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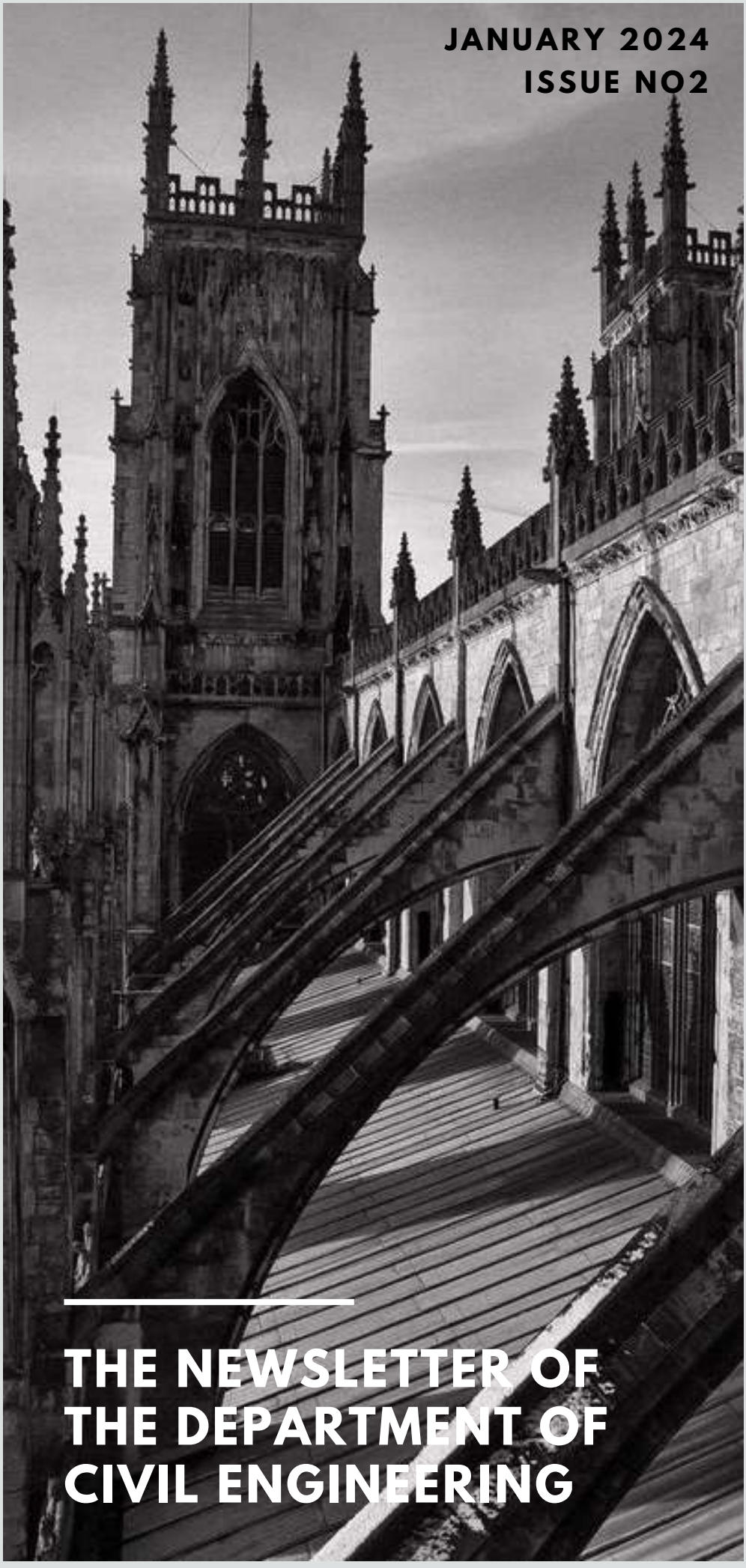


JANUARY 2024
ISSUE NO2

THE NEWSLETTER OF THE DEPARTMENT OF CIVIL ENGINEERING

CONTENTS

CONTENTS

FROM HOD'S DESK

DR.N.SIVAKUMAR
PROFESSOR/ HEAD OF DEPARTMENT CIVIL ENGINEERING

"The ultimate goal of civil engineering is to make life better for people. We are not just interested in creating beautiful buildings or perfect roads; we want to make sure people can get around easily, enjoy their surroundings, and lead productive lives." – Joseph-Armand Bombardier

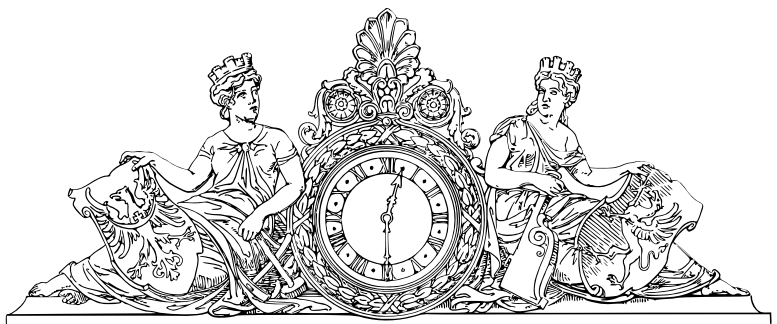
With great pleasure, I present to you the next edition of our biannual newsletter, Edifice, from the Department of Civil Engineering at SSN Chennai. Our department's objective is to offer students an excellent education and hands-on experience in the workplace so that they are equipped and trained to meet the demands of the industry from the moment they begin their careers. This is made possible by regular contact with academics and professionals from the business world who come to our campus to provide insightful speeches through different student organizations. We have had professionals from CMTI, L&T and even from Hokkaido University, Japan. The Department has consistently conducted events like workshops and webinars to evoke an interest in the student's minds. A one-day workshop was organized to introduce students to the latest technologies like DGPS, Drones and LIDAR. INVENTE was an entirely student-run event that included technical and cultural events and drew attendees from colleges across the city. It was an overwhelming success. Our students are actively competing in national competitions and bringing honor to the college by taking top honors in the ICI-RDC Concrete Cube Testing Competition, the International Design Thinking Challenge, and other competitions across all of India.

Our department is proud of B. Benedicton Rohit, a professional swimmer, who won 8 gold medals and the individual championship at the Anna University zonal representing SSN, four gold medals at the senior state tournament, two silver medals and a bronze medal at the national games.

This academic year, one MS student and thirteen PhD students were admitted. The incoming students come from diverse academic backgrounds and bring a wealth of experience and expertise to our institution. We look forward to supporting their intellectual growth and helping them thrive in their respective programs.

The civil department is all geared up to get its first NBA accreditation, all the proceedings for the same have gone well. The department has implemented rigorous processes and standards in line with the National Board of Accreditation's criteria to ensure the highest level of quality in education. The faculty and staff have worked diligently to address all requirements and are committed to maintaining excellence in all aspects of the program.

'Teachers open the door, you enter by yourself 'This quote states that a teacher can provide guidance and knowledge, but ultimately, it is up to the individual student to put in the effort and take responsibility for their learning and growth. Opportunities surround us, but it is up to each individual to recognize them and take the necessary steps to pursue them. Embracing a proactive approach to life and education can lead to personal and professional growth.



FACULTY ARTICLE

DR.P.SANGEETHA
ASSOCIATE PROFESSOR

The internet of things (IoT) is an idea that has been around for several decades. Since its creation, innovators have been waiting for technology to advance enough to implement it practically. IoT is expected to be used in many construction and real estate areas in the future, including facilities, infrastructure, and homes and businesses. The construction industry is not the most advanced in terms of IoT use.

IOT IN CONSTRUCTION INDUSTRY: FUTURE, CHALLENGES AND SOLUTIONS

FUTURE OF IOT IN THE CONSTRUCTION INDUSTRY

The future of IoT in construction appears bright, as companies such as Trimble, Pillar Technologies, ES Track, and others are developing products and launching them in the market. They are encouraging construction business owners to try and see for themselves the significant benefits of the technology.

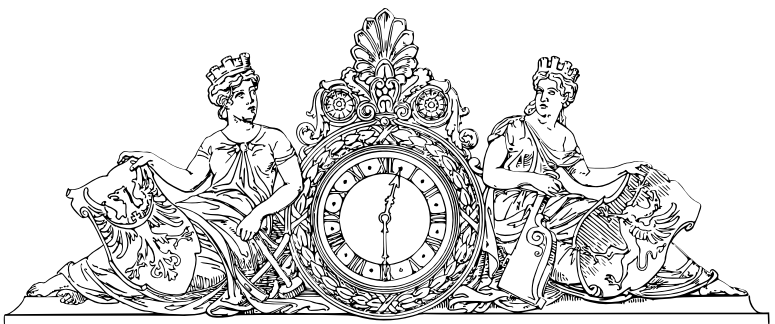
According to McKinsey, it has been stated that the construction industry has been sluggish to adopt new technologies such as IoT and that the sector is under-digitized, with enterprises failing to grasp the potential of AI, IoT, and other digital tools as growth and efficiency drivers.

On the other hand, construction firms are acutely aware of the need and possibilities of digital technology. According to a survey, 95% of construction organizations believe emerging technologies like IoT will fundamentally impact their industry. Another 72% say new technology adoption, including IoT deployments, is part of their strategic strategy or vision.

According to PwC, 98% of industrial organizations expect digital solutions like IoT-enabled predictive maintenance or augmented reality to boost efficiency by up to 12%. Construction is primed for digital change, and businesses that don't respond swiftly risk being left behind.

1.Supply Monitoring

IoT can work great for supply monitoring. You can easily monitor supplies with the help of RFID tags and sensors. The key term is JIT provisioning, aka Just in Time provisioning. For example, suppose you have tagged all your supplies with RFID tags and set certain conditions with the stock. So, whenever supply goes low, it immediately triggers the request for ordering new supplies.



2.Machine Control:

Using several measurement technologies such as LIDAR (Light Detection and Ranging) and GNSS (Global Navigation Satellite System) machine control which is also called machine guided construction, automatically modifies heavy equipment to set, cover or bunch large areas. Heavy civil construction is likely to be the largest user of machine control at the moment, but with the technology growth, it will find more integration into other projects. Not only are the machines controlled but their success, developments and status are traced in real time. This connectivity can be utilized to design and correlate other build activities, increasing efficiency and minimizing delays.

3. Site monitoring:

The construction work can't be done with fewer resources and manpower. Conversely, there is always a safety threat hovering over construction sites. For monitoring the site, wearables and on-site sensors are the best. The wearables are for labor (measuring health conditions, finding movement in the danger zone) and construction professionals and on-site sensors to monitor the premises for finding potential threats. Wearable tech covers several innovations, but one of the largest areas it is modifying is safety.

4. BIM:

BIM is the process of creating and managing information about a construction project throughout its lifecycle. As part of this process, a coordinated digital description of all aspects of the asset under construction is developed using a range of appropriate technologies. The architecture, engineering and construction (AEC) industry has long sought techniques to reduce project costs, increase productivity and quality, and reduce project completion times. BIM has assisted the AEC industry in all aspects.

The Internet of Things (IoT) based sensors are implemented in the robots to gather real-time readings and measurements of variables such as temperature, pressure, and other conditions. Based on these readings, companies can determine, design and automate the various robots used in the field.

<u>Challenges and Limitations</u>

Implementing IoT applications in various industries, including construction, comes with its set of challenges, but there are also solutions to address these issues. Here are some common challenges and their corresponding solutions

Challenge 1: Data Security and Privacy

Challenge: IoT devices collect and transmit vast amounts of data, making them vulnerable to security breaches, data theft, and privacy concerns.

Solution: Implement robust security measures, such as encryption, access controls, and regular software updates. Data anonymization and compliance with relevant data protection regulations (e.g., GDPR) are essential for safeguarding privacy.

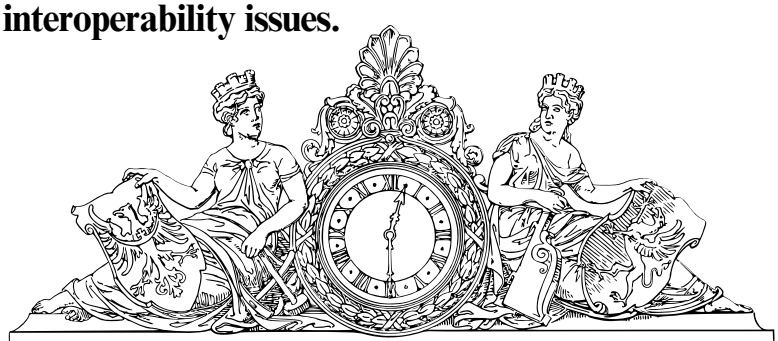
Challenge 2: High Implementation Costs

Challenge: Acquiring and deploying IoT devices and infrastructure can be costly, particularly for small and medium-sized businesses.

Solution: Explore cost-effective IoT solutions and consider scalability. Over time, the benefits of improved efficiency and data-driven decision-making can outweigh the initial investment.

Challenge 3: Interoperability

Challenge: IoT devices from different manufacturers may use various protocols and standards, leading to interoperability issues.



Solution: Use middleware and IoT platforms that support multiple protocols and facilitate device integration. Standardization efforts, like the adoption of common communication standards, can help address this challenge.

Challenge 3: Interoperability

Challenge: IoT devices from different manufacturers may use various protocols and standards, leading to interoperability issues.

Solution: Use middleware and IoT platforms that support multiple protocols and facilitate device integration. Standardization efforts, like the adoption of common communication standards, can help address this challenge.

Challenge 4: Scalability

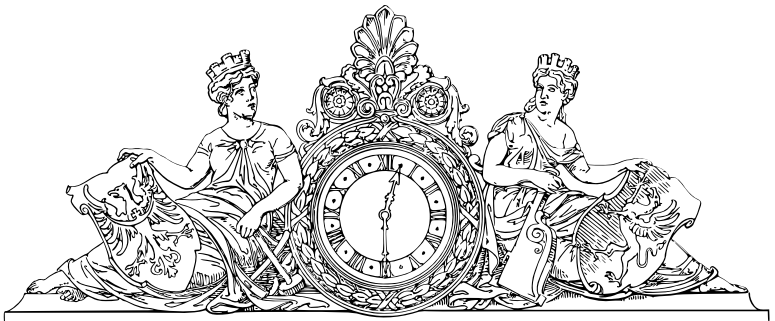
Challenge: As businesses grow and adopt more IoT devices, managing and scaling the infrastructure can become complex.

Solution: Plan for scalability from the beginning. Use cloud-based IoT platforms that can handle large numbers of devices and data. Implement device management tools for efficient scaling.

Challenge 5: Energy Efficiency

Challenge: Many IoT devices run on batteries, and energy consumption can be a limiting factor for remote or mobile applications.

Solution: Use energy-efficient IoT devices and explore energy harvesting technologies (e.g., solar, kinetic, or thermal energy) to extend device lifespans.



Challenge 6: Connectivity Issues

Challenge: In remote areas or within large structures, maintaining reliable connectivity for IoT devices can be challenging.

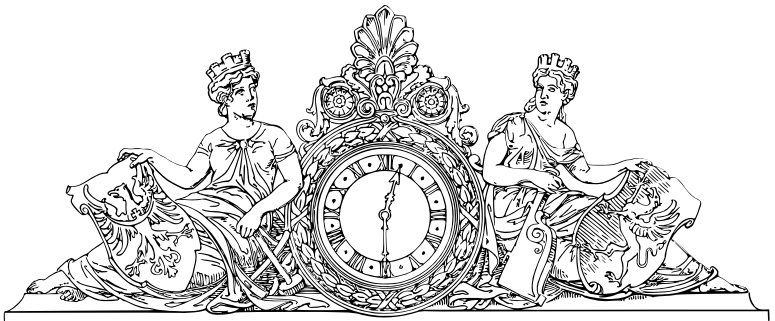
Challenge 10: Maintenance and Updates

Challenge: IoT devices require regular maintenance, updates, and potential replacements.
Solution: Develop a robust device maintenance and management strategy. Utilize over-the-air (OTA) updates to keep devices up to date. Plan for device lifecycle management.
Addressing these challenges proactively and with careful planning can help organizations successfully implement IoT applications and harness the benefits of increased efficiency, data-driven insights, and improved decision-making.

<u>Conclusion:</u>

Not withstanding the forecasts of huge job losses, IoT adoption is unlikely to replace the human element in construction. Instead, it will alter business models in the industry, reduce expensive errors, reduce worksite injuries and make building operations more efficient.
The best approach for construction companies to introduce technology is to prioritize investment based on areas where IoT can have the most immediate impact as informed by their unique needs. IoT is making significant headways for contractors looking to improve processes, reduce waste, and make more money. With the other technology available in the construction industry, there is even more room for improvement.

In terms of what this type of technology is capable of, the sky is the limit. There is a growing demand for smart buildings — buildings that are designed to use automated processes that can automatically control things like heating, air conditioning, and lighting. Smart buildings help with routine maintenance and can identify potential problems in a system. They're also very helpful in reducing energy waste and are valued for their lowered environmental impact.



DEPARTMENT EVENTS

3.1 WORKSHOP-

One Day WORKSHOP was conducted on "DGPS, Drone and LIDAR: The Future of Surveying Techniques" on 19th October 2023.
Speaker: Mr. A. Selvam, MD, Land Coordinate Technology, Chennai

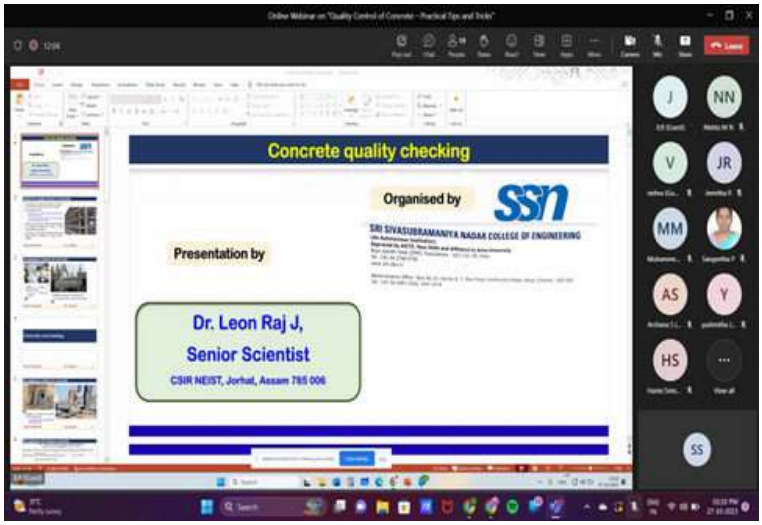
No of Participants: 51

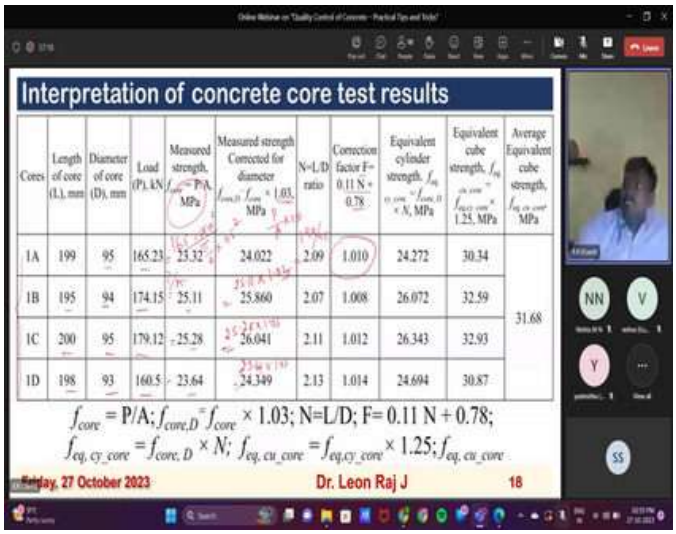
Inference from 3 sessions:
Ø Differential Global Positioning System (DGPS). It is used for topographic surveys, azimuth determination, Positions, lines, and levels setting out, etc.
Ø Light Detection and Ranging (LiDAR) is a remote sensing method that uses light in the form of a pulsed laser to measure ranges (variable distances) to the Earth. It is used in Aerial Inspection, Precision Agriculture, Forestry and Land Management.
Ø A drone survey refers to the use of a drone, or unmanned aerial vehicle (UAV), to capture aerial data with downward-facing sensors, such as RGB or multispectral cameras, and LIDAR payloads.

