# EDIFICE

JUNE 2022

THE NEWSLETTER OF THE DEPARTMENT OF CIVIL ENGINEERING

SSN

VOL. 7, ISSUE 1

# Contents

# HOD ARTICLE

I am super happy to state that our we are back offline after a break for more than a year. Classes are happening in full swing along with other events and activities. Now, with corona taking the back seat, we are immensely relieved and delighted to be back on campus and to continue with our academics.

I take immense pride to report to you that, we, the department of civil engineering, organized a number of events on a wide range of topics keeping in mind student welfare and development. Notable among them are our annual international conference on sustainable practices and innovations in civil engineering (SPICE 2022), symposium (INSTINCTS' 22), and department seminar. The number of participants and events we organize keep increasing year after year and thereby bring acclaim to us and the college. I am immensely delighted to add that, all of our students of third year will undergo industrial training with various multinational and reputed companies in July-August period as part of their curriculum requirements. These opportunities have been provided to them by the MoUs and industry interactions that we have gained over the years. Our placement record is exemplary this year with Our placement record is exemplary this year with more than 70 percent effective placement and still ongoing.

I am pleased to report that projects and research works are going on in full swing under the dedicated mentorship of our faculties. At this juncture, I would like to thank the management, faculty, staff, and students for all their efforts. Here's to a bigger and brighter future.

I take immense pride to report to you that, we, the department of civil engineering, organized a number of events on a wide range of topics keeping in mind student welfare and development. Notable among them are our annual international conference on sustainable practices and innovations in civil engineering (SPICE 2022), symposium (INSTINCTS' 22), and department seminar. Besides, ten of our students along with a faculty undertook a study tour visit to Atal Tunnel under YUVAK Scheme Sponsored by AICTE.

# FACULTY ARTICLE

**How Architectural Features Affect Buildings During Earthquakes?**

The behaviour of a building during earthquakes depends critically on its overall shape, size and geometry, in addition to how earthquake forces are carried to the ground. Hence at the planning stage itself, architects and structural engineers must work together to ensure that the unfavourable features are avoided and a good building configuration is chosen. The importance of the configuration of a building was aptly summarised by Late Henry Degenkolb, a noted Earthquake Engineer of USA, as:
"If we have a poor configuration to start with, all the engineer can do is to provide a band-aid-improve a basically poor solution as best as he can. Conversely, if we start-off with a good configuration and reasonable framing system, even a poor engineer cannot harm its ultimate performance too much"

**Architectural Features:**

A desire to create an aesthetic and functionality efficient structure drives architects to conceive wonderful and imaginative structures. Sometimes the shape of the building catches the eye of the visitor, sometimes the structural system appeals, and in other occasions both shape and structural system work together to make the structure a marvel. However, each of these choices of shapes and structure has significant bearing on the performance of the building during strong earthquakes. The wide range of structural damages observed during past earthquakes across the world is very educative in identifying structural configuration that are desirable versus those which must be avoided.

## Size of buildings:

In tall buildings with large height-to-base size ratio (Figure 1a), the horizontal movement of the floors during ground shaking is large. In short but very long buildings (Figure 1b), the damaging effects during earthquake shaking are more. And, in buildings with large plan area like warehouses (Figure 1c), the horizontal seismic forces can be excessive to be carried by columns and walls.

## Horizontal layout of buildings:

In general, buildings with simple geometry in plan (Figure 2a), have performed well during strong earthquakes. Buildings with re-entrant corners like U, V, H and + shaped in plan (Figure 2b), have sustained significant damage. Many times, the bad effects of these interior corners in the plan of the buildings are avoided by making the building in two parts.

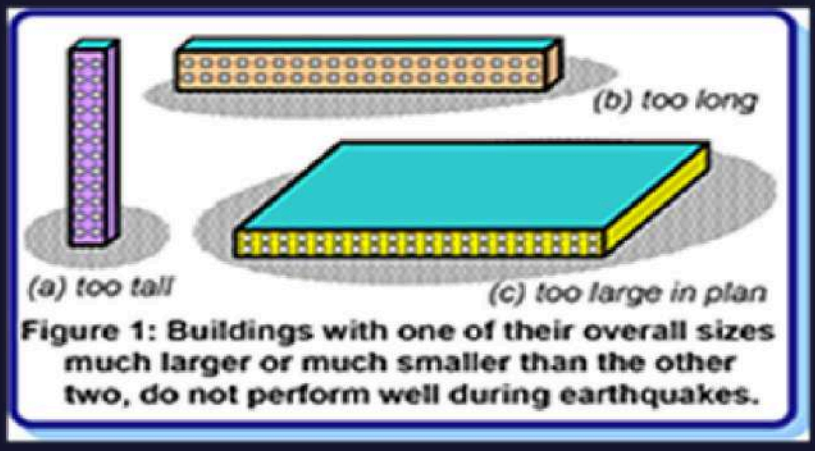


**Figure 1: Buildings with one of their overall sizes much larger or much smaller than the other two, do not perform well during earthquakes.**

For example, an L-shaped plan can be broken up into two rectangular plan shapes using a separation point at the junction (Figure 2c). Often, the plan is simple, but the columns/ walls are not equally distributed in plan. Buildings with such features tend to twist during earthquake shaking.

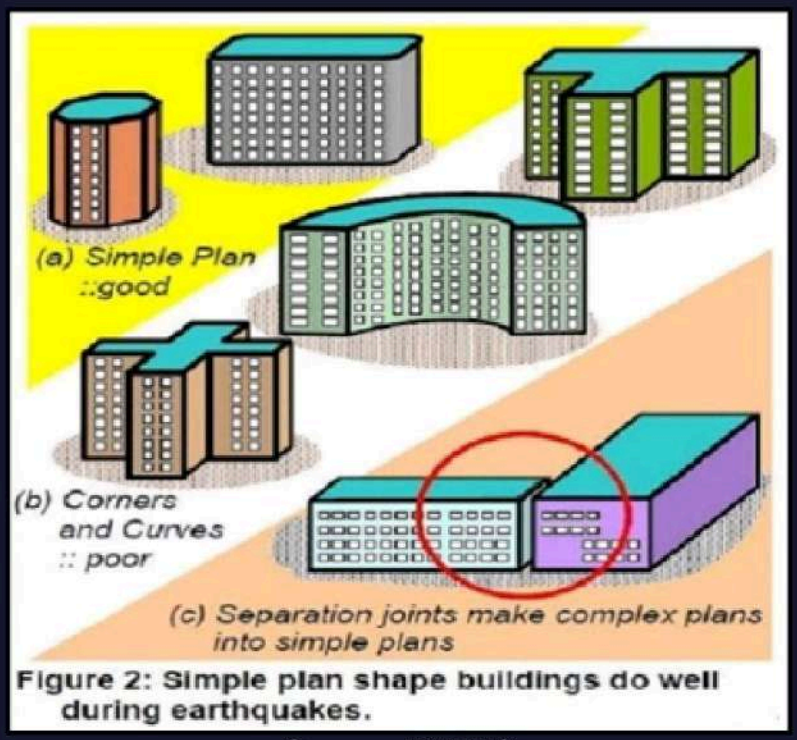


**Figure 2: Simple plan shape buildings do well during earthquakes.**

Source: BMTPC

## Vertical layout of buildings:

The earthquake forces developed at different floor levels in a building need to be brought down along the height to the ground by the shortest path; any deviation or discontinuity in this load transfer path results in poor performance of the building. Buildings with vertical setbacks like the hotel buildings with a few storeys wider than the rest cause a sudden jump in earthquake forces at the level of discontinuity (Figure 3a). Buildings that have fewer columns or walls in a particular storey or with unusually tall storey (Figure 3b), tend to damage or collapse which is initiated in that storey. Many buildings with an open round storey intended for parking collapsed or were severely damaged in Gujarat during the 2001 Bhuj earthquake.

Buildings on slopy round have unequal height columns along the slope, which causes ill effects like twisting and damage in shorter columns (Figure 3c). Buildings with columns that hang or float on beams at an intermediate storey and do not go all the way to the foundation, have discontinuities in the load transfer path (Figure 3d). Some buildings have reinforced concrete walls to carry the earthquake loads to the foundation. Buildings, in which these walls do not go all the way to the ground but stop at an upper level, are liable to get severely damaged during earthquakes.

Adjacency of Buildings:

When the two buildings are too close to each other, they may pound on each other during strong shaking. With increase in building height, this collision can be a greater problem. When building heights do not match (Figure 4), the roof of the shorter building may pound at the mid-height of the column of the taller one; this can be very dangerous.

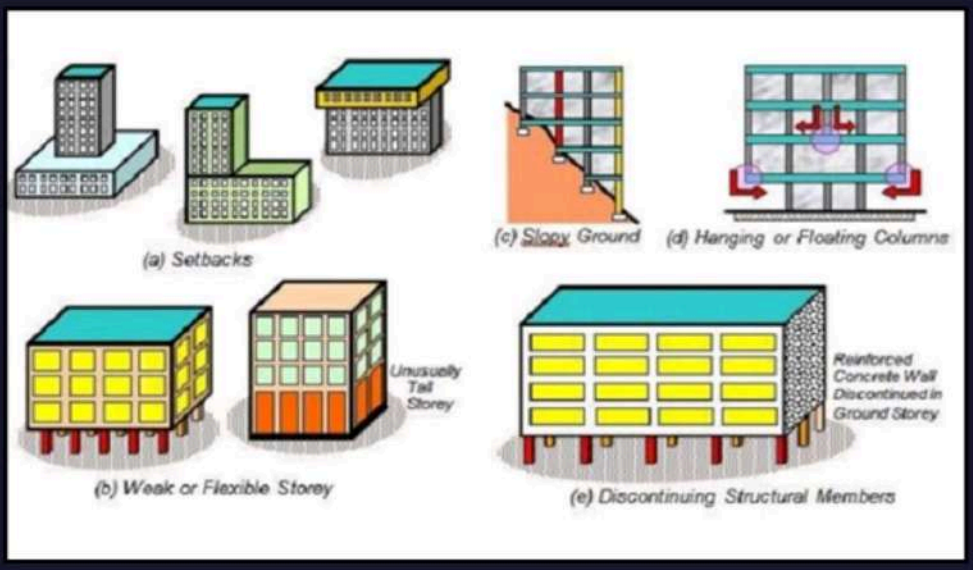



Figure 3: Sudden deviations in load transfer path along the height lead to poor performance of the building

**Source: BMTPC**

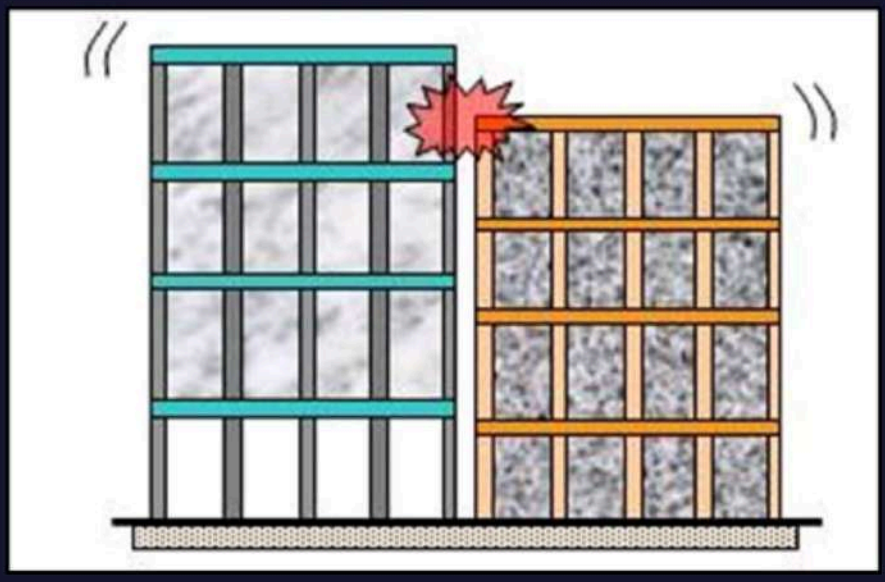


Figure 4: Pounding can occur between adjoining buildings due to horizontal vibrations of the two buildings
Source: BMTPC

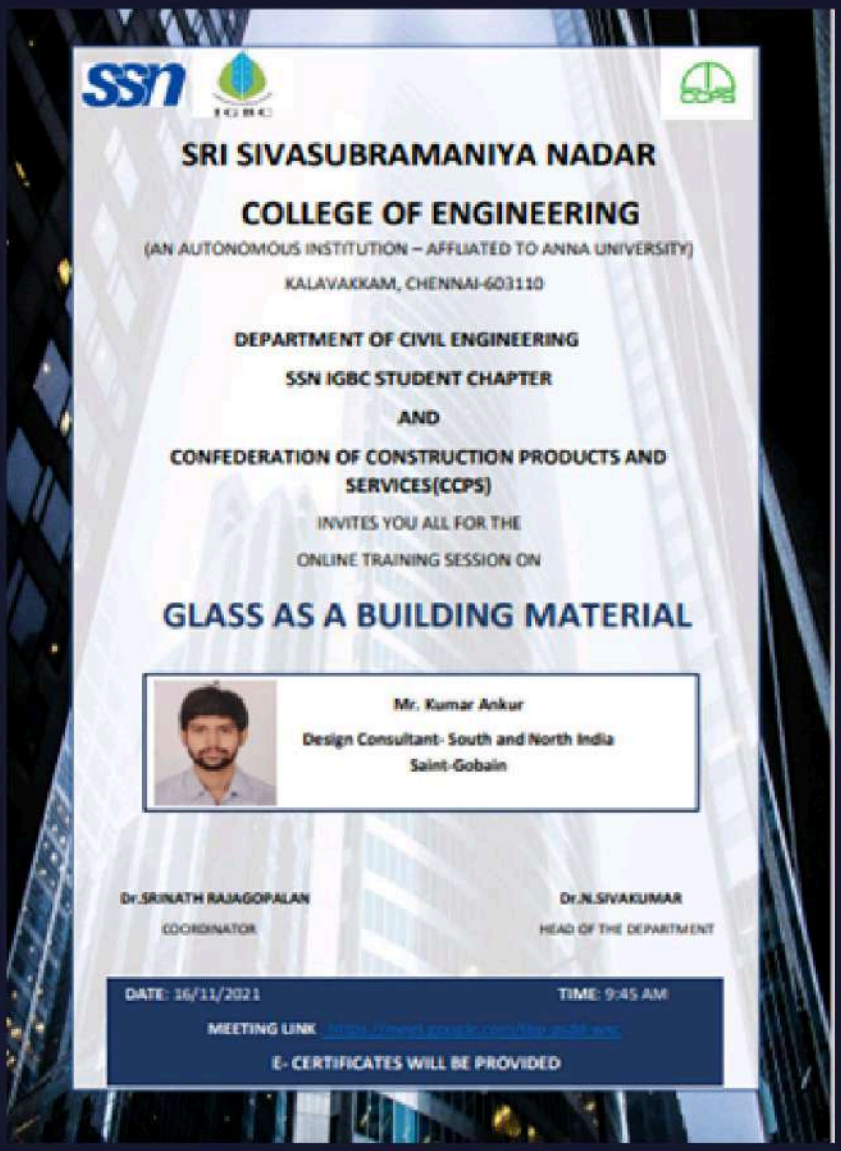
## Building Design and Codes:

Architectural features that are detrimental to earthquake response of buildings should be avoided. If not, they must be minimized. When irregular features are included in buildings, a considerably higher level of engineering effort is required in the structural design and yet the building may not be as good as one with simple architectural features.
Decisions made at the planning stage, on building configuration are more important or are known to have made greater difference than accurate determination of code specified design forces.

# ACTIVITY ROUND UP

## IGBC Student Chapter

1.




Title: Glass as a building material
Date & time: 16-11-2021, 09.45 am.
Speaker: Mr. Kumar Ankur, Design Consultant- South and North India Saint-Gobain

## 2.

Title: NEW BUILDING MATERIALS AND TECHNOLOGIES SILICONE, SEALANTS AND ADHESIVE
Date & time: 23-11-2021, 09.45 am.
Speaker: Mr. Ravishankar Subramanian Manager – Technical service & Development Dow Chemicals


## 3.

Title: ENTREPRENEURSHIP AND INNOVATION AS CAREER OPPORTUNITY
Date & time: 10-01-2022, 05.00 pm.
Speaker: Er S G Ashok Kumar, PMP, IGBC-AP, Founder & CEO – CMTI

4.

Title: ANGEL INVESTMENT/ VC FUNDING OPPORTUNITY FOR EARLY STAGE ENTREPRENEURS
Date & time: 27-05-2022, 05.30 pm.
Speaker: Sachin Amarnath Certified Metaverse Expert CEO, Skillbind Education Founder, Ascend School of Construction Business


5.

Title: IMPORTANCE OF INTERNSHIPS
Date & time: 30-05-2022, 10.00 am.
Speaker: Er S G Ashok Kumar, PMP, IGBC-AP, Founder & CEO – CMTI

# ICI Student Chapter

1) **Treasure Hunt:** SSN – ICI Student Chapter organised the first offline event: "Treasure Hunt" on 8th December 2021. The event revolved around the students chasing the clues for a civil related object and finally finding it using those clues. The participants found the session to be interesting and fun and included over 20 team participants. The winners were awarded with cash prize.

Winners: DOFENSHMITZ – 2nd year

Winners 2: Final Year team – 4th year

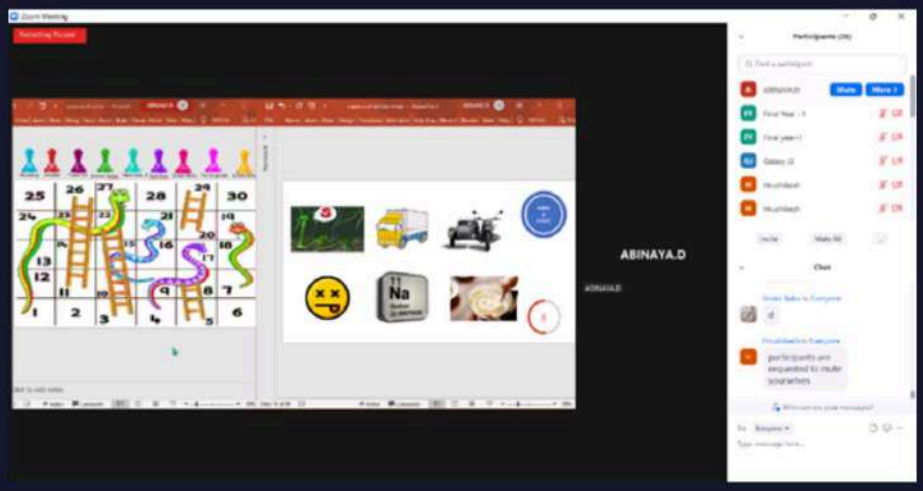
Runners: Razorbacks – 3rd year


2) **Site Visit:** The Student Chapter organised for a Site Visit on 16th and 27th December 2021. The venue was a green building renovation site in Ripon Building and Sri Sivasubramaniya Nadar College of engineering on the respective days. The various construction methodologies and showed the reinforcement arrangements in various structural components was explained clearly to the 2nd year students.

**3) Snake and Ladder:** SSN – ICI Student Chapter organised "Snake and Ladder" on 21st January 2022. The event started with a small introduction about the game and its rules and regulations were clearly informed. The students were posed with a serious of technical questions in order to proceed further with the game. The participants found the session to be interesting and fun and included over 20 team participated. The winners were awarded with cash prize.

Winners: The Originals – 3rd year

Runners: Snake Babu – 3rd year




4) **Innovation and You Contest:** A creative abstract submission contest was held by SSN – ICI Student Chapter from 18.01.2022 to 30.01.2022 for external colleges. The participants were given the topics of Alternative Construction Materials and Innovative Green Building concepts of which one topic was chosen and an abstract regarding the same was submitted. Total teams participated were 15. The winners were awarded cash prize.

Winners: Harini T , Sneha B, Swathy S – 3rd year, College of Engineering, Guindy.

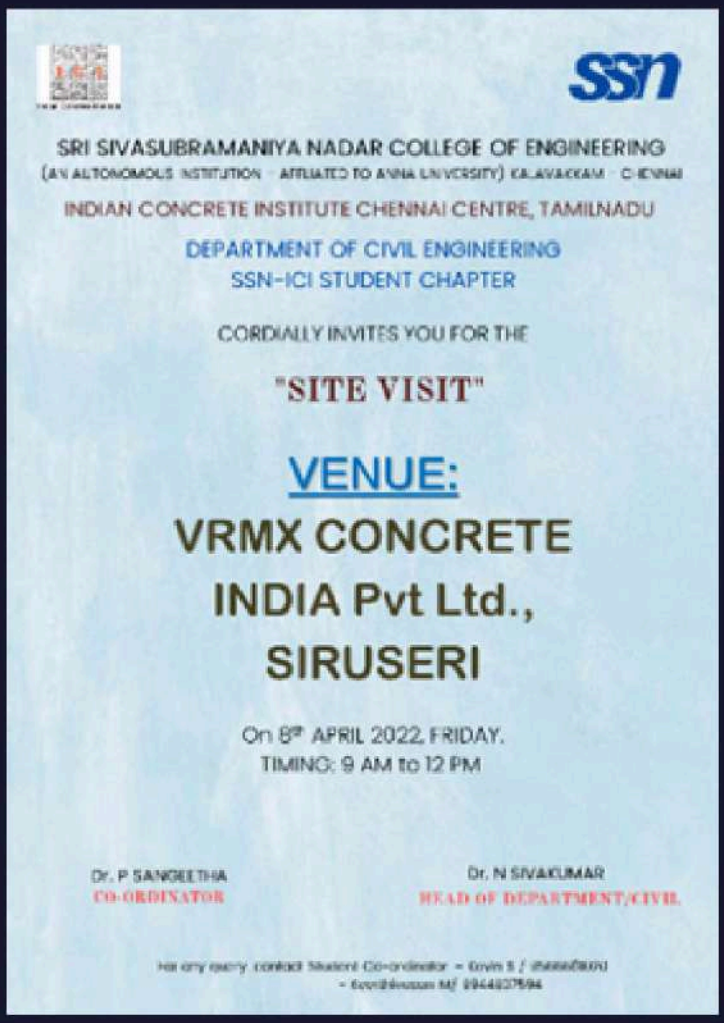
Runners: B.Pon jeyalakshmi– 3rd year, Mangarkarasi College of Engineering


4) Seminar: SSN – ICI Student Chapter organised an “seminar on transport systems”, 5th March 2022.

The expert speaker for the first session was Dr. Ashish Verma, Professor, Transportation Systems Engg. (TSE), Convenor, IISc Sustainable Transportation Lab. (IST Lab.), Dept. of Civil Engg., Indian Institute of Science (IISc). The first session was about: "Sustainable Transport and Quality of Life (QoL) - A Systems Approach". The speaker explained us on how the transportation systems affect our quality of life. Later he briefed on various transportation design aspects. He also gave a detailed view on Climatran.

The expert speaker for the second session was Dr. P Vedagiri, Professor, Department of Civil Engineering, Indian Institute of Technology, Bombay. The second session was on “Road Safety Issues and Challenges”. The session started with the speaker explaining us the objectives of road transport infrastructure. He briefed on the various causes for the road accidents. He also briefed on the various tools that are used to analyse the road usage in an area. Later he explained on the various solutions pertaining to road safety. The participants found both the sessions to be highly informative and interesting. The session was interactive and the benefitted included over 25 participants.

5) **Site Visit:** The student chapter also organised a site visit to we are mix concrete plant on 8th April 2022 to VRMX Concrete Plant, Siruseri. The students were given a detailed knowledge on how ready-mix concrete is made and dispatch to the site on a daily basis. The benefit students were from 2nd year.




6) **Webinar:** SSN – ICI Student Chapter organised a Webinar on Mix Design of Self – Compacting Concrete on 26th April 2022. The expert speaker was Dr. Leon Raj, Scientist, CSIR, North East Institute of Science and Technology. the speaker gave a brief idea on what self – compacting is and what are all the constituents of it. He explained how self – compacting concrete is tested on field, explained the concepts of slump test. He also gave a comparative example of mix design of conventional concrete and self – compacting concrete. The session was interesting and informative.

SRI SIVASUBRAMANIYA NADAR COLLEGE OF ENGINEERING
(AN AUTONOMOUS INSTITUTION - AFFILIATED TO ANNA UNIVERSITY) KALAVAKKAM - CHENNAI
INDIAN CONCRETE INSTITUTE CHENNAI CENTRE, TAMILNADU
DEPARTMENT OF CIVIL ENGINEERING
SSN-ICI STUDENT CHAPTER

CORDIALLY INVITES YOU FOR THE

CHIT CHAT SESSION FOR RURAL STUDENTS

14th MAY 2022 SATURDAY, 2.00 PM - 2.30 PM

PRESENTER

SHOBANA P
Hardware Discipline Engineer - Civil,
The Dow Chemicals Company.

MEETING LINK:
http://meet.google.com/wnd-dbya-kzq

E - Certificates will be issued to all the attendees

Dr. P SANGEETHA
CO-ORDINATOR

Dr. N SIVAKUMAR
HEAD OF DEPARTMENT/CIVIL

For any query, contact Student Co-ordinator - Sathya Shree T R / 9361314379
- Hrushikesh Ba J / 7358726396

7) **Chit Chat Session for Rural Students:** A chit chat session for rural students was organised on 14th May 2022. The speaker was Shobana P, student, department of civil engineering, explained the various weather ologies that she adopted during her placement sessions. The students found it as an opening session.

Further the student chapter has also applied for the Best Student Chapter Award during the academic year 2021 – 22.

# ICE(UK) Student Chapter

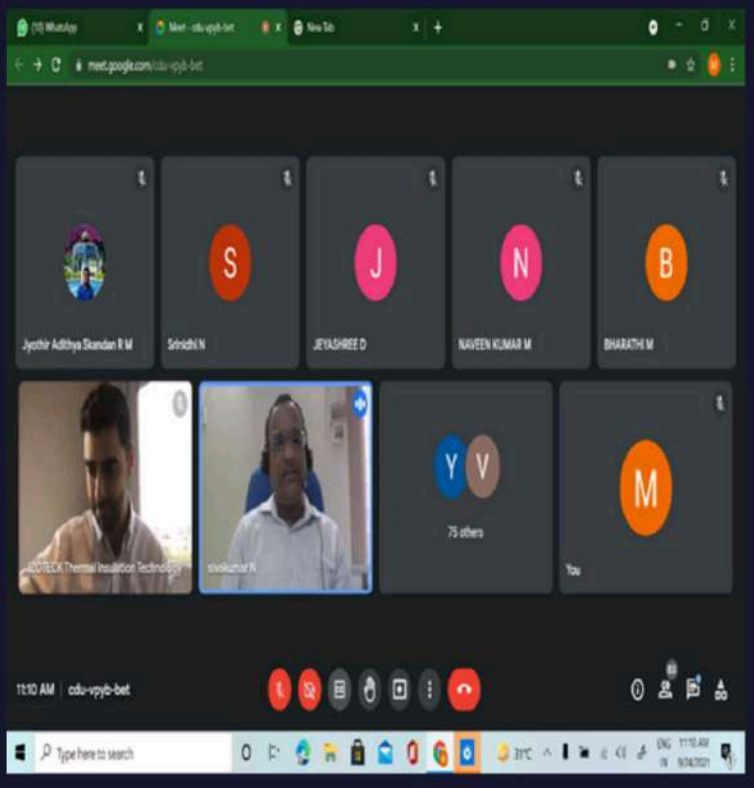
**1) Nanotechnology and the Future of Thermal Insulation**

The following points were discussed:

- What is Nanotechnology, Types of insulation required for a building- water, sound, fire, corrosion and thermal.
- Introduction to IZOTECK Liquid Ceramic Nano Thermal Insulation
- A comparison between ISOLLAT Nano Thermal Insulation Coating and traditional insulation
- Unique properties of ISOLLAT over conventional insulation materials.

**Meeting Details**

- Meeting Platform: Microsoft Teams
- Date and Time: 28th September 2021; 11.00am - 12.00pm.
- Attendees: 100+ (Students, Staff and Faculty Members


**2) Career Prospects in Civil Engineering**

Importance of civil engineering Past, Present and Future demand of civil engineers.

- Subjects in civil engineering
- Types of Projects in civil engineering- Infrastructure and Building Projects
- Jobs after completing civil engineering
- Introduction about Turner and Townsend firm – their vision and services.
- Sectors Turner and Townsend working with – Corporate occupier, Investor and Developer, Data centre, Industry and Manufacturing, Retail, Education, Hospitality and leisure.
- Meeting Details

Meeting Platform: Microsoft Teams Date and Time:28th January 2022; 06.00pm - 07.00pm. Attendees: 50+ (Students, Staff and Faculty Members)

**3) The Institution of Civil Engineers and a Globally Recognized Professional Qualification**

The following points were discussed in the meeting:

- Introduction on ICE and its membership.
- ICE member grades.
- Benefits of a professional qualification.
- Academic requirements and assessments for professional qualification.
- Attributes of professional engineers.
- Training agreement, ICE approved training scheme and Continuing Professional Development.

