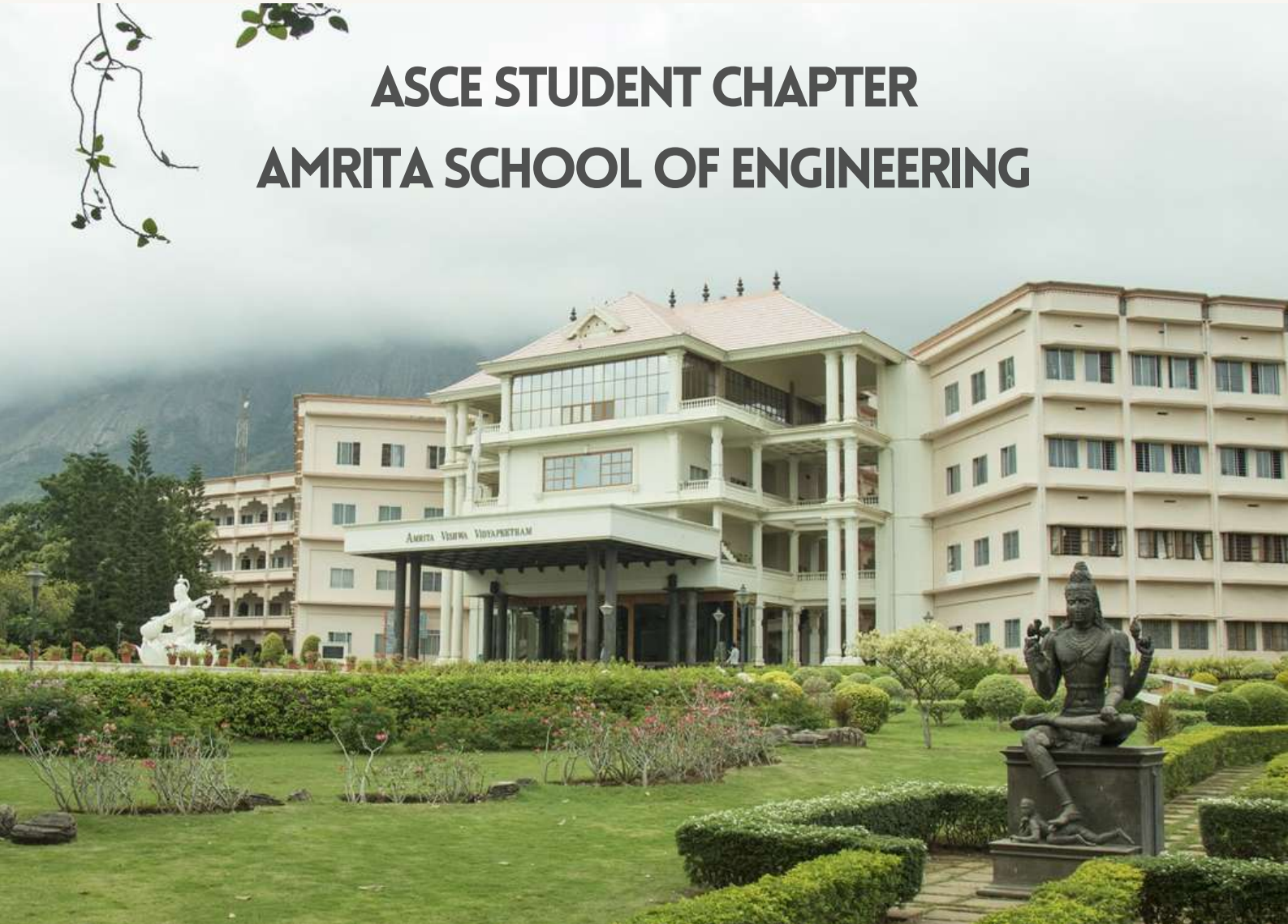


# COLUMN CANVAS

## ASCE STUDENT CHAPTER AMRITA SCHOOL OF ENGINEERING



**ASCE**  
STUDENT CHAPTER  
Amrita School of  
Engineering

**2023**

# INTRODUCTION

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The American Society of Civil Engineers represents more than 150,000 members of the Civil Engineering profession in 177 countries. Founded in 1852, ASCE is the nation's oldest engineering society.