ONE DAY WORKSHOP WAS CONDUCTED ON "DGPS-19TH OCTOBER 2023

3.2 WEBINAR-

• A webinar on Innovative quality control of Concrete- Practical tips and tricks was 27th October 2023. The webinar discussions were on Quality checking of concrete and its importance, acceptance of in-place concrete, Concrete core extraction and interpretation of its results and rebound hammer test





WEBINAR ON INNOVATIVE QUALITY CONTROL OF CONCRETE- PRACTICAL TIPS AND TRICKS

NOTABLE ACHIEVEMENTS

- **B. Benedicton Rohit of II year has won three Gold Medals and one Silver Medal in Swimming Competition held on 26th to 29th of May 2023 in Khelo University, Noida.**

- **B. Benedicton Rohit of II year has won 4 Gold Medals and 1 Silver Medal in the Senior State Swimming Competition, Chennai held on 3rd and 4th June 2023.**

• **Jemimah J IV year Civil Engineering has won first place in Oratorical competition conducted by Builders Association of India, dated: 20th October 2023 among all Engineering Colleges in Tamil Nadu.**

BUILDERS ASSOCIATION OF INDIA

• **Revanth Kumar G, Nikhil Narayanan S, Logesh, and Krithik from II-year Civil Engineering has won first Place and received a cash award of Rs. 75,000 a team in a Design thinking challenge competition Titled Segue 2.0 organized by NIET - Noida and School of future skills held on 27th to 28th October**

DESIGN THINKING CHALLENGE COMPETITION TITLED SEGUE 2.0 ORGANIZED BY NIET - NOIDA AND THE SCHOOL OF FUTURE SKILLS

- **RDC Concrete along with ICI Chennai Centre organized a competition on National level Cube compressive strength Testing Competition throughout India. The aim was to bring a compressive strength of 35 n/mm2 precisely in concrete cubes and make them more economical.**
- **Ø Final year students participated and won prizes from Civil engineering department of SSN College of Engineering has won 5th place in the Competition under the guidance of Dr. R. Rajkumar & Dr. Sangeetha for mentoring.**

ICI CHENNAI CENTRE ORGANISED A COMPETITION ON THE NATIONAL LEVEL CUBE COMPRESSIVE STRENGTH TESTING COMPETITION

INVENTE 8.0

The Invente 8.0 was organized by the Department of Civil Engineering among SSN CE level as unprecedented at its best, SSN offers a platform to showcase your talents as a surety. SSN and SNUC presented the annual Techfest – Invente'23 "The Engineers Nexus" on October 6 & 7.

Invente - a nexus of Paper presentation, the real estate, Quizzards of OZ, Head Ball & VCT. In account of Innovation, Creativity and Entertainment, in a 2-day construct with constraints, You or ME, Snake and Ladders aims to encourage students to think beyond academics and helps them discover their hidden passions and talents.

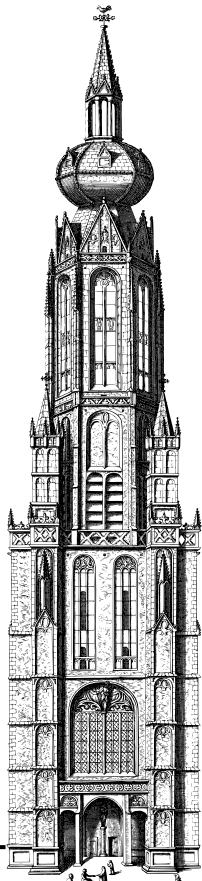
This technical extravaganza gives space for students to flaunt their skills in various domains and caters to their adrenaline surges. At the National level students participated and won in the events. The Department of civil engineering organized six technical and two non-technical events. The participants eagerly took part in them and won exciting cash awards.

INVENTE 8.0 SUCCESS CELEBRATIONS

PLACEMENT ACTIVITIES (2023-2024)

The placement session for 2020-2024 batch students have started and are in progress. Notable companies L&T, Technip, DOW and Woods were the primary core companies to take our students. The current placement season of 23-24 recorded a massive core placement in the M/s Woods with 5 students securing GET (Graduate Engineer Trainee) Position. Similarly, 2 students were selected for DOW Internship and Full-Time Employment (FTE) position marking a history in Civil department's placement chart. Apart from core companies, students secured GET roles in L1 supply which is an IT – based establishment with business analyst position. Apart from placements, our students also excelled in competitive examinations that paves the way for higher studies. Two students from the batch of 2020-24 secured more than 90 percentiles in CAT exam with a maximum of 98.5 percentile in overall score. Our students are gearing up for the GATE examinations that will be conducted in the month of Jan-Feb 2024. With the next placement session starting in the month of January, our students are focused and poised for securing a future for their career in the forthcoming even semester of AY23-24. We wish all the students a bright future ahead in their life.

Dr. Aswin Sriram G.
Faculty Placement Coordinator - Civil



ACTIVITY ROUNDUP – PROFESSIONAL SOCIETIES

7.1 ACE-Association of Civil Engineers:

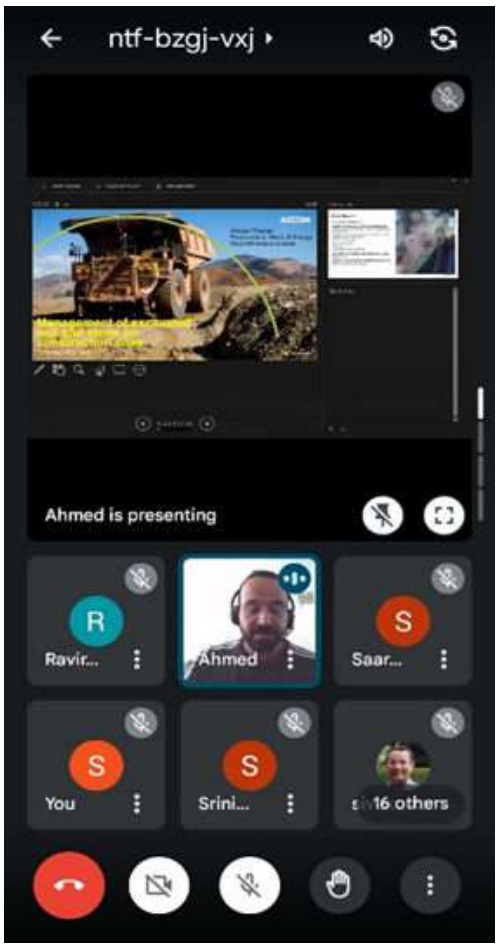
ACE Inaugural was held on 31-8-2023. The Faculty Advisor is Dr. S.V. Siva Priya along with ACE core committee members. The Chief guest for the Inaugural function was Er. K. Senthil Nathan EVP, Heavy Civil Infrastructure IC delivered a lecture on Construction (Challenges) Opportunities of Elevated Metros

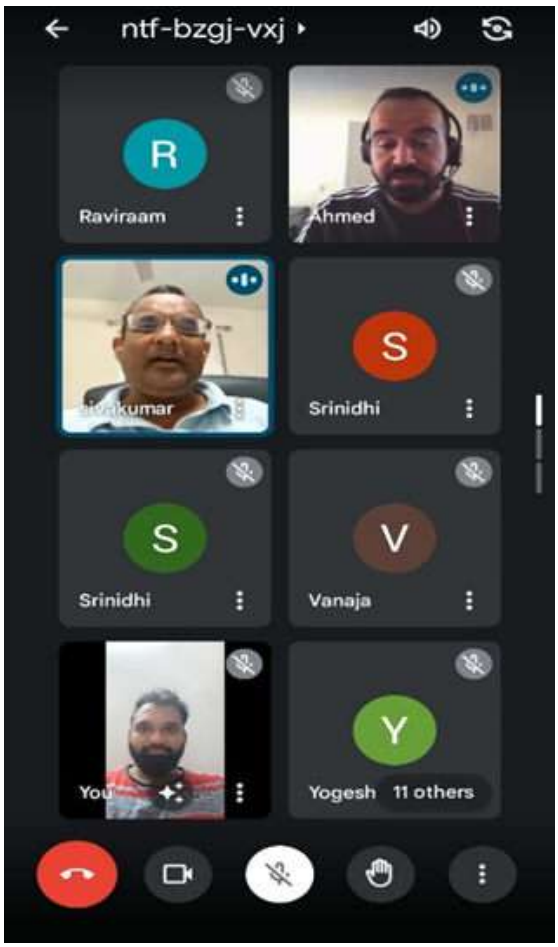
ACE INAUGURAL

- **Dr. S.V.Sivapriya has organized a seminar to "Second Year" on "03.05.2023" at "Department Seminar Hall" under the banner of "Association of Civil Engineers".**
- **Dr. Sivapriya S. V has coordinated the technical symposium INVENTE 2023 October 6th & 7th. 2023. Various events such as seminars, quizzes etc. were organized with participation from students of other institutions.**

7.2 ICE- Institution of Civil Engineers (UK):

- **Dr. Surender Natarajan organized Live Webinar on "Management of soils, stones and post-Graduation opportunities in Ireland". Mr.Ahmed Thamer, Senior Environmental Engineer at AECOM-Ireland interacted with students regarding management of used soils and stones and the post-graduation opportunities in Ireland. The webinar is organized under the Professional society of ICE (UK) student chapter. It was highly interactive with more than 30 students asking doubts on studying in Ireland.**





- **Dr. Surendar Natarajan has organized an online talk on " Navigating the Pathways of publishing in High-quality journals" talk delivered by Dr. Vinita Saroha on 9th October 2023 under ICE (UK) chapter.**

LIVE WEBINAR ON "MANAGEMENT OF SOILS, STONES AND POST-GRADUATION OPPORTUNITIES IN IRELAND".

7.3 ICI – Indian Concrete Institute:

- **Dr. P. Sangeetha has organized the Inauguration of ICI student Chapter for AY 2023-2024 on 07-09-2023. The chief guest was Er. K. Muralidaran, Chairman, ICI Chennai, Center who performed the safety pledge for the students on the occasion and spoke to the students on various opportunities in civil engineering.**

INAUGURATION OF ICI STUDENT CHAPTER

- **Dr. P. Sangeetha has organized a " Quiz Competition" to celebrate " Concrete Day" on 07-09-2023 by ICI Student chapter of SSN.**

- **Dr. P Sangeetha has organized one day workshop on "DGPS, Drone and Lidar: The Future of Surveying Techniques" delivered by Mr. A. Selvam, Managing Director, Land Coordinate Technology, Chennai, on 19th Oct 2023 under the Banner of Indian Concrete Institute.**

- **Dr. P Sangeetha has organized an online guest lecture on "Quality Control of Concrete - Practical Tips and Tricks" delivered By Dr. Leon Raj J, Senior Scientist, CSIR, On 27th Oct 2023 under the banner of Indian Concrete Institute.**

7.4 IEI-Institution of Engineers India:

- **Dr. B. Mahalingam organized a guest lecture online titled "Wind Load Analysis of Structures Part 1 on 25.08.23 delivered by "D. Muthukumar, Chief Engineering Manager- Larson and Toubro Limited, Chennai" on held via MS Teams for the students of Civil engineering under the banner of IEI Student Chapter.**

- **Dr. B. Mahalingam organized a guest lecture online titled "Wind Load Analysis of Structures Part 2 on 1.9.23 delivered by "D. Muthukumar, Chief Engineering Manager- Larson and Toubro Limited., Chennai" on held via MS Teams for the students of Civil engineering under the banner of IEI Student Chapter.**

- **Dr. B. Mahalingam has organized a guest lecture online titled "Wind Load Analysis of Structures Part 3 on 8.9.23 delivered by "D. Muthukumar, Chief Engineering Manager- Larson and Toubro Limited., Chennai on held via MS Teams for the students of Civil engineering under the banner of IEI Student Chapter.**

- **Dr. B. Mahalingam has organized a guest lecture online titled "Wind Load Analysis of Structures Part 4 on 22.09.23 delivered by "D. Muthukumar, Chief Engineering Manager- Larson and Toubro Limited., Chennai" on held via MS Teams for the students of Civil engineering under the banner of IEI Student Chapter.**

- **Dr. B. Mahalingam has organized a senior and junior interaction on Placement Requirement with 2022-2026 Batch students on 22.09.23 under the banner of IEI Student Chapter.**

- **Dr. B. Mahalingam has organized a guest lecture online titled "Wind Load Analysis of Structures Part 4 on 22.09.23 delivered by "D. Muthukumar, Chief Engineering Manager- Larson and Toubro Limited., Chennai" on held via MS Teams for the students of Civil engineering under the banner of IEI Student Chapter.**

7.5 IGBC-Indian Green Building Council:

- **Dr. R. Srinath organized a webinar on 30/08/2023 titled "Angel Investment/VC Funding Opportunity for Early-Stage Entrepreneurs". This informative event was organized by SSN-IGBC in collaboration with SSN-IIC and key speaker was Mr. Sachin Amarnath, a certified Metaverse expert, serves as the CEO of Skill bind Education and is also the Founder of Ascend School of Construction Business.**

- **Dr. Srinath Rajagopalan Organized a Workshop Titled "Angel Investment/ Vc Funding Opportunity for Early-Stage Entrepreneurs" delivered by "Mr. Sachin Amarnath, Certified Metaverse Expert CEO, Skill bind Education, Founder, Ascend School of Construction Business" on 30/09/2023 Held Via "MS Teams" For II- & III-Year Civil Engineering Students under the banner of "SSN-IIC 5.0 & SSN IGBC Student Chapter."**

- **Dr. Srinath Rajagopalan Organized a Quiz on Sustainable Building Techniques on 11/09/2023 Held Via "MS Teams" For II- & III-Year Civil Engineering Students under the banner of "SSN-IIC 5.0 & SSN IGBC Student Chapter."**

7.6 BIS- Bureau of Indian Standard - Standards:

- **The Bureau of Indian Standard - Standards club was started on 31.05.2023 in the Department of Civil Engineering with student representatives from many departments across the college.**

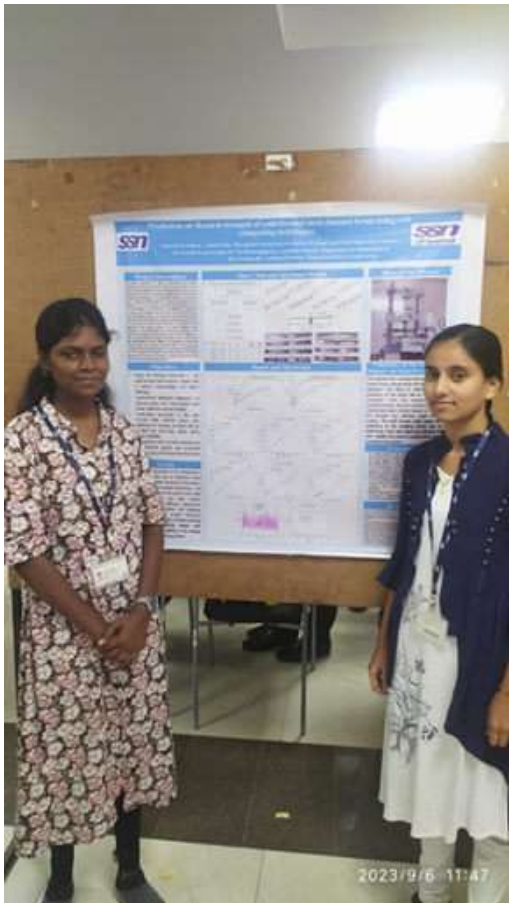
7.8 MOU:

- **Dr. N. Sivakumar HOD and Dr. Aswin Sriram G interacted with engineering heads and Senior Managers from M/s Wood during their placement process in CDC Block on 12.09.2023 regarding internship opportunities for the current third**

ENGINEERING HEADS AND SENIOR MANAGERS FROM M/S WOOD

7.8.1 Institution Innovation Council (IIC):

- **The IIC event was conducted on 6-9-2023. Students from the civil Engineering department actively participated and won Prizes. The students participated under various themes like materials, structures, environmental aspects and water resources engineering.**



STUDENTS FROM CIVIL ENGINEERING DEPARTMENT ACTIVELY PARTICIPATED AND WON PRIZES

STUDY TOUR

8.1 INDUSTRIAL VISIT – IV-YEAR CIVIL ENGINEERING STUDENTS ACCOMPANIED BY DR.P.SANGEETHA & DR.SURENDAR NATARAJAN

The journey began with boarding a train from Chennai to Mangalore on 16th November 2024, offering a scenic route that unfolded the diverse landscapes of Southern India.

On reaching Udupi, we went to seek darshan at the renowned Udupi Temple. The temple, with its rich history and architectural grandeur, provided a spiritual experience and a glimpse into the cultural tapestry of the region.

As part of an industrial visit, the group explored the Rainbow Pipes Industry located in Manipal. This experience allowed for an insight into the industrial processes and contributed to understanding the concepts of pipe manufacturing and the various processes involved with it. We also got to experience in-person the precision involved in the manufacturing process.

Following the spiritual and educational experiences, the journey continued to St. Mary's Island. The unique geological formations and pristine beaches offered a refreshing break, providing an opportunity for relaxation and exploration.

The scenic beauty of Malpe Beach served as a perfect setting for unwinding. The group took time to enjoy the sun, sand, and sea, creating memories against the backdrop of the Arabian Sea.

Heading towards Dandeli, the journey unfolded into an adventure-filled exploration. The group visited various attractions, experiencing the lush greenery and wildlife that Dandeli is known for. Activities such as nature walks added an element of thrill to the itinerary.