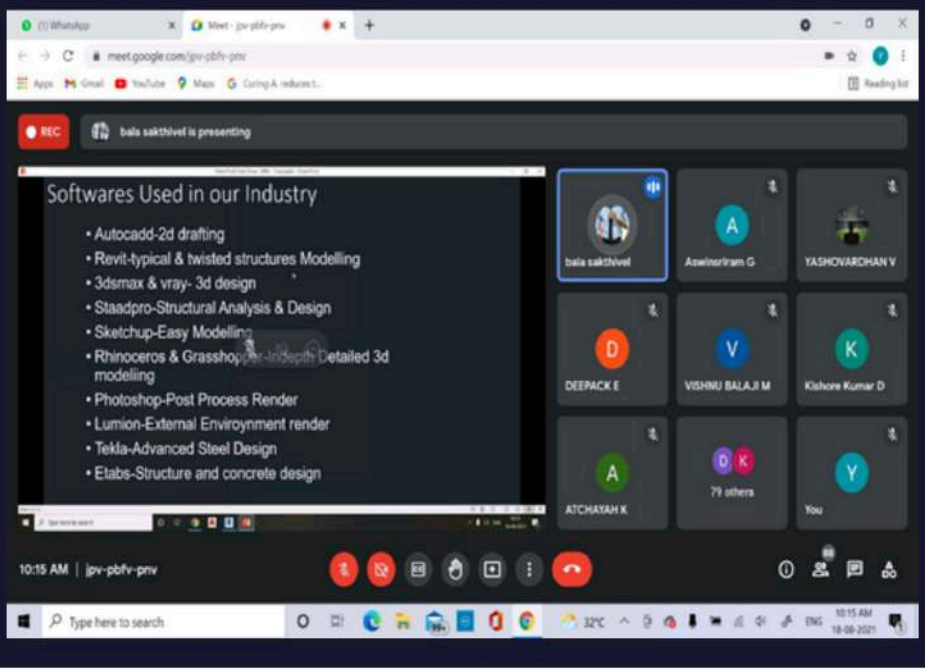
**Meeting Details**

- Meeting Platform: Microsoft Teams
- Date and Time:28th January 2022; 06.00pm - 07.00pm.
Attendees: 50+ (Students, Staff and Faculty Members)


# IEI Student Chapter

## 1) WEBINAR ON INTRODUCTION TO MS PROJECT

**DATE :** 18th August 2021
**SPEAKER DETAILS:** Mr. Bala Sakthivel, BIM Modeler, Trainer from Wall flower designs and Engineers .
**BANNER:** SSN IEI Students chapter
**TIME**:10.00 A.M – 12.00 P.M



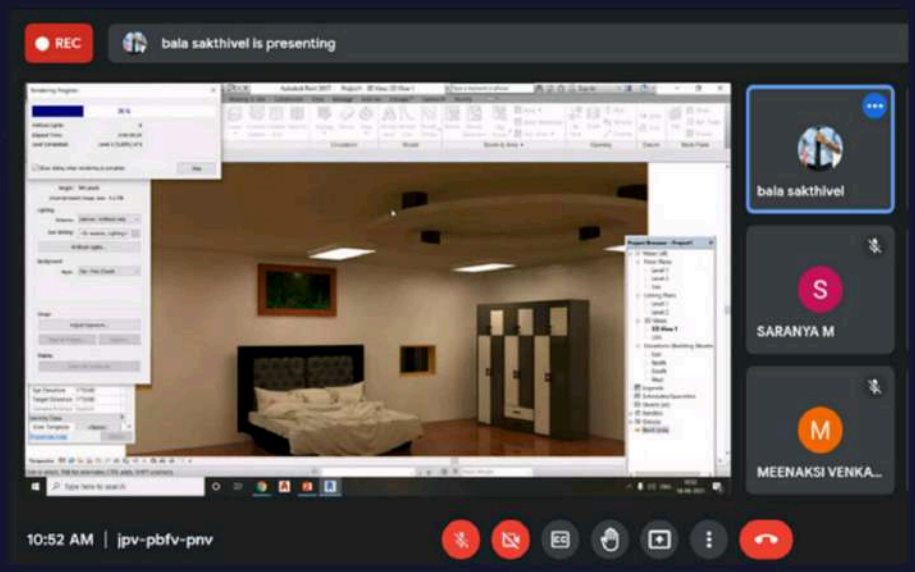
# REPORT FOR WEBINAR ON 'INTRODUCTION TO MS PROJECT

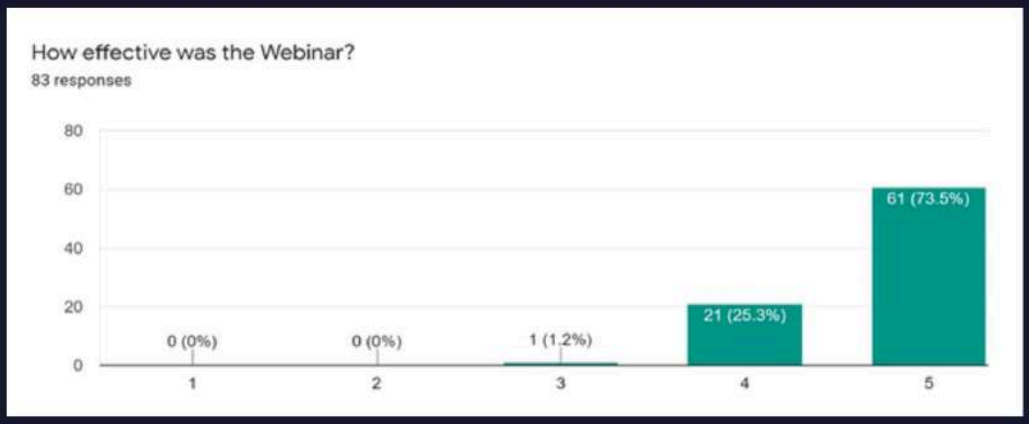
- On the 18rd August 2021, the Department of Civil Engineering, SSN College of Engineering organized a webinar on 'INTRODUCTION TO MS PROJECT'. The speaker was Mr. Bala Sakthivel, BIM Modeler, Trainer from Wall flower designs and Engineers .
- The session started with the speaker briefing on the importance of software in civil engineering and why we should learn them. The speaker later gave us an insight on different software's used in the construction Industry, and gave brief information on STAAD PRO, TEKLA software , and where they are used. The speaker further spoke on the freelancing opportunities Students can acquire by learning design software. He further explained to us on the importance of learning to design approval drawings and how it opens up freelancing and employment opportunities for students.
- Later a practical session on Revit software was conducted , where the speaker demonstrated on how to work with Revit software. He further explained and demonstrated on how elevation, 3D view , interiors , rendering are done in Revit software .He also advised the students on how to deal with the challenges faced by civil engineers post graduation and how to prepare oneself for it.
- The Next session commenced with the speaker briefing on MS project software, where it is used. He further Explained to us on how it assists project managers , the advantages of using MS Project software and features of the software. The speaker then spoke about the three phases of project life cycle. This was followed by a practical session on how to work with MS Project software. The speaker explained to us about different features of the software and how to use them , and their functionality .The speaker demonstrated to us on how to add tasks with dates and
create timeline for a project using MS Project software

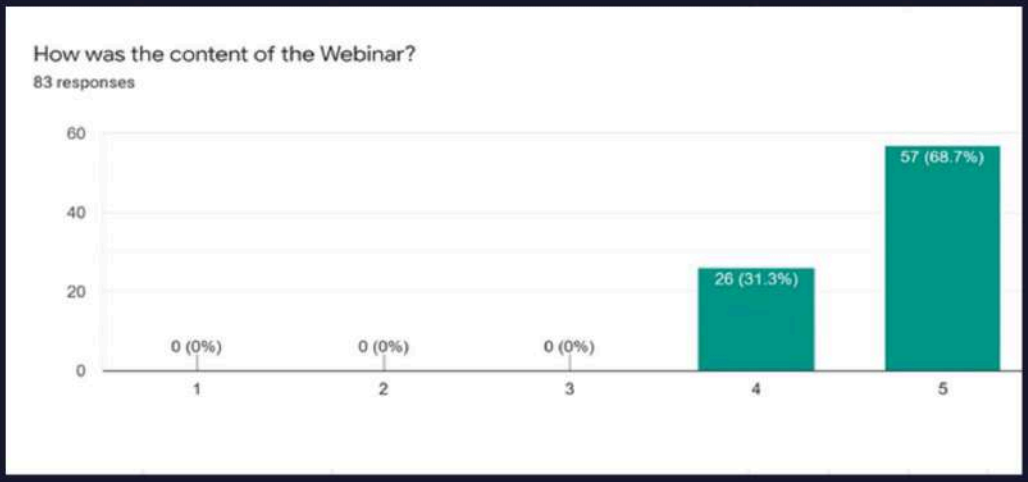
- The participants comprised of students and academicians. The participants were able to get an Insight on different software used by civil engineers .The participants also practically got to see and learn the Basics on how to use Revit and MS project software. On the whole the session proved to be very informative and the audience were able to gain knowledge on Revit and MS Project software and the employment opportunities they gain by learning them .

Total Participants benefitted: 10

Prepared by: Yuvalatha P
4th Year ,Civil department




## 2) **WEBINAR ON PRACTICAL TIPS FOR SAFETY IN CONSTRUCTION SITE**

**DATE :** 25th August 2021
**SPEAKER DETAILS:** Mr. BALASURENDRAN SIVASUBRAMANIYAM, Project director at Shoba construction and engineering , Dubai.
**BANNER:** SSN IEI Students chapter
**TIME:**12.00 P.M – 1.00 P.M

# REPORT ON WEBINAR ON PRACTICAL TIPS FOR SAFETY IN CONSTRUCTION SITE

On 25th August 2021, The department of civil engineering ,SSN College of engineering, organized a Webinar on Practical tips for safety in construction site

The speaker was BALASURENDRAN SIVASUBRAMANIYAM, Project director at Shoba construction and engineering , Dubai.

- The Webinar started with a brief introduction of the speaker followed by a welcome speech. The speaker started the webinar by explaining the Major safety procedures followed in a construction site. The speaker later emphasized on the importance of preplanning and safety measures to be followed while working at larger heights and the severity of damage , hazards that would take place if safety measures are not followed.
- The speaker later discussed and explained about risk assessment, RTB, Task force, Simulation Operators and Training programs which the workers and staff working at site must undergo and be aware of. The speaker then continued explaining the different cautions to be followed while working at larger heights and Danger faced by the workers in that condition.
- The hierarchy control like elimination, protection, coordination and Duration of work were detailed and explained by the speaker .The speaker further briefed the attendees on the mechanism of scaffold , toolbox tasks, Provisional training , safe scaffolding methods.
- The speaker later highlighted on importance of ensuring use of safe equipment and how to check for its safety on site. Towards the end the speaker gave an explanation on Fall protection system like guardrail system, lifeline system, Personal fall arrest system , last line of Defense , Snap hooks and Anchorage points. This was followed by question and answer session where the students clarified their queries.

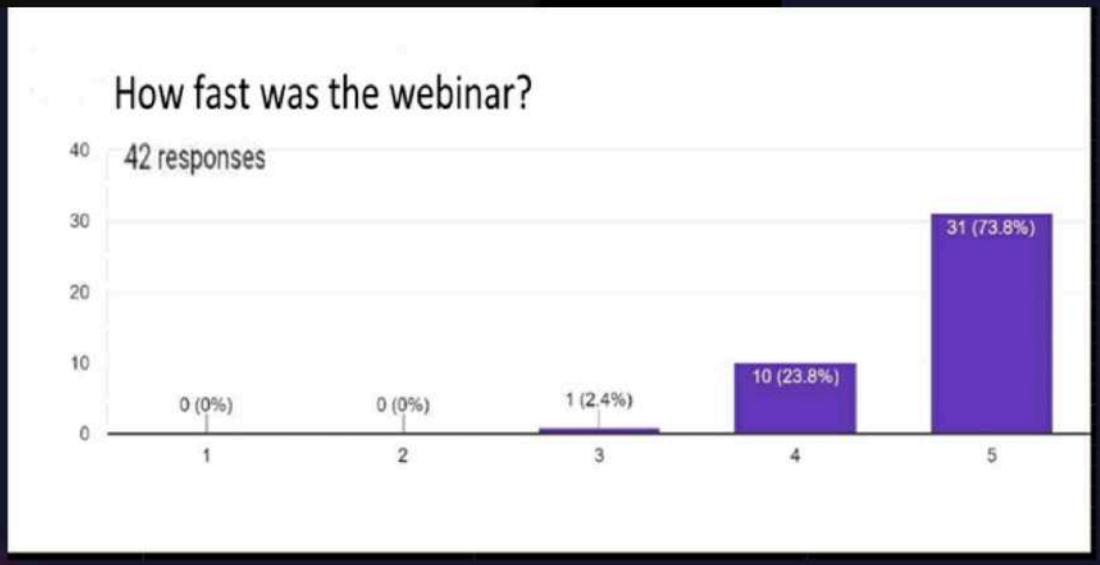
The participants comprised of students and academicians. The participants were able to get a glimpse on different methods to be followed to be safe while working at construction site .On the whole the Webinar proved to be very informative and the participants were able to gain knowledge on Practical tips for safety in construction site. The Webinar ended with a vote of thanks from the event Organizer.

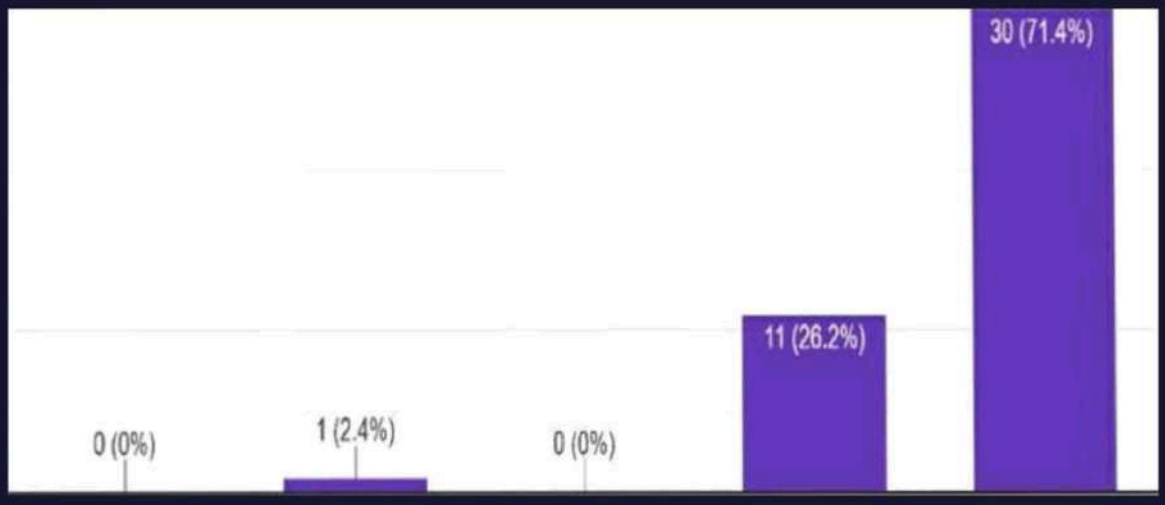
No of participants: 48

Prepared by:
R SAGAYA ANGELIN SHALINI
3rd year civil department


Working at Height – Safe use of Ladders
Use staircases and other safe ladder as access and monkey ladder only to be used incase of emergency or no other alternative access are available.
Always ensure 3 point contact when climbing ladder
Climb the Ladder One Person at a time
Don't over reach or twisting during use of ladder
Ensure that ladder free from paint, grease or oil
Ensure that your work tools are secured from falling and do not carry any materials while climbing ladder.


Fall Protection
Guardrail Protection
Personnel Fall Arrest System


How fast was the webinar?
42 responses
40
30
20
10
0
0 (0%)
0 (0%)
1 (2.4%)
10 (23.8%)
31 (73.8%)
1
2
3
4
5




## 3) WEBINAR ON INDUSTRIAL EXPECTATIONS AND FACING INTERVIEWS

**DATE :** 24th August 2021
**SPEAKER DETAILS:** Mr. Nagarajakumar Krishnaswamy ,Principal of Manufacturing Innovation Innomantra consulting and a speaker at CII..
**BANNER:** SSN IEI Students chapter
**TIME:**6.00 P.M – 7.30 P.M

## REPORT ON WEBINAR ON INDUSTRIAL EXPECTATIONS AND FACING INTERVIEWS

On 24th August 2021 , the department of civil engineering ,SSN College of engineering organized a Webinar on Industrial expectations and Facing interviews.

The speaker was Nagarajakumar Krishnaswamy, Principal of Manufacturing Innovation Innomantra consulting and a speaker at CII.

The Speaker started the webinar by interacting with the attendees, so as to make the webinar interactive. The speaker used several anecdotes and metaphors to make the participants understand the experience of student attending the interview.

- Firstly, The speaker explained - various qualities a student attending an interview must develop, they include right Attitude, persuasive skills, endurance, staying motivated, determined, energetic, and Creative. After each topic of discussion, the speaker had arranged for some quizzes which helped students test their knowledge and made the session interactive.

• He then gave us an insight about the different traits which the students must possess. The speaker later explained on importance of having knowledge in wide areas including but not limited to business, Technical skills, English fluency, and software knowledge. He also explained about what a company expects from a candidate some of which include developing organizational culture, being a team player, and time management.

• The speaker later detailed to us on the functional and behavioral knowledge students must learn and equip oneself with. Following this a case study was discussed through which students got to know about the mistakes one should avoid while doing internships.

• The session concluded with speaker explaining the Do's and Don't's while attending an interview with the help of a video clipping .This was followed by a question and answer session where the students got to clarify all their queries.

The participants comprised of students and academicians. The participants were able to get a glimpse on how to prepare themselves for an interview. On the whole the session proved to be very informative and the participants were able to gain knowledge on Industrial expectations and Facing interviews. The Webinar ended with a Energetic Pledge stating they would follow all the practices mentioned in the webinar and develop themselves ,which was taken by all the participants.

No of participants: 46

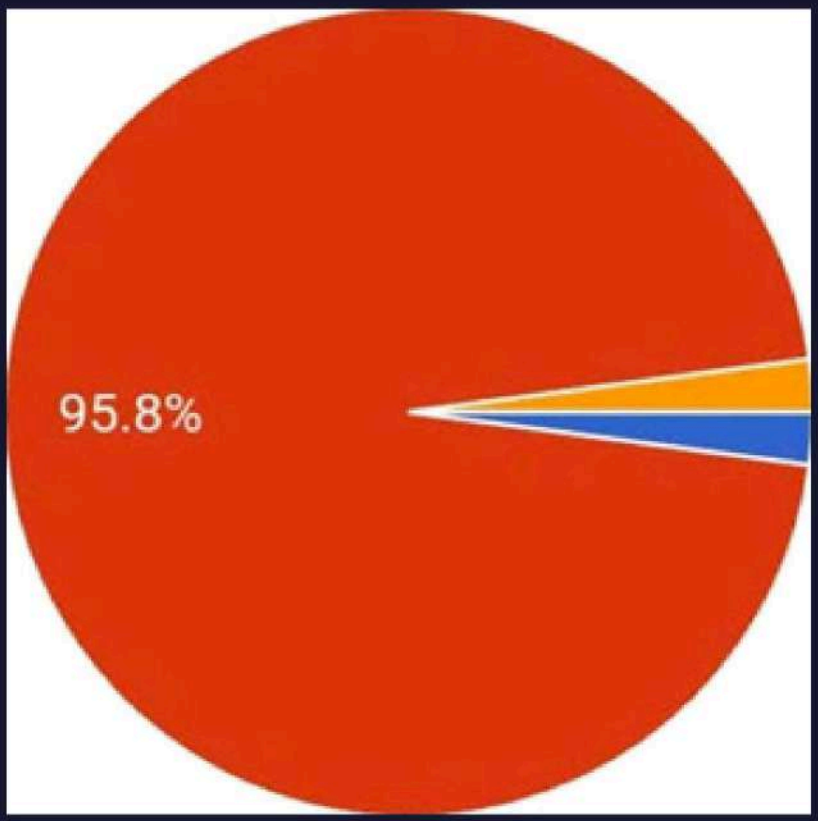
Prepared by:

R SAGAYA ANGELIN

SHALINI

## How was the content of the webinar ?

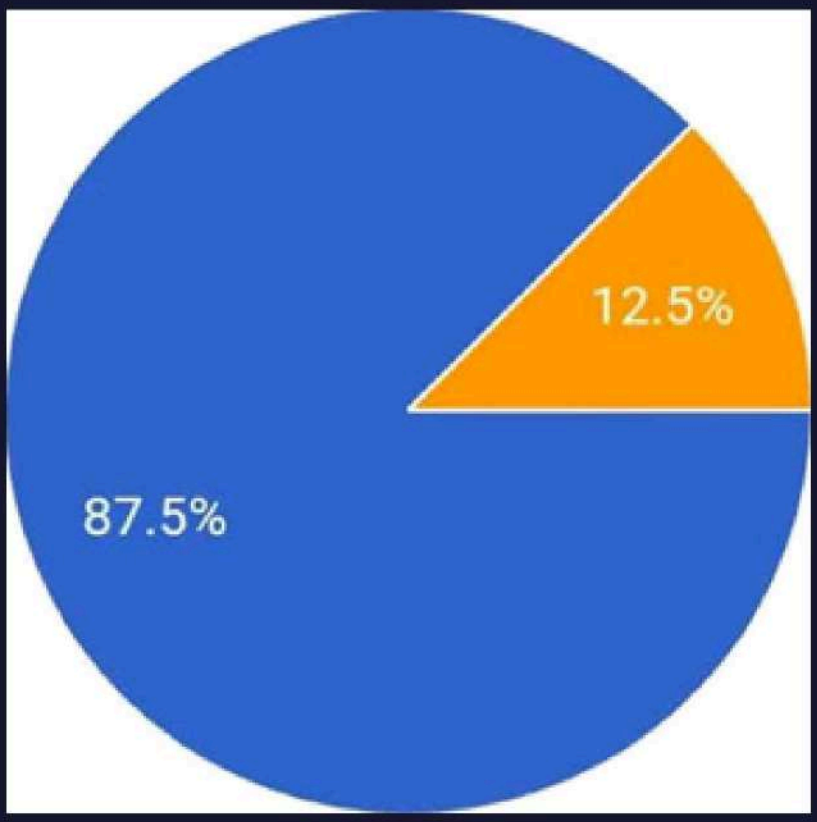
48 responses


## Has this program brought any change or added any value to your understanding of the webinar topic ?

48 responses

@ Yes
@ No




## 4) IEI KNOWLEDGE SHARING SESSIONS ON 'SAFETY PRACTICES AND AUDIT IN CONSTRUCTION '

**DATE :** 20.9.2021 TO 26.9.2021
**SPEAKER DETAILS:** final year students from Civil department from SSN college of engineering .
**BANNER:** SSN IEI Students chapter
**TIME:**6.00 P.M – 7.00 P.M

## REPORT FOR WEBINARS ON IEI KNOWLEDGE SHARING SESSIONS ON 'SAFETY PRACTICES AND AUDIT IN CONSTRUCTION :

The Department of Civil Engineering, SSN College of Engineering organized a webinar series on 'safety practices and audit in construction industry' . The webinar series started on 20.9.2021 and continued till 25.9 .2021.The webinar sessions were taken by the final year students from Civil department from SSN college of engineering .

The first episode of the webinar series was taken on the topic General safety practices in multi storeyed residential construction '.The speakers of the webinar were Vidya K Sandhya S, Dhinesh kumar S,Charanya S ,final year students of SSN college of engineering. The session started with speakers explaining on the importance of training engineers,supervisors , labourers on practicing safety rules in construction site,Following which we were briefed on the common construction site accidents which take place. The speakers later gave us an insight on the general safety to be considered while working at height and the causes of accidents that take place Due to working at height. Later we were advised on the safety tips to be followed while roofing, scaffolding, excavation, crane safety. the speakers concluded the webinar by explaining the hazards that take place due to electrical equipment and the safety measures to be followed whilst handling them.

The second episode of the webinar series was taken on 21.9.2021 on the topic'Necessary safety practices in construction of Industrial projects'.The speakers of the webinar were Jyothir Aditya ,Vikram P G, Grande vishnu pratap,Vaagesan,Kishore kumar final year students of SSN college of engineering. The session started with the speakers briefing on the scenario of the construction safety in Indian industries. Later the speakers explained the detail about the different safety accessory's and personal protective equipments to be used while working in construction site. the session concluded with the speakers discussing on 4 case studies which described the the accidents That took place in various scenarios and the lessons learned to prevent such an accident.

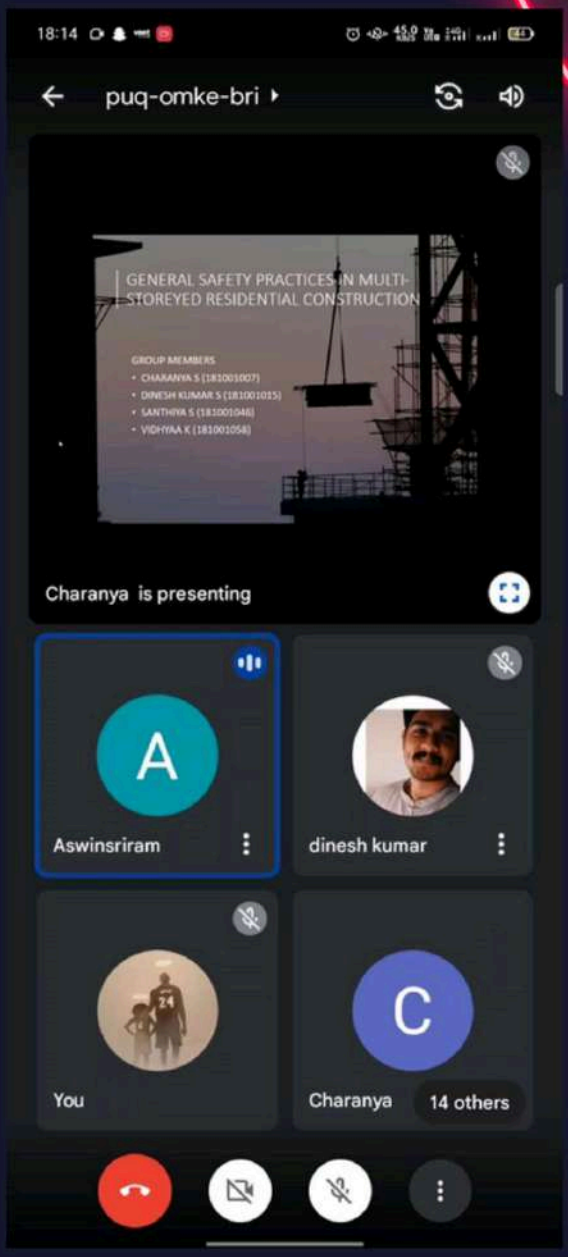
The third episode of the webinar series was taken on 22. 9. 2021 on the topic' Safety of labourers how and why we educate them. the speakers of the webinar were Rakshita S,Samundeeswari Senthamil selvi,Sowmya shri,SonaM.A.The third session started with the speakers consequences of construction hazards, And the basic rules of safety to be followed by the workers. Later we were given an insight on emergency response to be done when an accident takes place. Following which the speakers briefed us on the 10 simple safety rules and workplace Fire Protection measures to be taken.The session concluded with the detailed explanation on occupational safety and Health Administration (OSHA).a briefing on what is industrial flooring and need for flooring and coating .

The 4th episode of the webinar series took place on 23.9.2021 on the topic'Safety Audit check list and report preparation.The speakers of the webinar were Siddharth ,Nijanthan S,Naveen kumar,Roshna,final year students of civil department.The session started with the speakers explaining on why safety audit is important, who conducts the safety audit?, the duties of safety officer. we were also explained on how audit is conducted and aspects covered in auditing system, Life cycle of audit finding. At the end we got an insight on the different attributes an auditor must cultivate.

The 5th episode of the webinar series took place on 24.9.2021 on the topic 'Expenditures incurred to maintain safety in construction site'.The speakers of the webinar were Sanjay rajan,Prabakaran,Yogeswaran,Prabhakaran. The session started the speakers explaining on the financial costs that occur because of construction accidents,direct costs and indirect costs.The speakers gave us an in depth knowledge on Safety investment and how to optimally invest in it.The session concluded with a detailed explanation of case study on occupational safety and health hazards in South Korea which explained the role of cost budgeting for safety and health,safety expense law,accident risk index.

The final episode of the webinar series took place on the 25.9.2021 on the topic' Principal in the odal provisions IS 14489 '.The speakers of the session were Gopika,Chidambara selvi from 4th year civil department.In this session the speakers gave us an in depth on knowledge on the code IS 14489 which explained the audit goals,objectives and the roles and responsibilities of an auditor.The speakers further explained on 7 actions to be implemented for Audit report.The session conducted with the explanation on elements of occupational health and safety systems.