ASCE stands at the forefront of a profession that plans, designs, constructs, and operates society's economic and social engine - the built environment - while protecting and restoring the natural environment.

Through the expertise of its active membership, ASCE is a leading provider of technical and professional conferences and continuing education, the world's largest publisher of civil engineering content, and an authoritative source for codes and standards that protect the public.

The Society advances Civil Engineering technical specialties through nine dynamic institutes and leads with its many professional- and public-focused programs.

The ASCE students chapter at Amrita University has been on role since 2021. ASCE Student Chapter of Amrita Vishwa Vidyapeetham aims to enable students to be technically competent and serve the industry as ethical and professional engineers.

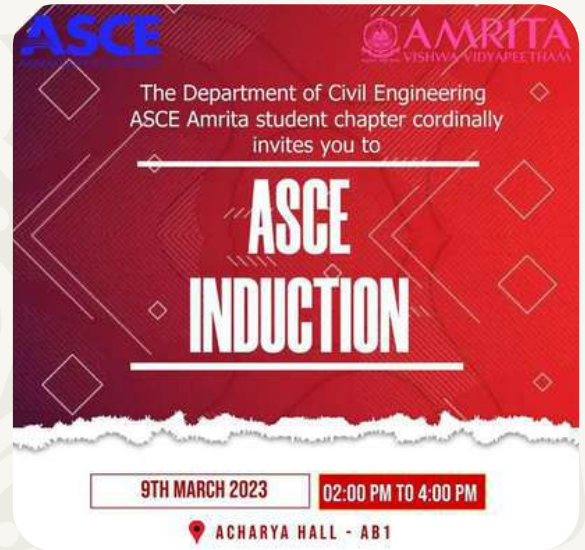
## OUR MISSION

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Provide engineering education that create professional Civil Engineers of high ethics with strong conceptual foundation to serve the industry and community

# ASCE INDUCTION

Dr. Dhanya Sathyan, the ASCE faculty Coordinator and Dr. K.M. Mini oversaw the ASCE Induction programme which was on March 9, 2023, from 14:00 to 16:00. This event took place in Acharya Hall, AB1. There were 59 attendees present. The ASCE cabinet members organised this event



# SUMMER CAMP

Dr. K. M. Mini, Dr. Vijayanarayanan, Dr. Viswanath and Dr. Dhanya Sathyan with support of ASCE Cabinet members organized a summer camp at Amrita Vishwa Vidyapeetham, Ettimadai, from May 5th to 7th, 2023. The event had 34 attendees.



## Overview:

The summer camp is part of Amrita's commitment to inspiring students to take Civil Engineering as a career option. Activities of the summer camp are as follows:

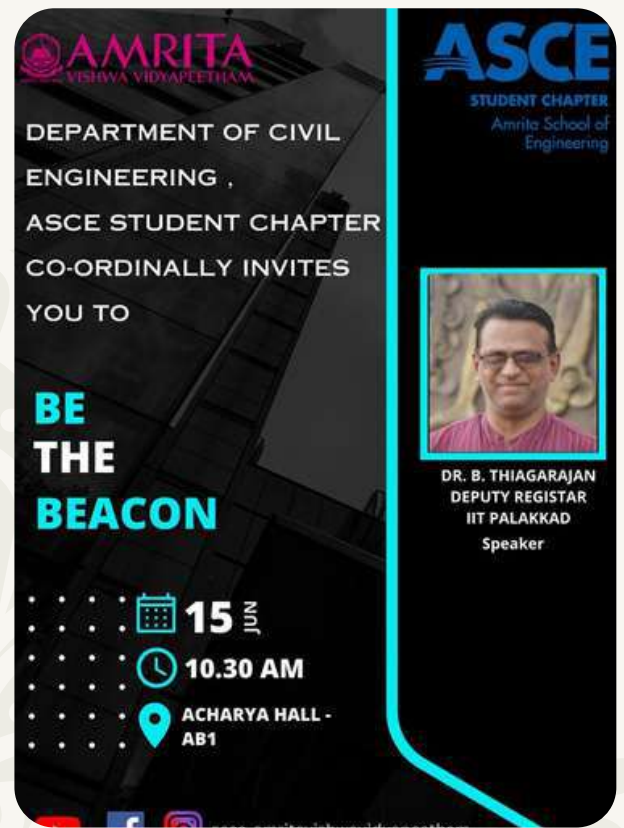
- Industry Lecture - attempts to highlight the gap between classroom teaching and professional practice; additionally, the lectures will highlight the diverse job opportunities for Civil Engineering graduates and the required skill sets for each job opportunity;
- Hands-on Training On Software - will introduce software, which are used in the industry;
- Hands-on Fun Activity - highlights the gap between theory and application of known concepts. This activity is designed to supplement the knowledge students gain in the classroom.
- Cultural Activity - will aid in the development of the students holistically. With the immense pressure from the industry, this activity will help students learn to relax, focus, and complete the task.
- Fun Activity - will help students learn by undertaking fun activity.

## Highlights:

Career opportunities and required skill sets Hands-on activity - Software, Conceptual games Ways to achieve holistic development Fun games in Civil Engineering.

# BE THE BEACON

Be the Beacon was led by Dr. B. Thiagarajan on June 15, 2023, lasting for an hour. The event, had a total of 100 participants. The primary objective of the program was to impart life lessons. Dr. Dhanya Sathyan and Dr. K. M. Mini served as the faculty advisors, and the student coordinators were the members of ASCE.





**Be the beacon" embodies the essence of leadership and positive influence. In just two words, it conveys the idea of guiding others through darkness, offering hope and direction. As the Phrase leads the talk , development of qualitative thoughts was the motto of the event. This invited talk showed the students that opportunities should never be abandoned and should always try to find feasible solutions to the challenges faced by them. This talk also emphasised the students about patience being the biggest key for success.**

# BREEZE '23

A fresher's party was arranged for 2022 batch students at Amrita Vishwa Vidhyapeetham on 7th SEPTEMBER 2023. All faculties of the Civil Engineering department and students of the 2021 and 2022 batches were present during that function. Games and interactive activities were also conducted.



# IMPERIAL PATHWAYS

Mr. Prabakaran S, Senior Education Counselor, delivered a talk on "Life Lessons" with a focus on discussing various opportunities for higher studies abroad and available financial aids. The event was held on September 27, 2023, at 12:25 PM. There were 38 attendees for this session. Dr. Dhanya Sathyan and Dr. K. M. Mini served as the faculty advisors.



ASCE  
Advanced School of Engineering

Department of civil engineering

AMRITA

## YOUR PATHWAY TO SCHOLARSHIP AND FUNDING FOR STUDYING ABROAD

27 SEPTEMBER 2023

TIME 12.25 PM-1.35 PM

**SPEAKER**  
MR.PRABAKARAN S  
SENIOR EDUCATION COUNSELOR  
IMPERIAL PATHWAY

**WE WELCOME ALL THE FINAL YEAR STUDENTS**

Venue: W310 AB1





# EXPERIMENTAL TECHNIQUES FOR TESTING CEMENTITIOUS COMPOSITES

Dr. N. Ganeshan lead an invited talk on October 11, 2023, The event had 105 participants and aimed to provide a lecture on experimental techniques for testing cementitious composites. The faculty advisors for the program were Dr. Dhanya Sathyan and Dr. K.M. Mini. Student coordinators for the event were from the ASCE Students Chapter cabinet members.



Testing cementitious composites involves a range of techniques to evaluate their mechanical, physical, and durability aspects. These methods encompass mechanical tests like compression, tension, flexural, and shear tests to gauge strength and elasticity. Physical assessments measure density, porosity, and thermal conductivity, while durability tests examine resistance to freeze-thaw cycles, chemicals, and abrasion. Microstructural analysis via SEM, XRD, and porosimetry unveils internal structures. Non destructive methods such as ultrasonic testing and impact-echo assessments aid in detecting flaws without damaging samples. Rheological tests like rheometry analyze flow and deformation of fresh mixtures, essential for understanding workability and setting characteristics. The amalgamation of these techniques provides a holistic understanding crucial for material development and structural application.