A visit to Mirjan Fort added a historical dimension to the journey. The fort, with its architectural marvel and historical significance, provided insights into the region's past and cultural heritage.

The trip concluded with a return journey to Chennai, enriched with experiences ranging from spiritual enlightenment to industrial insights, from the serene beauty of St. Mary's Island to the historical grandeur of Mirjan Fort.

The journey encompassed a diverse range of experiences, blending spirituality, industry, nature, and history. Each destination contributed to a holistic understanding of the Southern Indian region, leaving the participants with cherished memories and a newfound appreciation for the rich tapestry of the places visited.

8.2 SITE VISITS

Dr. B. Mahalingam has organized a site visit to "SNU Boys Hostel Construction" on "11.09.2023" for "third year" under the banner of "ICI".

Dr. P. Sangeetha has organized a site visit to "L& T Tunnel Innovation Centre-Kancheepuram" on "28-09-2023" for "III-year Civil Engineering Students" by ICI student Chapter of SSN.

Site Visit to L& T Tunnel Innovation Centre-Kancheepuram- III-year Civil Engineering Students

8.3 POONDI RESERVOIR

Dr. Surendar Natarajan Organized a Site visit to Institute of Hydraulics & Hydrology (IHH- Poondi) reservoir for III-year Civil Engineering Students on 18th October 2023.The prototype of Poondi reservoir and model of various dams in Tamil Nadu were explored during the site visit. The students also interact with the Engineers to understand the real time uncertainties in hydrologic and hydraulic design of the structures.

INTRODUCTION:

On 18th oct 2023, we the students of civil engineering went to an industrial visit to poondi reservoir organized by ICE student chapter under the guidance of Dr. Surendar Natarajan sir.

KNOWLEDGE GAINED:

- Prototype is the existing structure, whereas model is the replica of existing structure with reduced scale.
- Different types of models were taught.
- They were rigid model, comprehensive model, mobile bit model and distorted model.
- The Poondi reservoir model is a mobile and distorted model.
- Reservoirs consist of Right bank canal + Dam + Left bank canal.

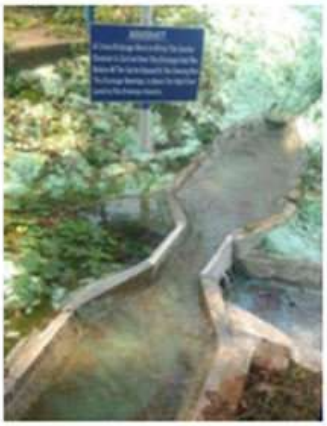
- The location of reservoir can be influenced by land terrain. Example: Reservoirs are usually located in hilly regions because to catch more rainfall and soil bearing capacity will be high.
- Valley is most preferable because embankment is to be provided at 2 sides to construct a reservoir which is economical and depth of water storage will also be high, which will be beneficial for places around the dam.
- Bund + Spillway = Dam.

- A river sluice will be located at the bottom elevation of dam.

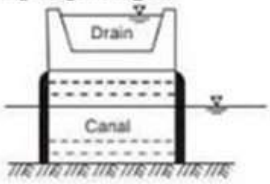
- There are 2 mechanisms to send water from the reservoir to the canal namely upshot mechanism and downshot mechanism.
- In the upshot mechanism water will flow due to the atmospheric pressure and gravity. Example: water flows through dam. It follows continuity equation $Q=A\times V$.
- In the downshot mechanism water will flow due to internal pressure. Example: water flows in river sluice. It follows Bernoulli's equation $\frac{p}{\rho g}+\frac{v^2}{2g}+Z=\text{constant}$.

- If the water is at top of spillway/crust, it is called as Full reservoir level (FRL).
- If the water is at top of shutter, it is called Maximum water level (MWL).
- Water flowing from the reservoir is called as shooting flow, which is supercritical flow.
- Water at bottom of reservoir will be of sub critical flow.
- Whenever super critical flow merges into subcritical flow then to reduce the energy, a jump is formed called a hydraulic jump.
- Energy dissipation measures will be taken to reduce the energy of water by construction of bafle wall and friction blocks.
- If the energy of water is not controlled, then there is a possibility of soil erosion, soil mining, sand piping.
- To avoid mixing of water in man-made canal with natural canal cross drainage work methods will be adopted.

1) Aqueduct:

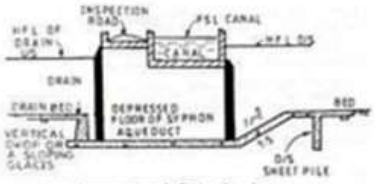


2) Super passage:



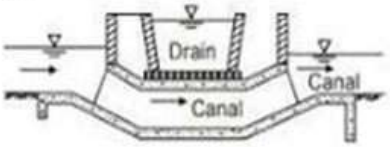
Super passage

3) Syphon aqueduct:



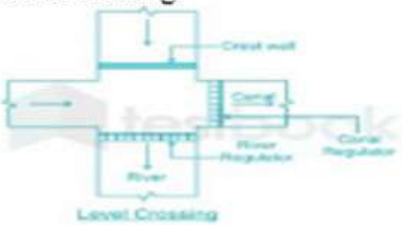
Typical cross-section of a Syphon Aqueduct

4) Syphon:



Canal Syphon

5) Level crossing:



Level Crossing

- A tunnel bypass model of scale 1:21 has also been shown and explained.

- Then finally the Chennai city basin model was also demonstrated.
- The model has a horizontal scale of 1:500 and vertical scale of 1:100.
- This basin model was created to predict runoff in Adyar river.

CONCLUSION:

- The site visit was very useful for us to gain knowledge about real time case study in hydraulic structure and hydrology.

IMAGES:

PUBLICATIONS

- **M. Abhinaya, R. Parthiban, N. Sivakumar. (2023). "Effects of using palm flower biochar in mechanical and water purification properties of pervious concrete", Biomass Conversion and Biorefinery (2023) 13:9353–9364. https://doi.org/10.1007/s13399-022-03606-7. (SCIE and SCOPUS).**

- **Syamsir; A. R. Malekzadah; S. Naganathan; Z. Itam; N. M. Nor; M. Chairi; R. Imani, (2023), "Comparative study on the effect of rhombus and rectangular openings of shear wall on the behavior of tall buildings", AIP Conference proceedings, 2544, 040001 (2023), April 24, 2023. (Scopus).**

- **Geetha, R., and Vijayalakshmi, R., (2023), "Study on the performance of natural fiber-reinforced concrete of different strengths with DIP technique and T- Test Analysis", Journal of Materials and Engineering Structures, Vol. 10 (2), pp. 227–240, (2170-127X).**

- **S.V Sivapriya, S Gunalan, A Mugesh, J Niranjan and K Yuvaraj (2023), "Investigating the advantage of copper and steel slags as partial replacement material in a sand compaction column in stabilizing the soft clay", International Journal of Geotechnical Engineering, doi: 10.1080/19386362.2023.2239686 (Q2)**

- **S.V Sivapriya, Jijo James, Pavithra.K, Renuka Devi.S, Sangeetha. K and Sasikala.M (2023)," Comparison of Encased Stone Column with Conventional Column for Varied Parameters Through Experimental and Numerical Investigation "Advances in Civil Engineering, Vol.223, Paper iD:7564756, doi: 10.1155/2023/7564756 (Q3)**

- **Dr. Sivapriya S.V (2023), "Effect of Slope, Cross-Section of Pile and Eccentricity in Calculating the Modulus of Laterally Loaded Single Pile", Lecture Notes in Civil Engineering, Vol. 388, pp. 135-142, Doi: 10.1007/978-981-99-6233-4_13. (Scopus).**

- **Sangeetha P, S. Ramanagopal and P. Naveen Kumar (2023), "Comparison between experimental and analytical behaviour of the steel – concrete composite pushout specimen with stud and channel shear connector", Journal of Materials and Engineering Structures, Vol. 10, pp. 93–103, Impact Factor = 0.6.**

- **Sangeetha P and Sathya Shree T R (2023),"Comparison of Air Pollutants and Air Quality Index using Spatio-Temporal Variation in Chennai City, Tamil Nadu", E3S Web of Conferences 405, 04002 (2023), pp. 1-14, doi:10.1051/e3sconf /202340504002.**

- **Abidhan Bardhan, Abdel Kareem Alzo'ubi, Sangeetha Palanivelu, Pouria Hamidian, Anasua GuhaRay, Gaurav Kumar, Markos Z. Tsoukalas and Panagiotis G. Asteris(2023), "A hybrid approach of ANN and improved PSO for estimating soaked CBR of subgrade soils of heavy-haul railway corridor", International Journal of Pavement Engineering, Taylor & Francis Online Vol. 24, No. 1, 2176494, (Scopus) https://doi.org/10.1080/10298436.2023.2176494**
- **Arunthathi. S, Balaji. D and Sivapriya S.V (2023), "Strength, mineralogical and microstructural studies on clayey soil stabilized by bio-stabilized waste ash with lime", Journal of Material Cycles and Waste Management, doi: https://doi.org/10.1007/s10163-023-01782-w indexed in WoS.**

CONFERENCES

- **Sivapriya S.V, Muttharam.M and Sivaraj.R, (2023), "Modulus and stiffness of laterally loaded single free headed pile in stratified soil", Journal of materials and engineering structures, Vol. 10, pp. 105-113.**
- **Sivapriya S.V, Jijo James, Naveen Prasath. M and Tanishka Priyadharshini Ramesh, (2023), "Effective reuse of concrete debris in soil-column study", Advances in Construction materials and management, pp. 193-200.**
- **Dr. Sangeetha P and Sathyashree T R. presented a paper "Comparison of Air Pollutants and Air Quality Index using Spatio-Temporal Variation in Chennai City, Tamil Nadu", in the International Conference on Sustainable Technologies in Civil and Environmental Engineering (ICSTCE 2023) held at Dr. D.Y. Patil institute of Technology, Pune, Maharashtra, India during 15 - 16, June 2023.**
- **Sangeetha P, Prithika Saishree S, Sheena Grace D, Yuvalatha P & Yuvarani P, (2023), " Effect of External Ring Stiffener and GFRP Strip Wrapping on the Buckling Behaviour of Cold-Formed Steel Tubular (CFST) Column", In: Proceedings of International Conference on Interdisciplinary Approaches in Civil Engineering for Sustainable Development (IACESD-2023) held on 7th and 8th July 2023 at Jyothy Institute of Technology, Bengaluru-560082.**
- **Vanaja M J, Yaashika M, Sangeetha P & Nishta M N., (2023), "Structural behavior of T-support of varying sections in the Pipe Rack System – An Analytical study", In: Proceedings of Second International Conference on Innovation Research Trends in Civil Engineering (IRTCE - 2K23), organized by Department of Civil Engineering at Sri Sairam Engineering College Chennai, India during November 16–17.**

- **Jenishda Pushpa Mary S, Kalaimagal V P, Sangeetha P & Saarusha G S., (2023), "Water Quality Prediction in Chennai District using Machine Learning Techniques", In: Proceedings of Second International Conference on Innovation Research Trends in Civil Engineering (IRTCE - 2K23), Organized by Department of Civil Engineering, Sri Sairam Engineering College Chennai, India during November 16–17,2023.**

- **Dr. Surendar Natarajan presented a paper titled "Rainfall trend Analysis Using Probabilistic Statistical Methods" in the 2nd International Conference on Higher Education Institutes Challenges and Solutions for Sustainable Development Goals 2023 under SDG 13 Climate Action. Organized at SRM IST, Kattankulathur on November 1-3,2023.**

FACULTY ACTIVITIES

11.1 EXTERNAL RECOGNITION

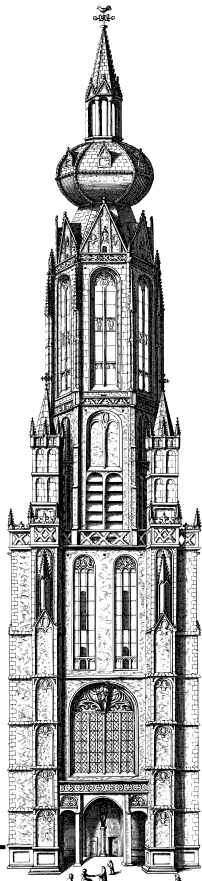
- **Dr. Sivakumar has delivered an invited lecture on Coal Bottom Ash as A Sustainable Material in Concrete: Trend & Applications in the online symposium conducted by Inti International University, Malaysia on 20/09/2023.**

- **Dr. N. Sivakumar attended DC meeting/ Oral Comprehensive Viva Voce Exam on 17-11-2023 to confirm the provisional registration of Ph.D. scholar at SRM University, Kattankulathur.**

- **Dr. N. Sivakumar has renewed his Professional Engineer (India) for five years and now he is authorized to use the style and title as Professional Engineer (India).**

- **Dr. N. Sivakumar acted as chairman for question paper setting for November 2023 examinations at Pondicherry University and reviewed the committee of II-year B. Tech civil engineering.**

- **Dr. B. Mahalingam has delivered an invited lecture. titled "Structural Elements subjected to Extreme loadings. (SE)2-2k23 - Elements of Segmental Arch" organized by " Department of Civil Engineering and smart city club, Vel tech High tech. Dr Rangarajan Dr Sakunthala Engineering College (An Autonomous Institution), Chennai on " 11.08.2023 held at EEE Seminar Hall, Vel tech High tech. Dr Rangarajan Dr Sakunthala Engineering College (An Autonomous Institution), Chennai.**



- **Dr. B. Mahalingam has been nominated as a member of the DC Panel of the scholar as External Examiner, "Mr. R. SURYA PRAKASH (Reg No. RA2213001011002)" pursuing his. Ph.D., program under "SRM Institute of Science and Technology (Deemed to be University u/s 3 of UGC Act, 1956) College of Engineering and Technology - Department Of Civil Engineering, Kattankulathur, Chennai " on "17.08.2023" through online Zoom Platform.**

- **Dr. R. Rajkumar has attended the DC meeting of the Scholar, Vanjinathan pursuing his Ph.D. Program under Sathyabama Institute of Science and Technology (Deemed University) on 24/08/2023 held via Online Platform.**

- **Dr. R. Vijayalakshmi has been invited as panel chairperson/Judge for the research paper presentation for the two-day 2nd International Conference: Innovative Research Trends in Civil Engineering, organized by Sri Sairam Engineering College Chennai, at Department of Civil Engineering on 16th November 2023.**

- **Dr. Sivapriya S.V has been selected as EC member in Indian Geotechnical society - Chennai Chapter for the year 2023 -2025.**

- **Dr. S. V. Sivapriya has delivered an invited lecture titled "Innovative materials for stabilization of problematic soil" as a part of "National Seminar on Recent Advancements in Ground Improvement Techniques for Problematic Soil" organized by "B.S. Abdur Rahman Crescent Institute of Science and Technology" on "23.05.2023" held at "Chennai".**

- **Dr. P. Sangeetha has been nominated to act as an Academic Editor of the Journal " Advances in Materials and Engineering, Hindawi Publication.**
-
- **Ø Dr. Surendar Natarajan has delivered a Guest lecture on " Geo spatial technologies and its applications " Organized by Department of Civil Engineering at KCG College of Technology, Chennai on 1-9-2023.**
-
- **Dr. Surendar Natarajan acted as resource person in a Virtual Workshop on “Getting started with GIS” at Ramco Institute of Technology, Rajapalaiyam on 10th October 2023.**

11.2 EXTERNAL GRANTS APPLIED

- **Dr. N. Sivakumar Secured Dato'Low Tuck Kwong International Research grant (DLTK 2023) for an amount of RM 20000 as project member (Co-PI) from Universiti Tenaga Nasional Malaysia titled "Development of Energy Efficient Bricks for Building Application from Malaysian Cenosphere"-. Duration of the project is from August 2023 to July 2024.**

- **Dr. R. Rajkumar has submitted a research proposal as Principal Investigator for an amount of Rs Three lakhs Fourteen Thousand by Tamil Nadu State council for Science and Technology (TNSCST) for a period of Twenty-one months on August 17, 2023.**

- **Dr. Srinath Rajagopalan as PI and Aswin Sriram as Co-PI has submitted a research proposal for an amount of Rs. 3.0 Lakhs to TNSCST, titled Phytoremediation of nutrients and heavy metal from wastewater through aquaponics for a period of 2 years on 17.08.2023.**

- **Dr. Sivapriya S.V has submitted a research proposal for an amount of "Rs. 1808242" to "Indian Council of Social Science Research", titled "Mass Detection Using Enhanced Segmentation and Best-Case Classifier Approach In Digital Mammogram Images" for a period of "Six Months" on "21.07.2023"**

- **Dr. S. V. Sivapriya has submitted a proposal to Tamil Nadu State Council for Science and Technology titled " Sustainable utilization of shredded waste tires to reinforce sand as fill material for geo-engineering applications" worth Rs.4,92,000.**

- **Dr. S. V. Sivapriya has submitted a proposal to Tamil Nadu State Council for Science and Technology titled " Utilization of bio-dried digestate: A green binding material in soil stabilization" along with Department of Chemical Engineering" worth Rs.4,35,000.**

- **Mr. Iyyapan as PI (SRM University) and Dr. P. Sangeetha has submitted a research proposal as CO-PI for an amount of Rs. 4.35 lakhs to " TNSCST", titled " Experimental and Numerical investigation on Strengthened Cold-formed Tubular X-Joint and T-joint using ring stiffeners and Collar plate under axial compression" for a period of 2 years on 14/08/2023.**

- **Dr. P Sangeetha as PI and Dr. R. Hemalatha & Dr, S. Radha as Co-PI submitted a research Proposal for an amount of 29.45 lakhs to DST/WTC/2K23 on titled "Real -Time E–Waste using AI: A Sustainable Solution."**

- **Dr. Aswin Sriram as PI and Dr. Srinath Rajagopalan as Co-PI has submitted a research proposal for an amount of Rs. 4.1 Lakhs to TNSCST, titled Quantification of Microplastics and their Impacts on Aquatic Sediments in Kovalam Beach for a period of 2 years on 17.08.2023.**

- **Dr. Aswin Sriram (PI) and Dr. Surendar Natarajan (Co-PI) submitted a research proposal for an amount of "Rs. 28,85,916/-" to "DST - WTC2023", titled "Identification and Quantification of E-Waste heavy metals movement via Soil-Surface water-Groundwater (SSG) interaction through stable isotope analysis" for a period of "3 years" on "15.09.2023."**

- **Dr. Surendar Natarajan as PI and Aswin Sriram as Co-PI submitted research proposal titled on "Prediction of Surface & Groundwater Water Quality through ML and Geo-Spatial Techniques and Recommending Suitable Sites for Improving Water Quality - A Study on Newly Formed Chengalpattu District" to Tamil Nadu State council for Science and Technology – 3.3 Lakhs.**