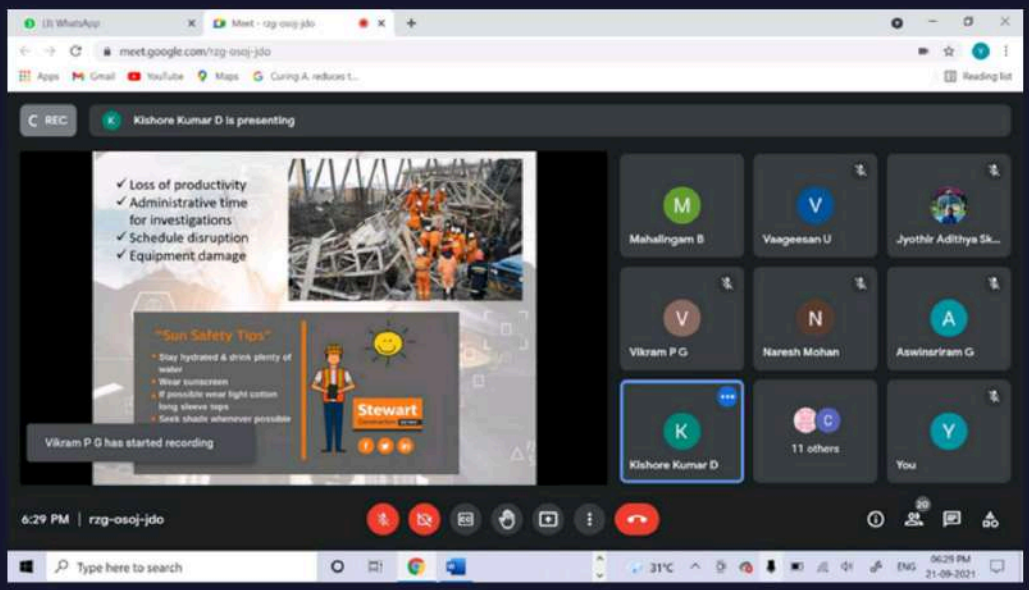
t)

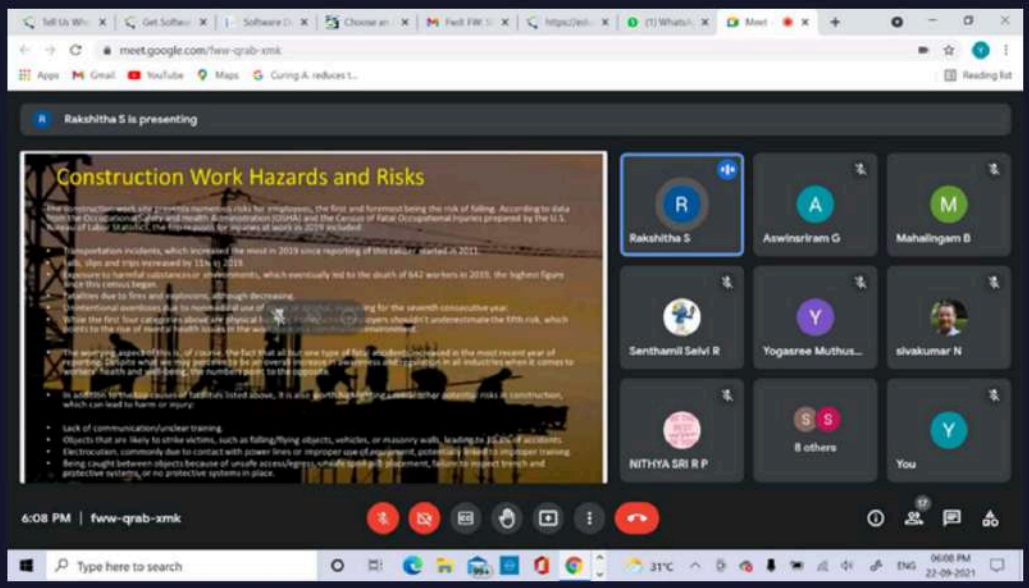


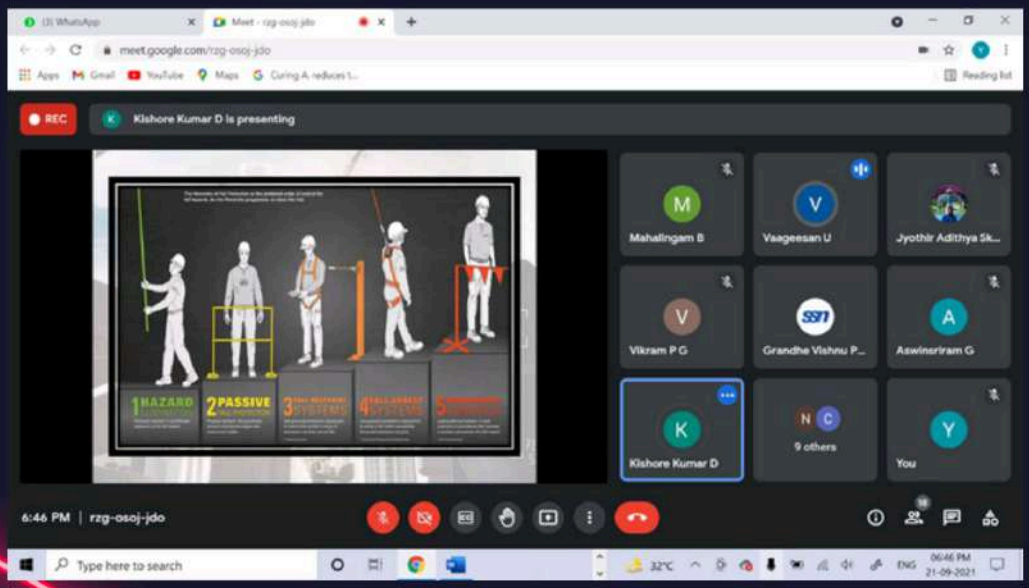

Each session ended with the Q&A and feedback session from the faculties.The participants comprised of students, academicians . The participants were able to get an insight on Safety Audit and practices to be followed in construction site and why it important . On the whole the session proved to be very informative and the audience were to gain knowledge on practical safety practices to be followed in construction site.

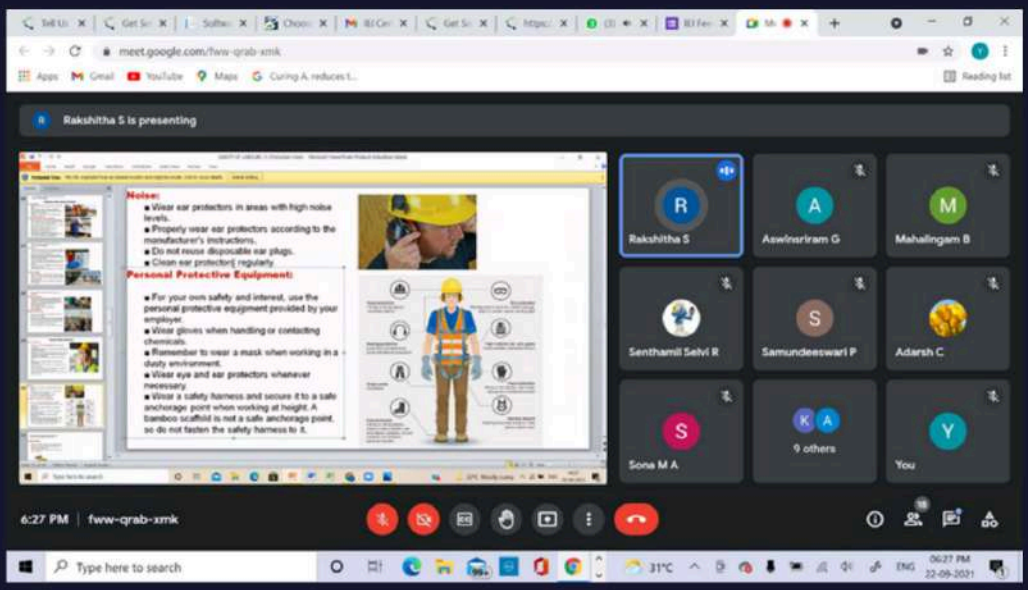
REPORT PREPARED BY

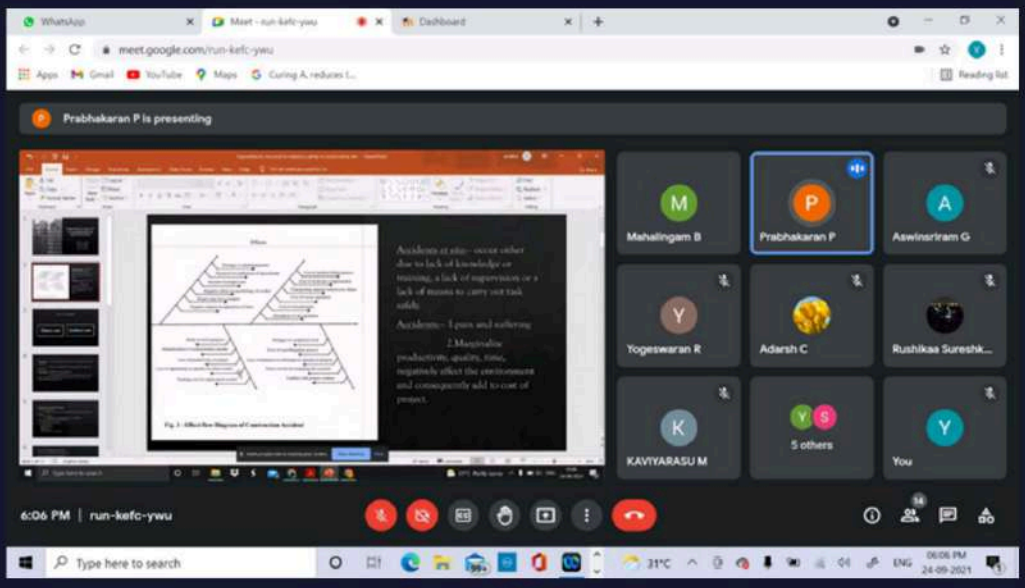
YUVALATHA P ( 4th year Civil departmen

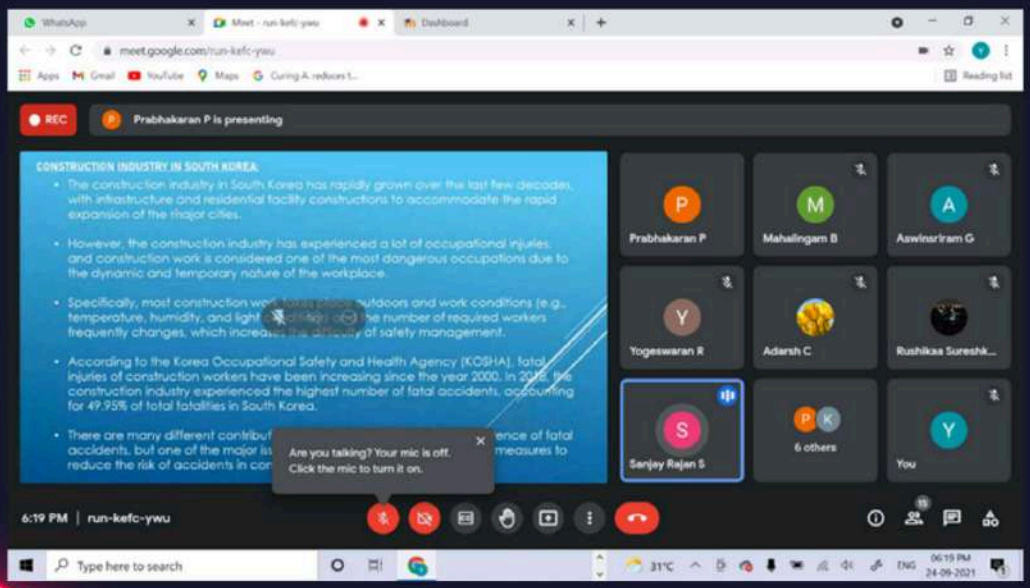

meet.google.com/rzg-osoj-jdo
REC
Kishore Kumar D is presenting
✓ Loss of productivity
✓ Administrative time for investigations
✓ Schedule disruption
✓ Equipment damage
"Sun Safety Tips"
Stewart
Vikram P G has started recording
Mahalingam B
Vaageesan U
Jyothir Adithya Sk...
Vikram P G
Naresh Mohan
Aswinsriram G
Kishore Kumar D
11 others
You
6:29 PM | rzg-osoj-jdo
Type here to search

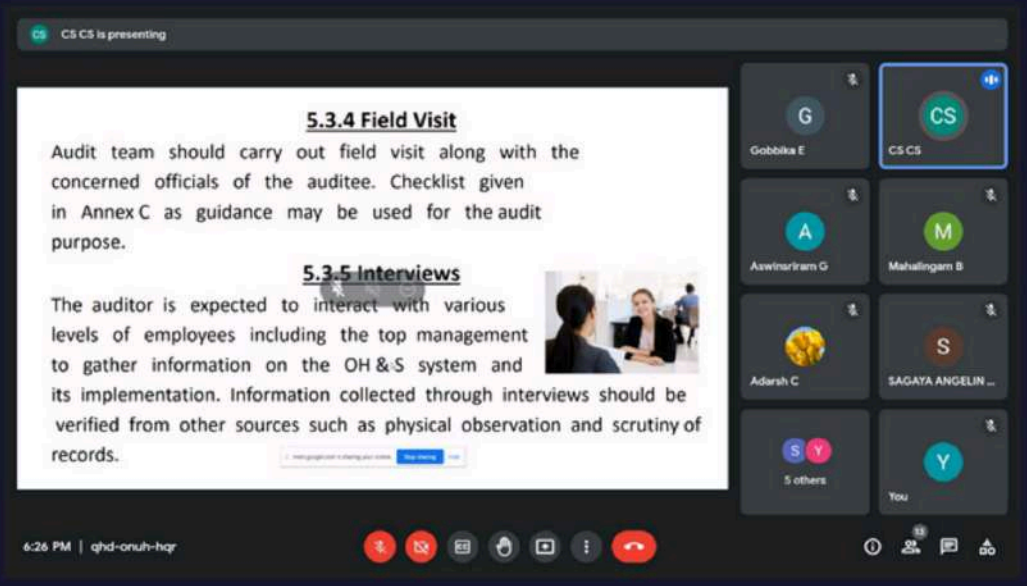

meet.google.com/fww-qrab-xmk
Rakshitha S is presenting
Construction Work Hazards and Risks
Rakshitha S
Aswinsriram G
Mahalingam B
Senthamil Selvi R
Yogasree Muthus...
sivakumar N
NITHYA SRI R P
8 others
You
6:08 PM | fww-qrab-xmk
Type here to search

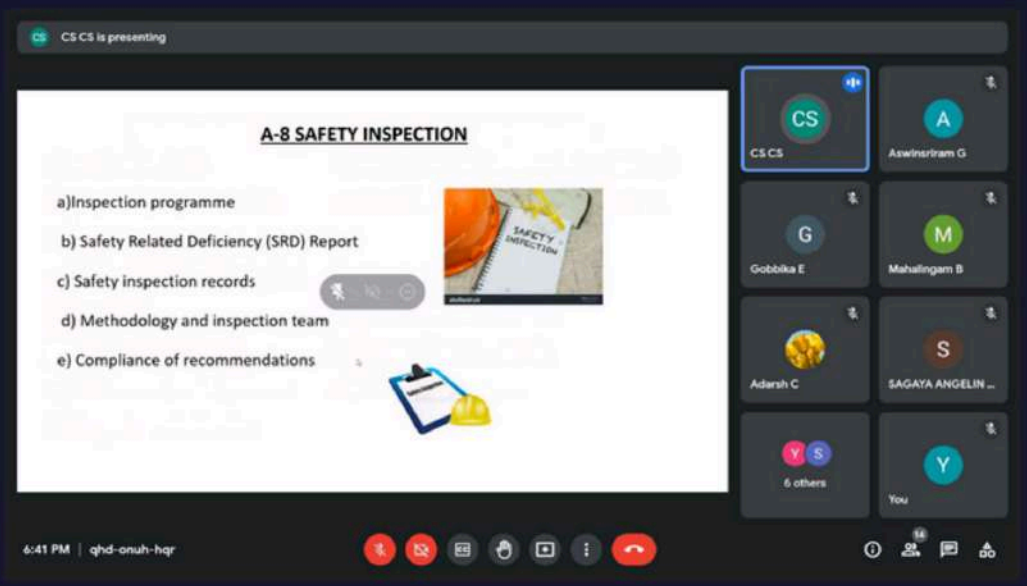

meet.google.com/rzg-osoj-jdo
REC
Kishore Kumar D is presenting
1 HAZARD
2 PASSIVE
Mahalingam B
Vaageesan U
Jyothir Adithya Sk...
Vikram P G
Grandhe Vishnu P...
Aswinsriram G
Kishore Kumar D
9 others
You
6:46 PM | rzg-osoj-jdo
Type here to search


Rakshitha S is presenting
Noise:
Wear ear protectors in areas with high noise levels.
Properly wear ear protectors according to the manufacturer's instructions.
Do not reuse disposable ear plugs.
Clean ear protector( regularly.
Personal Protective Equipment:
For your own safety and interest, use the personal protective equipment provided by your employer.
Wear gloves when handling or contacting chemicals.
Remember to wear a mask when working in a dusty environment.
Wear eye and ear protectors whenever necessary.
Wear a safety harness and secure it to a safe anchorage point when working at height. A bamboo scaffold is not a safe anchorage point, so do not fasten the safety harness to it.
Rakshitha S
Aswinsriram G
Mahalingam B
Senthamil Selvi R
Samundeeswari P
Adarsh C
Sona M A
9 others
You
6:27 PM | fww-qrab-xmk
Type here to search


Prabhakaran P is presenting
Mahalingam B
Prabhakaran P
Aswinsriram G
Yogeswaran R
Adarsh C
Rushikaa Sureshk...
KAVIYARASU M
5 others
You
6:06 PM | run-kefc-ywu
Type here to search


REC
Prabhakaran P is presenting
CONSTRUCTION INDUSTRY IN SOUTH KOREA
The construction industry in South Korea has rapidly grown over the last few decades, with infrastructure and residential facility constructions to accommodate the rapid expansion of the major cities.
However, the construction industry has experienced a lot of occupational injuries, and construction work is considered one of the most dangerous occupations due to the dynamic and temporary nature of the workplace.
Specifically, most construction wo outdoors and work conditions (e.g., temperature, humidity, and light he number of required workers frequently changes, which increas of safety management.
According to the Korea Occupational Safety and Health Agency (KOSHA), fatal injuries of construction workers have been increasing since the year 2000. In 2018, the construction industry experienced the highest number of fatal accidents, accounting for 49.95% of total fatalities in South Korea.
There are many different contribut ence of fatal accidents, but one of the major is measures to reduce the risk of accidents in cor
Are you talking? Your mic is off.
Click the mic to turn it on.
Prabhakaran P
Mahalingam B
Aswinsriram G
Yogeswaran R
Adarsh C
Rushikaa Sureshk...
Sanjay Rajan S
6 others
You
6:19 PM | run-kefc-ywu
Type here to search




## 5) WEBINAR ON TOPIC "ENGINEERING INTERVENTION AND SOLUTIONS FOR STRUCTURAL ENGINEERING PROBLEMS "

**DATE :** 29.9.2021

**SPEAKER DETAILS:** was Dr.A.Kanchanadevi,Senior scientist,Fatigue and fracture laboratory,CSIR-Structural engineering research centre.

**TIME:**1.00 P.M – 3.00 P.M

# REPORT FOR WEBINAR ON TOPIC "ENGINEERING INTERVENTION AND SOLUTIONS FOR STRUCTURAL ENGINEERING PROBLEMS "

On 29th September 2021, the SSNCE IEI Students chapter in association with the Institution of engineers (India) ,SSN college of engineering on the occasion of 54th Engineers day organized a webinar on "Engineering intervention and solutions for structural engineering problems ".The speaker of the webinar was Dr.A.Kanchanadevi,Senior scientist,Fatigue and fracture laboratory,CSIR-Structural engineering research centre.

The session started with the speaker briefing on the importance of Research in structural engineering. She later gave a tour of the structural engineering research centre and the different equipments they use to carry out the research. The speaker later gave an insight on different form of bridge decks and explained on the development of composite girder with corrugated web,the development of it's concept and Its advantages. The speaker later explained in depth on innovative detailing for composite girders with steel corrugated web.

The speaker explained to us on the development of concrete composite slabs for fast track construction With the example of panipet flyover.The speaker later enlightened us by showing test set up and instrumentations used in the research centre and the loading protocols that are followed, results obtained for testing composite slab in the lab.The speaker later explained in detail about the development of retrofit strategy for earthquake damaged structures By comparing the performance of existing structure and how it can be improved by modifying the beam column joint, Which led to the evolution of steel bracket and Hybrid system.

The session ended with the speaker explaining on engineering solutions to structural problems which covered a wide range of topics including but not limited to investigations to evaluate the response of cross girder and formulation of remedial measures, rectification methodology for chimney shell concreting.The participants comprised of students and academicians. the participants were able to get an insight on The research taking place in structural engineering and its scope. On the whole the session proved to be very informative and developed an interest for research amongst the students.

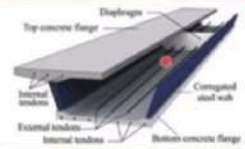
Number of participants:82

Report prepared by
Yuvalatha P, 4th year Civil dept

Zoom Meeting

Recording

## Composite girder with corrugated web




Aigawa Bridge, Japan

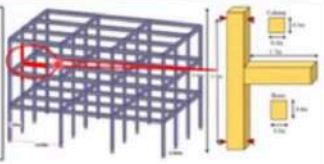
- Cognac bridge constructed in 1986 is the first hybrid structure with corrugated steel webs. It is a three-span continuous box girder bridge with total length 0f 105m and maximum span of 43m.
- This type of construction is very common in Germany, France, Japan, Korea, Taiwan, China.
- Aigawa Bridge has the longest corrugated beam span ever built at **179 meters**



Recording

## Selection of representative beam-column sub-assemblage

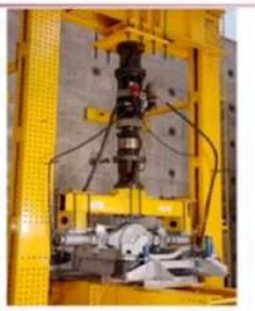
- Designed for three design evolutions
- The seismic loads are arrived according to IS1893 based on equivalent seismic load method corresponding to Zone III with the importance factor of 1.
- The response reduction factor of 3 and 5 used for non-ductile and ductile specimens respectively

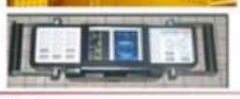


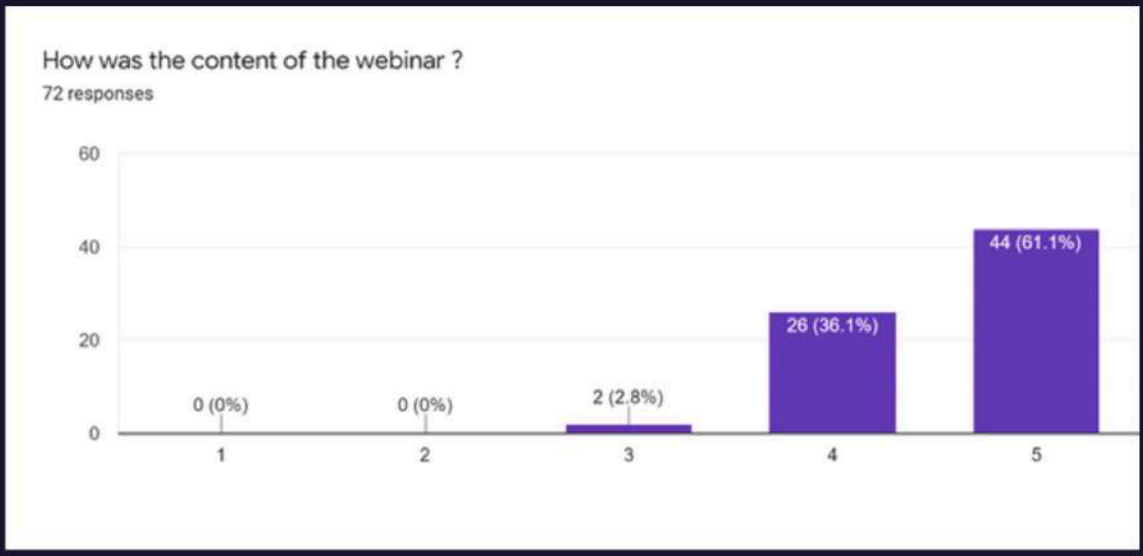
| ID | Design level | Detailing | Governing design combination | Remark |
|---|---|---|---|---|
| SP1 | Designed for gravity loads with straight bar anchorage for beam bottom bars |  | 1.5 Dead load + 1.5 Live load | Represents the olden building |
| SP2 | Designed for combination of gravity and seismic loads, but not provided with ductility detailing |  | 1.5 Dead load + 1.5 Seismic Load | Ordinary Moment Resisting Frame |
| SP3 | Designed for combination of gravity and seismic loads and provided with ductility detailing |  | 1.5 Dead load + 1.5 Seismic Load | Special Moment Resisting Frame |

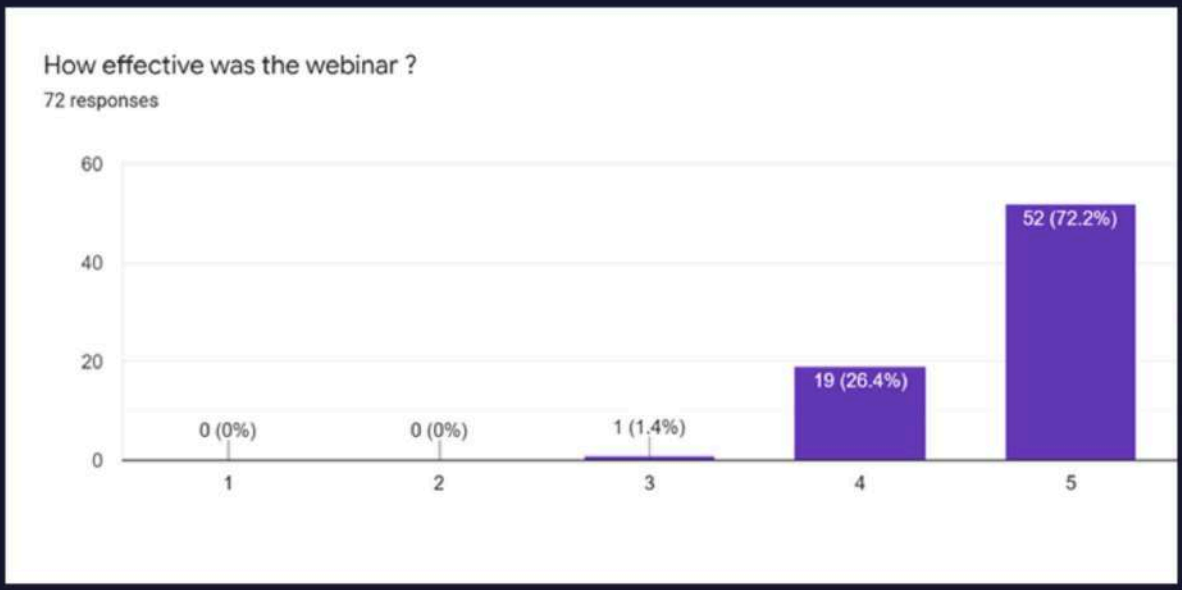


## Structural Engineering Research Centre






How was the content of the webinar ?
72 responses
60
40
20
0
0 (0%)
0 (0%)
2 (2.8%)
26 (36.1%)
44 (61.1%)
1
2
3
4
5


How effective was the webinar ?
72 responses
60
40
20
0
0 (0%)
0 (0%)
1 (1.4%)
19 (26.4%)
52 (72.2%)
1
2
3
4
5

# Association of Civil Engineers

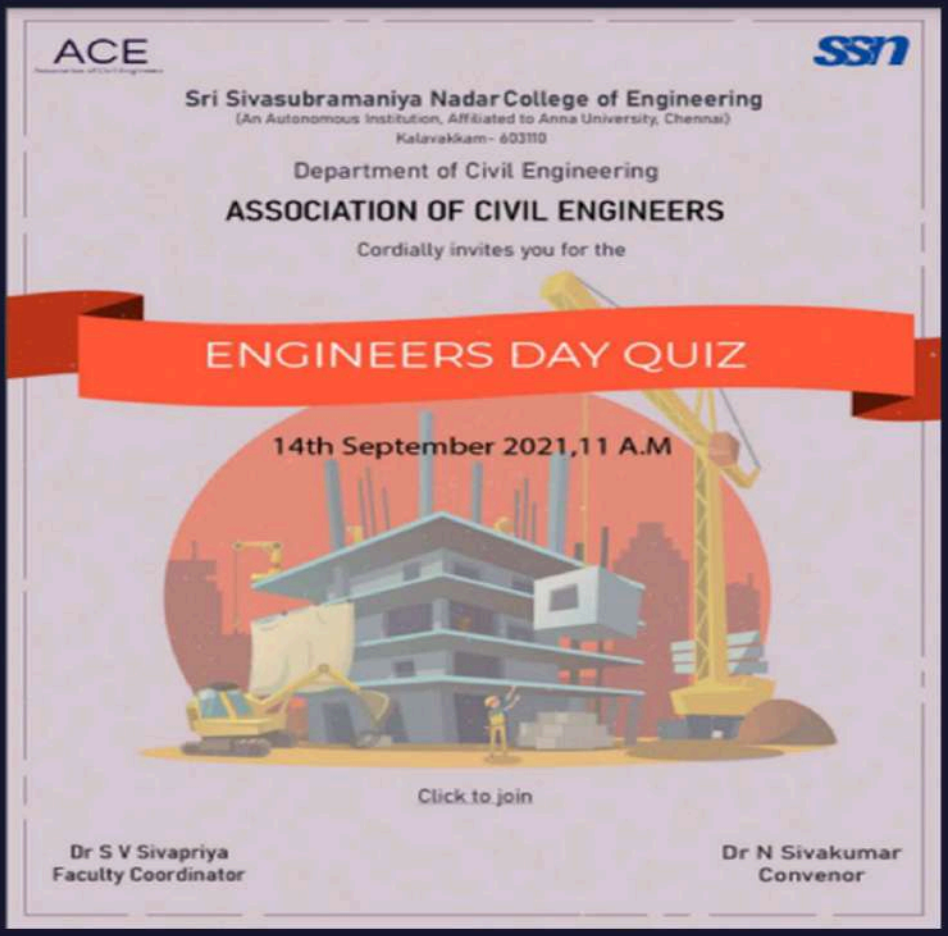
## 1) ELECTIONS CONDUCTED FOR THE YEAR 2021-2022

The department elections were conducted for the year 2021-2022 and following students were nominated using the electoral method.


## 2) INAUGRATION OF ACE


The inauguration of ACE was done by CEO AND Managing director of Mahindra consulting engineers limited Dr. B. Suresh. Mahindra Consulting Engineers Limited (MACE) has a robust team of engineers and sector experts that equip them to execute the most innovative projects. The webinar mainly focused on engineering consulting services in the thrust areas of infrastructure. It included information about infrastructure development agencies, government agencies, corporations, financial institutions, and public sector undertakings. The CEO spoke about their services which include preliminary engineering, detailed engineering, project management services to various sectors such as rural infrastructure and development, agriculture, special economic zones/industrial areas, renewable energy, water and waste water, environmental projects, and PPP advisory services for infrastructure projects. It was a very informative session and there was a great response from the student's side to gain more knowledge about the company and to grab the vast knowledge of Dr. B. Suresh.

