Vibration, Stress, Temperature, Crack formation, Deflection.

AI analyzes this real-time data and detects damage long before it becomes visible.

b) Predicting Failures

Instead of repairing structures after damage occurs, engineers can fix problems early. This prevents disasters such as bridge collapses and building failures while reducing maintenance costs dramatically.

4. Geotechnical Engineering and Soil Analysis

Understanding soil behavior is one of the most uncertain areas in civil engineering. Soil varies widely even within small distances. AI helps by analyzing massive geotechnical datasets:

Borehole logs, Laboratory test results, Satellite imaging, Historical landslide records. Urban planners use AI to simulate city growth patterns and design better road networks, parking systems, and public transport layouts.

6. Environmental Sustainability

Civil engineering plays a major role in environmental impact. Construction accounts for a large percentage of global carbon emissions.

AI supports sustainable engineering by:

- Optimizing material usage
- Reducing concrete waste
- Designing energy-efficient buildings

7. Disaster Prediction and Risk Management

Natural disasters such as earthquakes, floods, and cyclones pose serious threats to infrastructure.

AI models analyze:

- Satellite weather data
- Seismic activity

8. Future of Civil Engineers in the AI Era

AI will not replace civil engineers. Instead, it changes their role.

Future engineers will:

- Interpret AI results
- Make ethical and safety decisions
- Integrate human judgment with machine predictions
- Focus on creativity and innovation

Routine calculations will be automated, while engineers concentrate on problem-solving and sustainable development.

Conclusion

Artificial Intelligence is revolutionizing civil engineering from design to demolition. It enhances accuracy, improves safety, reduces costs, and enables sustainable infrastructure development. With growing urban populations and climate challenges, traditional methods alone cannot meet future demands. AI provides engineers with the ability to predict, optimize, and manage complex systems more effectively than ever before.



Joshua Xavier Collin
S6- CE

CHIEF EDITOR



Dr. K DHANASEKAR

STAFF EDITOR



Ms. REEMA PIUS

STUDENT EDITORS



Abhishek Anilkumar
S8 CE



Gopika Shanavas
S8 CE



Midhuna Mani
S8 CE



Merinda Rose Shijan
S8 CE



Lakshmi Mani
S6 CE



Afsa Usman
S4 CE



Anaina Parvin T K
S4 CE



Thamanna P S
S4 CE

HOD'S MESSAGE



AS THE DEPARTMENT HEAD, I ENVISION OUR COLLEAGUES AND STUDENTS WALKING HAND IN HAND, COLLECTIVELY CONSTRUCTING INNOVATIVE IDEAS FOR A MORE DEVELOPED NATION.
LET'S CONTINUE THIS MOMENTUM AND STRIVE FOR EXCELLENCE IN ALL OUR ENDEAVOURS.