- **Dr. Surendar Natarajan as PI and Dr. Gayathri S.K as CO PI submitted a proposal titled "Probabilistic Model for Agricultural Drought Risk Prediction: A Study on Virudhunagar District" to Tamil Nadu State council for Science and Technology - 5 Lakhs.**

- **Dr. Surendar Natarajan as PI and Dr. Aswin Sriram as Co-PI submitted a research Proposal for an amount of 36 lakhs to DST/WTC/2K23 on Titled " Identification of Surface-Groundwater Recharge sources and Water quality Through Spatial Distribution of Stable Isotopes - A study on Chengalpattu District."**

- **Dr. Surendar Natarajan as Co-PI and Dr. Gayathri K.S as PI from SSN CE submitted a proposal Titled " Flood Inundation Prediction Model Through Urban Sprawl and Rainfall Run-off Pattern " to DST WTC-2023 for Rs 30 lakhs.**

11.3 RESEARCH SCHOLARS ASSOCIATED.

- **Mrs. Thota Greeshma, Anna University, July 2023 session. Provisionally registered with SSN under Dr. N. Sivakumar.**

- **Details of PhD scholar joined under Dr. N. Sivakumar: Thota Gireeshma (Roll No. 2350518), Anna University, July 2023 session. DC meeting date: 28 July 2023.**

- **Dr. N. Sivakumar conducted I Doctoral Committee for Mrs. Thota Greeshma (Reg No.23251997174) through online on 28th July 2023.**

- **Details of PhD scholar joined under Dr. S. V. Sivapriya: Mr.Vinot V (Roll No. 2350518), Anna University, July 2023 session. DC meeting date: 31st July 2023.**

- **Dr. S. V. Sivapriya conducted I Doctoral Committee for Mr.Vinot V (Reg No.23141997169) online on 31st, July 2023.**

- **Mr. Iyappan G.R, Anna University, July 2023 session. Provisionally registered with SSN under Dr. P. Sangeetha.**

- **Dr. P. Sangeetha conducted I Doctoral Committee for Mr. Iyyapan (Reg No.23141997127) through online on 24th July 2023.**

- **Dr. P. Sangeetha has Conducted Viva Voce examination as Joint Supervisor for Mrs. Pauline T, at NITTTR Taramani on 18/05/2023 - FN, registered under Anna University.**

11.4 WORKSHOPS / WEBINARS ATTENDED.

- **Dr. Sivakumar N attended an online talk on "Become an ICE reviewer" organized by Institution of Civil Engineers UK on 06th Oct. 2023.**

- **Dr. N. Sivakumar has attended an Online Webinar on 'Seismic Retrofitting of Reinforced Concrete Buildings ' held on 17th June 2023, organized by Ultratech Cement Ltd., Chennai.**

- **Dr. N. Sivakumar attended a webinar on " Harnessing the power of NIRF ranking for Higher Education Institutions " organized by ISDE academy Pvt Ltd, India on 28/6/2023.**

- **Dr. N. Sivakumar attended one day national level workshop on " Goals and strategies for NAAC accreditation " on 13th July 2023 at SSN CE.**

- **Dr. N. Sivakumar has organized and attended a Webinar on "Management of soils, stones and, PG opportunities in Ireland" organized by SSN ICE student chapter on 29 July 2023.**

- **Dr. Sivakumar N attended a talk on "Navigating the pathways of publishing in High-quality journals", organized by Elsevier on 09th October 2023.**

- **Dr. R. Rajkumar has attended an Online Webinar on 'Economical, Efficient Robust and Long-lasting Modern Road Technology-Thin white Topping ' by Ultratech cement Ltd. on July 15, 2023.**

- **Dr. R. Rajkumar attended Online webinar on 'Disaster Risk Reduction: Seismic Retrofitting of Masonry, RC Building ' by Ultratech Cement Ltd on July 08, 2023.**
- **Dr. R. Rajkumar attended the One-week online Faculty Development Programme for Primavera P6, V 22 from 11/07/2023 to 15/07/2023 organized by Infinity PMC Solutions PVT LTD.**
- **Dr. Sivapriya S V attended an online Webinar on 'Navigating the pathways of publishing in High-quality journals' held on 9th October 2023, organized by Elsevier.**
- **Dr. S. V. Sivapriya has attended the Workshop on 'Mentors of Standards Club' held on 15th and 16th November 2023 organized by Bureau of Indian Standards, Chennai.**
- **Dr. P. Sangeetha attended the National Level Workshop on "Goals and Strategies for NAAC Accreditation" on 13th July 2023 at Sri Sivasubramaniya Nadar College of Engineering, Rajiv Gandhi Salai (OMR), Kavakkam-603110.**
- **Dr. Surendar Natarajan had Participated in the Training the Trainer Programme on "Disaster Risk Reduction from Natural Hazards and Climate Change" organized at Centre for Climate Change and Disaster Management (CCCDM), Anna University in association with the US Consulate Chennai on July 18-19, 2023.**
- **Dr. Surendar Natarajan had Participated in the National Level Workshop on "Goals and Strategies for NAAC Accreditation" on 13th July 2023.**
- **Dr. Surendar Natarajan has attended 5 days workshop on Machine Learning Techniques for Research in Economics, Commerce and Management Using Phyton, R and MATLAB from 10-14 July 2023 organized by NIT Tiruchirappalli.**
- **Dr. Surendar Natarajan has attended one-day training cum interactive program on "Research Options in Sustainability for Ground Water Sources" on 24.08.2023 at Anna University.**
- **Dr. Surendar Natarajan, Sri Sivasubramaniya Nadar (SSN) College of Engineering has attended the five days online Short-Term Course (e-STC) on "Geotechnics & Soil-Structure Interaction (GSSI-2023)" organized by the Department of Civil Engineering, National Institute of Technology Hamirpur during September 01-05, 2023.**
- **Ms. Sumetha R had Participated in the National Level Workshop on "Goals and Strategies for NAAC Accreditation" on 13th July 2023.**

11.5 EVENTS CONDUCTED

- **World Environment Day was celebrated on 05th June 2023 in the Department of civil engineering. Faculties and second year students participated in an engaging discussion session focussing on various grades of plastic, their hazardous impact and a way forward towards combating plastics in the environment. The event was organised by Dr.Aswin Sriram.**

- **Dr. R. Srinath organized an engaging and informative inter-college quiz competition on 11/09/2023, focusing on sustainable building techniques held through the MS Teams, with active participation from 35 talented students.**

- **Dr. Aswin Sriram organized and conducted Domain Specific Placement Training for Final year students from 17.08.2023 to 25.08.2023.**

- **Dr. Aswin Sriram conducted a 2-day workshop titled "Introduction to Building Information Modelling through REVIT" for Third-year Civil Engineering students on 28th and 29th September 2023.**

- **Dr. Surendar Natarajan has organized an "ALE demo to civil faculty" on 8-9-2023 at the Civil Engineering Department SSN CE**

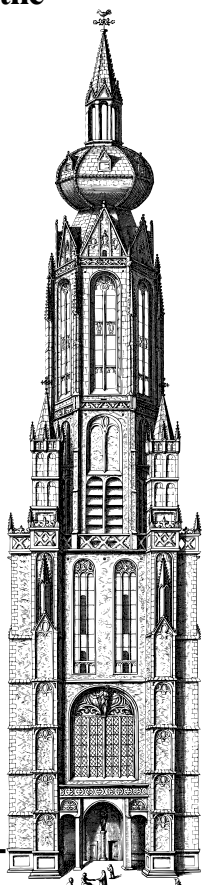
11.6 BEST TEACHER AWARDS

- **Dr.P.Sangeetha, Associate Professor Grade-II and Dr. S.V. SivaPriya Associate Professor received best teacher awards for the academic year 2022-2023 during the teachers day celebration on 5-9-2023 at SSN CE.**

11.7 INDUSTRY COLLABORATION

- **Dr. N. Sivakumar HOD, Dr. B. Mahalingam, Dr. R Srinath and Dr. Aswin Sriram G interacted with Mr.G. Seenuvasan (Capitaland), Mr. Sathiamoorthy (M/s Artelia Consulting engineers) and Mr. Muthukumar (Larsen & Toubro Ltd) during the Innovation Day in CDC Block and dept of Civil Engineering on 06.09.2023 and suggested for improvements in students' innovations and projects.**

- **Dr. B. Mahalingam has organized a guest webinar titled "Wind load Analysis of Structures - Part 1" delivered by " Er. D. Muthukumar, Chief Engineering Manager L&T, Manapakkam, Chennai" on "25.08.2023" held via MS Teams Online platform" for "First year, II Year, III Year and IV Year UG" under the banner of "Institution of Engineers (India) - Student Chapter Department of Civil Engineering Sri Sivasubramaniya Nadar College of Engineering."**



- **Dr. B. Mahalingam organized a site visit to "Shiv Nadar University Hostel Block 8, SSN Nagar, Kalavakkam" on "D13.09.23" for " II (2022-2026 Batch) Year of study of students" under the banner of IEI Student Chapter."**
- **Dr. B. Mahalingam has organized a site visit to "SNU Boys Hostel Construction" on "12.09.2023" for "third year" under the banner of "ICI."**

- **Dr. Srinath R acted as coordinator for SSN Innovation Day on 06/09/2023. The Department of Civil Engineering showcased 5 student projects and three faculty projects and roped in 3 industrial experts to judge the projects (Mr. Muthukumar, Engineer, Larson & Toubro Ltd, Mr. Seenuvasan G, CapitaLand, and Sr.Er. Sathyamoorthy, T. Artelia Consulting Engineers Ltd. In addition, RM Sivalingam, M. Balaji, G. Kannan, and V. Vishnu, industrial and academic experts were invited to view and interact with the participants.**

- **Dr. Sivapriya S.V. hasvisited the proposed Doubling of track between Trivandrum and Kanyakumari for Southern Railway. The purpose of the visit is to assess the stability of the slope on June, 09th, 2023.**

- **Dr. Sivapriya S.V. hascompleted consultancy work for Minerva Soil Testing Company for an amount of Rs.11,500 regarding the preparation of the bore log report on 15.06.2023.**

- **Dr. S V Sivapriya has organized a guest lecture on the inaugural function of the Association of civil engineers on 31/08/2023. The guest speaker was Mr. Senthilnathan, Senior Vice-President, Larsen & Toubro Ltd, Chennai. The speaker gave an enlightening speech to the students on "Problems Faced in the Execution of Metro Work". He also motivated the students to pursue their career in Civil engineering by sharing his experience in handling several large-scale infrastructure projects worldwide.**

- **Dr. S.V Sivapriya has conducted consultancy work for Eagle Earth Movers, Tiruchencode - Southern railway for an amount of Rs.15,000/-**

- **Dr. P. Sangeetha rendered consultancy services to Ms Francis Santiago & Associates for the analysis/design and detailing of the Roof Framing and Entrance Trellies Structure of a residential building located at Laguna Beach, California, USA for the amount Rs. 25,000/-.**

- **Dr. P. Sangeetha has organized a site visit to "L& T Tunnel Innovation Centre-Kancheepuram" on "28-09-2023" for "III-year Civil Engineering Students" by the ICI student Chapter of SSN.**

- **Dr. P. Sangeetha coordinated the events on ICI Concrete Day 2023 on 07/09/2023. The occasion of Concrete Day at our institution in 2023 was made even more special as we officially inaugurated the SSN Indian Concrete Institute (ICI)Student Chapter for the academic year 2023-24, in the esteemed presence of Er. Muralidharan, Chairman of ICI Chennai Center. Additionally, we delve into Mr. Muralidharan's inspiring life journey and his illuminating discourse on concrete, along with the pivotal role played by the ICI Chennai Center.**

- **Dr. P. Sangeetha carried out consultancy work for Ms. R.S. Construction, for analyses and design of structural components to a residential building forRs.10,000/- in May 2023.**

- **Dr. Surendar Natarajan has organized a Site visit to Kondangi Lake in Chengalpattu District for II-year Students on 10 May 2023.**

- **Dr. Surendar Natarajan organized a site visit to the Institute of Hydraulics & Hydrology (IHH-Poondi reservoir) reservoir for III-year Civil Engineering Students on October 18th, 2023.**

- **Dr. Surender Natarajan and Dr. P. Sangeetha arranged an Industrial Visit to Rainbow Pipes for the IV-year Students in Mangalore on 17/11/2023.**

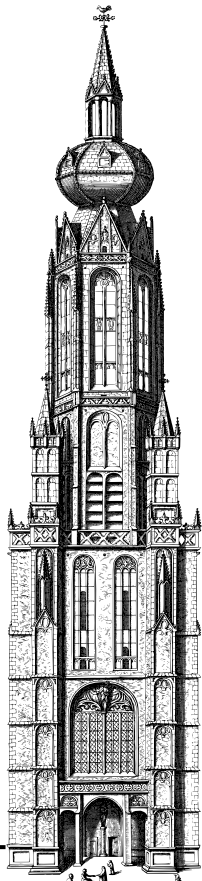
11.8 ALUMNI INTERACTION

- **Dr. R. Rajkumar conducted a Chit Chat session with these Alumni (Batch 2019 – 2023: Mahalakshmi, Sadhana, Shenbaga Bala) who have secured admission to foreign Universities for Higher Education.**

- **Dr. Aswin Sriram had organized an interaction with Civil Engineering alumnus (2019-2023), Mr. Javith, shared insights from his experience at JSW Construction with third-year students during an interaction session on 17.08.2023. He encouraged students to pursue internships during their prefinal and final years. During the session, Mr Javith shed light on various aspects of his role, including his job responsibilities and the nature of the tasks he handles. He elaborated on his daily routine, discussing both the conveniences and challenges associated with on-site work.**

- **Sidharath K Shah (Batch 2018 – 2022) visited us regarding Placement Mock Interview.**

- **Tanishka Priyadarshini Ramesh, Batch (2019 – 2023) had an interaction with Alumni Coordinator Dr. R. Rajkumar regarding higher education on 10th October 2023.**



- **Dr. Aswin Sriram had organized an interaction on August 17, 2023, Ms. Oshiyana Ramadoss, an alumna of the civil engineering program (2019-2023), engaged in an interaction session with third-year civil engineering students. Presently gearing up for competitive exams, she nurtures an ambition to serve as a cadet in TNPSC. Having recently enrolled at Pyramid Academy in Karaikudi, Tamil Nadu, for coaching, she motivated fellow students to consider the path of competitive examinations and emphasized the importance of diligent preparation.**

- **Ms. Samundeswari, batch (2018 - 2022) currently working in CTS as Program Analyst Senior had an alumni interaction with Dr. R. Rajkumar.**

Sidharath K Shah (Batch 2018 – 2022)

Tanishka Priyadarshini Ramesh, Batch (2019 – 2023)

11.9 NOTABLE VISITORS

- **Asst. Prof. Yuri Hadi, Post Graduate Experience Director, Faculty of Engineering, Department of Architecture & The Built Environment, University of Nottingham, UK visited Civil Dept SSN on 04.09.2023 and discussed about the higher studies opportunities at University of Nottingham, UK.**

- **Mr. Muthukumar, Engineer, Larson & Toubro Ltd, Mr. Seenuvasan G., CapitaLand, and Sr.Er. Sathyamoorthy, T. Artesia Consulting Engineers Ltd. have acted as Jury members for judging the projects displayed in the SSN Innovation Day conducted on 06/09/2023. In addition, RM Sivalingam, M. Balaji, G. Kannan, and V. Vishnu industrial and academic experts were invited to view and interact with the participants.**

- **Mr. Muralidharan N. G, Chairman of Indian Concrete Institute Chennai center visited us on 07/09/2023 and conducted a safety pledge for our students on construction safety pledge. He also delivered a lecture on opportunities in civil engineering.**

- **Mr. S. G. Ashok Kumar CEO-CMTI, Bangaluru, delivered a lecture on Green Building Council for the students taking a Value-Added Course on green built environment. The event was held on 22/09/2023.**

- **Sr.Er. Sathyamoorthy Engineer in Artelia Consulting Engineers Ltd. visited as an External Expert for final-year undergraduate students.**

- **Dr. C.Velan, City Head at CapitaLand Investment India visited our college on 25.05.2023 as an Annual Celebration Day Guest.**

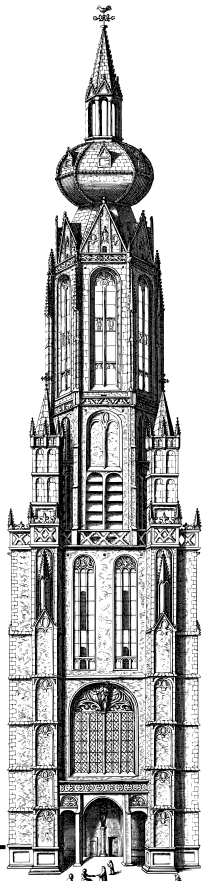
- **Dr. B. Suresh, Artelia Consulting Engineers Ltd. visited SSN Campus to inaugurate Invente-2023 on 6th October 2023.**

Asst. Prof. Yuri Hadi, Post Graduate Experience Director - University of Nottingham, UK visited Civil Dept SSN on 04.09.2023.