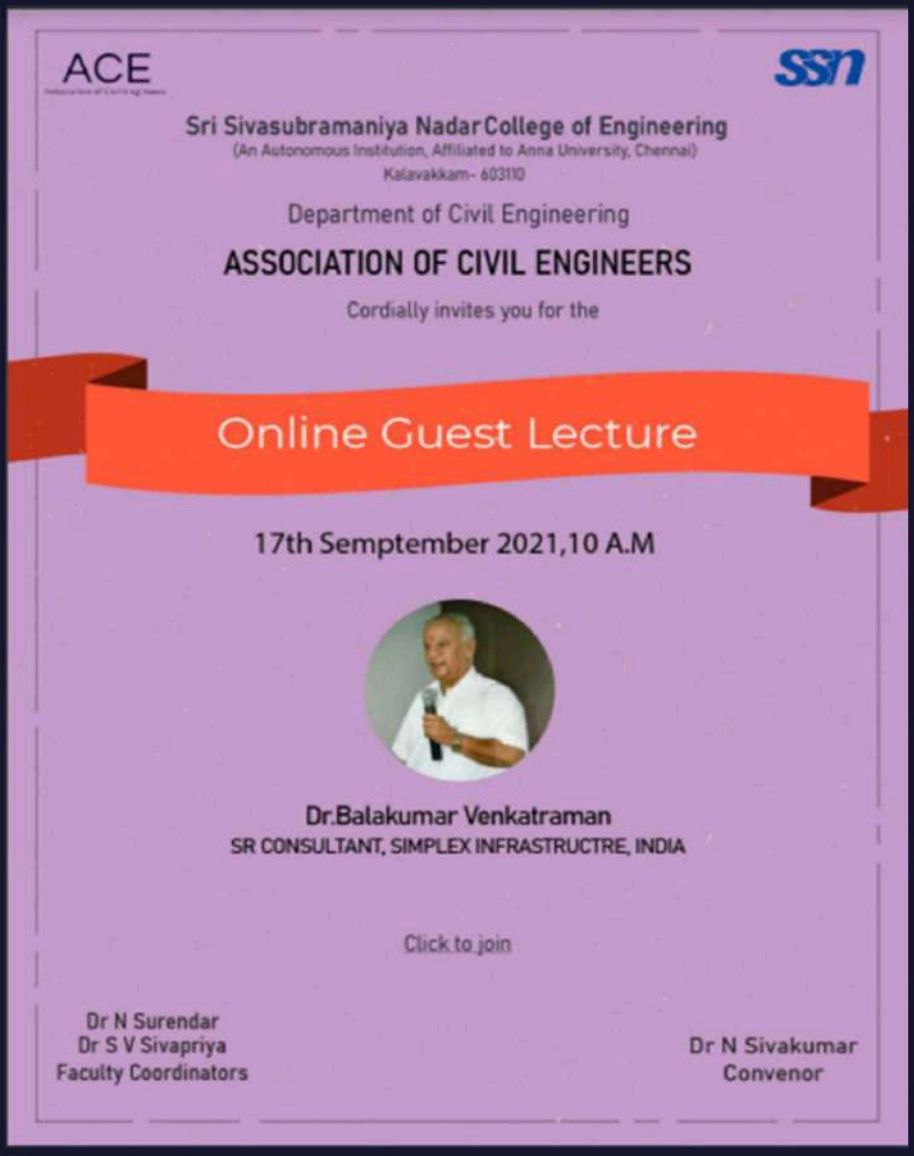
## 3) ENGINEERS DAY QUIZ




Engineers Day is celebrated on 15 September every year as a remarkable tribute to the greatest Indian Engineer Bharat Ratna Mokshagundam Visvesvaraya. He is held in high regard as a pre-eminent engineer of India.

On the occasion of the 54th ENGINEERS DAY, the Association of Civil Engineers conducted an online quiz competition on 15/09/2021. The event started at 11 Am with the HOD's Talk and was followed by a quiz competition. The quiz was related to the real world civil applications and this quiz was in general keeping in mind all the year of students.The winners and runners of the quiz were rewarded with exciting cash rewards .

## 4) GUEST LECTURE BY Dr. Balakumar Venkatraman



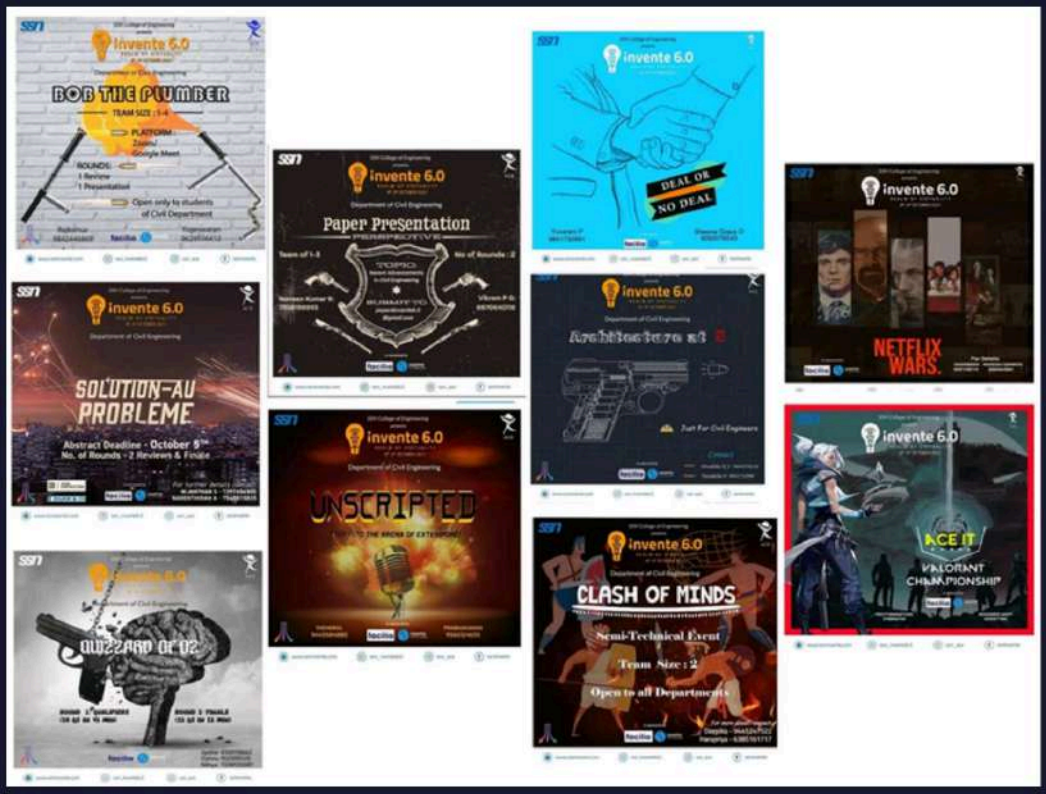

We took immense pleasure to invite Dr. Balakumar Venkatraman to conduct an Online Guest lecture on the topic Foundation Design for Sensitive Structures and Tall Structures on 16th September 2021

This webinar reviewed some of the challenges faced by designers of foundations for very tall buildings, primarily from a geotechnical viewpoint. It also gave us an opportunity to review about some characteristic features of such buildings and then the options for foundation systems were discussed.

## 5) INVENTE 6.0


invente 6.0
REALM OF VIRTUALITY
8th, 9th OCTOBER 2021


SSN
SSN College of Engineering
presents
invente 6.0
REALM OF VIRTUALITY
8th, 9th OCTOBER 2021
CLASH OF MINDS
ACE IT
DEAL OR NO DEAL
SOLUTION AU PROBLEME
DEPT OF CIVIL
NETFLIX WARS
PAPER PRESENTATION
UNSCRIPTED
WORKSHOP
ARCHITECTURE AT ZERO
QUIZZARDS OF OZ
co-sponsored by
facilio
saama
www.ssninvente.com
ssn_invente6.0
ssn_ace
ssninvente



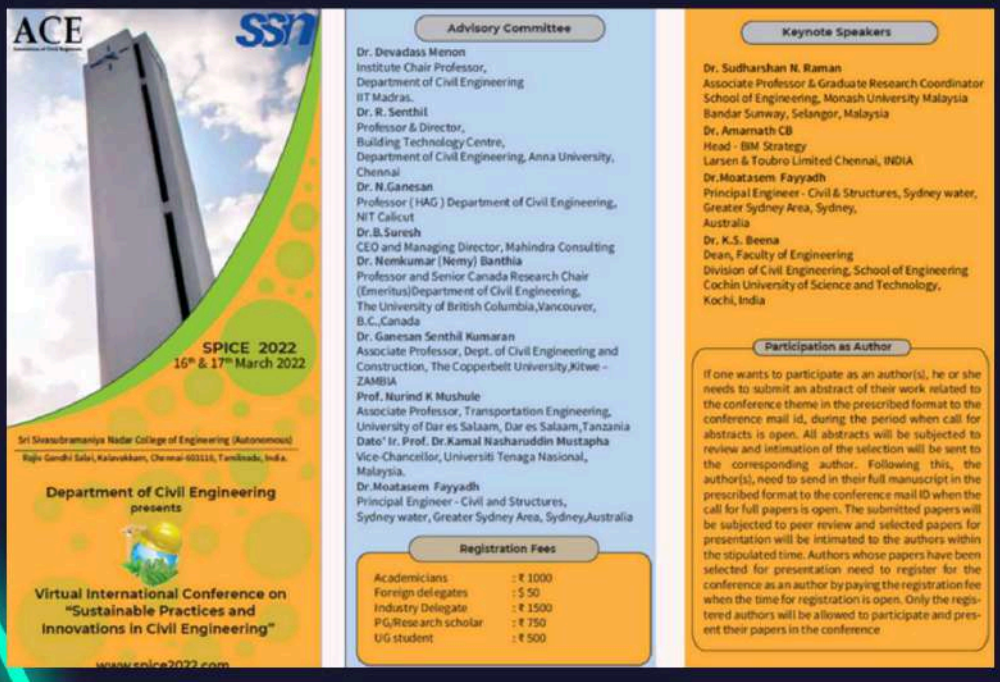

While the present can be considered as unprecedented at its best, SSN offers a platform to showcase your talents as a surety. SSN Presented the 6th edition of the annual techfest - Invente on October 8 & 9. Invente - a nexus of Innovation, Creativity and Entertainment, is a 2-day Intercollegiate ONLINE technical fest which aims to encourage students to think beyond academics and helps them discover their hidden passions and talents. This technical extravaganza gives space for students to flaunt their skills in various domains and caters to their adrenaline surges. More than 10,000 people participated and competed against each other for a cash pool worth more than Rs 5,00,000 and the winners and runners of the events were also given opportunities to do their internships from reputed organizations throughout the world.

## 6) SPICE 2022 - 16TH AND 17TH MARCH, 2022

SPICE 2022
DEPARTMENT OF CIVIL ENGINEERING

Sustainability by definition is the method of using a resource in a way that the resource is not depleted or permanently damaged. Despite the concept being as old as history, it has gained prominence in recent times. The American Society of Civil Engineers (ASCE) defines sustainability as a set of economic, environmental and social conditions in which all of society has the capacity and opportunity to maintain and improve its quality of life indefinitely without degrading the quantity, quality or the availability of economic, environmental and social resources. Sustainable development is the application of these resources to enhance the safety, welfare, and quality of life for all of society. Practicing Civil Engineers, who are in control for all things from A to Z for a thriving human civilization, need to be responsible towards the economy, environment and society. This conference, SPICE 2022, thus, aims to be a platform for all stakeholders concerned to present, discuss, cooperate, redefine and innovate sustainable solutions for the continuance of the human civilizations to higher levels of sophistication and technological advancement while still being nurtured in the cradle of nature.

### BROCHURE



## 7) GUEST LECTURE - WEBINAR 2

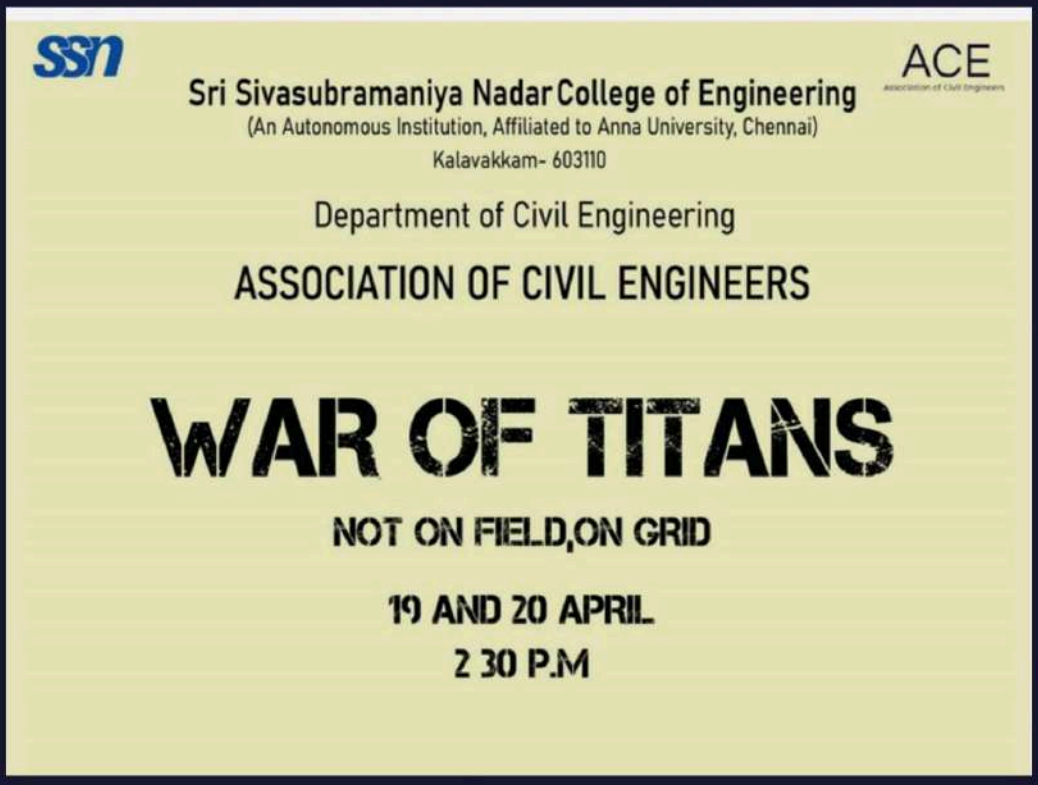

The ACE conducted a webinar session on the topic project management where Mr. Mahadevan Venkatraman, Director of Zeus Project Consultants Private Limited were our guest of honour and he explained in detail about the webinar topic.

Project Management (PM) is a set of activities which enables successful implementation of a project, where a project may be defined as involving a group of interrelated activities that are planned and then executed in a certain sequence to create a unique output (product or service) within a specific time frame.

He explained in detail about this following topics

- Getting off on the right foot to ensure successful project completion
- Managing a limited budget for maximum results
- Dealing with time constraints and making deadlines work for you
- Why open communication is a project manager's best friend
- Identifying obstacles and dealing with them before they arise
- Execution strategies to ensure your projects meet their benchmarks

## 8) TECHNICAL QUIZ




It was a technical event comprising of questions to test our knowledge. The participants were split into teams. Event comprised of 2 rounds and the teams for round 2 were chosen with points and bonus obtained from the round 1 . The winning team with highest score were rewarded with exciting prices.

**Platform used was Microsoft teams and kahoot**

## 9) GUEST LECTURE –WEBINAR 3

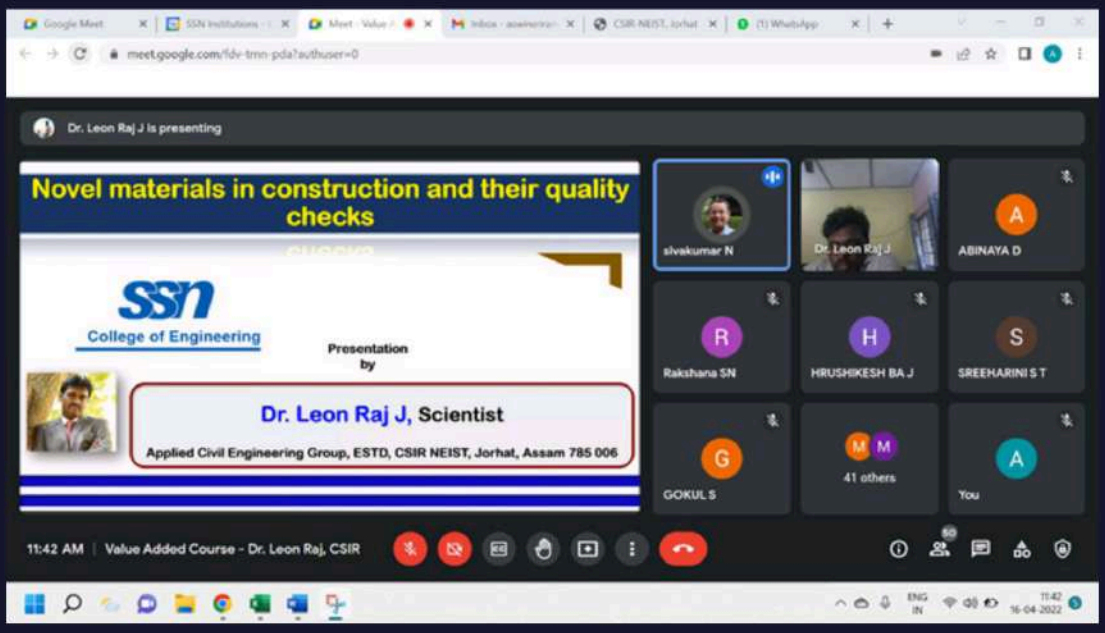

The webinar was conducted on the topic STAAD PRO for future infrastructure by our guest of honor Mr. S. Rajesh kumar. Participants joined this webinar in full enthusiasm to learn how STAAD can be used on a wide variety of projects. The presenter dived into the details on what makes STAAD stand out above other structural software solutions.

**The speaker explained about the following in detailed manner**

- Perform comprehensive analysis and design for any size or type of structure faster than ever before.
- Simplify your BIM workflow by using a physical model that automatically converts into the analytical model for your structural analysis.
- Perform complex analysis like geometric non-linear or steady state.
- Analyze various structures from plants, buildings, and tunnels, to stations, airports, and water structures.
- Share synchronized models with multi-discipline teams to enhance collaboration and, most importantly, deliver safe, cost-effective designs.

## Value Added Course – Quality Control in Construction

Department of Civil Engineering conducted a value-added course titled Quality Control in Construction for third year students during April – June 2022 in hybrid mode. This course was envisioned by our HOD to inculcate field practices to the students and help their transition of college to construction field efficiently. The course was handled by industry professionals from Larsen & Toubro, CSIR – NEIST JORHAT, CMTI, TuvNord India and C CUBED Consultants in the field of quality management, Indian and International Standard codes for Quality systems, novel and alternative construction materials and their testing protocols, auditing and arbitration activities. Upon completion of lectures, students were tested on the modules through an examination. We thank the management for encouraging the department to conduct such valuable courses that enrich the young minds of our students.




**Dr. Aswin Sriram G.**
Value Added Course Coordinator - Civil

# Study Tour Visit to Atal Tunnel under YUVAK Scheme
# Youth Undertaking Visit for Acquiring Knowledge Sponsored by
# (All India Council of Technical Education (AICTE), Government of India)
# Dr. Surendar Natarajan, Assistant Professor, Civil Engineering

The 10 top ranked students from Civil, Mechanical and Structural engineering branches with one faculty member from 100 top engineering colleges in India will be provided financial grant of 2 lakh rupees to visit the tunnel.

Under this scheme, a team of 10 final year students along with a faculty member from Department of Civil Engineering, Sri Sivasubramania Nadar College of Engineering, located in Chengalpattu district, Tamil Nadu, visited Atal Tunnel on 2nd May 2022.

Study tour Location: Himachal Pradesh, India

Fig.1 State of Himachal Pradesh

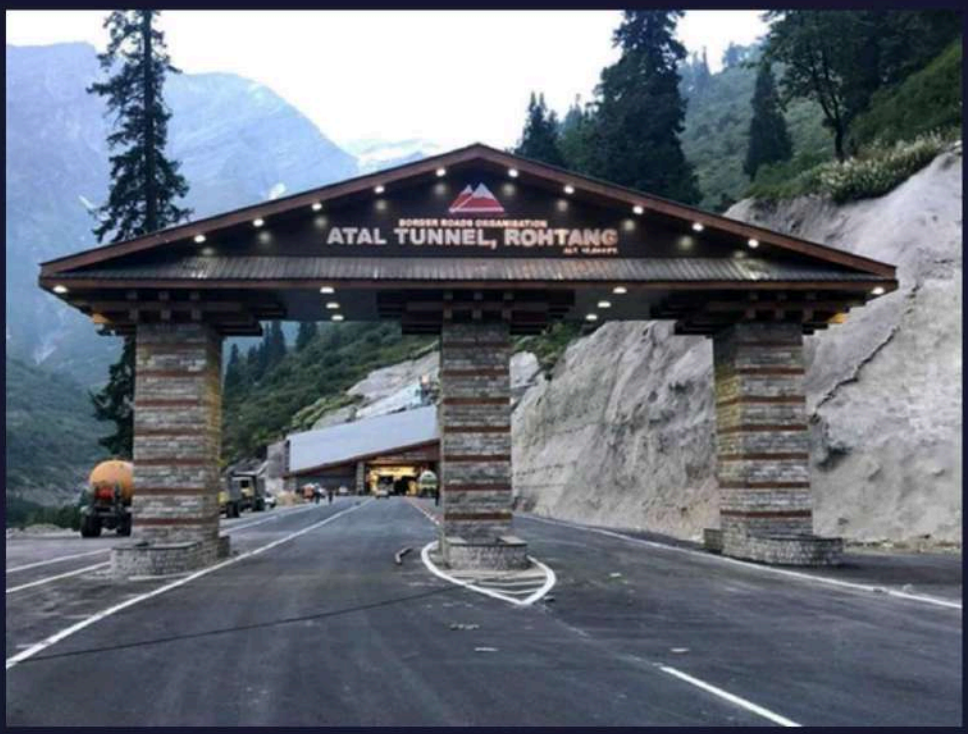



Fig.2 ATAL Tunnel Location

**Project Executed by:** Border Roads Organization (BRO), Ministry of Defense, under the Rohtang Pass on the Leh-Manali Highway as an all-weather route to Leh and Lahaul and Spiti valleys.

**Length of the Tunnel:** 9.02 km, it is the longest tunnel constructed 10,000 feet (3.05 km) above the mean sea level and it is named after former Prime Minister of India, Atal Bihari Vajpayee. It was inaugurated by Prime Minister Narendra Modi on 3rd October 2020.

**Objective of the study tour**

- To understand the geological and geotechnical challenges faced in the construction of the tunnel construction, the construction method adopted,
- To inseminate research, innovation and patriotism among the budding engineers of the country.
- The study tour is planned from 29-4-2022 to 6-5-2022 with the team of students and one faculty.

Student team members: The student team comprised of Jyothir Adithya Skandan R M, Nijanthan S, Nivedhita S, Prithika Saishree S, Rajkumar P, Sabarinathan K P, Sheena Grace D, Sidharath K Shah, Vikram P G and Yuvarani P.

Faculty: The students were led by the faculty Dr. Surendar Natarajan, Assistant professor at the department of Civil Engineering, SSNCE.

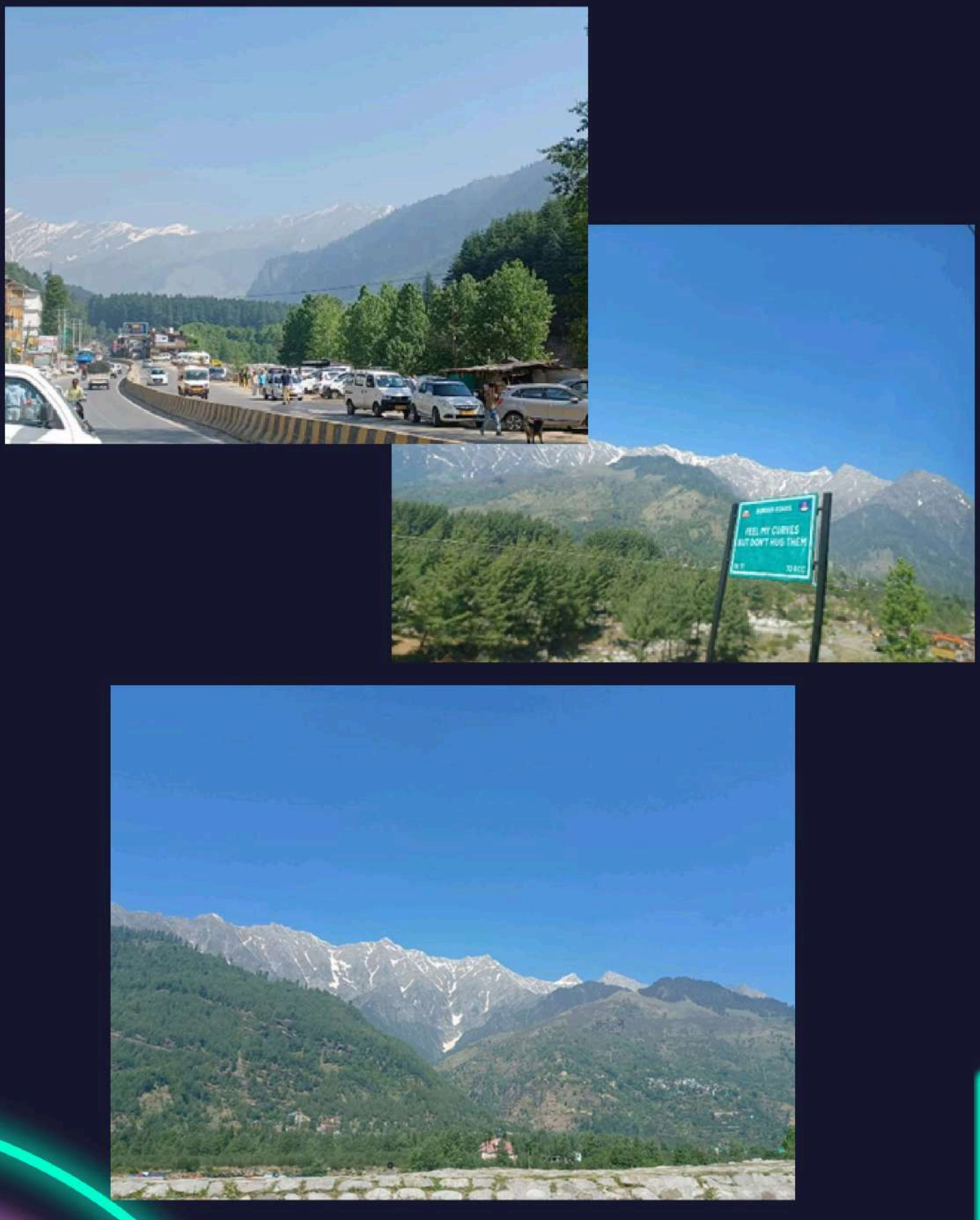



Fig. 3 Sites Near Atal Tunnel

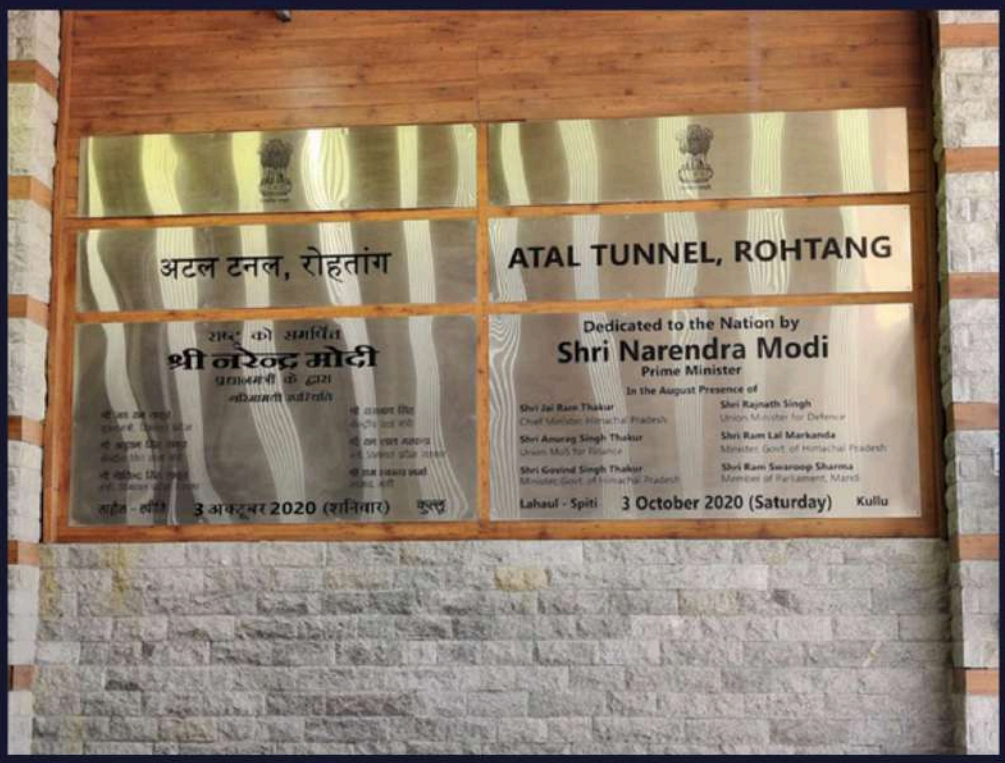




Fig.4 Atal Tunnel Entry


Fig. 6 Team Members Visited Atal Tunnel


Fig. 7 Team members with BRO officials

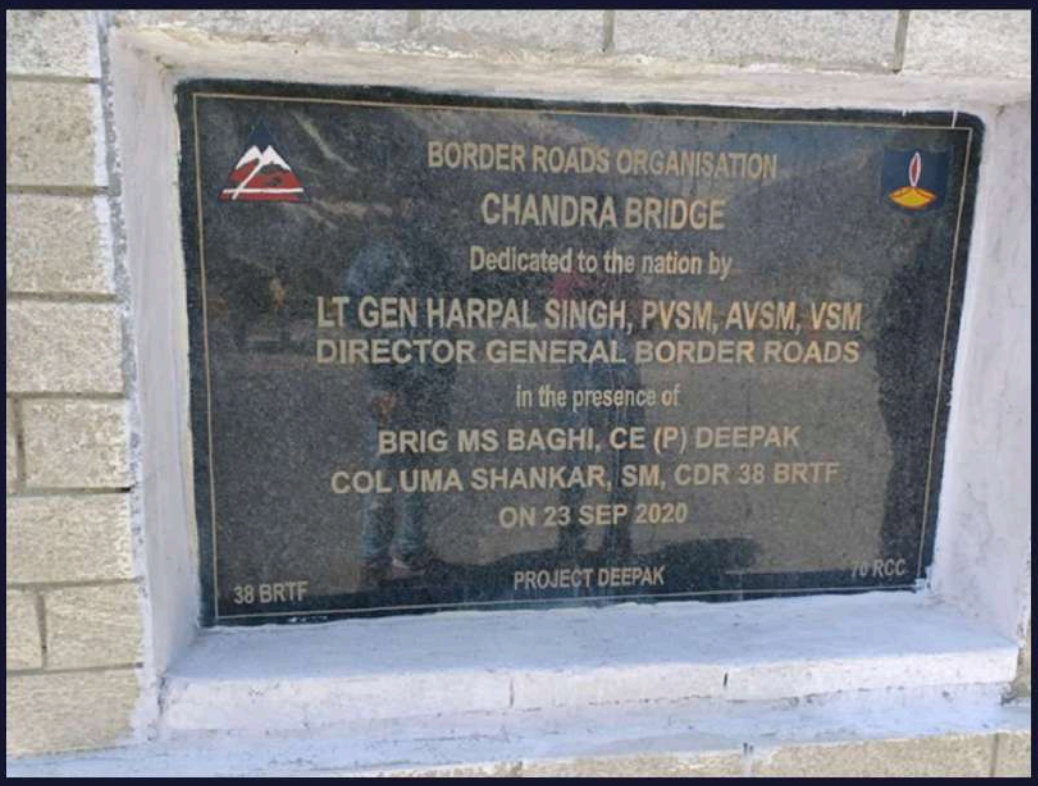



Fig.5 Tunnel Exit

**Outcomes of the study**

- This study tour gave us a lot of learnings and vast knowledge, also made us to understand the team spirit.