# SAPLING PLANTATION DRIVE

Dr. Dhanya Sathyan and ASCE cabinet Members drove a program on November 9, 2023. The event, classified as a plantation drive, involved 27 students and one faculty along with 4 helpers. The primary objective of the program was to plant several tree saplings across the university campus. Dr. Dhanya Sathyan and Dr. K. M. Mini served as the faculty advisors, and the student coordinators were the ASCE cabinet Members.



The drive aimed not only to enhance the campus aesthetics but also to foster a sense of environmental responsibility among the university's community. Additionally, pledges were collected from participants to ensure the long-term nurturing of the newly planted saplings. Overall, the plantation drive successfully cultivated a heightened sense of environmental consciousness and action within the university.



# 3D PRINTABLE CEMENTLESS MATERIAL FOR CONSTRUCTION UNDER DIFFERENT ENVIRONMENTAL EXPOSURES

Mr. Pitabash Sahoo lead an invited talk program on November 9, 2023, lasting for one hour. The event had 144 participants and aimed to deliver a lecture on the development of carbon-sequestering Earth-based 3D printable "Cementless" Materials. Dr. Dhanya Sathyan and Dr. K. M. Mini served as the faculty advisors, and the student coordinators were the ASCE cabinet Members.



The poster is purple and white. It features logos for AMRITA, KUMARAGURU college of technology, I.C.T., and ASCE. The text reads: "Department of Civil engineering coordinally organises, Development of carbon sequestering earth-based 3D printable 'cementless' materials for construction under different environmental exposures." It specifies the date as THURS NOV DAY 09, location as ACHARYA HALL - AB1, and time as 3.00 pm to 4.00 pm. A photo of Mr. Pitabash Sahoo is included, along with his title: "Prime Minister Research Fellow, Centre for Sustainable technologies, Indian Institute of Science Bangalore." Social media icons for Facebook, Instagram, Twitter, and LinkedIn are at the bottom, along with the handle asce\_amritavishwavidyapeetham.



The development of carbon-sequestering, Earth-based 3D printable "cementless" materials involves creating construction materials that not only eliminate or minimize the use of traditional cement, a significant source of carbon emissions, but also actively capture and store carbon dioxide during their production and use. These innovative materials aim to reduce the carbon footprint of construction and contribute to global carbon sequestration efforts

# LUNAR SOIL CHARACTERIZATION AND DESIGN OF LUNAR STRUCTURES FOR CHANDRAYAAN MISSIONS



Dr. K. Muthukkumaran lead a 2-hour invited talk on November 15, 2023, with 50 participants. The program, focused on the Soil Characteristics of Lunar soil. Dr. Dhanya Sathyan and Dr. K. M. Mini served as the faculty advisors, and student coordinators were the ASCE cabinet Members.



Lunar soil, also known as regolith, refers to the loose layer of debris on the moon's surface. Understanding the characteristics of lunar soil is crucial for planning future lunar missions, including the Chandrayaan missions. Scientists and engineers analyze various properties of lunar soil, such as its composition, grain size distribution, mechanical properties, and potential resources (such as water and helium-3). This understanding facilitates the development of technologies for harvesting and utilizing lunar resources, as well as for designing structures capable of withstanding lunar surface conditions.



# C-PROGRAMMING FOR CIVIL ENGINEERING

On November 27th, 2023 there was a live programme held for the Civil Engineering students, which was lead by Mrs. Rupali S Kale. This event had 50 participants and aimed to cover the essential skills for engineers interested in developing customized tools or simulations using C programming tailored to their specific field needs. The faculty advisors for the program are Dr. Vishwanath, Dr. K. M. Mini and Dr. Dhanya Sathyan. Student coordinators were the ASCE Board Members.