11.10 REVIEWER ACTIVITIES

- **Dr. N. Sivakumar has reviewed 6 papers for Construction and building materials-Elsevier.**
- **Dr. N. Sivakumar has reviewed 2 papers for Construction and Building Materials Journal-Elsevier.**
- **Dr. N. Sivakumar has reviewed four manuscripts for construction and building materials Elsevier.**
- **Dr. Sivakumar has reviewed two manuscripts for construction and building materials Elsevier.**
- **Dr. Sivakumar obtained a CII Certified Professional in Life Cycle Assessment from CII-IGBC on 02 Sep 2023. No. CIIGBC-CPLCA-0823-291**
- **Dr. Sivakumar attended an online course on Time management in September 2023 from Great Learning.**
- **Dr. N. Sivakumar has reviewed 4 papers for Construction and Building Materials-Elsevier.**

- **Dr. Sivakumar N reviewed two manuscripts for Construction and Building Materials, Elsevier.**
- **Dr. N. Sivakumar has reviewed one manuscript for Construction and building materials- Elsevier.**
- **Dr. B. Mahalingam has reviewed "Two Papers" for the "International Conference on Sustainable Technologies in Civil and Environmental Engineering (ICSTCE 2023) which was held during 15th – 16th, June 2023 at Dr. DY Patil Institute of Technology, Pune, India.**
- **Dr. B. Mahalingam has reviewed "Two Papers" for the "International Conference on Civil Engineering Innovative Development in Engineering Advances" [ICC IDEA - 2023] which was held during 09th – 11th, May 2023 at SRM Institute of Technology, Chennai, India.**
- **Dr. R. Rajkumar has reviewed two manuscripts for the international conference held at SRM Institute for Science and Technology.**
- **Dr. R. Srinath has reviewed "Six Papers" for the "International Conference on Civil Engineering Innovative Development in Engineering Advances" [ICC IDEA - 2023] which was held during 09th – 11th, May 2023 at SRM Institute of Technology, Chennai, India.**
- **Bureau of Indian Standards - Standards Club was started on 31.05.2023. Dr. Sivapriya S.V acts as the Mentor of the Standards Club, which has student representatives from various departments across the College.**
- **Dr. S.V. Sivapriya has reviewed one manuscript for the journal 'Korean Journal of Civil Engineering' published by Springer.**
- **Dr. S.V. Sivapriya has reviewed one manuscript for the journal 'Scientific Reports' published by Springer.**
- **Dr. S.V. Sivapriya has reviewed two manuscripts for the International Conference on Civil Engineering Innovative Development in Engineering Advances" organized by SRMISTE, Kattankulathur, Chennai.**
- **Dr. S.V. Sivapriya has organized farewell to "Final year" on "12.05.2023" at "Department Seminar Hall" under the banner of "Association of Civil Engineers".**



- **Dr. Sivapriya S. V reviewed one manuscript for the journal 'Advances in Civil Engineering' published by Hindawi Publications.**

- **Dr. S.V. Sivapriya has reviewed two manuscripts for the conference 'The 2nd International Conference on Modern Materials for Engineering and Research' published by Scientific.net.**

- **Dr. Sangeetha P has reviewed one manuscript for the Journal of Scientific Research and Report published by JSRR.**

- **Dr. Sangeetha P has reviewed One manuscript for the Journal "Innovative Infrastructure Solutions" published by Springer.**

- **Dr. P. Sangeetha has reviewed One manuscript for the journal 'Materials Today Proceeding ' published by Elsevier B.V.**

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

- **Dr. P. Sangeetha has reviewed One manuscript for the journal 'Innovation Infrastructure Solutions ' published by Springer.**

- **Dr. P. Sangeetha has reviewed One manuscript for the journal 'International Journal of Steel Structures ' published by Springer.**

- **Dr. P. Sangeetha has reviewed One manuscript for the journal 'Congent Engineering' published by Taylor and Francis.**

- **Dr. P. Sangeetha has reviewed One manuscript for the journal 'Innovative Infrastructure Solutions' published by Springer.**

- **Dr. Sangeetha P reviewed two manuscripts for the journal 'Research on Engineering Structures and Materials'.**

- **Dr. Sangeetha P reviewed one manuscript for the journal 'Materials Today- Proceedings' published by Elsevier B.V.**

- **Dr. Sangeetha P reviewed one manuscript for the 'Defense Science Journal.'**

- **Dr. P. Sangeetha has reviewed one manuscript for the Journal of Advanced Research in Applied Mechanics.**

- **Dr. Aswin Sriram has organized a lecture series titled " Recent Advances in Green Buildings" delivered by Dr. Sivakumar Naganathan, HoD/Civil, SSNCE, concluded on 06.06.2023 for First year Civil Engineering Students under the banner of IEI Student Chapter.**

- **Dr. Aswin Sriram organized a discussion forum on World Environment Day - #Beat the plastic on 05.06.2023 for Second Year Civil Engineering Students under the banner of IGBC Student Chapter.**

STUDENT ACTIVITIES

STUDENT EXTERNAL RECOGNITION CO-CURRICULAR

- **Dr. Aswin Sriram has organized a lecture series titled " Recent Advances in Green Buildings" delivered by Dr. Sivakumar Naganathan, HoD/Civil, SSNCE, concluded on 06.06.2023 for First year Civil Engineering Students under the banner of IEI Student Chapter.**

- **Dr. Aswin Sriram organized a discussion forum on World Environment Day - #Beat the plastic on 05.06.2023 for Second Year Civil Engineering Students under the banner of IGBC Student Chapter.**

- **Elanthalir A of II year has completed the learning Excel online (Microsoft 365) during April 2023.**

- **C. Adarsh has participated in the Research paper presentation Event at ICI FEST 2023, SSN College of engineering Conducted on 25.04.2023 by the SSN-ICI Student Chapter.**

- **C. Adarsh has participated in the event Code Wizard Event in ICI FEST 2023, SSN College of engineering and won 2nd place in the Event Conducted on 25.04.2023 by SSN-ICI Student Chapter.**

- **C. Adarsh attended a webinar on "Building products for Building Construction " conducted by ULTRATECH Pvt. ltd. On Date: 29.04.2023.**

- **C. Adarsh attended a webinar on " Case Studies on rehabilitation measures on bridges " conducted by ULTRATECH Pvt. ltd. On Date 6.05.2023.**

- **C. Adarsh attended a webinar on "Box Jacking with Soil Nailing for construction of roads/underpass " conducted by ULTRATECH Pvt. ltd. On Date:13.05.2023.**
- **C. Adarsh attended a webinar on " Remaining Life analysis for an uninterrupted structural performance " conducted by ULTRATECH Pvt. ltd. On Date:20.05.2023.**
- **Elanthalir A of II year completed the certification in strategies for sustainable Design by 25/05/2023.**
- **K. Govindaraj has participated in the Chamber of Secrets conducted by ICI Fest 23, organized by the SSN ICI Student Chapter on 25th April 2023.**
- **Sri Raghav Soliah Parthasarathy of III-year, Civil Engineering has successfully obtained certification as "IGBC AP Associate" from the Indian Green Building Council on 03.06.2023.**
- **C. Adarsh of III year has attended a webinar on "Relevance on-site effect for earthquake resistant construction", conducted by Ultratech Pvt. Ltd. on the Date: June 10, 2023.**
- **C. Adarsh of III years has attended a webinar on " Seismic retrofitting of reinforced concrete buildings", conducted by Ultratech Pvt. Ltd. on the Date: June 17, 2023.**
- **C. Adarsh of III years has attended a seminar on "Optimization of structures ", conducted by Builders Association of India Southern Centre on the Date: 28th May 2023.**
- **P. Adithya of III years has attended a Seminar on optimization of structures (strength and economy) conducted by BAI, Southern Centre on 26th May 2023.**
- **Geethesh K of II year attended a Seminar on optimization of structures (strength and economy) conducted by BAI, Southern Centre on 26th May 2023.**
- **Prashant III year has been associated with a data collection project using drones by IIT Tirupati x Garuda Aerospace along with the students of IIT Kanpur. It was a 3-day internship where we learned about drone surveying at Anna Salai.**
- **Murali B of III year has been associated with a data collection project using drones by IIT Tirupati x Garuda Aerospace along with the students of IIT Kanpur. It was a 3-day internship where we learned about drone surveying at Anna Salai.**

- **P. Pandiyarajan of III years has been associated with a data collection project using drones by IIT Tirupati x Garuda Aerospace along with the students of IIT Kanpur. It was a 3-day internship where we learned about drone surveying at Anna Salai.**
- **Karan K of III year has completed a 3-day Internship with IIT Tirupati on Analysis of Traffic Using Drone Survey Date: 26.06.2023 - 28.06.2023 SITE LOCATION: Anna Salai, Chennai.**
- **Nitish Kanna K of III year has completed a 3-day Internship with IIT Tirupati on Analysis of Traffic Using Drone Survey Date: 26.06.2023 - 28.06.2023 SITE LOCATION: Anna Salai, Chennai.**
- **P. Pandiyarajan III year has completed a 3-day Internship with IIT Tirupati on Analysis of Traffic Using Drone Survey Date: 26.06.2023 - 28.06.2023 SITE LOCATION: Anna Salai, Chennai.**
- **C. Adarsh attended a webinar on "Disaster risk reduction: seismic retrofitting of masonry, RC building " conducted by Ultratech Pvt. Ltd. on date: July 8th 2023.**
- **C. Adarsh has attended a webinar on " White topping and RMD technology" conducted by Ultratech Pvt. Ltd. on date: July 1 2023.**
- **C. Adarsh attended a webinar on " Economical, Efficient Robust and long-lasting modern road technology- Thin white topping" conducted by Ultratech Pvt. Ltd. on date: July 15th 2023.**
- **C. Adarsh has attended a webinar on " Green homes: Sustainable living and better future " conducted by Ultratech Pvt. Ltd. on date: July 19th 2023.**
- **C. Adarsh has completed the Internship training from the Airports Authority of India for 30 days from 23rd June to 23rd July as part of the academic curriculum.**
- **Rushikaa S has participated in the Young Leadership Summit YLS conducted by IIM Bangalore.**
- **Naveen Raj M has completed the Internship training in India Cement for 30 days from June 26th June to 27th July as part of the academic curriculum.**
- **S. Dakshetha has completed an online course on UI/UX basics for Beginners.**
- **S Vedajanani has completed the Internship training in L & T for 30 days from June 26th June to 22nd July as part of the academic curriculum.**

- **Pranav. V.S has completed the Internship training in L & T for the duration of 30 days from June 26th June to 22nd July as part of the academic curriculum.**

- **Srinidhi Seran, III yr attended Webinar on "Management of soils, stones and P-G opportunities in Ireland" organized by the Institution of Civil Engineers (UK) SSN– Student Chapter on 29th July 2023.**

- **S. Harini, III yr has attended has participated in the webinar on "Management of soils, stones and P-G opportunities in Ireland" organized by the Institution of Civil Engineers (UK) SSN– Student Chapter on 29th July 2023.**

- **Jeevitha R, III yr attended Webinar on "Management of soils, stones and P-G opportunities in Ireland" organized by the Institution of Civil Engineers (UK) SSN– Student Chapter on 29th July 2023.**

- **Nishta M N, III yr has attended a Webinar on "Management of soils, stones and P-G opportunities in Ireland" organized by the Institution of Civil Engineers (UK) SSN– Student Chapter on 29th July 2023.**

- **C. Adarsh, IV yr has attended a Webinar on "Management of soils, stones and P-G opportunities in Ireland" organized by the Institution of Civil Engineers (UK) SSN– Student Chapter on 29th July 2023.**

- **C. Adarsh, IV yr won third place in the AUTOCAD competition " Vision Quest " conducted by St.Joseph's College of Engineering on their Technical Symposium RECONNIN 23.**

- **C. Adarsh, IV yr has Successfully attended 100 webinars conducted by various reputed organizations across India in the academic year 2022 -2023.**

- **C. Adarsh, IV yr has participated in the "Pitch for the Planet" contest conducted during the Grand Expo of the Carbon Zero Challenge from 26th- 28th July 2023 at IIT Madras.**

- **C. Adarsh, IV yr attended webinar on "Pervious Concrete - Can It Mitigate Some Effects of Climate Change " On July 28, 2023, Conducted by Qcrete Ready-mix (India) Pvt Ltd.**

- **C. Adarsh, IV yr participated in the webinar on "Management of soils, stones and P-G opportunities in Ireland" Organized by the Institution of Civil Engineers (UK) SSN– Student Chapter on 29th July 2023.**

- **C. Adarsh, IV yr participated in the "Trash to cash " challenge on July 20232, Conducted by Teach a Man to fish, Europe Organization.**

- **Saarusha GS, III yr has participated in the webinar on "Management of soils, stones and P-G opportunities in Ireland" Organized by the Institution of Civil Engineers (UK) SSN– Student Chapter on 29th July 2023.**

- **S. Dakshetha, III yr has completed UI/UX for a beginner's course.**

- **S. Dakshetha, III yr has participated in the Webinar on the title "Product role strategies - coding ninjas".**

- **S. Dakshetha, III yr participated in the webinar on "Management of soils, stones and P-G opportunities in Ireland" Organized by the Institution of Civil Engineers (UK) SSN– Student Chapter on 29th July 2023.**

- **Sri Raghav Soliah Parthasarathy, IV yr has completed the Internship Training in the CMRL ECVO2 Project from 26th June 2023 to 26th July 2023.**

- **Sarvesh S IV yr completed the Internship Training at R Ramson Associates, Chennai from 1st July 2023 to 28th July 2023.**

- **Subiksha R S has undergone an internship program, in our organisation during the period from 3rd July 2023 to 27th July 2023.**

- **Kuchi Phani Soumika, IV yr had undergone an internship in the Roads Department of our organization from 26-06-2023 to 28-07-2023.**

- **Vanaja M J, IV yr has completed her Internship at Dow Chemical International Pvt. Ltd., from June 23, 2023, to August 23, 2023.**

- **Ehalawaarkuzhali N.P, I yr has attended the seminar "STOP A DROP – Emerging Trends and Developments in Construction Chemicals for Builders" on 17/08/2023 organized by BAI Southern Centre.**

- **Rishanth AK participated in a summer internship at Super Foundations.**

- **Rishanth AK has completed a Course on the Design of Steel Structures as per IS 800.**

- **Rishanth AK has completed a Course on the Design of Reinforcement concrete structures.**

- **Rajalakshmi B participated in the webinar on "Management of soils, stones and P-G opportunities in Ireland" Organized by the Institution of Civil Engineers (UK) SSN– Student Chapter on 29th July 2023.**

- **Yogesh Balamurugan, IV yr has completed the Internship Training for B.E. Civil Engineering in this office during the period of one month from 26.06.2023 to 24.07.2023.**

- **G Gaayathri Sangavi IV yr has completed her internship in Petrofac Engineering Service India Pvt Ltd, Chennai from 4th July 2023 to 4th August 2023.**

- **Kavin. S has completed his internship in Navin housing for a period of One month from 4th July 2023 to 4th August 2023.**

- **Karan K has completed an internship from Dhanraj Construction, Chennai for one month during the period (June - July) 2023.**

- **Devadharshini. B has completed her internship in Larsen and Toubou, Chennai from 4th July 2023 to 4th August 2023.**

- **Thanush Kumar M V, III year has completed the Internship Training for B.E. Civil Engineering in CMRL during the period of one month from 31.07.2023 to 31.08.2023.**

- **Rohan Krishna has completed his Internship at Madurai Police Housing Corporation during the period of one month from 31.07.2023 to 31.08.2023.**

- **Vignesh M, IV year has completed the Internship Training for B.E. Civil Engineering in EDRC Department, Chennai HQ from 26th June 2023 to 26th July 2023.**

- **Kalaimagal. V.P, IV year has successfully completed the 6 week internship program at Mr. Cooper Group.**

- **Kalaimagal. V.P, IV Year successfully completed the DATA ANALYST Course and received a certificate offered by the Aravinai Foundation.**

- **Kalaimagal. V.P, IV Year Successfully completed the Introduction to SQL course certificate from Sololearn.**

- **Kalaimagal. V.P, IV year has Successfully completed the SQL Intermediate course certificate from Sololearn.**

- **Kalaimagal. V.P, IV year has Successfully completed the Introduction to Python course certificate from Sololearn.**

- **Kalaimagal. V.P, IV year has Successfully completed the Introduction to HTML course certificate from Sololearn.**
- **Kalaimagal. V.P, IV year has Successfully completed the Data Analysis with Python course certificate from freeCodeCamp.org**
- **Yaashika.M, IV Year has successfully completed the Internship at CMRL from 26th June to 26th July 2023.**
- **Yaashika.M, IV Year has participated in the Project Exhibition and won 4th place in the SSN Innovation Day conducted by SSN College of Engineering.**
- **Vignesh M, IV Year has successfully completed IGBC AP-Associate from IGBC CII on 02/09/2023.**
- **Vignesh M, IV Year has successfully completed the L & T Construction Internship from 26th June 2023 to 26th July 2023.**
- **Sri Raghav Soliah Parthasarathy successfully completed the IGBC AP-Associate from IGBC CII on 02/09/2023.**
- **Kuchi Phani Soumika IV Year for successfully participating in Ascend Live Masterclass on Construction Project Management in Bullet Train Projects.**
- **Elanthalir.A, III Year Completed my certification in Residential Design and Visualization: Concept Development (3D Modeling).**
- **Adarsh.C, IV yr has participated in Workshop on the topic "Construction Project Management in Bullet Train Projects" conducted by Ascend School of management, on DATE: 14.09.2023.**
- **Adarsh.C, IV year has participated in a Webinar on the topic" Concrete pavement mix design and lean concrete mix design" conducted by Ultratech Pvt. Ltd, on DATE: 2.09.2023.**
- **Adarsh.C, IV year has participated in a Webinar on the topic" Design and construction aspects of thin white topping technology on roads " conducted by Ultratech Pvt. Ltd, on Date: 9.09.2023.**
- **Adarsh. C, IV year has received an appreciation certificate for being a Core committee member in the Institution of Engineers India (IEI) Student Chapter Of the Civil Engineering Department, SSN College of Engineering.**

- **Adarsh. C, IV year has received an appreciation certificate for being a Vice President in the Indian Green Building Council (IGBC-SSN) Student Chapter of the Civil Engineering Department, SSN College of Engineering.**

- **Adarsh. C, IV year has participated in the Online Training Program on Billing Engineer For 1.30 hours Daily / 8 Sessions from 24th July 2023 Conducted by Construction Management Training Institute (CMTI).**

- **Naresh Mohan, IV-year C has participated in the Online Training Program on Billing Engineer For 1.30 hours Daily / 8 Sessions from 24th July 2023 Conducted by Construction Management Training Institute (CMTI).**

- **Naveenraj IV-year C has participated in the Online Training Program on Billing Engineer For 1.30 hours Daily / 8 Sessions from 24th July 2023 Conducted by Construction Management Training Institute (CMTI).**

- **Pandiyaraj, IV year C has participated in the Online Training Program on Billing Engineer For 1.30 hours Daily / 8 Sessions from 24th July 2023 Conducted by Construction Management Training Institute (CMTI).**

- **Rethnakumar IV-year, C has participated in the Online Training Program on Billing Engineer For 1.30 hours Daily / 8 Sessions from 24th July 2023 Conducted by Construction Management Training Institute (CMTI).**

- **S. Dakshetha III Year has won 2nd place - Paper presentation in the Civil Symposium conducted by Sairam College of Engineering from 12/09/2023 to 13/09/2023.**

- **S.Dakshetha,IIIyr has participated in the Project Exhibition and won 4th place in the SSN Innovation Day conducted by SSN College of Engineering.**

- **S. Dakshetha III Year has won 2nd place - Think Quest in Civil Symposium conducted by Sairam College of Engineering from 12/09/2023 to 13/09/2023.**

- **S. Dakshetha III Year has won 2nd place - Trial blazer in the Civil Symposium conducted by Sairam College of Engineering from 12/09/2023 to 13/09/2023.**

- **S. Dakshetha III Year has won 2nd place - Bat and bid in the Civil Symposium conducted by Sairam College of Engineering from 12/09/2023 to 13/09/2023.**

- **S. Dakshetha,III yr has won 4th place- Howrah bridge in Civil Symposium conducted by Sairam College of Engineering.**