- We would like to thank AICTE for providing us this great opportunity to visit this marvelous tunnel built by Indian Government

# FACULTY AND STAFF

## FACULTY

### Category 1: External Recognition

Dr. N. Sivakumar was an Editor for Lecture Notes in Civil Engineering Vol 179, Sustainable Practices and Innovations in Civil, Engineering published by Springer (SCOPUS) (Dec 2021), ISBN 978-981-16-5040-6. https://doi.org/10.1007/978-981-16-5041-3.

Dr. N. Sivakumar has secured Anna University Supervisor recognition vide Lr No SUPR/37th/AR2 dt 30.11.2021.

Dr. N. Sivakumar has obtained Outstanding Concrete Teacher Award 2021 instituted by Indian Concrete Institute Chennai Centre and UltraTech Cement Ltd.

Dr. N. Sivakumar has successfully obtained Senior Professional Engineer (Reg No. SrPE00020/21) Registration with Engineering Council of India.

Dr. N. Sivakumar has secured fellowship with the Association of consulting civil engineers India.

Dr. N. Sivakumar was appointed as external examiner for ME thesis titled Evaluation of Physical and Mechanical Performance of Self-Consolidating Concrete (SCC) Containing Crumb Rubber and Nano-Silica, for Universiti Teknologi petronas Malaysia on 4/2/2022

Dr. N. Sivakumar has acted as Session Chair in the International Conference on Sustainable Practices and Innovations in Civil Engineering (SPICE) 2022, held on 16th and 17th March 2022, organized by the Department of Civil Engineering, Sri Sivasubramaniya Nadar College of Engineering, Chennai.

Dr. Y. K.Sabapathy has acted as Session Chair in the International Conference on Sustainable Practices and Innovations in Civil Engineering (SPICE) 2022, held on 16th and 17th March 2022, organized by the Department of Civil Engineering, Sri Sivasubramaniya Nadar College of Engineering, Chennai.

Dr. P. Sreehari has acted as Session Chair in the International Conference on Sustainable Practices and Innovations in Civil Engineering (SPICE) 2022, held on 16th and 17th March 2022, organized by the Department of Civil Engineering, Sri Sivasubramaniya Nadar College of Engineering, Chennai.

Dr. S. Ramanagopal has appointed as a Member for Boards of Studies Meeting at Velammal Engineering College on 25.03.2022.

Dr. S. Ramana Gopal has acted as Session Chair in the International Conference on Sustainable Practices and Innovations in Civil Engineering (SPICE) 2022, held on 16th and 17th March 2022, organized by the Department of Civil Engineering, Sri Sivasubramaniya Nadar College of Engineering, Chennai.

Dr. B. Mahalingam has acted as Session Chair in the International Conference on Sustainable Practices and Innovations in Civil Engineering (SPICE) 2022, held on 16th and 17th March 2022, organized by the Department of Civil Engineering, Sri Sivasubramaniya Nadar College of Engineering, Chennai.

Dr. R. Rajkumar has acted as Session Chair in the International Conference on Sustainable Practices and Innovations in Civil Engineering (SPICE) 2022, held on 16th and 17th March 2022, organized by the Department of Civil Engineering, Sri Sivasubramaniya Nadar College of Engineering, Chennai.

Dr. R. Srinath has acted as Session Chair in the International Conference on Sustainable Practices and Innovations in Civil Engineering (SPICE) 2022, held on 16th and 17th March 2022, organized by the Department of Civil Engineering, Sri Sivasubramaniya Nadar College of Engineering, Chennai.

Dr. R. Vijayalakshmi has acted as Session Chair in the International Conference on Sustainable Practices and Innovations in Civil Engineering (SPICE) 2022, held on 16th and 17th March 2022, organized by the Department of Civil Engineering, Sri Sivasubramaniya Nadar College of Engineering, Chennai.

Vijayalakshmi, R., Ramesh, K., Duraipandi, M., Jayseh, U. and Kupusamy, S. (2022). Water absorbing polymer balls as internal water curing agent in concrete to support hydration reaction. Revista de la Construcción. Journal of Construction, 21(1), 83-92. https://doi.org/10.7764/RDLC.21.1.83.

Dr. S. V. Sivapriya has delivered a keynote lecture titled "Smart Ways of using Waste Rubber Tyres in Civil Engineering Application as a Sustainable material" as a part of "3rd International Conference on Sustainable Environment Energy And Construction" organized by "Hindustan Institute of Technology and Science (HITS) " on "17.12.2021" held via "Online platform".

Dr. S. V. Sivapriya has acted as Session Chair in the International Conference on Sustainable Practices and Innovations in Civil Engineering (SPICE) 2022, held on 16th and 17th March 2022, organized by the Department of Civil Engineering, Sri Sivasubramaniya Nadar College of Engineering, Chennai.
S.Arunthathi, S.V.Sivapriya and D.Balaji ., (2022) "Assessing the compaction characteristics of modified soil with Incinerated municipal solid waste", Materials today proceedings, DOI : 10.1016/j.matpr.2022.03.624.

James, J., Sivapriya, S.V., 2022, “Load-Settlement Behaviour of Stone Column with Varied Spacing”, In: Das, B.B., Gomez, C.P., Mohapatra, B.G. (eds) Recent Developments in Sustainable Infrastructure (ICRDSI-2020)—Structure and Construction Management. Lecture Notes in Civil Engineering, vol 221. Springer, Singapore. https://doi.org/10.1007/978-981-16-8433-3_4.

Dr. P. Sangeetha and Dr. Y. K. Sabapathy have received "Best Paper Award”, for presented a paper titled" An Experimental Study on Interconnected Shear Connector in Steel - Concrete Composite Structure", (ICON2021), November 25-26, VIT, Vellore.

Dr. Jijo James has been invited to join the editorial board of the journal Advances in Civil Engineering published by Hindawi Publishing Corporation as Academic Editor.
James, J., R. Roshna, S. Santhiya, 2022, “Cashew nut shell ash as a supplementary additive in lime stabilized expansive soil composites”, Materials Today: Proceedings, https://doi.org/10.1016/j.matpr.2022.03.627.

Dr. Jijo James chaired a session in the International Conference on Sustainable Environment and Civil Engineering 2022 organized by the Department of Civil Engineering, SRM Easwari Engineering College, Chennai on the 18th of May 2022.

Dr. Aswin Sriram G has acted as session chair in the International Conference on Sustainable Practices and Innovations in Civil Engineering (SPICE) 2022, held on 16th and 17th March 2022, organized by the Department of Civil Engineering, Sri Sivasubramaniya Nadar College of Engineering, Chennai.

Dr. Aswin Sriram G has secured Anna University Supervisor recognition vide Lr. No. SUPR/AR2 dt 25.05.2022.

Dr. Surendar Natarajan has acted as session chair in the International Conference on Sustainable Practices and Innovations in Civil Engineering (SPICE) 2022, held on 16th and 17th March 2022, organized by the Department of Civil Engineering, Sri Sivasubramaniya Nadar College of Engineering, Chennai.
Dr. Surendar Natarajan has secured Anna University Supervisor recognition vide Lr. No. SUPR/AR2 dt 11.04.2022.

Ms. R. Sumetha was nominated as Session Chair in the International Conference on Sustainable Practices and Innovations in Civil Engineering (SPICE) 2022, held on 16th and 17th March 2022, organized by the Department of Civil Engineering, Sri Sivasubramaniya Nadar College of Engineering, Chennai.

## Category 2: Research Activity

Harika Madireddy, Sivakumar Naganathan, and B. Mahalingam. A Review on Precast Concrete Construction, Sustainable Practices and Innovations in Civil Engineering, Lecture Notes in Civil Engineering Vol 179 published by Springer (SCOPUS) (Dec 2021), ISBN 978-981-16-5040-6, pp77-113.

Salmia Beddu, Amalina Basri, Daud Mohamad, Nur Liyana Mohd Kamal, Nur Farhana, Zakaria Che Muda, Zarina Itam, Sivakumar Naganathan, Siti Asmahani Saad, and Teh Sabariah. Thermal Properties of Concrete Containing Cenosphere and Phase Change Materials. Sustainable Practices and Innovations in Civil Engineering, Lecture Notes in Civil Engineering Vol 179 published by Springer (SCOPUS) (Dec 2021), ISBN 978-981-16-5040-6, pp143-154.

R. Vijayalakshmi, Sivakumar Naganathan and S. Ramanagopal, "Study on the compressive strength and water absorption characteristics of Morta blocks with cenosphere as partial replacement of Cement" Sustainable Practices and Innovations in Civil Engineering, Lecture Notes in Civil Engineering Vol 179 published by Springer (SCOPUS) (Dec 2021), ISBN 978-981-16-5040-6, pp77-113.

Mohammed Jalal Abdullah, Salmia Beddu, Teh Sabariah Binti Abd Manan, Agusril Syamsir, Sivakumar Naganathan, Nur Liyana Mohd Kamal, Daud Mohamad, Zarina Itam, Hooi Min Yee, Md Fauzan Kamal Mohd Yapandi, Fadzli Mohamed Nazri, Nasir Shafiq, Mohamed Hasnain Isa, Amirrudin Ahmad, Nadiah Wan Rasdi (2022)."The Strength and Thermal Properties of Concrete containing Water Absorptive Aggregate from Well-Graded Bottom Ash (BA) as Partial Sand Replacement". Construction and Building Materials 339 (2022) 127658. [Scopus and TR].

Nahushananda Chakravarthy H G, Jahnavi S J, Sivakumar Naganathan. (2022). "Numerical Studies on CFRP Strengthened Cold formed Steel built-up Columns", International Journal of Sustainable Construction Engineering and Technology, VOL. 13 NO. 1 (2022) 264-272. [ Scopus and clarivate]

Sabapathy Y.K, Vishnu Aravind G, Sathya Shree T R and Shaleni Elam Thendral A., (2022), "Study on Properties of Translucent Concrete and Mortar for Natural Lighting Inside Buildings" Indian Journal of Natural Science, Vol.12, Issue 70, (pp 38257-38265) February 2022, ISSN: 0976 – 0997.

Vijayalakshmi, R., Keerthika Ramesh, Modhagapriyan, A., and Vaishnavi M., (2022), "Effect of natural fish tail palm fiber on the workability and mechanical properties of fiber reinforced concrete", Gradevinski Materijali i Construkcije, Vol. 65, No. 1, pp. 7 - 22.

P. Sabareeshwaran, S. Tharanyaa, B. Mahalingam, and M. Kavitha (2022), "A Study of Environmental Management of Construction and Demolition Waste", Sustainable Practices and Innovations in Civil Engineering, Lecture Notes in Civil Engineering, 235-250. DOI: https://doi.org/10.1007/978-981-16-5041-3_18

Sivapriya S.V A. D. Abithoo Dass, A. Bargavi, R. Lakshmipriya,and S. Nandhini (2022), "Seismic Analysis of Hypar Shell Foundation in Sandy Soil", Sustainable Practices and Innovations in Civil Engineering, Lecture Notes in Civil Engineering,161 -166. DOI: https://doi.org/10.1007/978-981-16-5041-3_12

Sivapriya S.V and Anne Sherin.A (2022), "Causes and Consequences of Dam Failures - Case Study", Sustainable Practices and Innovations in Civil Engineering, Lecture Notes in Civil Engineering, 155 - 159. DOI: https://doi.org/10.1007/978-981-16-5041-3_11.

Vijaya Ravichandran, A. S. Kiran, S. V. Sivapriya, S. Muthukrishna Babu, E. Chandrasekaran, R. Ramesh, A. Vadivelan, V. Doss Prakash, M. V. Ramanamurthy, M. A. Atamanad, G. Ramadass “Field testing of suction pile pullout capacity in softmarine clay in nearshore waters” in OCEANS 2022 - Chennai, 2022, pp. 1-7, doi: 10.1109/OCEANSChennai45887.2022.9775313. (Scopus)

P. Sabarinathan, V. E. Annamalai and P. Sangeetha (2021), " Mechanical and Abrasion Resistance Properties of Concrete Containing Recycled Abrasive Waste as Partial Replacement of Fine Aggregate", Arabian Journal for Science and Engineering, Vol. 46, pp.10943–10952.

P. Sangeetha, M. Dhinagaran, A. S. Gobinaath, R. S. Saravana Kumar, and A. D. Jeevan Raj (2022), "Performance Assessment of the Perforated CFS Unlipped and Lipped Channel Section Under Compression", Sustainable Practices and Innovations in Civil Engineering, Lecture Notes in Civil Engineering, 265-278. DOI: https://doi.org/10.1007/978-981-16-5041-3_20

T. Pauline, G. Janardhanan, P. Sangeetha, and V. Ashok (2022), “Retrofitting of Exterior Beam-Column Joint—A Review", Sustainable Practices and Innovations in Civil Engineering, Lecture Notes in Civil Engineering, 279-290. DOI: https://doi.org/10.1007/978-981-16-5041-3_21

S. N. Vinothni and P. Sangeetha (2022), "Space Frame Structure as Roof and Floor System—A Review", Sustainable Practices and Innovations in Civil Engineering, Lecture Notes in Civil Engineering, 291-298. DOI: https://doi.org/10.1007/978-981-16-5041-3_22

Sangeetha Palanivelu, Dhinagaran Moorthy, Gobinaath Subramani, Jeevan Raj Dhayanithi (2021), "Strength enhancement of cold-formed steel tubular column using GFRP strip subjected to axial compression", Building Materials and Structures, Vol. 64, pp. 251–260.

P. Sangeetha, M. Shanmugapriya, K. Santhosh Saravanan, P. Prabhakaran & V. Shashankar (2022), "Mechanical properties of concrete with seashell waste as partial replacement of cement and aggregate", Materials Today Proceedings, Vol. 61, pp.320-326.

Jijo James (2022), " Characterization and Valorization of Sugarcane Press Mud in Civil Engineering Applications", Sustainable Practices and Innovations in Civil Engineering, Lecture Notes in Civil Engineering, 219-234. DOI: https://doi.org/10.1007/978-981-16-5041-3_17

Jijo James, Akilan Gunaselvi Selvam, Krishna Khumaar Annamalai, Vishal Mari Muthu, Vishnu Varadhan Srinivasan, Sooraj Kolamurugan, (2022), “Strength and Durability of Cement Stabilized Expansive Soil Amended with Sugarcane Press Mud”, Civil and Environmental Engineering Reports, vol. 32, no. 1, pp. 138-151, doi: 10.2478/ceer-2022-0008.

Aswin Sriram and Ganapathiraman Swaminathan, Vehicular Relaxation and Amphan Cyclone: Is it a double threat to India towards combat of Covid - 19, ISSN 0253-7141, Vol 41, No. 11, pp 1203-1209.

## Category 3: Conference Activity

N. Sivakumar has attended an International Conference on “Environmentally Benign Processes, Products and Materials for Sustainable Ecosystem (EBPPM 2021)” held during November 19-20, 2021- organized by NIT Tiruchirapalli.

S Ramanagopal (2022), “State-of-The-Art Review of Experimental Study on Hybrid Tubular Columns Infilled with Green Concrete Materials”, In: Proceedings of the International Conference on Sustainable Practices and Innovations in Civil Engineering, SPICE 2022, 16th and 17th March, Chennai.

Rajkumar R, Kavya L and Kamaleswari T (2022), “Finite Element Investigation on the Performance of Buried Flexible HDPE Pipes”, In: Proceedings of the International Conference on Sustainable Practices and Innovations in Civil Engineering, SPICE 2022, 16th and 17th March, Chennai.

Priyanka R, Nirmala R and Rajkumar R (2022), “Experimental and Analytical Studies on Fibre Reinforced Concrete using Soft Drink Bottle Metal Caps”, In: Proceedings of the International Conference on Sustainable Practices and Innovations in Civil Engineering, SPICE 2022, 16th and 17th March, Chennai.

Vidhya M, Nirmala R and Rajkumar R (2022), “Experimental and Analytical Studies on Flexural Behaviour of Cold Formed Steel Corrugated Section Encased in Concrete”, In: Proceedings of the International Conference on Sustainable Practices and Innovations in Civil Engineering, SPICE 2022, 16th and 17th March, Chennai.

Binson C Johnson, R. Nirmala R. Rajkumar (2022), “Experimental and Numerical studies on Un-Plasticized Poly Vinyl Chloride Pipe Buried in M-Sand", In: Proceedings of International Conference on Science, Innovation, Sustainable, Technology - Safety, Health and Environment 2022 (SIST - SHE22) -08.03.2022 TO 10.03.22, organized by Sathyabama Institute of Science and Technology, Chennai, India.

H., R. Nirmala R. Rajkumar (2022), “Structural Behaviour of Double Skin Hollow Composite Column Nittany Rodrigo", In: Proceedings of International Conference on Science, Innovation, Sustainable, Technology - Safety, Health and Environment 2022 (SIST - SHE22) - 08.03.2022 TO 10.03.22, organized by Sathyabama Institute of Science and Technology, Chennai, India.

R Vijayalakshmi, V Charumathi, K S Niveditha and D Sheena Grace (2022), “Correlation of Porosity Splitting Tensile Strength and Compressive Strength of Expanded Clay Aggregate Pervious Concrete”, In: Proceedings of the International Conference on Sustainable Practices and Innovations in Civil Engineering, SPICE 2022, 16th and 17th March, Chennai.

R Vijayalakshmi, S Prithika Saishree and S Rakshitha (2022), “Study on the Mechanical Property of Bullseye Seashell Aggregate Pervious Concrete”, In: Proceedings of the International Conference on Sustainable Practices and Innovations in Civil Engineering, SPICE 2022, 16th and 17th March, Chennai.

R Vijayalakshmi, A Modhagapriyan, M Vaishnavi, Keerthika Ramesh and Mohammed Sameer (2022), Investigation on the Durability Property of Kithul Palm Fiber Reinforced Concrete”, In: Proceedings of the International Conference on Sustainable Practices and Innovations in Civil Engineering, SPICE 2022, 16th and 17th March, Chennai.

R. Vijayalakshmi (2022), “performance of GFRP sandwiched light weight concrete masonry unit with synthetic and natural micro fibers as reinforcement", In: Proceedings of International Conference on Processing and Characterization of Materials (ICPCM-22)" (ICSC 2021) -7th and 8th March 2022, Chennai, India.

Sangeetha P, Y.K.Sabapathy, Jayakarthik J, Babu S, Mohammed Duraid Falih N and Shreeram P(2021), " An Experimental Study on Interconnected Shear Connector in Steel - Concrete Composite Structure", In : Proceedings of 2nd International Conference on Recent Trends in Construction Materials and Structures (ICON2021), November 25-26, VIT, Vellore, PP-68.

P. Sangeetha, Vaishnavi M, Modhagapriyan A, Rajarajan T (2022), presented a paper "Effect of Batten plates on the unlipped channel CFS built- up column under axial compression”, in the 2022 International Conference on Recent Advances in Engineering Materials (ICRAEM 2022) held at Alva’s Institute of Engineering &Technology, Moodbidri, Karnataka, India during 03- 05, March 2022.

Sangeetha P, Ashok E, Chithambara Selvi U K and Deepika B (2022), “Behaviour of Cold Formed Steel Column with Web Holes”, In: Proceedings of the International Conference on Sustainable Practices and Innovations in Civil Engineering, SPICE 2022, 16th and 17th March, Chennai.

M Shanmughapriya, S Gopi Krishna and P Sangeetha (2022), “Prediction of Heat Transfer Enhancement in Radiative Ternary Hybrid Nanofluid Flow Using MANFIS Simulation”, In: Proceedings of the International Conference on Sustainable Practices and Innovations in Civil Engineering, SPICE 2022, 16th and 17th March, Chennai.

Sivapriya S.V (2022), "Behaviour of geocompsite as a packing material in the back of weepholes", In: Proceedings of International conference on Processing and characterisation of materials, March 7th - 8th, Chennai.

Arundhati S, Balaji D and Sivapriya S.V (2022), "A short review on management of municipal solid waste in various Indian Cities", In: 6th International conference on Processing and characterisation of materials, Feb 24 -25, Chennai

Sivapriya S V (2022), “Influence of Slope in Modulus of Laterally Loaded Single Pile”, In: Proceedings of the International Conference on Sustainable Practices and Innovations in Civil Engineering, SPICE 2022, 16th and 17th March, Chennai.

S Arunthathi, Sivapriya S V and Balaji D (2022), “Scenario on Landfill Mining Projects: A Mini Review”, In: Proceedings of the International Conference on Sustainable Practices and Innovations in Civil Engineering, SPICE 2022, 16th and 17th March, Chennai.

Jijo James, Roshna R, Santhiya S. (2021), "Cashew nut Shell Ash as a Supplementary Additive in Lime stabilized expansive Soil Composites", In: International Conference on Engineering Materials, Metallurgy And Manufacturing, Department of Mechanical Engineering, Sri Sivasubramaniya Nadar College of Engineering, Chennai, India - 603110.

Jijo James, Akilan Gunaselvi Selvam, Krishna Khumaar Annamalai, Vishal Mari Muthu, Vishnu Varadhan Srinivasan, Sooraj Kolamurugan, (2022), “Strength and Durability of Cement Stabilized Expansive Soil Amended with Sugarcane Press Mud”, Civil and Environmental Engineering Reports, vol. 32, no. 1, pp. 138-151, doi: 10.2478/ceer-2022-0008.

Jijo James (2022), “Ceramic Waste Granules and Dust in Soil Stabilization: A Review”, In: Proceedings of the International Conference on Sustainable Practices and Innovations in Civil Engineering, SPICE 2022, 16th and 17th March, Chennai.

Surendar Natarajan (2022), has presented a paper titled simulation of future land use land cover changes by a stochastic modelling approach –case study on semi-urban region of Chennai city in International Virtual conference on Smart and Sustainable Development of Urban Green Infrastructure in India and Canada, Organized by National Institute of Tiruchirapalli, from 25th to 26th March 2022.

## Category 4: Project News

## Category 5: Patent info

--

## Category 6: Scholar related

Dr. N. Sivakumar was appointed as a Doctoral Committee member for Ms. Indira doing Ph. D in Anna University

Dr. B. Mahalingam was appointed as a member of the DC Panel of the scholar, "VANDANA LOKA PRAKASH" pursuing his Ph.D., programme under "SRM Institute of Science and Technology University" on "10.12.21".

Dr. R. Rajkumar was appointed as a Doctoral Committee member for Ms. Karthigai Priya doing Ph. D in Sathyabama Institute of Science and Technology

Dr. R. Rajkumar's Student Ms. Nirmala has completed the Viva Voce and Proceedings for her Ph. D in Sathyabama Institute of Science and Technology

Dr. S. V. Sivapirya has attended the Conformation meeting of the scholar, "Ms.S.Preethi" pursuing her Ph.D., programme under "SRM ISTE, Chennai" on "20.04.2022" held via "Online platform".

## Category 7: (a) Work Shop/Webinar attended

Dr. N. Sivakumar has attended the Online technical sharing session on "New building materials and technologies- silicone, sealants and adhesives" held on 23.11.2021. The event was organized by SSN CE IGBC student chapter.

Dr. N. Sivakumar has attended an online Webinar on Glass as a building material held on 16.11.2021. The event was organized by SSN CE IGBC student chapter.

Dr. N. Sivakumar has attended an online webinar on Concrete Strength Past 100 years on 4.12.2021. Organized by Ultratech cement and Indian concrete Institute.

Dr. N. Sivakumar has attended an online Webinar on An Icon in Bridge- Shiv Danush Bridge on 11.12.2021. Organized by Ultratech cement and Indian concrete Institute.

Dr. N. Sivakumar has attended an online Webinar on Concrete Condition survey- Monitoring and rehabilitation of multistoreyed building on 18.12.2021. Organized by Ultratech cement and Indian concrete Institute.

Dr. N. Sivakumar has attended an online Webinar on Durability design of concrete structures: Present provisions and future changes in IS456- Why and How on 25.12.2021. Organized by Ultratech cement and Indian concrete Institute.

Dr. N. Sivakumar has attended an online Webinar on Panel Discussion on Precast Construction on 27.11.2021. Organized by Ultratech cement and Indian concrete Institute.

Dr. N. Sivakumar has attended a webinar on "'Entrepreneurship and Innovation as Career Opportunity" organized by SSN-IGBC student chapter, SSN IIC 4.0 and CMTI held on 12/01/2022.

Dr. N. Sivakumar has attended a webinar on "The Institution of Civil Engineers and a globally recognized professional qualification" Organised by the Institution of Civil Engineers (UK) SSN– Student Chapter on 28th Jan 2022.

Dr. N. Sivakumar has attended Online Webinar on "Structural audit- repair and rehabilitation and retrofitting of buildings- process and methodologies". Ultratech cement on 29/1/2022.

Dr. N. Sivakumar has attended a Seminar on "Transport System" Organised by the Department of Civil Engineering, SSNCE on 5th March 2022.

Dr. N. Sivakumar has attended Online Webinar on "Mix design of self-compacting concrete" organized by SSN ICI on 26-4-2022.

Dr. N. Sivakumar has attended Online Webinar on " Theory and practice in civil engineering" organized by Ultratech cement on May 14 2022.

Dr. N. Sivakumar has attended Online Webinar on " Short panel concrete pavement" organized by Ultratech on April 30, 2022.

Dr. N. Sivakumar has attended a Seminar on "Transport System" Organised by the Department of Civil Engineering, SSNCE on 5th March 2022.

Dr. B. Mahalingam has attended Online Webinar on 'Glass as a Building Material' held on 16th November 2021, organized by Dept. of Civil Engineering, student Chapter - IGBC, SSN College of Engineering, Chennai.

Dr. B. Mahalingam has attended Online Webinar on 'New Building Materials and Technologies' held on 23rd November 2021, organized by Dept. of Civil Engineering, student Chapter - IGBC, SSN College of Engineering, Chennai.

Dr. B. Mahalingam has attended Online Webinar on 'Stone Matrix Asphalt' held on 4th December 2021, organized by Darshan University, Rajkot in association with Germany.

Dr. B. Mahalingam has attended Workshop on 'Advanced Methods in operation of pumping and turbine plants' held on 23rd -24th November 2021 organized by Ministry of Jal Sakthi, Central Water and Power Research Station (CWPRS), Pune Dept.

Dr. B. Mahalingam has attended International online webinar on" Construction Materials" held on 14th to 17th December 2021 jointly organized by IIT Delhi and RILEM, Virgina Tech

Dr. B. Mahalingam attended Online Webinar on 'Entrepreneurship and Innovation as Career Opportunity " held on 12th January 2022, organized by Dept. of Civil Engineering, SSN College of Engineering, SSN-IGBC student chapter, SSN IIC 4.0 and CMTI.

Dr. B. Mahalingam has participated in the IEI Technical Webinar on the theme 3 D Printing Technology: An Innovative Technique In Civil Engineering organized by Faridabad Local Centre of The Institution of Engineers (India) under the aegis of Civil Engineering Division on 12/02/2022.

Dr. B. Mahalingam has attended the online webinar on " Panopto Product Roadmap Webinar" on 25.02.2022 organized by The Panopto Training Team.

Dr. B. Mahalingam has attended Online Webinar on 'Mix Design of Self Compacting Concrete" held on 26th April 2022, organized by SSNCE.

Dr. B. Mahalingam has attended Online Webinar on '3 D Printing Technology: An Innovative Technique In Civil Engineering" held on 12th February 2022, organized by The Institutions of Engineers, India.

Dr. R. Rajkumar has attended Online Webinar on Performance Evaluation of Concrete Road held on Jan 15, 2022 organized by Ultra tech cement Ltd

Dr. R. Rajkumar has attended Online Webinar on Fascinating story of Cement and Concrete held on Jan 22, 2022 organized by Ultra tech cement Ltd.

Dr. R. Rajkumar has attended Online Webinar on Values of Life held on Feb 12, 2022 organized by Ultra tech cement Ltd.

Dr. R. Vijayalakshmi has attended Online Webinar on 'Entrepreneurship and Innovation as Career Opportunity" held on 12/01/2022, organized by SSN-IGBC student chapter, SSN IIC 4.0 and CMTI

Dr. S. V. Sivapriya has attended "Online Webinar on 'Concrete Strength: Past 100 years' held on 4th December 2021, organized by Ultratech Cement Ltd., India

Dr. S.V. Sivapriya has attended "Online Webinar on 'Durability Design of Concrete Structures: Present provisions and future changes in IS 456. Why and How? ' held on 25th December 2021, organized by Ultratech Cement Ltd., India

Dr. S. V. Sivapriya has attended Online Webinar on 'Entrepreneurship and Innovation as Career Opportunity' held on 12th January 2022, organized by Dept. of Civil Engineering, SSN College of Engineering, Chennai.