C programming provides a powerful and efficient means for solving complex engineering problems and enhancing the efficiency of various Civil Engineering processes. It's an essential skill for engineers who want to develop customized tools or simulations tailored to their specific needs in the field.

# ALUMINI INTERACTION



On December 8, 2023, a meeting was held with our alumna Ms. Sneha at Amrita Vishwa Vidyapeetham, Ettimadai. Ms. Sneha conducted enthusiastic interactive sessions with 31 students, providing insights into the application process and sharing her experiences of being a part of the Indian Navy and Air Force. The event also involved two faculty members. Ms. Sneha delivered an elaborate talk, emphasizing the pride associated with serving as a nation's frontiers. Dr. Dhanya Sathyan and Dr. K. M. Mini served as the faculty advisors.

Ms Sneha had an enthusiastic interactive session with the students and discussed the application process and what it's like to be a part of the Indian Navy and Air Force. She had an elaborate talk on the pride of being a nation's frontiers.

# TWO DAYS ONLINE FACULTY DEVELOPMENT PROGRAM

## ON CONDITION MONITORING AND RELIABILITY ASSESSMENT IN CIVIL ENGINEERING APPLICATIONS

Dr. Paresh Govind Mirgal drove a Faculty Development Program (FDP) scheduled for December 27-28, 2023, spanning two days. The program involved 18 student participants and 16 faculty participants. The objective of the FDP was to update knowledge on advancements and future trends in condition monitoring and reliability assessment in Civil Engineering structures. ASCE cabinet members acted as student coordinators for this event

Two days online Faculty development program on **Condition Monitoring and Reliability Assessment in Civil Engineering Applications**



Organized by



### ORGANIZING COMMITTEE

#### Chief Patron

Dr P Venkat Rangan,  
Vice Chancellor

#### Patrons

Dr K Sankaran, Registrar,  
Dr Sasangan Ramathan, Dean,  
School of Engineering

#### Convener

Dr K M Mini, Chairperson  
Dr Dhanya Sathyan, Vice-Chairperson

#### Coordinator

Dr. Paresh Govind Mirgal

Organized by  
DEPARTMENT OF CIVIL ENGG.,  
ASE - COIMBATORE

In association with  
ASCE STUDENT CHAPTER,  
AMRITA SCHOOL OF  
ENGINEERING

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**Safety and Integrity Prospective for Nuclear Containments**

- Variety of PHWR RC-PC Concrete Containments 220 MWe at RAPS and MAPS
- Standardized Indigenous designs 220 MWe / 540 MWe PHWRs with enhanced safety features
- Recently connected to Grid KAPP3 790 MWe PHWR novel design with passive safety features – construction of 15 new reactors in fleet mode
- 40 MWth FBTR followed by design, construction & ongoing Commissioning of 500 MWe PFBR and Future FBTRs
- Design, development and safety assessment of 300 MWe AHWR
- BWR reactors located at Tarapur and VVER based NPPs (2X1000 MWe), at Kudankulam operating (KK-1&2), Additional units KK-3&4 under construction
- Imported light water reactors (LWRs)
- Indigenous program of Indian Pressurized Water Reactor (IPWR)
- Multiple Challenges with all types of reactor systems– systematic R& D backed up by experimental program followed with analytical evaluations
- Globally Large number of reactors in future (at present 450 plus), public perception need to be addressed – caused by trauma due to recent accidents

This program is aimed at updating the knowledge and skills of research students, faculty members, and industry professionals, enabling them to stay at the forefront of the latest developments, methodologies, and best practices in the field.

# SITE VISIT

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A site visit was held at a slum clearance project site which was under a government tender. This visit was held on 07/01/2023 in Palladam, Tiruppur, from 9:00 am to 4:00 pm.

An industrial visit to Malabar Cements took place on 08/06/2023 in Walayar from 9:00 am to 4:00 pm.

A site visit of a hostel building was conducted on 04/12/2023 in Ettimadai from 9:00 am to 4:00 pm.





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**THANK YOU**