- **S. Dakshetha III Year has won 3rd place - Pixel percieve in Civil Symposium conducted by Sairam College of Engineering from 12/09/2023 to 13/09/2023.**
- **S. Dakshetha III Year has won 3rd place - Mega Minds in Civil Symposium conducted by Sairam College of Engineering from 12/09/2023 to 13/09/2023.**
- **S. Dakshetha III Year has won 3rd place - Talent throve in Civil Symposium conducted by Sairam College of Engineering from 12/09/2023 to 13/09/2023.**
- **S. Dakshetha III year has secured II places in the event "Papyrus Blast (Paper Presentation)" took place by Civilization – 4.0 from 12/09/2023 to 13/09/2023.**
- **Vanaja M J, IV year was an Intern at Dow Chemical International Pvt. Ltd., from June 23, 2023 to August 23, 2023. Summer Internship - 2 Months.**
- **Vanaja M J, IV year have participated in the Project Exhibition and won 4th prize in SSN Innovation Day held on September 6, 2023.**
- **Pranavaa III year has secured II places in the event "Papyrus blast (Paper Presentation)" took place by Civilization – 4.0 from 12/09/2023 to 13/09/2023.**
- **Pranavaa III Year participated in the Tech Link Civil Symposium conducted by Sairam College of Engineering from 12/09/2023 to 13/09/2023.**
- **S. Dakshetha III Year participated in the Tech Link Civil Symposium conducted by Sairam College of Engineering from 12/09/2023 to 13/09/2023.**
- **S. Dakshetha III Year has participated in the Steps climbing Civil Symposium conducted by Sairam College of Engineering from 12/09/2023 to 13/09/2023.**
- **N. Jewison Jacob has participated in an oratorial competition conducted by the Builders Association of India in Chennai.**
- **Jeevitha R has attended the One-Day Workshop on "DGPS, Drone and LIDAR: The Future of Surveying Techniques, held on 19th October 2023. presented by Mr. A.Selvam, Managing director, land coordinate technology, Chennai .**
- **Jeevitha R has attended a webinar on "Navigating the pathways of publishing in High quality journals", organized by Elsevier on 09 October 2023.**
- **Jeevitha R has attended a webinar on "Innovative quality control of concrete - practical Tips and Tricks".**

- **C. Adarsh has received a year Completion certificate from the Institution of Engineers India (IEI) on Date: 15.10.23.**

- **C. Adarsh attended webinar on "Navigating the pathways of publishing in high-quality journals - By Elsevier" Organised by the Institution of Civil Engineers (UK) SSN– Student Chapter on 9th Oct 2023.**

- **C. Adarsh participated in an Oratorical competition conducted by the Builders Association of India, on Date: 20.10.2023.**

- **Srinidhi Seran has attended a Webinar on "Navigating the pathways of publishing in high-quality journals - By Elsevier" conducted on 9th October 2023**

- **Srinidhi Seran has attended a One-Day Workshop on "DGPS, Drone and LIDAR: The Future of Surveying Techniques, held on 19th October 2023. Presented by Mr. A. Selvam, managing director, land coordinate technology, Chennai.**

- **Srinidhi Seran has attended a webinar on "Innovative Quality Control of Concrete - Practical Tips and Tricks."**

- **N. Annamalai has attended a One-Day Workshop on "DGPS, Drone and LIDAR: The Future of Surveying Techniques, held on 19th October 2023. Presented by Mr. A. Selvam, managing director, land coordinate technology, Chennai.**

- **N. Annamalai has attended a webinar on "Navigating the pathways of publishing in high-quality journals - By Elsevier"**

- **N. Annamalai has attended a webinar on the Institution of Civil Engineers (UK) SSN– Student Chapter on 9th Oct 2023.**

- **Ø S Harini has attended the webinar on" Navigating the pathways of publishing in high-quality journals - By Elsevier ".**

- **S Harini has attended a One-Day Workshop on "DGPS, Drone and LIDAR: The Future of Surveying Techniques, held on 19th October 2023. Presented by Mr. A. Selvam, managing director, land coordinate technology, Chennai.**

- **S Harini has attended a Webinar on "Innovative Quality Control of Concrete - Practical Tips and Tricks."**

- **Karthikeyan J attended a One-Day Workshop on "DGPS, Drone and LIDAR: The Future of Surveying Techniques, held on 19th October 2023 presented by Mr. A. Selvam, managing director, land coordinate technology, Chennai.**

- **Karthikeyan J attended a webinar Navigating the pathways of publishing in high-quality journals - By Elsevier**

- **Karthikeyan J attended a webinar on "Innovative Quality Control of Concrete - Practical Tips and Tricks" conducted on 27th October 2023.**

- **Nishta M N had attended "One-Day Workshop on "DGPS, Drone and LIDAR: The Future of Surveying Techniques "conducted on 19th October 2023**

- **Nishta M N had attended Webinar on "Navigating the pathways of publishing in high-quality journals - By Elsevier" Organized by the Institution of Civil Engineers (UK) SSN– Student Chapter on 9th Oct 2023.**

- **Nishta M N had attended a Webinar on "Innovative Quality Control of Concrete - Practical Tips and Tricks" conducted on 27th October 2023.**

- **Elanthalir. A has attended a Workshop on "DGPS, Drone and LiDAR - The Future of Surveying Techniques" conducted by SSN-ICI.**

- **Vanaja M J has attended the webinar IEI student certificate.**

- **Elanthalir. A has attended a webinar on Innovative Quality Control of Concrete - Practical Tips and Tricks.**

- **Vanaja M J attended "One-Day Workshop on "DGPS, Drone and LIDAR: The Future of Surveying Techniques "conducted on 19th October 2023.**

- **Revanth Kumar G won first Place as a team in a Design thinking challenge competition Titled Segue 2.0 organized by NIET - Noida and the School of Future Skills held on 27th and 28th October.**

- **Nikhil Narayanan S won first place as a team in a Design thinking challenge competition Titled Segue 2.0 organized by NIET - Noida and the School of Future Skills held on 27th and 28th October.**

- **Logesh won First Place as a team in the Design thinking challenge competition Titled Segue 2.0 organized by NIET - Noida and the School of future skills held on the 27th and 28th of October.**

- **Krithik won First Place as a team in a Design thinking challenge competition Titled Segue 2.0 organized by NIET - Noida and the School of Future Skills held on the 27th and 28th of October.**

- **Jemimah J won first place in an Oratorical competition conducted by the Builders Association of India, on Date: 20.10.2023 among all Engineering Colleges in Tamil Nadu.**

- **Yaashika. M has presented a Paper Presentation in the Second International Conference on Innovative Research Trends in Civil Engineering at Sri Sairam Engineering College, Chennai on 17th November 2023.**

- **Adarsh C has won 5th place in the National level cube testing and Mix Design competition conducted by RDC Concrete and ICI Chennai Centre on 3.11.2023.**

- **Kalaimagal V P completed an internship and received an Internship certificate from Aryabhata Brandt Urban Analytics Private Limited.**

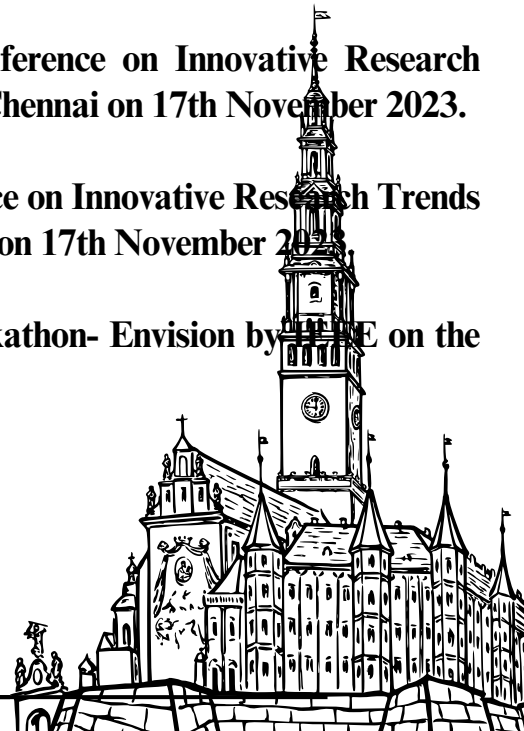
- **Nishta M N has presented a Paper at Second International Conference on Innovative Research Trends in Civil Engineering at Sri Sairam Engineering College, Chennai on 17th November 2023.**

- **Kalaimagal V P has presented a Paper at Second International Conference on Innovative Research Trends in Civil Engineering at Sri Sairam Engineering College, Chennai on 17th November 2023.**

- **Saarusha GS presented a Paper at Second International Conference on Innovative Research Trends in Civil Engineering at Sri Sairam Engineering College, Chennai on 17th November 2023.**

- **Vanaja M J presented a paper at Second International Conference on Innovative Research Trends in Civil Engineering at Sri Sairam Engineering College, Chennai on 17th November 2023.**

- **Felix Joshua J has participated and qualified for the Final Hackathon- Envision by IEEE on the 16th of November 2023.**



12.1 STUDENT EXTERNAL RECOGNITION EXTRA-CURRICULAR ACTIVITIES

- **Ravi Raam has participated in Handball Inter year first place on 30/03/2023.**
- **Ravi Raam has participated in Kho-Kho Inter year second place on 10/04/2023.**
- **BenedictonRohit B, III yeara member of the Aquatics team secured First position in Butterfly 100m in the Anna University Inter Zonal Tournaments held at M.N.M Jain Engineering College on 24.11.2023.**
- **BenedictonRohit B, III yearwas a member of the Aquatics team and secured First position in Back Stroke 100m in the Anna University Inter Zonal Tournaments held at M.N.M Jain Engineering College on 24.11.2023.**
- **BenedictonRohit B, III yeara member of the Aquatics team secured First position in Breaststroke 100 m in the Anna University Inter Zonal Tournaments held at M.N.M Jain Engineering College on 24.11.2023.**

NON-TEACHING STAFF ACTIVITY

- **Parthiban has attended a Workshop on 'Measurement possibilities using microwave analyzer' held on 29th April 2023 organized by the Dept. of Electronics and Communication Engineering, SSN College of Engineering, Chennai.**
- **Parthiban has attended an Online Webinar on 'Case Studies on Rehabilitation Measures for Bridges ' held on 6th May 2023, organized by Ultra Tech Cement Ltd.**
- **Parthiban has attended an Online Webinar on 'Box Jacking with Soil Nailing for Construction of Rail/Road Underpass' held on 13th May 2023, organized by Ultra Tech Cement Ltd.**
- **Parthiban. C has attended an Online Webinar on 'Relevance of Site effect for Earthquake Resistant Construction' held on 10th June 2023 organized by Ultratech Cement Ltd., Chennai.**

- **Parthiban. C has attended an Online Webinar on 'Seismic Retrofitting of Reinforced Concrete Buildings' held on 17th June 2023, organized by Ultratech Cement Ltd., Chennai.**

- **C. Parthiban has attended an Online Webinar on 'White Topping and RMD Technology' held on 1st July 2023, organized by Ultra Tech Cement Ltd.**

- **C. Parthiban has attended an Online Webinar on 'Disaster Risk Reduction: Seismic Retrofitting of Masonry, RC Building' held on 08th July 2023, organized by Ultra Tech Cement Ltd.**

- **Mr. Parthiban attended an Online Webinar on the Non-Destructive evaluation of Reinforced concrete Structures held on 5th August 2023, organized by UltratechCement Ltd., Chennai.**

- **Parthiban C has attended an Online Webinar on "Sustainability and Practices - A Timeline Requirement of The Construction Industry" held on 7th September 2023, organized by Qcrete Ready-mix (India) Pvt Ltd.**

- **Parthiban C has attended an Online Webinar on "Design & Construction Aspect of Thin White Topping Technology for Roads" held on 9th September 2023, organized by UltraTech Cement Ltd.**

- **Parthiban C has attended an Online Webinar on "Can Concrete Roads be Green and Sustainable?" held on 23rd September 2023, organized by UltraTech Cement Ltd.**

- **Parthiban C has attended an Online Webinar on "Concrete Pavement Mix Design (IRC-44) and Dry Lean Concrete Mix Design (IRC: SP:49)" held on 2nd September 2023, organized by UltraTech Cement Ltd.**

- **Parthiban C has attended a One-Day Workshop on DGPS, Drone and LIDAR: The Future of Surveying Techniques held on 19th Oct 2023 organized by Dept. of Civil Engineering, SSN College of Engineering, Chennai.**

- **Parthiban C has attended online Webinar on 'Making Concrete Sustainable and Moving Towards Net Zero' held on September 27th, 2023, organized by "Qcrete".**

- **Parthiban C has attended an online Course titled 'Site Management Safety Training Scheme (SMSTS)', for a period of 'One Day' attended on October 25th, 2023, through "Alison."**

- **Mr. Parthiban attended an Online Webinar on 'Innovative Quality Control of Concrete - Practical Tips and Tricks' held on 27th Oct 2023, organized by Dept. of Civil Engineering, SSN College of Engineering, Chennai**

- **Balaji M has attendeda Workshop on 'Measurement possibilities using microwave analyzer' held on 29th April 2023 organized by Dept. of Electronics and Communication Engineering, SSN College of Engineering, Chennai.**

- **Balaji M has attendedan Online Webinar on 'Building Products for Building Solutions' held on 29th Apr 2023, organized by Ultra Tech Cement Ltd.**

- **Balaji M has attendedan Online Webinar on 'Case Studies on Rehabilitation Measures for Bridges ' held on 6th May 2023, organized by Ultra Tech Cement Ltd.**

- **Balaji M has attendedan Online Webinar on 'Box Jacking with Soil Nailing for Construction of Rail/Road Underpass' held on 13th May 2023, organized by Ultra Tech Cement Ltd.**

- **Balaji M has attendedan Online Webinar on 'Remaining Life Analysis for An Uninterrupted Structural Performance' held on 20th May 2023, organized by Ultra Tech Cement Ltd.**

- **Balaji. M has attended an Online Webinar on 'Engineering and Doctoring of Structural Materials and Structures' held on 27th May 2023, organized by Ultratech Cement Ltd., Chennai.**

- **Balaji. M has attended an Online Webinar on 'Engineering India's Tallest Bungy Jumping Facility at Rishikesh' held on 3rd June 2023, organized by Ultratech Cement Ltd., Chennai.**

- **Balaji. M has attended an Online Webinar on 'Relevance of Site effect for Earthquake Resistant Construction' held on 10th June 2023, organized by Ultratech Cement Ltd., Chennai.**

- **Balaji. M has attended an Online Webinar on 'Assessment & Upgrading of Deteriorating Reinforced Concrete Structures: A Researcher's View' held on 24th June 2023, organized by Ultratech Cement Ltd., Chennai.**

- **M. Balaji has attended an Online Webinar on 'White Topping and RMD Technology' held on 1st July 2023, organized by Ultra Tech Cement Ltd.**

- **M. Balaji has attended an Online Webinar on 'Disaster Risk Reduction: Seismic Retrofitting of Masonry, RC Building' held on 08th July 2023, organized by Ultra Tech Cement Ltd.**

- **Mr. Balaji M has attended an Online Webinar on Non-Destructive evaluation of Reinforced concrete Structures held on 5th August 2023, organized by UltratechCement Ltd., Chennai.**

- **M Balaji has attended Online Webinar on "Concrete Pavement Mix Design (IRC-44) and Dry Lean Concrete Mix Design (IRC: SP:49)" held on 2nd September 2023, organized by UltraTech Cement Ltd**

- **M Balaji has attended an Online Webinar on "Design & Construction Aspect of Thin White Topping Technology for Roads" held on 9th September 2023, organized by UltraTech Cement Ltd**

- **M Balaji has attended an Online Webinar on "Can Concrete Roads be Green and Sustainable?" held on 23rd September 2023, organized by UltraTech Cement Ltd**

- **M Balaji has attended an Online Webinar on "Sustainability and Practices - A Timeline Requirement of The Construction Industry" held on 7th September 2023, organized by Qcrete Ready-mix (India) Pvt Ltd.**

- **Balaji M has attended a One-Day Workshop on "DGPS, Drone and LIDAR: The Future of Surveying Techniques "held on 19th Oct 2023 organized by the Dept. of Civil Engineering, SSN College of Engineering, Chennai.**

- **Balaji M has attended an online Webinar on 'Sustainable Indoor Lighting Design Towards Optimization and Energy Efficiency' held on OCTOBER 7th 2023organized by "Ultratech."**

- **Balaji M has attended an online Webinar on 'Making Concrete Sustainable and Moving Towards Net Zero' held on September 27th, 2023, organized by "Qcrete"**

- **Balaji M has attended an Online Course titled 'Site Management Safety Training Scheme (SMSTS)', for a period of 'One Day' attended on October 25th, 2023, through "ATHON."**

- **Mr. M. Balaji attended an Online Webinar on 'Innovative Quality Control of Concrete - Practical Tips and Tricks' held on 27th Oct 2023, organized by Dept. of Civil Engineering, SSN College of Engineering, Chennai**

- **K. Princely has attendedthe Workshop on 'Measurement possibilities using microwave analyzer' held on 29th April 2023 organized by Dept. of Electronics and Communication Engineering, SSN College of Engineering, Chennai**

- **K. Princely has attended an Online Webinar on 'Building Products for Building Solutions' held on 29th Apr 2023, organized by Ultra Tech Cement Ltd.**

- **K. Princely has attended an Online Webinar on 'Case Studies on Rehabilitation Measures for Bridges ' held on 6th May 2023, organized by Ultra Tech Cement Ltd.**

- **K. Princely has attended Online Webinar on 'Box Jacking with Soil Nailing for Construction of Rail/Road Underpass' held on 13th May 2023, organized by Ultra Tech Cement Ltd.**

- **K. Princely has attended an Online Webinar on 'Remaining Life Analysis for An Uninterrupted Structural Performance' held on 20th May 2023, organized by Ultra Tech Cement Ltd.**

- **Princely. K has attended an Online Webinar on 'Engineering and Doctoring of Structural Materials and Structures' held on 27th May 2023, organized by Ultratech Cement Ltd., Chennai.**

- **Princely. K has attended an Online Webinar on 'Relevance of Site effect for Earthquake Resistant Construction' held on 10th June 2023, organized by Ultratech Cement Ltd., Chennai.**

- **Princely. K has attended an Online Webinar on 'Seismic Retrofitting of Reinforced Concrete Buildings' held on 17th June 2023, organized by Ultratech Cement Ltd., Chennai.**

- **Princely. K has attended an Online Webinar on 'Assessment & Upgrading of Deteriorating Reinforced Concrete Structures: A Researcher's View' held on 24th June 2023, organized by Ultratech Cement Ltd., Chennai.**

- **K. Princely has attended an Online Webinar on 'White Topping and RMD Technology' held on 01th July 2023, organized by Ultra Tech Cement Ltd.**

- **K. Princely has attended an Online Webinar on 'Disaster Risk Reduction: Seismic Retrofitting of Masonry, RC Building' held on 08th July 2023, organized by Ultra Tech Cement Ltd.**