Dr. S. V. Sivapriya has attended Online Webinar on 'Fascinating Story of Cement and Concrete' held on 22th January 2022, organized by Ultra Tech, India.

Dr. S. V. Sivapriya has attended an Online Webinar on 'Water Engineering and Management for sustainable Development' held on "02.02.2022" organized by "IQAC -SSNCE in association with Centre of Excellence in Water Research – SSNCE", Chennai.

Dr. S. V. Sivapriya has attended an Online Webinar on 'Sustainable Materials for Construction: Opportunities & Challenges' held on 5th February 2022, organized by UltraTech Cement Ltd., India.

Dr. S. V. Sivapriya has attended an Online Webinar on 'Managing values in life' held on 12th February 2022, organized by UltraTech Cement Ltd., India.

Dr. S. V. Sivapriya has attended an Online Webinar on 'Bridges with external prestressing: future of bridge construction in India' held on 26th February 2022, organized by UltraTech Cement Ltd., India.

Dr. S. V. Sivapriya has attended Online Webinar on 'Role of admixtures in modern concrete construction' held on 12th March 2022, organized by UltraTech, India

Dr. S. V. Sivapriya has attended Online Webinar on 'Transport Systems' held on 5th March 2022, organized by Department of Civil Engineering, SSN College of Engineering, India.

Dr. S. V. Sivapriya has attended Online Webinar on 'Global trends in sustainable design of transport infrastructure' held on 9th April 2022, organized by Ultra Tech., India.

Dr. S. V. Sivapriya has attended Online Webinar on 'Purpose of traditional architecture in modern architecture' held on 16th April 2022, organized by Ultra Tech., India.

Dr. S. V. Sivapriya has attended Online Webinar on 'Modern admixture for durable and green concrete' held on 23rd April 2022, organized by Ultra Tech., India.

Dr. S. V. Sivapriya has attended Online Webinar on 'Prefabricated volumetric modular construction' held on 26th March 2022, organized by Ultra Tech., India.

Dr. S. V. Sivapriya has attended Online Webinar on 'Understanding Inelastic Behaviour of RC Building" held on 21st May 2022, organized by Ultra Tech., India.

Dr. S. V. Sivapriya has attended Online Webinar on 'Short Panel Concrete Pavement' held on 30th April 2022, organized by Ultra Tech., India.

Dr. P. Sangeetha has attended Online Webinar on 'Entrepreneurship and Innovation as Career Opportunity ' held on 12th Jan 2022, organized by SSN-ICBC student chapter, SSN IIC 4.0 and CMTI, Dept. of Civil Engineering, SSN College of Engineering, Chennai.

Dr. P. Sangeetha has attended Online Webinar on 'Incubation Centre-IGCAR: An Introduction' held on 18th June 2020, organized by the Institution's Innovation Council of Sri Sivasubramaniya Nadar College of Engineering on 09th February 2022.

Dr. P. Sangeetha has attended a Seminar on "Transport System" Organised by the Department of Civil Engineering, SSNCE on 5th March 2022

Dr. Jijo James has attended a Webinar titled "Glass as a building material" organized by the Department of Civil Engineering, SSN College of Engineering, Chennai under the aegis of the IGBC student chapter.

Dr. Jijo James has attended an Online Webinar titled “Self-Healing Concrete: Promising New Development in Concrete Technology” on the 8th of January 2022, organized by Ultra Tech. Cement Ltd.

Dr. Jijo James has attended an Online Webinar titled “Performance Evaluation of Concrete Road” on the 15th of January 2022, organized by Ultra Tech. Cement Ltd.

Dr. Jijo James has attended an Online Webinar titled “Structural Audit, Repair Rehabilitation & Retrofitting of Buildings: Process and Methodologies” on the 29th of January 2022, organized by Ultra Tech. Cement Ltd.

Dr. Jijo James has attended a Webinar titled “Bridges with External Prestressing: Future of Bridge Construction in India” on the 26th of February 2022 organized by Ultra Tech Cement.

Dr. Jijo James has attended a Webinar titled “Inside Story of AAC” Blocks on the 26th of February 2022 organized by Qcrete Readymix (India) Pvt. Ltd.

Dr. Jijo James has attended a Seminar on “Transport Systems” on the 5th of March 2022 organized by the department of Civil Engineering, SSN College of Engineering, Chennai.

Dr. Aswin Sriram has attended Online Webinar on 'Entrepreneurship and Innovation as Career Opportunity' held on 12th January 2022, organized by Dept. of Civil Engineering, SSN College of Engineering, Chennai.

Dr. Surendar Natarajan has participated in “3-day virtual certification programme on Entrepreneurial Skills on Geospatial Data Management” organized by Centre for Remote Sensing and GIS (CRSGIS) & Crescent Innovation and Incubation Council (CIIC), B.S.Abdur Rahman Crescent Institute of Science and Technology, Chennai on 23.02.2022 to 25.02.2022.

Dr. Surendar Natarajan has participated in the SERB sponsored Webinar Part of Scientific Social Responsibility on Managing Hydro-meteorological Extremes under the Climate Change Organized by Department of Water Resources Development and Management Indian Institute of Technology Roorkee 16 February 2022.

## Category 7: (b) FDP

Dr. N. Sivakumar has attended 5-day FDP ON Water resources engineering and irrigation management conducted by SSNCE from 3/1/22 - 7/1/22

Dr. B. Mahalingam has attended FDP on 'Advances in Water Resources Engineering and Irrigation Management' held from 03.01.22 to 07.01.22, organized by Dept. of Civil Engineering, SSN College of Engineering, Chennai.

Dr. B. Mahalingam has attended FDP on 'Progression to Smart Buildings in Indian Context' held from 10.01.22 to 14.01.22, organized by Department of Civil Engineering and Department of Electronics & Communication Engineering Faculty of Engineering and Technology, Manav Rachna International Institute of Research and Studies, Faridabad, Haryana, India.

Dr. R. Vijayalakshmi has attended FDP on 'Advanced in water resource engineering and irrigation management' held from 3rd to 7th December 2021, organized by Dept. of Civil Engineering, SSN College of Engineering, Chennai.

Dr. S. V. Sivapriya has attended FDP on 'Advances in water Resources Engineering and Irrigation Management' held from 3.01.2022 - 07.01.2022, organized by Dept. of Civil Engineering, SSN College of Engineering, Chennai.

Dr. S. V. Sivapriya has attended FDP on 'Case studies in Geotechnical Engineering' held from 14th to 18th March 2022, organized by Dept. of Civil Engineering, Presidency University, Bengaluru.
Dr. S. V. Sivapriya has attended FDP on 'AICTE Student Learning Assessment – STTP -PARAKH' held from 30.04.2022 – 14.05.2022, organized by AICTE, New Delhi.

Dr. P.Sangeetha has attended FDP on 'Advances in Water Resources Engineering and Irrigation Management' held from 3rd to 7th December 2022, organized by Dept. of Civil Engineering, SSN College of Engineering, Chennai.

Dr. Jijo James has completed a five days online Faculty Development Programme on “Advances in Water Resources Engineering and Irrigation Management” between the 3rd and 7th of January 2022 organized by the Department of Civil Engineering, SSN College of Engineering, Chennai.

Dr. Aswin Sriram completed a five days online Faculty Development Programme on “Advances in Water Resources Engineering and Irrigation Management” between the 3rd and 7th of January 2022 organized by the Department of Civil Engineering, SSN College of Engineering, Chennai

Dr. Surendar Natarajan, participated & completed successfully AICTE Training and Learning (ATAL) Academy Online Elementary FDP on "Remote Sensing and GIS application in Spatial Planning and Development" from 07/12/2021 to 11/12/2021 at Maulana Azad National Institute of Technology.

Dr. Surendar Natarajan attended three days SERB sponsored FDP on Satellite image analysis and applications using deep learning organized by the Department of Mathematical and Computational Sciences, National Institute of Technology Karnataka, Surathkal from March 11 to 13, 2022 on Virtual mode.

Ms. Sumetha has attended AICTE Training And Learning (ATAL) Academy Online Elementary FDP on "Advanced Surveying using Total Station and Drone", from 7th to 11th Feb 2022, organized by B.L.D.E.A Dr. P.G. Halakatti College of Engineering and Technology.

## Category 8: Events Conducted

Dr. Y.K. Sabapathy, Dr. P. Sangeetha and Dr. Jijo James have jointly Organized the 3rd International virtual conference on "Sustainable Practices in Civil Engineering and Innovation in Civil Engineering" (SPICE-2022) on 16th and 17th March 2022 and acted as Conference chair.

Dr. S. Ramana Gopal has organized the online Seminar on "Transport Systems" on 05.03.2022

Dr. Srinath Rajagopalan has organized a workshop on, “Entrepreneurship and Innovation as Career Opportunity in association with SSN- IIC4.0, SSN IGBC Student Chapter, and CMT on 10.01.2022. The speaker for the session was Er. S.G. Ashok Kumar, PMP, IGBC AP, Founder & CEO – CMTI.

Dr. S. V. Sivapriya has organized a guest lecture titled "Basics of Project Management" delivered by "Mr. Mahadevan, Director of Zeus Project Consultants Pvt. Ltd." on "24.03.2022" held at/via "Online platform" for "2nd and 4th year" under the banner of “Association of Civil Engineers”, Department of Civil Engineering, SSN College of Engineering, Chennai, India.

Dr. S. V. Sivapriya has organized a Chit- Chat Session on "22.03.2022" for "3rd year" under the banner of “Kraciva”, Department of Civil Engineering, SSN College of Engineering, Chennai, India.

Dr. S. V. Sivapriya has organized an event "War of Titans" by "KRACIVA"" on "19 and 20.04.2022" held via "Online platform" for "2 and 3 year".

Dr. S. V. Sivapriya has organized an event "KICK-OFF (Fun Events)" by "KRACIVA"" on 12th, May 2022 held via "Online platform" for "2 and 3 year".

Dr. S. V. Sivapriya has organized an event "STADD PRO for Future Infrastructure" by "ACE" on 18th, May 2022 held via "Online platform" for "2 and 3 year" by Mr.S.Rajesh Kumar, Director Technical Sales Techapps Consulting, India.

Dr. P. Sangeetha has organized an offline competition "Treasure Hunt" on "8th Dec 2021" for the student, department of Civil Engineering, under the banner of "ICI Student Chapter"

Dr. P. Sangeetha has organized a online competition "Snake and Ladder (Technical)" on "21/01/2022" held on Online platform for all years of students under the banner of "ICI- Student Chapter"

Dr. P. Sangeetha has organized an Innovation and You contest "Alternative Construction Materials / Innovative Green Building Concepts" on "25/01/2022" held on Online platform for all years of students of other colleges under the banner of "ICI- Student Chapter".

Dr. P. Sangeetha has organized a site visit to "VRMX Concrete India Pvt. Ltd, Siruseri" on "8th April 2022" for "II Year Civil Engineering Students" under the banner of "ICI Student Chapter"

Dr. P. Sangeetha has organized an online webinar titled "Mix Design of Self Compacting Concrete " delivered by "Dr.Leon Raj" on "26th April 2022" held via "Online platform" for "Civil Engineering Students" under the banner of "ICI Student Chapter".

Dr. P. Sangeetha has organized a Chit-Chat Session for the Rural students on 14.05.2022 delivered by " Ms. P. Shobana, Civil-Rural Student, Hardware Discipline Engineer at The Dow Chemicals Company held via "Online platform" under the banner of "ICI Student Chapter".

Dr. Jijo James has organized a webinar titled "The Institution of Civil Engineers and a globally recognized professional qualification" on 28th January 2022.

Dr. N. Surendar has organized a 5 Day Online FDP on Advances in Water Resources Engineering and Irrigation Management" on '3-1-2022 to 7-1-2022'.

## Category 9: Industry Collaboration

An MoU has been signed between the L & T House, Ballard Estate, Narottam Morarge Marg, Mumbai 400001, and having L & T Construction Headquarters at Mount Poonamallee Road, Manapakkam, Chennai 600089, India, and Department of Civil Engineering, Sri Sivasubramaniya Nadar College of Engineering to bring collaboration in research, consultancy, internship, guest lecture, project guidance and placement between both the parties for a period of 3 years from October 2021.

Dr. B. Mahalingam and Dr. Aswin Sriram G has Organized a Site Visit "Construction of a Steel Structure with RC pedestal" on " 27th Dec 2021" for the student, department of Civil Engineering, under the banner of "IEI Student Chapter".

Dr. B. Mahalingam had a site visit with students at DST Research Facilities Block - Steel Building (under construction) on 21.03.2022.

Dr. S. V. Sivapriya had a consultancy work along with Dr. Babu.K, Associate Professor, Mechanical Department and fetched Rs. 21,421/- for Green 201 Owners Welfare Association, Pudupakkam, Chennai.

Dr. P. Sangeetha has Organized a site visit to "Green Building- Renovation site at Ripon Building" on "16th Dec 2021" for "II-year students" under the banner of "ICI Student Chapter".

Dr. Surendar Natarajan had a site visit with Final year students to ATAL Tunnel in Himachal Pradesh from 29.04.22 to 05.05.22, sponsored by AICTE, New Delhi.

A team of four students of Final year B.E., Civil Engineering comprising of Ms. S. Thendral, Mr. P. Prabakaran, Mr. P.G. Vikram and Mr. R. Yogeshwaran carried out their final year project at KSCSTE – National Transportation planning and Research Centre (NATPAC), Thiruvanthapuram under the external guidance of Mr. Jegan Bharath Kumar, NATPAC and internal guidance of Dr. Surendar Natarajan.

## Category 10: Alumni Interaction

--

## Category 11: Notable visitors

Mr. V. Mahadevan, Director, ZEUS Project Consultants, Private Limited, Chennai has visited Civil Department, SSNCE on 06.01.2022 and discussed with HOD/Civil on possible collaboration on placement, internships and guiding design projects.

## Category 12: Other items

Dr. N. Sivakumar has reviewed a manuscript for Structural Engineering and Mechanics, An International Journal, techno-Press

Dr. N. Sivakumar has reviewed a paper for Bentham Science Publishers, Current Chinese Science

Dr. N. Sivakumar has reviewed a manuscript for Advances in Materials Research, An International Journal, techno-Press.

Dr. N. Sivakumar has reviewed a manuscript for Structural Engineering and Mechanics, An International Journal, techno-press.

Dr. N. Sivakumar has reviewed a paper for construction and building materials

Dr. N. Sivakumar has reviewed a paper for the journal Construction and Building Materials.

Dr. N. Sivakumar has reviewed a paper for the journal Construction and Building Materials.

Dr. N. Sivakumar has reviewed one manuscript for the Journal of the Institution of Engineers (India).

Dr. N. Sivakumar has reviewed one manuscript for the Journal of the Institution of Engineers (India).

Dr. B. Mahalingam has conducted Value Added Course Session on "Client – Consultant - Contractor– interpretation and perception of quality" for the Third year students on 17th May 2022.

Dr. R. Rajkumar has reviewed a paper for the journal Advances in Concrete Construction, International Journal published by Techno press
Dr. R. Rajkumar has attended Ph.D. Synopsis meeting of Ramya G Franklin as D C member at Sathyabama Institute of Science and Technology.
Dr. R. Rajkumar has attended Ph.D Synopsis meeting of Dhanraj as D C member at Sathyabama Institute of Science and Technology on 30/10/2021
Dr. R. Rajkumar has attended Ph.D Comprehensive meeting of Nagamani Devi j as D C member at Sathyabama Institute of Science and Technology on 04/01/2022.
Dr. R. Rajkumar has audited the Question paper and Answer scripts for Sri Venkateshwara College of Engineering (SVCE) on 26/02/2022 and 27/02/22 via Online mode.
Dr. R. Rajkumar has appointed as External Examiner for End Semester Project work Examination held in St Joseph College of Engineering on May 23 -24, 2022.
Dr. S. V. Sivapriya has reviewed one manuscript for the journal 'Australian journal of Civil Engineering' published by Taylor and Francis.
Dr. S. V. Sivapriya has reviewed one manuscript for the journal 'Indian Geotechnical Journal' published by Springer.
Dr. S. V. Sivapriya has acted as an External Examiner for conducting university Soil Mechanics Lab Course in AVIT, Chennai on 29.03.2022.
Dr. S. V. Sivapriya has reviewed a manuscript for the journal "Geotechnical and Geological engineering" published by Springer.
Dr. P. Sangeetha has attended Online Advanced course titled 'Utilization of Industrial Solid Wastes in Concrete Applications' conducted by CSIR-SERC, Chennai, attended during 28-29 October 2021.
Dr. P. Sangeetha has reviewed one manuscript for the Journal of Engineering Research and Reports published by Hooghly.

Dr. P. Sangeetha has reviewed one manuscript for the journal 'Cogent Engineering' published by Taylor & Francis.

Dr. Jijo James has reviewed a manuscript for the Journal of Rock Mechanics and Geotechnical Engineering published by Elsevier

Dr. Jijo James has reviewed a manuscript for the Journal Geomechanics and Geoengineering: An International Journal published by Taylor and Francis

Dr. Jijo James has reviewed a manuscript for the Journal of Environmental Engineering and Landscape Management published by Taylor and Francis.

Dr. Jijo James has reviewed an article for the journal Scientific Reports published by Nature.

Dr. Jijo James has reviewed one manuscript for the journal Frontiers of Structural and Civil Engineering published by Springer.

Dr. Surendar Natarajan has obtained Life Time Membership from Indian Society for Hydraulics-LM 1560.

Dr. N. Surendar Natarajan has reviewed one manuscript for Discover Sustainability, Springer.

## NON-TEACHING STAFF

Kalatharan M has attended online webinar on "Panel discussion on QA-QC systems in precast construction" held on Nov.27.2021 organized by UltraTech cement Ltd.

Kalatharan M has attended online webinar on " Understanding internal curing of concrete" held on Nov.11.2021, organized by Qcrete Readymix (India) Pvt. Ltd.

Kalatharan M has attended online webinar on " Concrete strength: Past 100 years" held on Dec.04.2021, organized by UltraTech cement Ltd.

Kalatharan M has attended online webinar on " An icon in steel: shir dhanush bridge" held on Dec.11.2021, organized by UltraTech cement Ltd.

Kalatharan M has attended online webinar on " Condition survey, monitoring and rehabilitation of multistoreyed building" held on Dec.18.2021, organized by UltraTech cement Ltd.

Kalatharan M has attended online webinar on "New building materials and technologies" held on 23.11.2011, organized by Dept. of civil Engg., SSNCE.

Kalatharan M has attended online webinar on " Durability design of concrete structures: Present provisions and future changes in IS 456, Why and How?" held on Dec.25.2021, organized by UltraTech cement Ltd.

Kalatharan M has attended online webinar on "Performance Evaluation of concrete Road" held on 15.01.2022 organized by UltraTech Cement Ltd.

Kalatharan M has attended online webinar on "Structural Audit, Repair, Rehabilitation & Retrofitting of Buildings: Process & Methodologies" held on Jan 29, 2022 organized by UltraTech cement Ltd.

Kalatharan M has attended online webinar on " Managing Values in Life" held on Feb 12, 2022 organized by UltraTech cement Ltd.

Kalatharan M has attended online webinar on " Achieving Comfort for All-Without Energy Depletion" held on Feb 19,2022 organized by UltraTech cement Ltd.

Kalatharan M has attended online webinar on " Durability and Sustainability are the Keys to HPC Structures" held on Feb 17,2022 organized by Qcrete Ready Mix (INDIA) Pvt.Ltd.

Kalatharan M has attended online webinar on "Bridges with External prestressing; Future of bridge construction in India" held on Feb 26, 2022, organized by UltraTech cement Ltd.

Kalatharan M has attended online webinar on "Developing sustainable & Durable concrete with plastic waste" held on Mar 5, 2022, organized by Ultra Tech cement Ltd.

Kalatharan M has attended online webinar on " Why should we use GGBS in concrete?" held on March 10,2022 organized by Qcrete Readymix (INDIA) PVT LTD.

Kalatharan M has attended online webinar on "Transport Systems" held on 05.03.2022, organized by Dept. of civil Engg., SSNCE.

Kalatharan M has attended online webinar on " Role of admixtures in modern concrete construction " held on Mar 12, 2022 organized by Ultra Tech cement Ltd.

Kalatharan M has attended online webinar on "Prefabricated Volumetric Modular Construction" held on March 26,2022 organized by UltraTech.

Kalatharan M has attended online webinar on "Choosing the right cement based on application" held on March 25,2022 organized by Qcrete.

Kalatharan M has attended online webinar on "Scientific Facts of Makar Sankaranti Festival" held on April 2,2022 organized by UltraTech.

Kalatharan M has attended online webinar on "Global Trends in Sustainable Design of Transport Infrastructure" held on April 09,2022 organized by UltraTech.

Kalatharan M has attended online webinar on "Purpose of Traditional Architecture in Modern Architecture" held on April 16, 2022 organized by UltraTech.

Kalatharan M has attended online webinar "Mix Design of Self Compacting Concrete" on 26.04.22, organized by SSN-CE.

Kalatharan M has attended online webinar "Short Panel Concrete Pavement" on 30.04.22, organized by UltraTech Cements Ltd.

Kalatharan M has participated in Two days Professional Development programme for non-Teaching faculty Skills up gradation between 30.04.22 to 01.05.22 organized by AMET University.

Kalatharan M has attended online webinar " Applications of UHPC in India" on April 29, 2022 organized by QCRETE READYMIX (INDIA) PVT LTD MD, SHELLY FERNANDEZ

Kalatharan M has attended online webinar "Theory and Practice in Civil Engineering" on 14.05.22, organized by UltraTech Cements Ltd.

Kalatharan M has attended online webinar " Low Carbon Concrete" on May 13, 2022 organized by QCRETE READYMIX (INDIA) PVT LTD.

Kalatharan M has attended online webinar "Understanding inelastic Behaviour in R.C. Building" on 21.05.22, organized by UltraTech Cements Ltd.

Kalatharan M has attended online webinar "STAAD Pro for Future Infrastructure" on 18.05.22, organized by SSN-CE.

Kalatharan M has attended online webinar "Structural Audit and Repair Rehabilitation of Concrete Structure" on 07.05.22, organized by UltraTech Cements Ltd.

Jegan K has attended online webinar on “Application of Civil Engineering Knowledge for the Development of Innovative Marine Structures” held on November 19,2021. organized by Department of Civil Engineering, Dr.N.G.P. Institute of Technology, Coimbatore – 641048.

Jegan K has attended Online Webinar on "Understanding Internal curing of Concrete" organized by Qcrete Readymix (India) Pvt.Ltd on November 11, 2021.

Jegan K has participated a webinar on "An Icon in Steel: Shiv Dhanush Bridge " organized by UltraTech on December 11th, 2021.

Jegan K has participated a webinar on "Condition Survey, Monitoring and rehabilitation of Multistoreyed Building " organized by UltraTech on December 18th, 2021.

Jegan K has participated a webinar on "Panel Discussion on QA-QC Systems in Precast Construction " organized by UltraTech on November 27th, 2021.

Jegan K has participated a webinar on "Concrete Strength: Past 100 Years" organized by UltraTech on December 04th, 2021.

Jegan K has participated a webinar on "Durability Design of Concrete Structures: Present Provisions and Future Changes in IS456.Why and How?" organized by UltraTech on December 25th, 2021.

Jegan K has attended online webinar on “New Building Materials and Technologies” held on November 23rd 2021 organized by Department of Civil Engineering, SSN College of Engineering, Kalavakkam - 603 110.

Jegan K has attended Online Webinar on "Self-Healing Concrete: Promising New Development in Concrete Technology" organized by UltraTech on Jan 8th, 2022

Jegan K has attended online webinar on “Entrepreneurship And Innovation As Career Opportunity” held on Jan 12th, 2022 organized by Department of Civil Engineering, SSN College of Engineering, Kalavakkam - 603 110

Jegan K has attended Online Webinar on "Performance Evaluation of Concrete Road" organized by UltraTech on Jan 15th, 2022

Jegan K has attended Online Webinar on "Fascinating Story of Cement & Concrete" organized by UltraTech on Jan 22nd, 2022

Jegan K has attended Online Webinar on "Achieving Comfort for All-Without Energy Depletion" organized by UltraTech on Feb 19th, 2022.

Jegan K has attended Online Webinar on "Durability and Sustainability are the keys to HPC Structures" organized by QCRETE READYMIX (INDIA) PVT LTD on Feb 17th, 2022.

Jegan K has attended Online Webinar on "Structural Audit, Repair, Rehabilitation & Retrofitting of Buildings: Process & Methodologies" organized by UltraTech on Jan 29th, 2022.

Jegan K has attended Online Webinar on "Sustainable Materials for Construction: Opportunities & Challenges" organized by UltraTech on Feb 5th, 2022.

Jegan K has attended Online Webinar on "Managing Values in Life " organized by UltraTech on Feb 12th, 2022.

Jegan K has attended online webinar on "Developing sustainable & Durable concrete with plastic waste" held on Mar 5, 2022, organized by Ultra Tech cement Ltd.

Jegan K has attended online webinar on " Role of admixtures in modern concrete construction " held on Mar 12, 2022 organized by Ultra Tech cement Ltd.

Jegan K has attended online webinar on "Bridges with External prestressing; Future of bridge construction in India" held on Feb 26, 2022, organized by UltraTech cement Ltd.

Jegan K has attended online webinar on "Transport Systems" held on Mar 5, 2022, organized by Dept. of Civil Engineering, SSN College of Engineering, Chennai.

Jegan K has attended online webinar on "Why should we use GGBS in concrete?" held on March 10,2022 organized by Qcrete Readymix (INDIA) PVT LTD.

Jegan K has attended online webinar on "Choosing the right Cement based on application" held on March 25,2022 organized by Qcrete Readymix (INDIA) PVT LTD.

Jegan K has attended online webinar on "Prefabricated Volumetric Modular Construction" held on Mar 26, 2022 organized by Ultra Tech cement Ltd.

Jegan K has attended online webinar on "Scientific Facts of Makar Sankranti Festival" held on April 02, 2022 organized by Ultra Tech cement Ltd.

Jegan K has attended online webinar on "Global trends in Sustainable Design of Transport Infrastructure" held on April 09, 2022 organized by UltraTech cement Ltd.

Jegan K has attended online webinar on "Purpose of Traditional Architecture in Modern Architecture" held on April 16, 2022 organized by UltraTech cement Ltd.

Jegan K has attended online webinar on "Modern Admixtures for Durable and Green Concrete" held on April 23, 2022 organized by UltraTech cement Ltd.

Jegan K has attended online webinar on " Mix Design of Self Compacting Concrete " held on April 26, 2022, organized by Dept. of Civil Engineering, SSN College of Engineering, Chennai.

Jegan K has attended online webinar on " Short Panel Concrete Pavement " held on April 30, 2022 organized by UltraTech cement Ltd.

Jegan K has participated in the “Two Days Professional development programme for Non-Teaching Faculty on Skill Upgradation” between 30.04.2022 to 01.05.2022 organized by Department of Electrical and Electronics Engineering AMET University Chennai.

Jegan K has attended online webinar on " Staad Pro for Future Infrastructure " held on May 18, 2022, organized by Dept. of Civil Engineering, SSN College of Engineering, Chennai.

Jegan K has attended online webinar on " Applications of UHPC in India" held April 29, 2022 organized by Qcrete Readymix (INDIA) PVT LTD.

Jegan K has attended online webinar on " Structural audit and repair rehabilitation of concrete structure" held on May 07, 2022 organized by UltraTech cement Ltd.

Jegan K has attended online webinar on " Theory and Practice In Civil Engineering" held on May 14, 2022 organized by UltraTech cement Ltd.

Jegan K has attended online webinar on " Low carbon concrete" held May 13, 2022 organized by Qcrete Readymix (INDIA) PVT LTD.

Jegan K has attended online webinar on " Understanding Inelastic behaviour of R.C building " held on May 14, 2022 organized by UltraTech cement Ltd.

Prasath R has attended online Webinar on Self Healing Concrete: Promising new development in Concrete Technology held on 8th January 2022, organized by Ultratech Cement Ltd.

Prasath R has attended online Webinar on Performance Evaluation of Concrete Road held on 1th January 2022, organized by Ultratech Cement Ltd.

Prasath R has attended online Webinar on Fascinating Story of Cement and Concrete held on 22nd January 2022, organized by Ultratech Cement Ltd.

Prasath R has attended online Webinar on Structural Audit, Repair, Rehabilitation & Retrofitting of Buildings, Process & Methodologies held on29th January 2022, organized by UltraTech Cement Ltd.

Prasath R has attended online Webinar on Sustainable Materials for Construction, Opportunities & Challenges held on 5th February 2022, organized by UltraTech Cement Ltd.

Prasath R has attended online Webinar on Managing Values in Life held on 12th February 2022, organized by UltraTech Cement Ltd.

Prasath R has attended online Webinar on Achieving comfort for all-without energy depletion held on 19th February 2022, organized by UltraTech Cement Ltd.

Prasath R has attended online Webinar on Bridges with External prestressing. Future of Bridge Construction in India held on 26th February 2022, organized by Ultratech Cement Ltd.

Prasath R has attended online webinar on "Scientific Facts of Makar Sankaranti Festival" held on April 2,2022 organized by UltraTech.

Prasath R has attended online webinar on "Global Trends in Sustainable Design of Transport Infrastructure" held on April 09,2022 organized by UltraTech.

Prasath R has attended online webinar on "Purpose of Traditional Architecture in Modern Architecture" held on April 16, 2022 organized by UltraTech.

Prasath R has attended online webinar on "Modern Admixtures for Durable and Green Concrete" held on April 23, 2022 organized by UltraTech.

Prasath R has participated in Two days Professional Development programme for non-Teaching faculty Skills up gradation between 30.04.22 to 01.05.22 organized by AMET University.

Prasath R has attended online webinar "STAAD Pro for Future Infrastructure" on 18.05.22, organized by SSN-CE.

Prasath R has attended online webinar "Mix Design of Self Compacting Concrete" on 26.04.22, organized by SSN-CE.

Prasath R has attended online webinar "Understanding inelastic Behaviour in R.C. Building" on 21.05.22, organized by UltraTech Cements Ltd.

Prasath R has attended online webinar "Short Panel Concrete Pavement" on 30.04.22, organized by UltraTech Cements Ltd.

Anbazhagan K has attended online webinar on “New Building Materials and Technologies” held on November 23rd 2021 organized by Department of Civil Engineering, SSN College of Engineering, Kalavakkam - 603 110.

Anbazhagan K has participated a webinar on "Concrete Strength: Past 100 Years" organized by UltraTech on December 04th, 2021.

Anbazhagan K has participated a webinar on "An Icon in Steel: Shiv Dhanush Bridge " organized by UltraTech on December 11th, 2021.

Anbazhagan K has participated in Two days Professional Development programme for non-Teaching faculty Skills up gradation between 30.04.22 to 01.05.22 organized by AMET University.

Anbazhagan K has attended online webinar "Short Panel Concrete Pavement" on 30.04.22, organized by UltraTech Cements Ltd.

Anbazhagan K has attended online webinar "Challenges Faced During Construction of Signature Bridge New Delhi" on 28.05.22, organized by UltraTech Cements Ltd.

Anbazhagan K has attended online webinar "Structural Audit and Repair Rehabilitation of Concrete Structure" on 07.05.22, organized by UltraTech Cements Ltd.

Anbazhagan K has attended online webinar "Theory and Practice in Civil Engineering" on 14.05.22, organized by UltraTech Cements Ltd.

Anbazhagan K has attended online webinar "STAAD Pro for Future Infrastructure" on 18.05.22, organized by SSN-CE.

Anbazhagan K has attended online webinar "Understanding inelastic Behaviour in R.C. Building" on 21.05.22, organized by UltraTech Cements Ltd.

Jegadheesan K has participated a webinar on "An Icon in Steel: Shiv Dhanush Bridge " organized by UltraTech on December 11th, 2021.

Jegadheesan K has attended Online course titled 'Microsoft excel 2013 intermediate course.' for a period of attended during 24th Jan 2022, through ALISON.

Jegadheesan K has attended Online Webinar on ' Sustainable Materials for Construction Opportunities & Challenges' held on 5 Th Feb 2022, organised by ULTRA TECH CEMENT LTD.

Jegadheesan K has attended Online Webinar on ' Structural, Audit, Repair, Rehabilitation & Retrofitting of Building: Process & Methodologies' held on 29 Th Jan 2022, organised by ULTRA TECH CEMENT LTD.

Jegadheesan K has attended Online Webinar on ' Managing Values in Life' held on 12 Th Feb 2022, organised by ULTRA TECH CEMENT LTD.

Jegadheesan K has attended Online course titled 'Environmental Science.' for a period of attended during 16th Feb 2022, through STUDY SECTION.

K Jegadheesan has attended Online course titled 'GRADE 5 SCIENCE ' attended during 26th FEB 2022, through Study Section.

K Jegadheesan has attended Online course titled 'Human Resource Management (HRM) Diploma ' attended during 16th March 2022, through STUDY SECTION.

K Jegadheesan has attended Online Webinar on 'Bridges With External Prestressing Future of Bridge Construction In India' held on 26th Feb 2022, organized by Ultra Tech Cement ltd.

K Jegadheesan has attended Online Webinar on Transport System ' held on 5th March 2022, organized by Dept. of Civil Engineering, SSN College of Engineering, Chennai.

K Jegadheesan has attended Online Webinar on 'Role of Admixtures in Modern Concrete Construction' held on 12th March 2022, organized by Ultra Tech Cement ltd.

Jegadheesan K has attended online webinar on "Global Trends in Sustainable Design of Transport Infrastructure" held on April 09,2022 organized by UltraTech.

K Jegadheesan has attended Online course titled 'GRADE 4 MATHS' attended during 16th March 2022, through STUDY SECTION.

Jegadheesan K has attended online webinar "Understanding inelastic Behaviour in R.C. Building" on 21.05.22, organized by UltraTech Cements Ltd.

Jegadheesan K has attended online webinar "Short Panel Concrete Pavement" on 30.04.22, organized by UltraTech Cements Ltd.

Jegadheesan K has attended online webinar "Theory and Practice in Civil Engineering" on 14.05.22, organized by UltraTech Cements Ltd.

Jegadheesan K has completed online course "Basic Properties of Concrete Materials" conducted by Alison.

Jegadheesan K has participated in Two days Professional Development programme for non-Teaching faculty Skills up gradation between 30.04.22 to 01.05.22 organized by AMET University.

# STUDENTS CORNER

## Students Achievements

Magendra Kamalnath S A and Nithish M has secured 2nd position in the event Icon (Innovative Conference) organised by Amalthea, IIT Gandhinagar on 12.12.2021. ICon(Innovative Conference) is one of the flagship events of Amalthea, Indian Institute of Technology, Gandhinagar. which provides a platform for young entrepreneurs to share their ideas, get inspired, and gain recognition from acclaimed judges by collaborating with them. The theme of Icon this year was Social impact through technical innovation. Team Challengers comprising of Magendra Kamalnath S A - 2nd year civil, Nitesh M - 2nd year civil, Sailesh R - 2nd year IT, Adyant Srinivasan

2nd year ECE and Jameel Ahamed - 2nd year EEE (from Anna University) participated in the event. The first round of Icon required them to submit a 1-minute elevator pitch and an executive summary and after successfully clearing that round they were asked to attend a 4-hour workshop on entrepreneurship. Shortlisting for final round was done based on their responses to a questionnaire, which was an offline round to be held on-campus at IIT Gandhinagar, Gujarat. Nine teams made it to the final round, all with great ideas and tight-knit teams. At the end of the second round, after all teams performed, team challengers were placed in second position.
Magendra Kamalnath S A and Nitesh M has secured 3rd place in startup hackathon conducted on 2nd and 3rd October 21 by SSN College of Engineering, Chennai.

# Students Activity

## Category 1: Student External Recognition Co-curricular

Naveenkumar R has undergone the Industry Oriented Online Live Workshop on "Digital Construction" organized by Construction Management Training Institute, completed on 07.12.2021

Gobbika E has completed the online course titled "Cyber Security and Internet Thinking" conducted by Coursera.

Rakshana SN has successfully completed a Certification course in AUTOCAD during the period of 2021 organised by Wallflower designs and Engineers.

Rakshana SN has successfully completed a Certification course in REVIT during the period of 2021 organised by Wallflower designs and Engineers

Rakshana SN has successfully completed a Certification course in STADDPRO during the period of 2021 organised by Wallflower designs and Engineers.

Nithish M has secured 2nd position in the event Icon (Innovative Conference) organised by Amalthea, IIT Gandhinagar on 12.12.2021.

Abishek Srinivas C has participated in the Cognoscentia - Preliminary Round of Cognoscentia organised by Indian Institute of Information Technology (IIIT), Allahabad

Prashant S has attended online webinar on "New building materials and technologies" held on 23.11.2011, organized by Dept. of civil Engg., SSNCE.

Prashant S has attended online Webinar on Glass as a building material held on 16.11.2021. The event was organized by SSN CE IGBC student chapter.

Sadhana S has successfully completed a Certification course in REVIT during the period of 2021 organized by Wallflower designs and Engineers.

Sadhana S has successfully completed a Certification course in Glass in buildings Design and applications - online during the period of October 2021 by NPTEL

Sadhana S has successfully completed a Certification course in Glass Processing Technology - online- online during the period of October 2021 by NPTEL.

Sreeharini T has successfully completed a Certification course in Glass Processing Technology - online- online during the period of October 2021 by NPTEL.

Adarsh C has attended an online Webinar on Glass as a building material held on 16.11.2021. The event was organized by SSN CE IGBC student chapter.

Adarsh C has attended online webinar on "Panel discussion on QA-QC systems in precast construction" held on Nov.27.2021 organized by UltraTech cement Ltd.
Adarsh C has participated a offline competition "Treasure Hunt" on "8th Dec 2021" for the student, department of Civil Engineering, under the banner of "ICI Student Chapter"

Adarsh C has attended online webinar on "New building materials and technologies" held on 23.11.2011, organized by Dept. of civil Engg., SSNCE.
Magendra Kamalnath S A has secured 2nd place in Icon Innovation conference conducted by IIT Gandhinagar (Offline).

Magendra Kamalnath S A has secured 3rd place in startup hackathon conducted on 2nd and 3rd October 21 by SSN College of Engineering, Chennai.
Magendra Kamalnath S A has Recognised as opportunity builders for improving lives of waste collectors by reyugma.

Abinaya D has Organized an offline competition "Treasure Hunt" on "8th Dec 2021" for the student, department of Civil Engineering, under the banner of "ICI Student Chapter"

Nitesh M has secured 3rd place in startup hackathon conducted on 2nd and 3rd October 21 by SSN College of Engineering, Chennai.
Vinothni S N (2017-21 batch) has secured 6th Rank in Anna University Affiliated Colleges Rank list published during the April/May 2021 examinations.

Harika Madireddy (2017-21 batch) has secured 9th Rank in Anna University Affiliated Colleges Rank list published during the April/May 2021 examinations.

Anne Sherin A (2017-21 batch) has secured 14th Rank in Anna University Affiliated Colleges Rank list published during the April/May 2021 examinations.

Janani J (2017-21 batch) has secured 19th Rank in Anna University Affiliated Colleges Rank list published during the April/May 2021 examinations.

Ashwin Kumar KT has participated in the Technical Even "Snake & Ladder" held on 21.01.2022 organized by SSN-CE

Ashwin Kumar KT has participated in the Technical Even "Entrepreneurship and Innovations as carrier opportunity " held on 12.01.2022 organized by SSN-CE

Abinaya D has organized the Technical Even "Snake & Ladder" held on 21.01.2022 organized by SSN-CE

Rakshana SN has organized the Technical Even "Snake & Ladder" held on 21.01.2022 organized by SSN-CE

Abhishek Srinivas C has participated in the Technical Even "Snake & Ladder" held on 21.01.2022 organized by SSN-CE

Sonika M has participated and secured II place in the Technical Even "Snake & Ladder" held on 21.01.2022 organized by SSNCE

Prashant S has participated in the technical event "Entrepreneurship and Innovations as carrier opportunity " held on 12.01.2022 organized by SSN-CE

Magendra Kamalnath S A has completed the course titled " Blockchain Training Alliance during August 11, 2021 to August 11, 2022.

Magendra Kamalnath S A has participated and secured II place in the Power Point presentation event conducted by NSS unit SSN on 30.12.2021

Sathya Shree T R has organized the "Treasure Hunt" event on 08.12.2021 organized by SSN-CE

Sathya Shree T R has participated in the technical event "Entrepreneurship and Innovations as carrier opportunity " held on 12.01.2022 organized by SSN-CE

Sathya Shree T R has organized the Technical Even "Snake & Ladder" held on 21.01.2022 organized by SSN-CE

Sathya Shree T R has completed the course titled "Design of Steel Structures as per IS800" on 23.01.2022 conducted by Udemy

Nitesh M has participated and secured II place in the Power Point presentation event conducted by NSS unit SSN on 30.12.2021

Nitesh M has completed the online course "Beyond the Sustainable Development Goals" conducted by Coursera

Nitesh M has attended the webinar "Self healing concrete: Promising new development in concrete Technology" on 08.01.2022 organized by UltraTech

Nitesh M has attended the webinar "Fascinating story of Cement & Concrete" on 22.01.2022 organized by UltraTech

C. Adarsh has participated in the technical event "Entrepreneurship and Innovations as carrier opportunity " held on 12.01.2022 organized by SSN-CE

C. Adarsh has participated and secured II place in the Power Point presentation event conducted by NSS unit SSN on 30.12.2021

C. Adarsh has acted as student organizer for the Faculty Development Programme held from 03.01.2022 to 07.01.2022 by SSN-CE

Yogashree M has organized the Technical Even "Snake & Ladder" held on 21.01.2022 organized by SSN-CE

Naresh M has participated in the technical event "Entrepreneurship and Innovations as carrier opportunity " held on 12.01.2022 organized by SSN-CE

Naresh M has organized the Technical Even "Snake & Ladder" held on 21.01.2022 organized by SSN-CE

Subiksha R S has participated in the technical event "Entrepreneurship and Innovations as carrier opportunity " held on 12.01.2022 organized by SSN-CE

Kuchi Phani Soumika has participated in the technical event "Entrepreneurship and Innovations as carrier opportunity " held on 12.01.2022 organized by SSN-CE

Kavin S has participated in the technical event "Entrepreneurship and Innovations as carrier opportunity " held on 12.01.2022 organized by SSN-CE

Haribabu S has participated in the technical event "Entrepreneurship and Innovations as carrier opportunity " held on 12.01.2022 organized by SSN-CE

Meenaksi V has completed Internship work in collecting traffic data using unmanned aerial vehicles in Chennai from 13.12.2021 to 17.12.2021 under the guidance of Dr. Venkatesan Kanagaraj, IIT Kanpur.

Naveen Kumar R has completed Internship work in collecting traffic data using unmanned aerial vehicles in Chennai from 13.12.2021 to 17.12.2021 under the guidance of Dr. Venkatesan Kanagaraj, IIT Kanpur.

Vishnu Balaji M has completed Internship work in collecting traffic data using unmanned aerial vehicles in Chennai from 13.12.2021 to 17.12.2021 under the guidance of Dr. Venkatesan Kanagaraj, IIT Kanpur.

Tanishka Priyadarshini R has completed Internship work in collecting traffic data using unmanned aerial vehicles in Chennai from 13.12.2021 to 17.12.2021 under the guidance of Dr. Venkatesan Kanagaraj, IIT Kanpur.

Sadhana S has completed Internship work in Modernization of Chennai Air [port Phase1 in accordasnce with our management norms and procedures at Larsen & Toubro, Chennai from 22.12.2021 to 31.12.2021

C. ADARSH, attended a webinar organized by: ICE (UK), The Institution of Civil Engineers and a globally recognized professional, on:28.1.2022

C. ADARSH, attended a webinar: Durability and Sustainability are the keys to HPC Structures, organized: Durability and Sustainability are the keys to HPC Structures, on 17.2.2022

Sathya Shree T R has Completed "Construction Project Management" course offered by Columbia University in Coursera on 21.02.2022.

Magendra Kamalnath S A was selected as the Campus Ambassador of CHAOS 2022, The Annual Cultural Fest of IIM Ahmedabad.

Nithish M has participated in the episode of “Creativerse” featuring Shakthi Singh Shekhewat organized by E-Cell NIT B as a part of E-summit

Nithish M has participated in the episode of “Creativerse” featuring Dimple Arora organized by E-Cell NIT B as a part of E-summit

Nithish M has participated in the episode of “Creativerse” featuring Royal Jordanian organized by E-Cell NIT B as a part of E-summit

Nithish M has participated in the episode of “Creativerse” featuring Royal Shagun Malhotra organized by E-Cell NIT B as a part of E-summit

Nithish M has participated in the episode of “Creativerse” featuring Royal Prerna Malhan organized by E-Cell NIT B as a part of E-summit

Nithish M has participated in the episode of “Creativerse” featuring Royal David Massan Son Gabriel organized by E-Cell NIT B as a part of E-summit

Kuchi Phani Soumika has attended online webinar on "TRANSPORT SYSTEMS" held on Mar 5, 2022, organized by Dept. of Civil Engineering, SSN College of Engineering, Chennai.

C. ADARSH has attended online webinar on " Why should we use GGBS in concrete?" held on March 10,2022 organized by Qcrete Readymix (INDIA) PVT LTD.

C. ADARSH has attended online webinar on "TRANSPORT SYSTEMS" held on Mar 5, 2022, organized by Dept. of Civil Engineering, SSN College of Engineering, Chennai.

Vikram P G has attended in a webinar on Rocket Propulsion, Propellants and Its Manufacturing held of 12th Feb 2022 Organized by Kumaraguru Institutions.

Vikram P G has participated in the Oratorical Competition on "Role of Construction in Nation Building " held on 21st October 2021 at Chennai in Commemoration of the Builder’s Day Celebrations.

Vikram P G has qualified in GATE 2022 - Civil Engineering with a score of 347/1000.

Vikram P G has organized a speed cubing competition SSN CUBE OPEN 2022 on 12th March 2022. It is an official WCA competition, conducted by the Department of Mathematics, SSNCE.

Nithish M has been awarded Merit certificate for submitting Meritorious Proposal in Cyber-security Startup Challenge Organized IIT Kanpur from 17.09.2021 to 25.02.2022.

Tanishka Priyadarshini R has participated in Women's Day Programme "Women Entrepreneurship in Civil Engineering" organized by ICI- Chennai Centre & Easwari Engineering College in collaboration with UltraTech Cement Limited, on Tuesday, 8th March 2022.

Abishek Srinivas has Participated in the online Training programme on "Industrial Construction" held on Mar 10 - 15, 2022, organized by Construction Management Training Institute (CMTI)

Sonika M has Participated in the online Training programme on "Industrial Construction" held on Mar 10 - 15, 2022, organized by Construction Management Training Institute (CMTI)

Kesavan J has Participated in the online Training programme on "Preparation of Barbending Schedule" held on March 31 - April 20, 2022, organized by Construction Management Training Institute (CMTI)

Tanishka Priyadharshini Ramesh has Participated in the online Live Workshop on "Preparation of Barbending Schedule" held on Jan 12 - 19, 2022, organized by Construction Management Training Institute (CMTI)
Tanishka Priyadharshini has completed his internship from 17th Jul 21 to 31st Jul 21 at Chennai Airport MLCP project Chennai in accordance with our management norms and procedures and submitted a project report.

Naveen Prasath M has completed his internship from 17th Jul 21 to 31st Jul 21 at Chennai Airport MLCP project Chennai in accordance with our management norms and procedures and submitted a project report.

Tanishka Priyadharshini has completed the internship work in the form of assisting us in collecting traffic data using unmanned aerial vehicles on selected road sections in Chennai city, from 13 Dec 2021 to 17 Dec 2021.

Magendra Kamalnath S A has Participated in the start-up track of "HCL Cyber security hackathon" held on 17th September 2021 - 29th January 2022
conducted by IIT Kanpur

C.ADARSH has Participated in "Pitch It Please" event conducted at Corona 7.0 by the department of electronics and communications engineering, SSNCE on 21st March, 2022.

C.Adarsh has completed Course on AutoCAD Essential during the of month March & April (Duration of 40 hrs) in the CADD centre training services, Velachery

Nitesh M has Participated in the online Training programme on "Industrial Construction" held on Mar 10 - 15, 2022, organized by Construction Management Training Institute (CMTI)

Nitesh M has got a Certificate Of Merit for their team submitting a meritorious proposal in Cyber security Startup Challenge held on 25 Feb 2022, conducted by IIT Kanpur

Nitesh M has attended online webinar on "Developing sustainable & Durable concrete with plastic waste" held on Mar 5, 2022, organized by Ultra Tech cement Ltd.

Nitesh M has participated in disrupt: The Ultimate Pitching Battle conduct during Udgam - The Annual Entrepreneurship summit of IIT Guwahati organized by E - Cell, IIT Guwahati

Sathya Shree T R has organized the International Conference on Sustainable Practices and Innovations in Civil Engineering (SPICE) 2022, held on 16th and 17th March 2022, organized by the Department of Civil Engineering, Sri Sivasubramaniya Nadar College of Engineering, Chennai.

Abishek Srinivas C, III Year, has Participated in a National Level Technical Symposium and awarded Ist Prize for the participation in Non-Technical Quiz on 21 May 2022, organized by Department of Civil Engineering, University VOC college of Engineering, Thoothukudi.

Abishek Srinivas C, III Year, has Participated in a National Level Technical Symposium and awarded IInd Prize for the participation in English event on 21 May 2022, organized by Department of Civil Engineering, University VOC college of Engineering, Thoothukudi.

Abishek Srinivas C, III Year, has Participated in a National Level Technical Symposium and awarded Ist Prize for the participation in Code Cracking (Civil) event on 21 May 2022, organized by Department of Civil Engineering, University VOC college of Engineering, Thoothukudi.

Grandhe Vishnu Prathap, IV Year, has attended online webinar on " Brief history of future tech" from Bridge Campus Learning Series conducted by "Deloitte USI" held on 6th may 2022.

Grandhe Vishnu Prathap, IV Year, has attended online Quiz on " Brief history of future tech" from Bridge Campus Learning Series conducted by "Deloitte USI" held on 7th may 2022.

G Gaayathri Sangavi, II Year, has completed the Online NPTEL course on "Air Pollution and control", from Jan - April 2022 (12 weeks course)

Lavanya J, II Year, has completed the Online NPTEL course on "Air Pollution and control", from Jan - April 2022 (12 weeks course)

M. Yaashika, II Year, has completed the Online NPTEL course on "Air Pollution and control" from Jan - April 2022 (12 weeks course)

Javith S, III Year, has attended online webinar on "Staad Pro for Future Infrastructure " held on May 18, 2022, organized by Dept. of Civil Engineering, SSN College of Engineering, Chennai.

C. Adarsh, II Year, has attended online webinar on " Mix Design of Self Compacting Concrete " held on April 26, 2022, organized by Dept. of Civil Engineering, SSN College of Engineering, Chennai.

C. Adarsh, II Year, has attended online webinar on " Staad Pro for Future Infrastructure " held on May 18, 2022, organized by Dept. of Civil Engineering, SSN College of Engineering, Chennai.

Abinaya.D, III Year, has attended online webinar on " Staad Pro for Future Infrastructure" held on May 18, 2022, organized by Dept. of Civil Engineering, SSN College of Engineering, Chennai.

Abinaya.D, III Year has completed an Internship Programme in "construction planning and management" from 01-02-22 to 31-03-22 Organized by VERZEO

Vikram P G, IV Year, has completed the Online NPTEL course on "Introduction to Machine Learning (Tamil) by IITM from Jan to Feb 2022 (4 Week Course).

Vikram P G, IV Year, has attended Workshop on "Engineering Application of Finite Elements Methods " conducted by Moments' 22 at NIT Trichy on 09-04-22.

Vikram P G, IV Year has Participated in the online Training programme on "Industrial Construction" held on Mar 10 - 15, 2022, organized by Construction Management Training Institute (CMTI)

Vikram P G, IV Year, has Participated in the online Training programme on" Preparation of Bar bending Schedules" held on 31 March to 20 April, 2022, organized by Construction Management Training Institute (CMTI)

Sonika M, III Year, completed an online training programme on Project Planning using MS Project Software between 25th April and 4th May 2022 offered by Construction Management Training Institute.

C Abishek Srinivas, III Year, completed an online training programme on Project Planning using MS Project Software between 25th April and 4th May 2022 offered by Construction Management Training Institute.

# Placement Details

**Dhanush J  IV Year Civil Engineering**

I thank all the faculty members of the Civil Engineering department, SSNCE, fellow students, and friends for their guidance and moral support, which was my dynamo and moving power throughout my journey at SSN, and for my achievements at SSN. My chief motive to start at SSN is to make a better version of me in all aspects. I always believe that "Rome wasn't built in a day," so I uses to take out small time of the day after classes I started to learn different skills which is apart from my domain like Management, Content developing skills etc through online courses which helped me a lot to attend the placement process .At the time of rejection  I felt low as if things were not going as they were meant to be, but there was no other go but to push myself. I am elated that everything paid off. Now I have two job offers in my interested domain. I am always grateful to everyone who believed and made me to achieve. The environment of our campus and department always supported in my advancement and overall growth.

Triple job offers

1. Company name: Six Phrase
   Job role: Content Developer
   CTC: 5.5 LPA
2. Company name: My captain
   Job role: Business development executive
   CTC: 4.5 LPA
3. Company name: L1
   Job role: Fulfilment associate
   CTC: 3.5 LPA

Warm Greetings! Myself Prabhakaran. P of Final Year Civil. The best way to find your suitable path is by exploring places, that's what I did since I joined SSN. Not limiting myself only to the academics, I participated in many platforms irrespective of the domain, some of those are Model United Nations, Revival Design Camp, Core related symposiums and competitions, Market Analysis Competition e.t.c. But when I came to my final year, I had a responsibility with myself to solidify a career path for the next phase of my life. I was not interested in core and also not fully inclined towards the Software field too, hence I was looking for any other opportunity that could make use of my potential and could interest me in bringing out the best in me for the rest of my life. That's when I came to know about Management Consulting and Analytics Firm Companies' participation in our campus placement drive. From the start of the placement season, I was specifically focused on those companies and directed my preparation accordingly. There were around 3 to 4 companies in that category that gave eligibility to the civil department, which includes Mckinsey&Company Thorogood, and Latent View. At McKinsey&Company, I went on to 3rd round and got eliminated, as the company would select the best of the best in each of the interview round. I was not able to attend Thorogood, since the company had a CGPA criterion. In the meantime, Day 1 companies such as TCS, and Cognizant were in their recruitment stage, and I participated in both of the companies since I should have a backup opportunity if I didn't end up with my targeted companies. For both TCS and Cognizant, I was shortlisted for the interview round and the first round was completely aptitude in case of Cognizant, whereas TCS's first round had both aptitude and coding portion. Regarding the interview round, cognizant interview was a bit easier, where they asked me to tell about myself, followed by questions based on my resume, questions such as "Why I wanted to join Cognizant?" and a few aptitude questions. After completing this round, I had an HR round and was given an offer for the Gen-C role.

Regarding the TCS interview, they screwed me up by finding out if my intention to join TCS was real and as to my expectation, I got rejected. Upon receiving my offer from Cognizant, I was still desperate for companies that I aimed for, then came the Latent View Analytics. It comprised 5 rounds including an HR round; the first round was a complete aptitude round; the second round was a Group Discussion, where they mainly assess our way of communication and presentation over the content; the third round was a gaming round, which we played in a mobile app via the link shared by the company, this game evaluates our spontaneous thinking and gives a score based on our performance; the fourth round was a technical round, where they would test the basic technical skill of our preferred programming knowledge and they would assess our analytical thinking by asking situational based questions; the final round was HR Round, upon its completion I received the offer for the role of "Analyst".

It is in the engineering final year where the actual reality of getting employed hits you. Great are the people who are supporting us in our first step, hopeful to have them in many more. I, Rakshitha S, student of Civil Engineering, feel very elated to tell that I got 2 job offers through my college's campus drive. It was an accomplishing experience to get placed during the initial phase of the placement session at Cognizant . But for me ," The path to success is to take massive determined action " and my dream is to get a job in a core company and couldn't settle for anything less .So I did whatever it took to reach there and eventually got placed at TECHNIP ENERGIES. I take this as an occasion to thank my college ,my professors, friends and the Placement Cell that took a number of measures to ensure that students get properly placed and made best use of opportunities available for us. I wish good luck to the coming batches of my university.

In the end I just want to say : " Don't settle in anything less than the BEST for your FUTURE".

# Placements in AY 2021-22

The placements in AY2021-2022 have been extremely fruitious for our Department of Civil Engineering. Students showed great zeal and enthusiasm in appearing for placements and COVID did not hamper either the placements or the preparation by the students towards their selection. Our Department of Civil Engineering can proudly announce now that we have successfully placed 37 students out of 53 registered students, roughly 70% effective placement. This is the highest recorded placement since the inception of our department. All the credit goes to our students who have not deterred in their effort and their continuous momentum in pursuing the milestone come what may. The ardour of our Head of Department in improving the placements are in no small measures and they are visibly evident through this diligence and perseverance in bringing core civil engineering companies for placements. Notable companies like Hochtief, Savils, Cowi, Conserve solutions, Perfect Steel, Auger Engineers were contacted, briefed about our department and requested for taking our students as trainee engineers by our HOD. Around 5 students have been successfully placed in these companies while 46 offers were received through on campus. Apart from placements, our students have also secured admissions from prestigious overseas universities like Sheridan College Institute of Technology, Reyerson University Canada, UC Davis and Purdue University United States for Master's in Civil Engineering. With this encouragement and determination, we strive to move forward with our heads held high in to the successive academic year 2022- 2023.

Dr. Aswin Sriram G.
Faculty Placement Coordinator - Civil

# ARTICLES

## Student Article

### World Biggest Dam

K. KARAN II Year Civil Engineering

The **Three Gorges Dam** is a hydroelectric gravity dam that spans the Yangtze River by t he town of Sandouping, in Yiling District, Yichang, Hubei province, central China, downstream of the Three Gorges. The Three Gorges Dam has been the world's largest power station in terms of installed capacity (22,500 MW) since 2012. The dam generates an average 95±20 TWh of electricity per year, depending on annual amount of precipitation in the river basin. After the extensive monsoon rainfalls of 2020, the dam's annual production nearly reached 112 TWh, breaking the previous world record of ~103 TWh set by Itaipu Dam in 2016.

The dam body was completed in 2006. The power plant of the dam project was completed and fully functional as of July 4, 2012, when the last of the main water turbines in the underground plant began production. Each main water turbine has a capacity of 700 MW. Coupling the dam's 32 main turbines with two smaller generators (50 MW each) to power the plant itself, the total electric generating capacity of the dam is 22,500 MW. The last major component of the project, the ship lift, was completed in December 2015.

As well as producing electricity, the dam is intended to increase the Yangtze River's shipping capacity. By providing flood storage space, the dam reduces the potential for floods downstream which have historically plagued the Yangtze Plain. In 1931, floods on the river caused the deaths of up to 4 million people. As a result, China regards the project as a monumental social and economical success, with the design of state-of-the-art large turbines, and a move toward limiting greenhouse gas emissions. However, the dam has caused ecological changes including an increased risk of landslides. Because of that, the dam has been controversial both domestically and abroad.

## History


Map of the location of the Three Gorges Dam and the most important cities along the Yangtze River

A large dam across the Yangtze River was originally envisioned by Sun Yat-sen in The International Development of China, in 1919. He stated that a dam capable of generating 30 million horsepower (22 GW) was possible downstream of the Three Gorges. In 1932, the Nationalist government, led by Chiang Kai-shek, began preliminary work on plans in the Three Gorges. In 1939, during the Second Sino-Japanese War, Japanese military forces occupied Yichang and surveyed the area. A design, the Otani plan, was completed for the dam in anticipation of a Japanese victory over China.