- **Mr. Princely has attended an Online Webinar on Non-Destructive evaluation of Reinforced concrete Structures held on 5th August 2023, organized by UltratechCement Ltd., Chennai.**
- **K. Princely has attended Online Webinar on "Concrete Pavement Mix Design (IRC-44) and Dry Lean Concrete Mix Design (IRC: SP:49)" held on 2nd September 2023, organized by UltraTech Cement Ltd.**
- **K. Princely has attended an Online Webinar on "Sustainability and Practices - A Timeline Requirement of The Construction Industry" held on 7th September 2023, organized by Qcrete Ready-mix (India) Pvt Ltd.**
- **K. Princely has attended an Online Webinar on "Design & Construction Aspect of Thin White Topping Technology for Roads" held on 9th September 2023, organized by UltraTech Cement Ltd.**
- **K. Princely has attended an Online Webinar on "Can Concrete Roads be Green and Sustainable?" held on 23rd September 2023, organized by UltraTech Cement Ltd.**
- **Princely K has attended a One-Day Workshop on "DGPS, Drone and LIDAR: The Future of Surveying Techniques "held on 19th Oct 2023 organized by the Dept. of Civil Engineering, SSN College of Engineering, Chennai.**
- **Princely K has attended an online Webinar on 'Sustainable Indoor Lighting Design Towards Optimization and Energy Efficiency' held on October 7th, 2023, organized by "Ultratech."**
- **Princely K has attended an online Webinar on 'Making Concrete Sustainable and Moving Towards Net Zero' held on September 27th, 2023, organized by "Qcrete"**
- **Princely K has attended an Online Course titled 'Site Management Safety Training Scheme (SMSTS)', for a period of 'One Day' attended during "October 25th 2023" through "ALISON."**
- **Mr. Princely attended an Online Webinar on 'Innovative Quality Control of Concrete - Practical Tips and Tricks' held on 27th Oct 2023, organized by Dept. of Civil Engineering, SSN College of Engineering, Chennai**
- **S. Aravindhhas attended the Workshop on 'Measurement possibilities using microwave analyzer' held on 29th April 2023 organized by Dept. of Electronics and Communication Engineering, SSN College of Engineering, Chennai.**

- **S. Aravindhhas attended an Online Webinar on 'Building Products for Building Solutions' held on 29th Apr 2023, organized by Ultra Tech Cement Ltd.**

- **S. Aravindhhas attended an Online Webinar on 'Case Studies on Rehabilitation Measures for Bridges ' held on 6th May 2023, organized by Ultra Tech Cement Ltd.**

- **S. Aravindhhas attended an Online Webinar on 'Box Jacking with Soil Nailing for Construction of Rail/Road Underpass' held on 13th May 2023, organized by Ultra Tech Cement Ltd.**

- **S. Aravindhhas attended an Online Webinar on 'Remaining Life Analysis for An Uninterrupted Structural Performance' held on 20th May 2023, organized by Ultra Tech Cement Ltd.**

- **Aravindh. S has attended an Online Webinar on 'Engineering and Doctoring of Structural Materials and Structures ' held on 27th May 2023, organized by Ultratech Cement Ltd., Chennai.**

- **Aravindh. S has attended an Online Webinar on 'Engineering India's Tallest Bungy Jumping Facility at Rishikesh ' held on 3rd June 2023, organized by Ultratech Cement Ltd., Chennai.**

- **Aravindh. S has attended an Online Webinar on 'Relevance of site effect for Earthquake Resistant Construction ' held on 10th June 2023, organized by Ultratech Cement Ltd., Chennai.**

- **Aravindh. S has attended an Online Webinar on 'Seismic Retrofitting of Reinforced Concrete Buildings ' held on 17th June 2023, organized by Ultratech Cement Ltd., Chennai.**

- **Aravindh. S has attended an Online Webinar on 'Assessment &Upgradation of Deteriorating Reinforced Concrete Structures: A Researcher's View ' held on 24th June 2023, organized by Ultratech Cement Ltd., Chennai.**

- **S. Aravindh has attended an Online Webinar on 'White Topping and RMD Technology' held on 01st July 2023, organized by Ultra Tech Cement Ltd.**

- **S. Aravindh has attended an Online Webinar on 'Disaster Risk Reduction: Seismic Retrofitting of Masonry, RC Building' held on 08th July 2023,organized by Ultra Tech Cement Ltd.**

- **Mr. Aravind S has attended an Online Webinar on Non-Destructive evaluation of Reinforced concrete Structures held on 5th August 2023, organized by UltratechCement Ltd., Chennai.**

- **Aravindh S has attended an Online Webinar on "Can Concrete Roads be Green and Sustainable?" held on 23rd September 2023, organized by UltraTech Cement Ltd.**

- **Aravindh S has attended an Online Webinar on "Design & Construction Aspect of Thin White Topping Technology for Roads" held on 9th September 2023, organized by UltraTech Cement Ltd.**

- **Aravindh S has attended Online Webinar on "Concrete Pavement Mix Design (IRC-44) and Dry Lean Concrete Mix Design (IRC: SP:49)" held on 2nd September 2023, organized by UltraTech Cement Ltd**

- **Aravindh S has attended an Online Webinar on "Sustainability and Practices - A Timeline Requirement of The Construction Industry" held on 7th September 2023, organized by Q-crete Ready-mix (India) Pvt Ltd.**

- **Aravindh. S has attended a one-day workshop on "DGPS, Drone and LIDAR: The Future of Surveying Techniques "held on 19th Oct 2023 organized by the Dept. of Civil Engineering, SSN College of Engineering, Chennai.**

- **Aravindh. S has attended an online webinar on 'Sustainable Indoor Lighting Design Towards Optimization and Energy Efficiency' held on October 7th, 2023, organized by Ultratech Concrete.**

- **Aravindh. S has attended an online webinar on 'Making Concrete Sustainable and Moving Towards Net Zero' held on September 27th, 2023, organized by "Qcrete."**

- **Aravindh. S has attended an Online Course titled 'Site Management Safety Training Scheme (SMSTS)', for a period of 'One Day' attended during October 25th, 2023, through ALISON.**

- **Mr. S. Aravindh attended an Online Webinar on 'Innovative Quality Control of Concrete - Practical Tips and Tricks' held on 27th Oct 2023, organized by Dept. of Civil Engineering, SSN College of Engineering, Chennai.**

- **G. Deborah has attendedthe Online Webinar on 'Box Jacking with Soil Nailing for Construction of Rail/Road Underpass' held on 13th May 2023, organized by Ultra Tech Cement Ltd.**

- **Deborah G has attended an Online Webinar on 'Seismic Retrofitting of Reinforced Concrete Buildings ' held on 17th June 2023, organized by Ultratech Cement Ltd., Chennai.**

- **Deborah G attended an Online Webinar on 'Relevance of site effect for Earthquake Resistant Construction ' held on 10th June 2023, organized by Ultratech Cement Ltd., Chennai.**

- **Ms.Deborah G has completed an Online Course "Mastering Google Docs" for the course duration was one month which was conducted by "Alison."**

STUDENTS ARTICLES

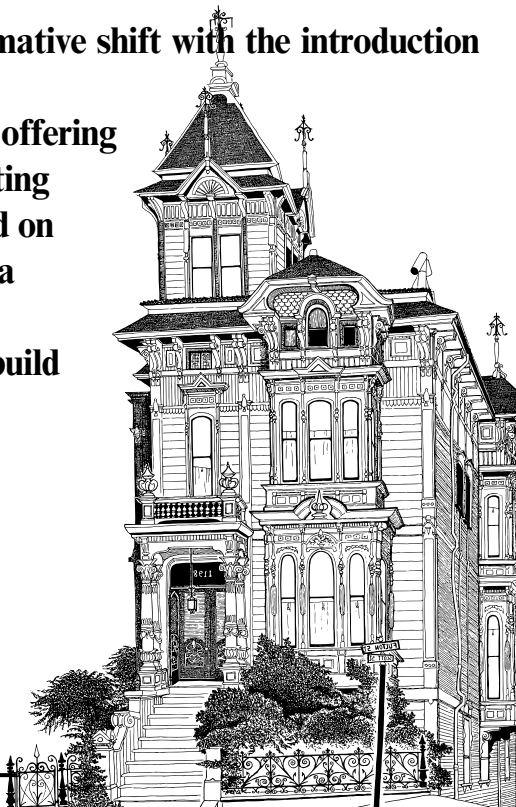
INNOVATIONS IN CIVIL ENGINEERING

3D PRINTING TECHNOLOGY FOR CONSTRUCTION

-ADARSH C

FINAL YEAR CIVIL ENGINEERING

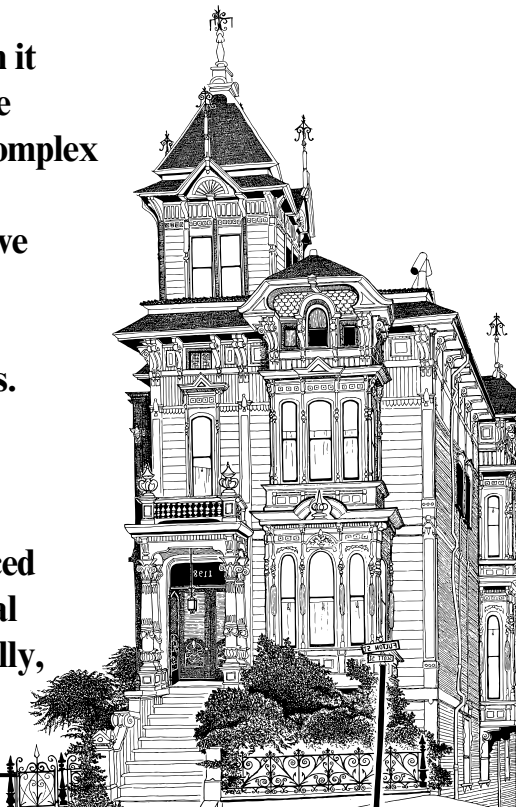
In recent years, the construction industry has witnessed a transformative shift with the introduction of 3D printing technology. This innovative construction approach has the potential to redefine traditional building methods, offering greater efficiency, cost-effectiveness, and design flexibility. 3D printing involves layering materials to create three-dimensional objects based on digital models. Imagine constructing a building layer by layer, like a 3D-printed object. That's the power of 3D printing technology in construction. This revolutionary approach is reshaping the way we build structures, making them faster, cost-effective, and more flexible in design.



One of the key advantages of 3D printing in construction is its ability to accelerate the building process. Traditional construction methods often involve time-consuming tasks such as formwork installation and curing periods for concrete. 3D printing eliminates many of these steps by directly depositing material layer by layer, significantly reducing construction duration. This increased speed benefits construction companies by saving time, and labour costs and also help in the construction of quick homes after a disaster.

Conventional construction methods often come with limitations when it comes to complex designs. 3D printing technology breaks down these barriers by enabling the construction of unique and architecturally complex structures that would be challenging or impossible to achieve with conventional methods. Architects and designers can explore innovative shapes and geometries, leading to more aesthetically pleasing and functional buildings. This new design flexibility opens the door to creativity and allows for a broader range of architectural possibilities.

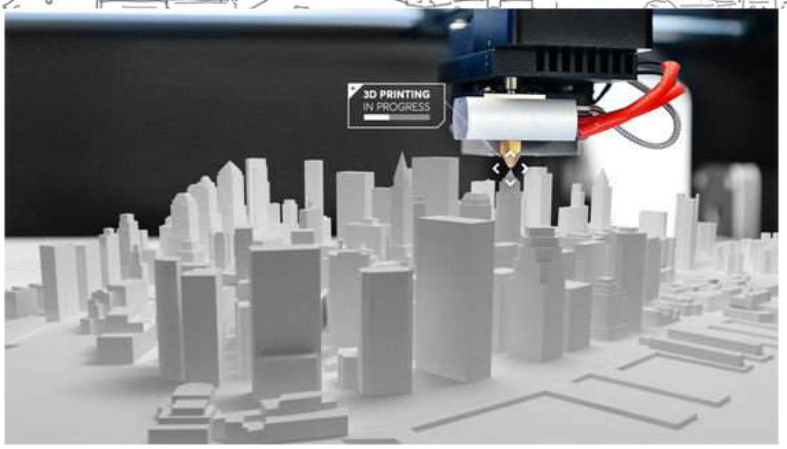
The initial investment costs for 3D printing technology may be high compared to the conventional method of construction, But the long-term benefits in terms of cost savings are substantial. The reduced need for labour, faster construction timelines, and minimized material waste contribute to a more cost-effective building process. Additionally,



3D printing allows for the use of locally sourced materials, further reducing transportation costs. As the technology advances and becomes more widely used, the overall cost of construction may reduce.

As the global construction industry strives to become more sustainable, 3D printing offers a great solution. Traditional construction generates significant waste through formwork, excessive use of materials, and construction debris. 3D printing minimizes waste by using only the necessary amount of material for each layer, reducing the overall environmental impact. Additionally, the ability to use locally sourced and recycled materials further contributes to the eco-friendly nature of 3D printing in construction.In April 2021, Union MinisterNirmalaSitaraman inaugurated India's first 3D-printed home in Chennai, created by the tech startupTvasta and located within the IT-Madras campus.

While 3D printing in construction holds immense promise, it is not without its challenges. Technical issues, regulatory hurdles, and the need for standardized processes are areas that require ongoing attention. As technology continues to advance, collaboration between researchers, industry professionals, and policymakers will be crucial in addressing these challenges.



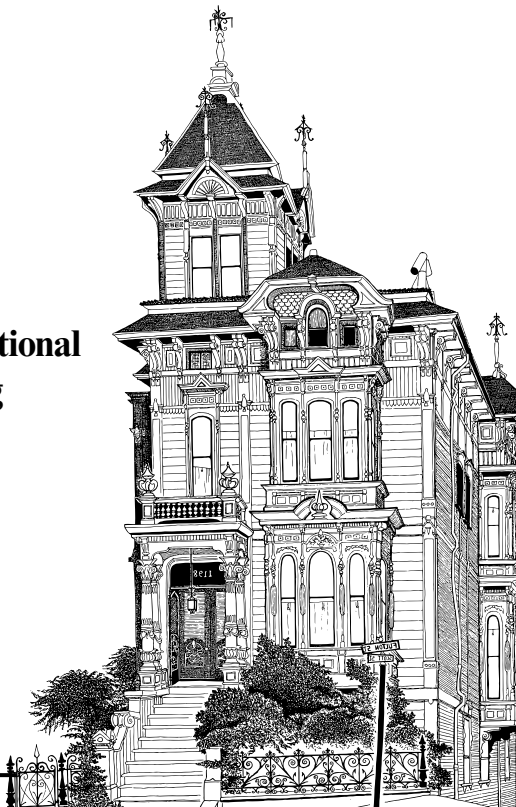
The future of 3D printing in construction appears bright. Continued research and development efforts are likely to improve the efficiency and affordability of the technology, making it more accessible to a broader range of construction projects. As 3D printing becomes increasingly integrated into the mainstream construction industry, it has the potential to revolutionize the way we build, offering a more sustainable, efficient, and innovative approach to creating the structures of tomorrow.

INNOVATION SPOTLIGHT: SELF-HEALING CONCRETE

CONCRETE REIMAGINED: A REVOLUTION IN STRUCTURAL RESILIENCE

RETHNA KUMAR

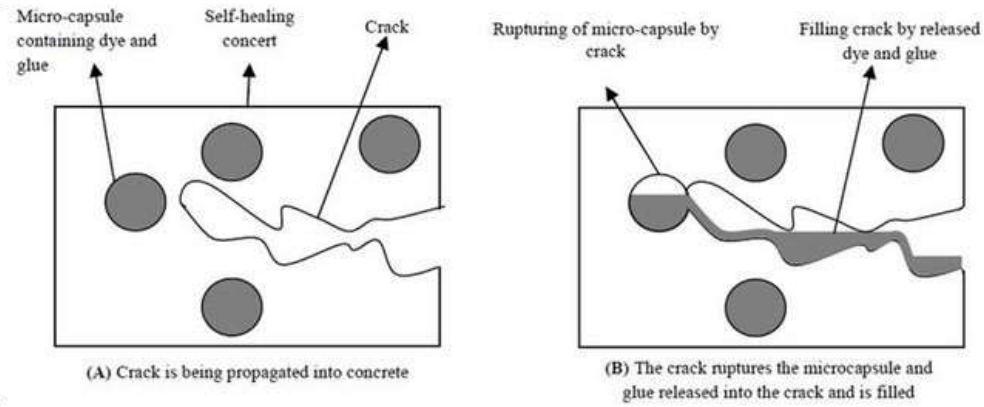
FINAL YEAR CIVIL ENGINEERING



In the ever-evolving realm of civil engineering, a groundbreaking innovation is capturing the spotlight—Self-Healing Concrete. Traditional concrete structures face the inevitable challenge of cracks, stemming from environmental factors, load stresses, and the passage of time. Enter self-healing concrete, a transformative technology that autonomously repairs these structural imperfections.

HOW DOES IT WORK?

Self-healing concrete employs ingenious technologies, notably the incorporation of microorganisms or encapsulated healing agents within the concrete mixture. When cracks emerge, these mechanisms are activated, initiating a process that restores the material's integrity. Microorganisms produce calcite in the presence of water and oxygen, sealing cracks, while encapsulated capsules rupture, releasing healing agents that react with the surrounding materials to mend the structure.



ADVANTAGES AT A GLANCE:

- Extended Lifespan: Mitigates the impact of cracks, prolonging the life of structures.
- Cost Savings: Reduces the need for frequent repairs, resulting in significant financial benefits.
- Environmental Sustainability: Minimizes resource consumption associated with maintenance and reconstruction.

TOWARD A SUSTAINABLE FUTURE:

Self-healing concrete is not merely a technical innovation; it represents a paradigm shift in construction practices. By addressing structural vulnerabilities and minimizing the environmental footprint of maintenance, this technology aligns with the industry's growing emphasis on durability, sustainability, and resilience.

THE ROAD AHEAD:

As researchers and engineers continue to refine self-healing concrete technologies, the vision is clear—transforming the way we build and maintain infrastructure. This innovation stands as a testament to the industry's commitment to a future where structures are not just built; they endure, adapt, and thrive.

Concrete Reimagined is more than a technological advance; it's a stride toward a resilient and sustainable tomorrow.

AN EXCITING NATURES EQUATION

HARNESSING NATURE'S SECRET: A REVOLUTIONARY WATER MANAGEMENT PROJECT IN THISAYANVILAI

KARTHICKVIKRAAM I

THIRD YEAR CIVIL ENGINEERING

In the heart of Thisayanvilai, a region in Tirunelveli district, lies a village named Ayankulam. This village is home to a unique natural phenomenon - a 'miracle well' that can absorb vast amounts of water, even during severe floods.