In 1944, the United States Bureau of Reclamation's head design engineer, John L. Savage, surveyed the area and drew up a dam proposal for the 'Yangtze River Project'. Some 54 Chinese engineers went to the U.S. for training. The original plans called for the dam to employ a unique method for moving ships: the ships would enter locks located at the lower and upper ends of the dam and then cranes would move the ships from one lock to the next. Groups of craft would be lifted together for efficiency. It is not known whether this solution was considered for its water-saving performance or because the engineers thought the difference in height between the river above and below the dam too great for alternative methods.[30] Some exploration, survey, economic study, and design work was done, but the government, in the midst of the Chinese Civil War, halted work in 1947.

After the 1949 Communist Revolution, Mao Zedong supported the project, but began the Gezhouba Dam project nearby first, and economic problems including the Great Leap Forward and the Cultural Revolution slowed progress. After the 1954 Yangtze River Floods, in 1956, Mao Zedong wrote "Swimming", a poem about his fascination with a dam on the Yangtze River. In 1958, after the Hundred Flowers Campaign, some engineers who spoke out against the project were imprisoned.

During the 1980s, the idea of a dam reemerged. The National People's Congress approved the dam in 1992: out of 2,633 delegates, 1,767 voted in favour, 177 voted against, 664 abstained, and 25 members did not vote, giving the legislation an unusually low 67.75% approval rate. Construction started on December 14, 1994. The dam was expected to be fully operational in 2009, but additional projects, such as the underground power plant with six additional generators, delayed full operation until May 2012. The ship lift was completed in 2015. The dam had raised the water level in the reservoir to 172.5 m (566 ft) above sea level by the end of 2008 and the designed maximum level of 175 m (574 ft) by October 2010.

## Composition and dimensions

Model of the Three Gorges Dam looking upstream, showing the dam body (middle left), the spillway (middle of the dam body) and the ship lift (to the right).

Model of the Three Gorges Dam showing the ship lift and the ship lock. The ship lift is to the right of the dam body with its own designated waterway. The ship locks are to the right (northeast) of the ship lift.

Earthfill south dam in foreground with view along main dam. The wall beyond is to separate spillway and turbine flows from the lock and ship lift upstream approach channel. A similar separation is used on the downstream side, seen partially in the preceding image.

Made of concrete and steel, the dam is 2,335 m (7,661 ft) long and the top of the dam is 185 m (607 ft) above sea level. The project used 27.2 million m3 (35.6 million cu yd) of concrete (mainly for the dam wall), used 463,000 tonnes of steel (enough to build 63 Eiffel Towers), and moved about 102.6 million m3 (134.2 million cu yd) of earth. The concrete dam wall is 181 m (594 ft) high above the rock basis.

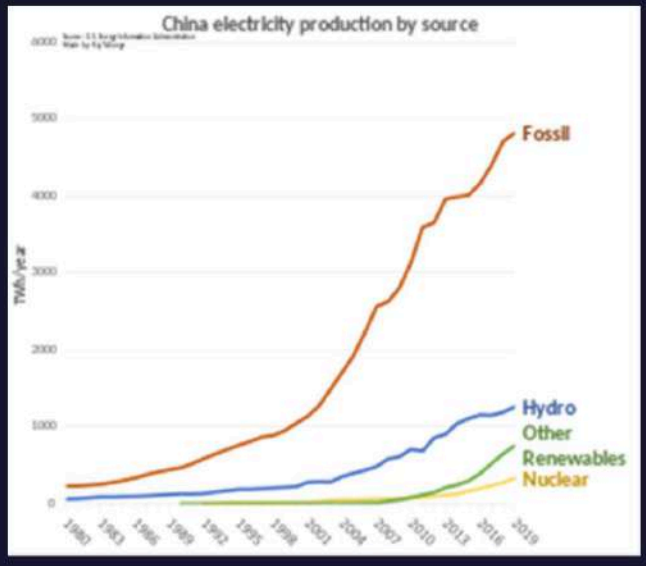
When the water level is at its maximum of 175 m (574 ft) above sea level, 110 m (361 ft) higher than the river level downstream, the dam reservoir is on average about 660 km (410 mi) in length and 1.12 km (3,675 ft) in width. It contains 39.3 km3 (31,900,000 acre·ft) of water and has a total surface area of 1,045 km2 (403 sq mi). On completion, the reservoir flooded a total area of 632 km2 (244 sq mi) of land, compared to the 1,350 km2 (520 sq mi) of reservoir created by the Itaipu Dam.

## Economics

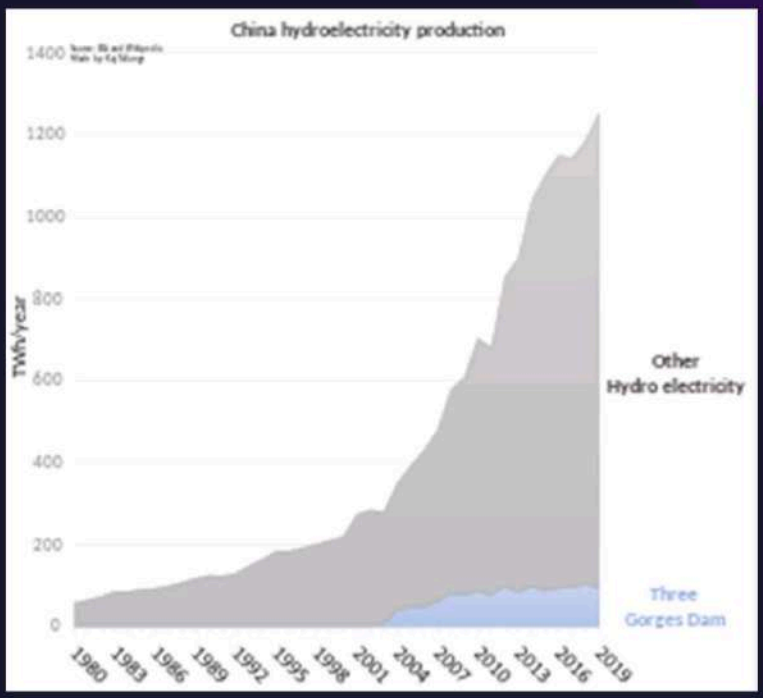
The government estimated that the Three Gorges Dam project would cost 180 billion yuan (US$22.5 billion). By the end of 2008, spending had reached 148.365 billion yuan, among which 64.613 billion yuan was spent on construction, 68.557 billion yuan on relocating affected residents, and 15.195 billion yuan on financing. It was estimated in 2009 that the construction cost would be recovered when the dam had generated 1,000 terawatt-hours (3,600 PJ) of electricity, yielding 250 billion yuan. Full cost recovery was thus expected to occur ten years after the dam started full operation, but the full cost of the Three Gorges Dam was recovered by December 20, 2013.

Funding sources include the Three Gorges Dam Construction Fund, profits from the Gezhouba Dam, loans from the China Development Bank, loans from domestic and foreign commercial banks, corporate bonds, and revenue from both before and after the dam was fully operational. Additional charges were assessed as follows: Every province receiving power from the Three Gorges Dam had to pay ¥7.00 per MWh extra. Other provinces had to pay an additional charge of ¥4.00 per MWh. The Tibet Autonomous Region pays no surcharge.

## Power generation and distribution



Electricity production in China by source. Compare: The fully completed Three Gorges dam contributes about 100 TWh of generation per year.




Three Gorges Dam compared to all other Chinese hydroelectricity production
Power generation is managed by China Yangtze Power, a listed subsidiary of China Three Gorges Corporation (CTGC) – a Central Enterprise SOE administered by SASAC. The Three Gorges Dam is the world's largest capacity hydroelectric power station with 34 generators: 32 main generators, each with a capacity of 700 MW, and two plant power generators, each with capacity of 50 MW, making a total capacity of 22,500 MW. Among those 32 main generators, 14 are installed in the north side of the dam, 12 in the south side, and the remaining six in the underground power plant in the mountain south of the dam. Annual electricity generation in 2018 was 101.6 TWh, which is 20 times more than the Hoover Dam.

# OPENFLOWS WATERCAD – WATER DISTRIBUTION MODELING AND ANALYSIS SOFTWARE

AMITH KRISHNA. M
2ND YEAR CIVIL

Utlities and engineering firms around the world trust OpenFlows WaterCAD as a reliUable decision-support tool for their infrastructure. Design new water systems and manage existing water networks effectively to reduce disruption risks and energy use. OpenFlows WaterCAD's ease-of-use helps you successfully plan, design, and operate water distribution systems:

Increase capacity to adequate service levels.

Supply clean potable water without interruption.

Deliver high quality designs cost effectively.

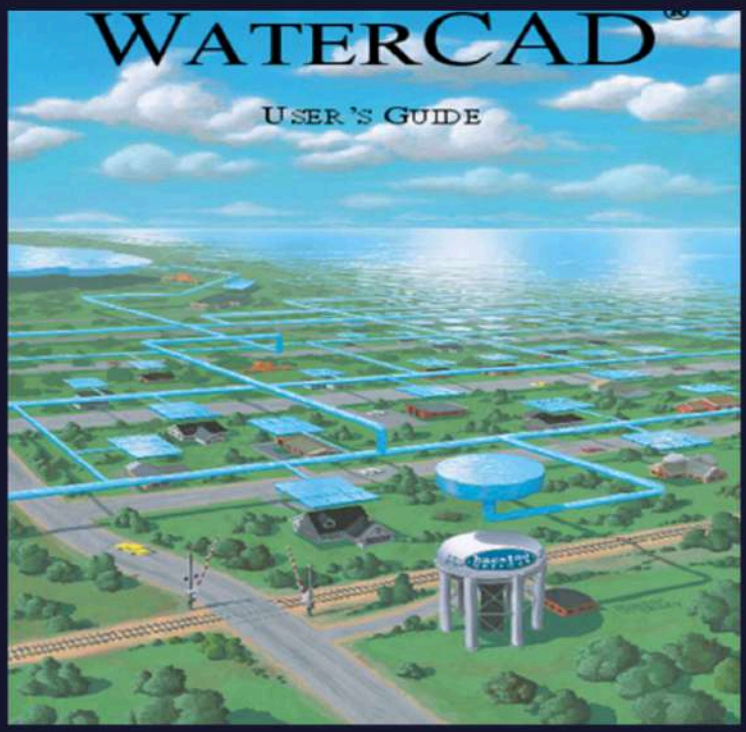
WaterCAD helps you improve design productivity, with:

**Streamlined model building:** Leverage and import virtually any external data format to jumpstart the model accurately, easily allocate water demands, and automate terrain extraction and node allocation.

**Organized assessment of alternatives:** Assess and compare an unlimited number of physical, design, water demand, network topology, and operational scenarios.

CAD interoperability: Model in a familiar platform, leveraging CAD tools and shortcuts when using OpenFlows WaterCAD from within MicroStation or AutoCAD. You can also choose to use OpenFlows WaterCAD as a stand-alone application, for additional flexibility.

OpenFlows WaterCAD is a subset of OpenFlows WaterGEMS. Use OpenFlows WaterGEMS to also run your model from within ArcGIS and for optimization modules (calibration, design, pump scheduling, pipe assessment, SCADA integration, and network simplification).




## Capabilities:

**Assess fire flow capacity**

Use a water distribution hydraulic model to access and identify where fire protection is inadequate. Design improvements such as the sizing and location of pipes, pumps, and tanks in order to meet fire-flow and protection requirements.

**Analyze pipe and valve criticality**

Find the weak links in water distribution systems and assess the adequacy of isolation valves. Evaluate the ability to isolate portions of the system and serve customers using different valve locations. OpenFlows WaterCAD/WaterGEMS automatically generates network segments once the isolation valve data is supplied.

**Build and manage hydraulic models**

Jumpstart the model-building process and manage your model effectively, so that you can focus on making the best engineering decisions. Leverage and import virtually any external data format, which maximizes ROI on geospatial and engineering data, and automate terrain extraction and node allocation.

**Design water distribution systems**

Use hydraulic model results to help optimize the design of complex water distribution systems and utilize built-in scenario management features to keep track of design alternatives. Alternatively, WaterGEMS users can optimize the design for you using the built-in Darwin Designer network optimization tool.

**Develop flushing plans**

Optimize flushing programs with multiple conventional and unidirectional flushing events in a single run. Increase velocity in mains to flush out solids and stale water, with the primary indicator of the success of flushing being the maximum velocity achieved in any pipe during the flushing operation.

**Identify water loss**

Conserve water and increase revenues by reducing water loss. Leverage flow and pressure data to find locations for detailed sonic leak detection (OpenFlows WaterGEMS only). Study the amount by which you can expect to reduce leakage by reducing pressure and see the impact on customer service.

**Manage energy use**

Model pumps accurately using hydraulic modeling, including complex pump combinations and variable speed pumps, to understand the impact that different pump operational strategies have on energy usage. Minimize energy related to pumping costs while maximizing system performance.

## SELF HEALING CONCRETE

- YASHOVARDHAN V (3RD YEAR)

Self-healing concrete is mostly defined as the ability of concrete to repair its cracks autogenously or autonomously. It is also called self-repairing concrete.

Cracks in concrete are a common phenomenon due to its relatively low tensile strength. Durability of concrete is impaired by these cracks since they provide an easy path for the transportation of liquids and gases that potentially contain harmful substances. If microcracks grow and reach the reinforcement, not only the concrete itself may be attacked, but also the reinforcement steel bars will be corroded. Therefore, it is important to control the crack width and to heal the cracks as soon as possible. Self-healing of cracks in concrete would contribute to a longer service life of concrete structures and would make the material not only more durable but also more sustainable.

Self-healing is actually an old and well-known phenomenon for concrete as it possesses some natural autogenous healing properties. Due to hydration of clinker minerals or carbonation of calcium hydroxide (Ca(OH)2), cracks may heal after some time. However, autogenous healing is limited to small cracks and is only effective when water is available, thus making it difficult to control.

Many self-healing approaches are proposed. They mainly include,

- Autogenous self-healing method
- Capsule-based self-healing method
- Vascular self-healing method
- Electrodeposition self-healing method
- Microbial self-healing method

For example, some research findings are listed below,

- Edvardsen found that the greatest potential for autogenous healing exists in early age concrete.
- Mihashi used urea-formaldehyde microcapsules (diameter 20–70 μm) filled with epoxy resin and gelatin microcapsules (diameter 125–297 μm) filled with acrylic resin to achieve self-healing of concrete under compression and splitting.
- Joseph made use of an air-curing healing agent, provided by glass tubes. One end of the tubes was open to the atmosphere and curved to supply healing agents. When the tubes become depleted after concrete cracking occurs, additional agents could be added via the open end to allow healing of wider cracks.
- Otsuki proposed the electrodeposition method as a means of repair for cracked concrete structures and investigated the effects of this method on various concrete properties.
- Jonkers investigated the potential of bacteria to act as self-healing agents in concrete, i.e., their ability to repair occurring cracks. They proved that application of bacterial spores as self-healing agents appears promising.
- Kuang and Ou found that the SMA wire as reinforcing bar can make cracks close and perform the task of emergency damage repair in concrete structures.

So , this was a short note on self healing concrete and the different approaches taken to make them industry ready . What do you guys think, will self healing concrete be an important part of civil engineering in the immediate future ?

# Kelly Johnson-Leader skunk

- NAVEEN KUMAR.M
3rd YEAR

Clarence Leonard Johnson was born in 1910, the seventh of nine children, in Ishpeming, on Michigan's Upper Peninsula. His family, Swedish immigrants, was poor; their lives were only a step or two above those of frontiersmen. His mother took in laundry and the young Clarence sometimes delivered the wash on his wagon or sled. Ashamed of his family's poverty, he kept to the back alleys on days when the streets were crowded. "I vowed that one day I'd return to Ishpeming not on the back streets but the best streets," he wrote in his 1985 autobiography, Kelly: More Than My Share of It All.

Johnson was an American stereotype: the poor but hard-working lad who makes his way to the top. Smart, talented, and intensely ambitious, he possessed the self-confidence of gifted youth.

His father ran a construction company, resulting in him falling in love with tools and practices. A born engineer "I knew I wanted to design airplanes since I was twelve years old," he once said. Johnson was 13 years old when he won a prize for his first aircraft design. There began the journey of the aerospace giant.

Attending the University of Michigan on scholarship, Kelly Johnson—he had acquired the nickname in grammar school—studied aeronautical engineering and made spending money by developing streamlined bodies for various clients, including Studebaker, in the university's wind tunnel. In 1933, during his final postgraduate year, he and his professor, Edward Stalker, evaluated a model sent from the small California firm of Lockheed. Stalker judged the stability of the twin-engine, 10-seat airliner acceptable; Johnson disagreed. But the standards of the era were lax, and a university wind tunnel was perhaps loath to issue verdicts that would alienate clients.

**Joining lockheed:**

After getting his master's degree, Johnson went to work at Lockheed as a tool designer. Ignoring elementary principles of office politics, he immediately informed the chief engineer, Hall Hibbard, that his Model 10 Electra was dangerously unstable. His opinions were expected brushed aside. Instead, Hibbard sent the young apprentice back to the University wind tunnel with the big Electra model crammed into the back seat of his car.

In a series of wind tunnel tests, Johnson removed the model's large wing-root fairings and replaced its central vertical fin with smaller ovals set at the tips of the horizontal stabilizer. A natural arrangement for a twin-engine airplane, the design ensured that if one engine failed, the slipstream of the other would be blowing over one rudder, helping to keep the airplane flying straight.

Johnson's modifications solved the airplane's stability problems, and he returned to Burbank a hero. Leaving tool design behind, at 23 he joined the ranks of Lockheed's five other aeronautical engineers.

Early in 1938, several Lockheed executives traveled to England to pitch a militarized version of the Model 14 Super Electra to the British, who were hastily restocking their armories. The executives took Johnson with them. The British were interested, but they wanted major changes. Working through a 72-hour holiday weekend with almost no sleep, Johnson redesigned the airplane and had weight, performance, and cost estimates ready on Tuesday morning. It was when, he proved his mettle in Lockheed that he was capable of a leadership role. As a result, the Air Ministry ordered 250 airplanes which was the largest order ever placed with an American manufacturer. That year, Johnson was named chief research engineer.

Skunk Works:

In 1943, the USAAF was becoming concerned about Germany's development of jet fighters far superior in performance to anything the Allies had. A timid initial American experiment with jet propulsion, the Bell XP-59, had yielded an uninspiring airplane whose performance was inferior to that of propeller-driven types. Lockheed proposed a jet engine and airframe, and when Johnson promised the commanding officer of Wright Field in Ohio a jet airplane in six months, he had a letter of intent in hand within hours.

Johnson flew back to Burbank to present the project to Lockheed president Robert Gross. The company was working for the war; with three shifts a day, six days a week, it produced 28 airplanes daily. There was no space and there were no people for another project. But Gross, who thought
Johnson walked on water, okayed the project and put him in charge of it.

In 1938, He was assigned the task of heading a team to develop the prototype of a fighter jet to compete with the German ones. Due to the lack of office space, he set up a secret shop beside the wind tunnel in a space, walled with wood from Hudson engine crates and roofed with a circus tent.

This marked the beginning of the legendary Skunk Works division, from which would emerge the F-90, F-94, F-104, and U-2, as well as a number of less-than-secret projects for which, during slack periods, the Skunk Works would produce prototypes. The Skunk Works put Johnson into a unique position among airplane designers. Those aircraft were all produced under budget and on time, using an absolute minimum number of people working in an atmosphere of exceptional innovation. Under Kelly's direction and management, the name Skunk Works became synonymous with a unique management style that encourages creativity, responsibility, accountability, and trust.

The birth of the Sr 71:

The hydrogen-fueled Suntan project having been scrapped, the CIA now requested a conventionally fueled airplane of similar performance: Mach 3-plus cruise for 4,000 miles at extremely high altitude.

Under the internal name Archangel, Skunk Works— worked around a seemingly random series of designs powered by jets, rockets, and ramjets or, in one case, all three. None of them was capable of the required speed, height, and range. The project was dropped in frustration, except that at the time the Skunk Works had little else to occupy it.

Their ideas eventually converged, however, on a delta with two big jet engines and an extremely long fuselage with a peculiar cross-section.

The design presented two unprecedented challenges: aerodynamic heating—at the Blackbird's 2,000-mph cruising speed, the friction of air would soften and crumple an aluminum airframe—and making jet engines run at 80,000 feet, where the atmosphere has only one-sixteenth the density it has at sea level. Most aircraft projects, even pioneering ones, involve known materials and techniques, and make some use of the proven features of their precursors. It required complete research in the fabrication of a new structural material, titanium; new fuel and lubricants; new fittings, wiring, and insulators; new sealants and fasteners; new nacelle designs and airframe aerodynamics; new ways to defeat radar; and new environmental systems to keep the pilot from roasting in his seat. The Blackbird remains, 50 years later, the highest performing jet airplane ever built: Nothing else has ever equaled its combination of speed, altitude, range, and, incidentally, spectacular good looks.

Leadership style:

Kelly Johnson's Skunk Works was a revolt against the formalities of conventional industry. It was a throwback to a time when airplanes were created by small, elite teams.

Johnson is sometimes cited as the originator of the KISS principle which stands for" keep it simple, stupid, and his famed "down-to-brass-tacks" management style was summed up by his motto, "Be quick, be quiet, and be on time." He ran Skunk Works by "Kelly's 14 Rules
He also was acclaimed for his unique leadership qualities and his distinctive management style and philosophy.

14 principles of management:
He devised and enforced fourteen basic management rules that have been widely cited in publications such as A Passion for Excellence. Kelly supplemented his formal operating principles with memorable axioms such as "if you can't do it with brainpower, you can't do it with manpower or overtime" and "be quick, be quiet, be

Legacy:

To this day, Kelly Johnson's resume of accomplishments reads like a list of the most iconic airplanes in aviation history.

Kelly was offered the position of company president an unprecedented three times, but declined each time to oversee Skunk Works, where he remained a senior advisor even after his formal retirement in
1975.

Years later, he fell and broke his hip. He never left the hospital after that. Increasingly eroded by senility, he lived another four years. The towering Kelly Johnson of legend faded slowly away; he
died on December 21, 1990. He was buried in the foothills south of Burbank Airport, where his career began. There he sleeps, and the jets wheel overhead.

In total, Johnson shepherded some forty military and civilian aircraft into production. Countless medals and honors followed, including Collier Trophies, the Medal of Freedom, National Medal of Science, and National Security Medal.

Not only a designer and engineer, Johnson was a salesman as well, and an energetic promoter of himself and his ideas.

Ben Rich, Johnson's protégé, described Johnson's ability to predict a temperature, weight, or pressure instantly and accurately, unlike others, who could only arrive at the numbers by long calculations.

These were some of the qualities he possessed, which we could learn from.
He will always be remembered as an authentic genius in engineering and is a doubt that his level of accomplishment can ever be matched.

## BRIHADEESWARAR TEMPLE-A MYSTERY

The Brihadeeswarar temple commonly called the "Big Temple" is one of the biggest mysteries in the world. Starting from the foundation to the tallest gopuram everything is simply a mystery. The 217 feet (66m) tall structure stands high and mighty with no foundation. There is a hypothesis that a trench was dug along the sides of the temple and filled with river sand, so zero settlement occurs and it follows the principle similar to that of the Thanajvur doll which never falls. The entire structure was built with granite stones while there were no quarries within 50 kms. As per some claims, the stone for the main Shivling was brought all the way from Saurashtra is Gujarat which is an astonishing 2100 kms away from Thanjavur, in a time when there were only elephants and horses and no other special transportation facility. Granite is one of the hardest and strongest stones available, breaking and cutting them in a period with no modern tools is quite an arduous job. They drilled holes in the granite slabs, put in wooden sticks and then filled with water, this breaks the stone after a long period of time. The majestic structure was actually built with interlocking stones and no binding material was used. The above are just few illustrations of the temple's architectural brilliance. There are many more like the tall vimana, secret passages, Nandi idols, music pillars etc. Every stone of Brihadeeswarar temple speaks volumes. One needs several visits to this The Great Living Chola Temple to fully appreciate and understand the secrets.

# Alumni Article

## An Engineer at Work

Monitoring work in a construction site and contributing towards achieving daily project progress is the most-expected duty for a civil engineer at site. Chances are that every engineer comes across some of the most gratifying and at the same time, excruciating experiences to tackle or move on. Our daily roller coaster rides range from reporting to our manager to behaving with our fellow colleagues, which very well mayn't be same as convincing our clients or getting the work out of the contractors. Amidst all the technical eye to work and tight deadlines, the high and lows to face and tricky decisions to take, always sharpen our minds and keep us in toes all the time.

I'm J. Gokul Krishna, an alumnus of 2016-20 batch, currently working as site engineer in CMRL Central Square Project, for L&T Geo-structure. Here are some of the insights of what I've learnt, and seem to be learning towards, in my current project site.

## Roles & Responsibilities

A construction project means there are several departments managing various specific activities from various standpoints to achieve their own goals as much as the project's fruitful completion. In better detail, we have stakeholders ranging from customers (who demand proper justice in quality and time schedule) to internal contractor departments (keen in progress and brand reputation) to site team (proper execution of work and resource utilization). Generally, a document called the project quality plan is internally prepared to understand the hierarchy and responsibility of work. On that regard, it is important as a site engineer to understand what is expected out of you and whom to approach and strategy to derive to achieve your goals.

## Skill-sets

One might be a part of a specialized department like planning, reinforcement, billing team etc. at site, but it is equally important to understand the overall picture of various departments. For example, it is necessary to know how the quality team works to make sure all the boxes are ticked in your site activity. Equally, one must know what is profitable to the organization and what is not economical but absolutely necessary to be answerable to the planning department. At a glimpse, it may look like too much on the plate, but getting to know how each and every-one works and co-ordinate is fun to learn as well as a step to boost your leadership skills.

A proper knowledge of the drawings, scope of the activity, materials & tools required, estimating time completion of each activity are some of the key skills one may have to closely watch and learn. Communication skills to get the unskilled and skilled helpers to work, negotiating with client and planning work activities with manager are some of the other skill-sets one can pick up eventually with time and experience.

## Composure

Getting yourselves engineer-ready isn't just about learning the work methodologies or even achieving targets in the short time. A construction site is easily one of the busiest and pressure-filled workplaces with lots and lots of activities & interactions happening simultaneously. Extended work hours, constant demands from clients quoting deadlines etc. are some of the regular challenges faced, but overcoming all that demands a lot of mental calmness to work under pressure. The more you learn, the more responsibilities you tend to take and the smarter you need to become to overcome those challenges. Getting the mentorship from experiences senior always help you in this regard and make you proud of your improving learning arc.

# Industry Article
# Construction Projects come to Life with Digital Twins

Arun Kumar
Global Manager I Education Program
Bentley Systems I Bentley Education I
M: +91 97909 32552 E:
arun.kumar@bentley.com S: LinkedIn

It's over 30 years since the term 'BIM' (Building Information Modeling) emerged and the construction industry grabbed it with both hands. Designers proudly showed off their projects as wireframe representations with foundation elements happily floating in space The digital twin has been a natural evolution. It is brought to life with data from multiple sources, including drawings, specifications, documents, analytical models, photos, reality meshes, and BIM models. The digital twin seamlessly integrates with ground models so, at last, we can connect the engineers and the geoscientists. And the Internet of Things (IoT) feeds in live data, including traffic flows, wind, lighting, and the surrounding natural environments. Project visualizations using digital twins are therefore realistic. No wonder my digital twin looks like me.


## Digital twin vs. BIM

A MarketsandMarkets report estimated that the global digital twin market will grow from around $3 billion (2020) to $48 billion (2026), with an average compound annual growth rate of 58%. It seems clear to me that this wagon is picking up speed and I think it's a very short time before migration toward digital solutions will be both vital and inevitable. Fortunately, companies that are already implementing BIM workflows will likely find the transition to digital twins easier. Seems a good time to get on board.The benefits of the digital twins are compelling. Let's start with the data. With a large capital construction project generating millions of records, a cloud-hosted digital twin makes the latest information available to any member of the team, saving time and avoiding data source errors.

Not only does it connect all the data for the various disciplines involved in a construction project, but it also connects the people making the decisions. This enables the transformation of workflows, allowing safe and efficient scenario testing, and real-time progress tracking from the field.

The many field workers that operate heavy equipment on site stay on the same page with execution workflows originating from one source of truth, with instructions sent to their hand-held devices. Teams can leverage the twin to access and capture real-time compliance and performance tasks or data to make better, faster decisions that keep projects in control in terms of cost, schedule, quality, and safety. For heavy civil projects, details such as road grades and drainage can be analysed in the design stage for any possible issues, and corrections can be made and synced instantaneously.

## Reality modeling

Bentley's iTwin, as a base model is seeing many high-value add-ons emerge. The reality capture tool LumenRT creates visualizations and simulations from the iTwin, rather than do this as a separate process. No need to commission those expensive, one-off explainer videos anymore! Critically, LumenRT integrates with the digital twin to create interactive animations and simulations which are constantly being updated.Another high-value add-on is a media indexing service included with SYNCHRO Control. This leverages artificial intelligence and machine learning to index all job site photos. Photos are indexed by their geospatial location (date and time), their context (typo of photo description), and creates a custom-trained construction classification of the photo's contents. As a result, users can search for any text in a photo, such as equipment tag or photo objects like cranes, grade stakes, traffic cones, or utility covers. Digital Twins delve into the emerging IoT technologies, using sensors, smart devices, site cameras, and driverless vehicles to collect data from the physical locations. Point clouds from drone surveys, flown a day apart, can quickly compute information, such as earthwork volumes or daily site progress. More data than ever before is turned into valuable site information and the digital twin keeps evolving as a living representation of the project.

# EDITORIAL TEAM

Dr.Surendar Natarajan

D. Jeyashree (III)

M. Naveen Kumar (III)

M. Naresh Mohan (II)

Magendra Kamalnath (II)

N. Jewison Jacob (I) Designer

S. Ravi Raam (I)