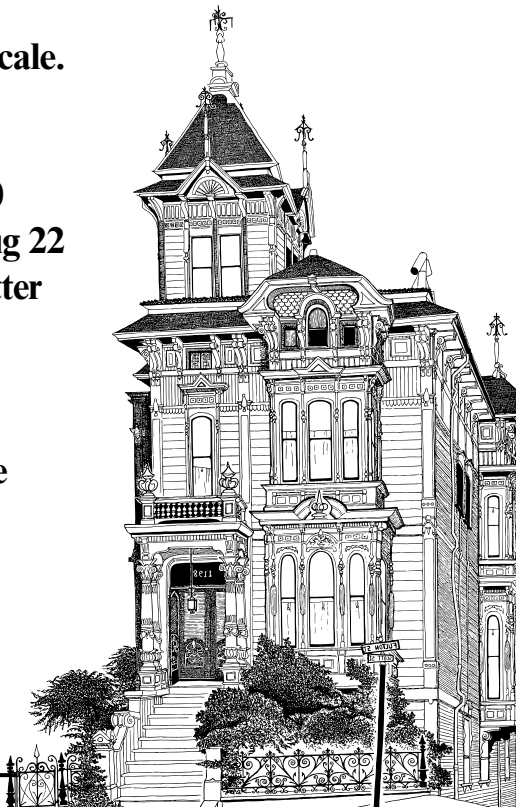
This well piqued the interest of experts from the Indian Institute of Technology - Madras (IIT-M), who discovered that it is connected to an underground water source. This hidden water network, formed over thousands of years due to the limestone-rich terrain, consists of caves and tunnels that facilitate the rapid absorption of water.

Recognizing the potential of this natural water management system, the local government, in collaboration with IIT-M, has proposed a project to harness this underground water source for the benefit of local farmers. The project aims to provide farmers with access to this water source, offering a sustainable solution to water scarcity in the region.

The idea for this project was conceived following a major flood in December 2021, when the well demonstrated its remarkable capacity to absorb floodwater. A team led by Venkatraman Srinivasan from IIT-M was tasked with studying the well and exploring the possibility of replicating its function on a smaller scale.

Over the course of four field trips, the team examined more than 260 wells, closely monitoring 163 of them for water quality. They also dug 22 additional wells and collected soil samples from various depths to better understand the underground water movement.

The team's findings confirmed that the Ayankulam well is part of the hidden water network created by the limestone in the area from Nazareth to Radhapuram. They also discovered a dozen more wells exhibiting similar characteristics.



The next phase of the project involves digging more wells to channel excess water underground during floods. These wells will be equipped with filters to prevent soil erosion and special sediment-catching devices developed by IIT-M.

This innovative project represents a significant step towards sustainable water management in Thisayanvilai. By leveraging nature's own water-saving mechanism, the project promises to bring about a positive change in the lives of the local farming community.

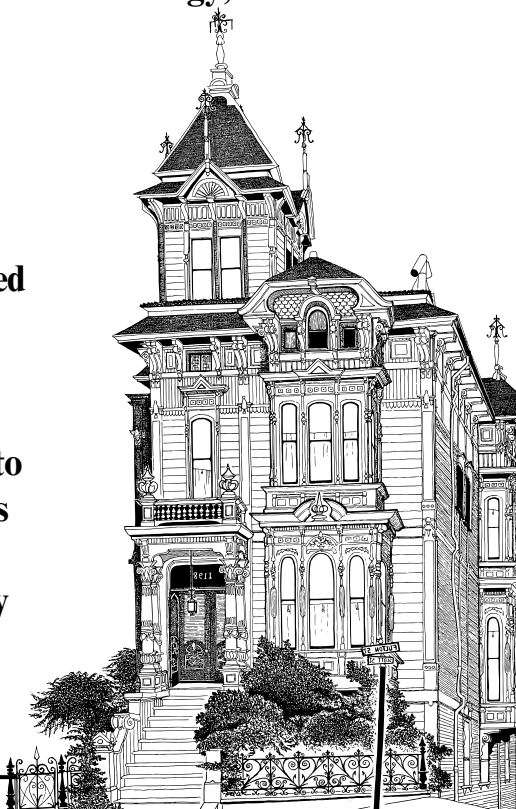
LATEST INNOVATIONS AND TECHNOLOGIES IN FLUID MECHANICS

NIKHIL NARAYANAN S

2ND YEAR, CIVIL DEPARTMENT

INTRODUCTION:

Fluid mechanics, a branch of physics and engineering, plays a crucial role in understanding the behaviour of fluids (liquids and gases) and their interactions with solid surfaces. Renovations and technological advancements in this field have been instrumental in enhancing our ability to model and predict complex fluid flow phenomena. Among the various tools and methodologies, Computational Fluid Dynamics (CFD) has emerged as a transformative technology, revolutionizing the study and application of fluid mechanics.

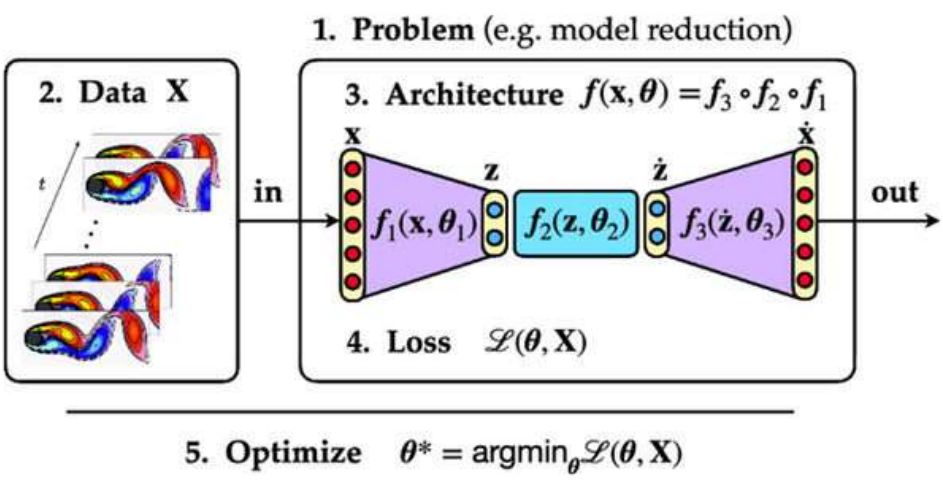


RENOVATIONS IN EXPERIMENTAL TECHNIQUES:

Traditional experimental techniques in fluid mechanics have witnessed significant renovations, bolstered by advancements in sensor technology and data acquisition systems. High-speed cameras, laser-based measurement techniques such as Particle Image Velocimetry (PIV) (fig 1), and advanced sensors enable researchers to capture intricate flow patterns with unprecedented detail. These tools have not only improved the accuracy of experimental data but have also facilitated the validation of CFD simulations, creating a synergy between experimental and computational approaches.

INTEGRATION OF ARTIFICIAL INTELLIGENCE (AI) IN FLUID MECHANICS:

The integration of artificial intelligence and machine learning in fluid mechanics has opened new frontiers. AI algorithms enhance the efficiency of CFD simulations by optimizing mesh generation, reducing computation time, and improving accuracy. Machine learning algorithms can analyze vast datasets obtained from experiments and simulations, providing insights into complex fluid behaviours. This synergy between AI and fluid mechanics (fig 2) has the potential to accelerate the development of innovative solutions in areas such as aerodynamics, turbulence modelling, and heat transfer.



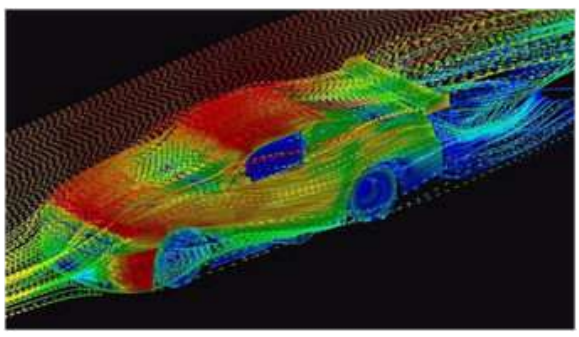
COMPUTATIONAL FLUID DYNAMICS (CFD) ADVANCEMENTS:

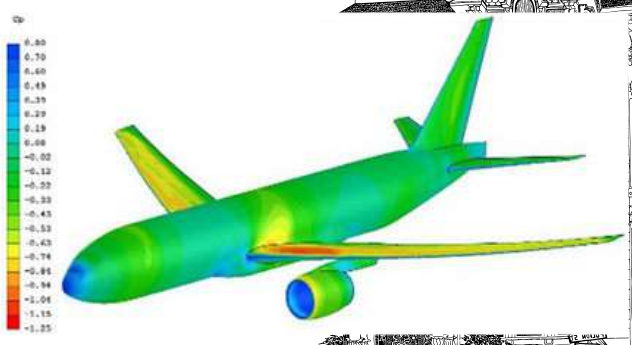
CFD (fig 3) has become a cornerstone in fluid mechanics research and engineering applications due to its ability to simulate complex fluid flow phenomena. One of the key renovations in CFD is the development of high-performance computing (HPC) systems, enabling simulations of unprecedented scale and complexity. Parallel computing architectures, cloud-based solutions, and GPU acceleration have significantly reduced simulation time, allowing engineers to explore a wider range of design parameters and scenarios.

Moreover, advancements in numerical methods, such as finite volume and finite element methods, have improved the accuracy and stability of CFD simulations. The incorporation of adaptive mesh refinement techniques enables simulations to focus computational resources on areas of interest, further enhancing the efficiency of simulations.

APPLICATIONS OF CFD IN INDUSTRY:

The impact of CFD extends across various industries, including aerospace, automotive, energy, and biomedical engineering. In aerodynamics, CFD simulations aid in optimizing aircraft design (fig 4), reducing drag, and improving fuel efficiency. In the automotive sector, CFD is employed to enhance vehicle aerodynamics, optimize engine combustion, and assess thermal management systems. Additionally, CFD plays a vital role in the design and optimization of industrial processes, such as fluidized bed reactors and heat exchangers.





CONCLUSION:

The field of fluid mechanics has undergone transformative renovations, driven by advancements in experimental techniques, artificial intelligence, and the widespread adoption of Computational Fluid Dynamics. These innovations have not only improved our understanding of complex fluid flow phenomena but have also expanded the possibilities for engineering design and optimization across various industries. As we continue to push the boundaries of technology, the integration of experimental and computational approaches will likely lead to even more profound insights and applications in fluid mechanics in the years to come.

ADVANCED WATER PURIFICATION

SHRI BHARATHAN K

II YEAR (2022-26)

In the water industry, clarified water is the goal of the filtering. It is primarily used for stormwater, wastewater, and drinking water applications, but it also has uses in industrial manufacturing, power plants, food and beverage production facilities, mining and other heavy-duty applications. Water filtration can remove or reduce the concentration of suspended particles, parasites, bacteria, algae, viruses, fungi, and more chemical and biological contaminants. drawings and writings from more than 6000 years ago that illustrate the simple water filtration process. Most notably, Ancient Sanskrit and Greek writings recommended water treatment methods.

WHAT IS ADVANCED WATER PURIFICATION?

Advanced Water Purification produces high-quality drinking water using the most advanced, state-of-the-science treatment processes available. Purified water is high-quality drinking water that is produced using the most advanced treatment processes available. Treated water from our wastewater facilities is reused for irrigation and industrial processes. But with today's technological advancements, we can take the next step.

Water passes through several phases of membrane filtration and disinfection using advanced water purification. This multiple-stage treatment process transforms the treated wastewater into a safe, reliable drinking water supply.

NANOTECHNOLOGY FOR WATER PURIFICATION :

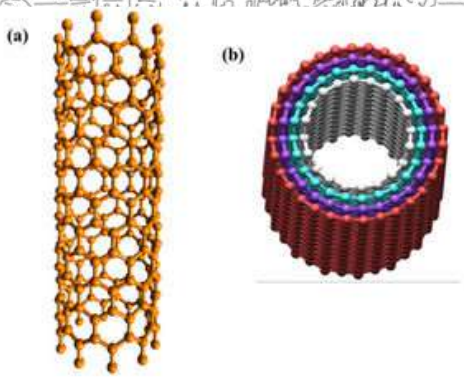
Nanotechnology has provided innovative solutions for water purification. This chapter reviews nanotechnology-enabled water-purification processes, showing how they transform our water supply and wastewater purification. The following topics are discussed: a brief note on three different nanotechnologies (carbon nanomaterials, nano biocides, graphene) that are in current development in modern water purification technology. And the challenges faced by them as they come under membrane technology with an explained conclusion.

1-D CARBON NANOMATERIALS FOR WATER PURIFICATION :

In recent years, carbon nanotube-fabricated water filtration membranes have been extensively studied as next-generation materials for wastewater treatment. Carbon nanotubes are considered the rolled-up cylindrical form of either single or multilayer graphene sheet. Carbon nanotubes have attained substantial contemplation in innumerable applications due to their inimitable structural properties, astonishing tensile strength and electrical and thermal conductivities. The hydrogen-bonded "water wires" facing the axis of carbon nanotubes are responsible for the uptake of water. When carbon nanotubes are subjected to surface functionalization by different types of oxygen-containing functional groups, they exhibit a high degree of sorption capacity and can eventually substitute the traditional materials for the decontamination of pollutant aquatic sources, containing hazardous heavy metals like Cr(VI), Cu(II), Cd(II), and Pb(II) and also improves dispersion of the carbon nanotubes in an aqueous medium and also reduces the aggregation of carbon nanotubes.

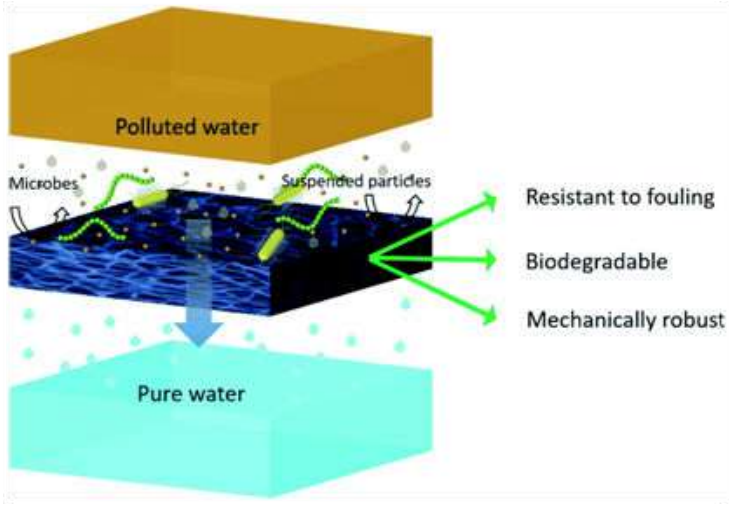
Hydrophilic carbon nanotubes exhibit better attraction to harmful heavy metal ions in aqueous solutions by forming a complex through electrostatic interactions between oxygen-containing functional groups and heavy metal ions. The hydrophobic carbon nanotube-based adsorption technology has also gained abundant potential for cleaning off toxic microorganisms, natural organic matter, etc.

Though carbon nanotubes have potential applications for water purification, they suffer from large-scale production, cost-effectiveness, and performance issues, thus requiring widespread research work on the risk assessment of carbon nanotubes in the near future.



WATER PURIFICATION NANOFIBERS AND NANO BIOCIDES:

Electrospun nanofibers and nanobiocides show potential in the improvement of water filtration membranes. Biofouling of membranes caused by the bacterial load in water reduces the quality of drinking water and has become a major problem. Several studies showed inhibition of these bacteria after exposure to nanofibers with functionalized surfaces. Nanobiocides such as metal nanoparticles and engineered nanomaterials are successfully incorporated into nanofibers showing high antimicrobial activity and stability in water. For example, Polyurethane (PU) nanofibers were treated with argon plasma and then immersed in a 4-vinylpyridine monomer solution with exposure to UV irradiation, to produce poly(4-vinylpyridine) grafted PU fibers. The grafted pyridine groups were functionalized through quaternization with hexyl bromide to obtain antibacterial activities.

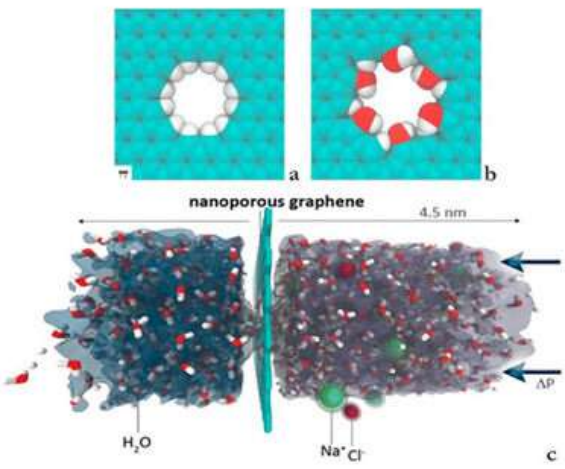


The viability of Gram-positiveStaphylococcus aureus and Gram-negative Escherichia coli was reduced by 99.9% after 4h contact with the PU fibers. Zinc oxide (ZnO) nanoparticles have strong antimicrobial activity against a broad spectrum of bacteria although the mechanism involved is still uncertain. It is found that ZnO nanoparticles penetrate the bacterial cell envelope and disorganize the cell membrane. Copper-hydrotalcite (Cu-HT) can be used as an alternative disinfectant to chlorine in a water purification system. Cu-HT has very high antibacterial activity against E. coli and phage Q β. Silver nanoparticles (nAg–PSf) embedded in polysulfone ultrafiltration membranes were evaluated for biofouling reduction, and the release of silver ions resulted in an almost 100% reduction in viability of E. coli K12 and Pseudomonas mendocinaKR1 and an enhanced removal of MS2 bacteriophage. With rising water-borne diseases and shrinking water sources, scientists are under high stress to improve water filtration systems. Nanofibers and nanobiocides may be the solution to ensure safe and easy access to drinking water.

GRAPHENE AS PURIFICATION OF WATER:

Graphene sheets perforated by small holes were first explored as potential candidates for water filtration by researchers at MIT. Holes with a diameter of 1 nanometer (a billionth of a meter) are big enough to let water molecules sift through, but they are small enough to stop any undesired chemicals. Han et al.

(2013) fabricated ultrathin (~22–53 nm thick) graphene nanofiltration membranes (uGNMs) on microporous substrates that were used for efficient water purification. The performance of the uGNMs for water treatment was evaluated on a dead-end filtration device, and the pure water flux of uGNMs was high (21.8 L/m2/h/bar). The units showed high retention (>99%) for organic dyes and moderate retention (~20–60%) for ion salts.



CHALLENGES IN MEMBRANE TECHNOLOGY :

The above methods fall under the section of membrane technology which consists of some challenges to become a prominent process in the water industry. Despite the tremendous progress made in the last three decades, membrane technology currently faces two critical challenges. The first challenge is to identify or to create new materials (e.g., high durability, low cost and fewer environmental concerns) that can fabricate more cost-effective membranes. The second challenge is to design and optimize structure and morphology in existing membranes that can lead to a substantial increase in filtration efficiency (e.g., high permeation flux, high retention and low-pressure drop).

CONCLUSION

To ensure a high quality of drinking water there is a dire need for advanced water technologies, to eliminate micropollutants. Nanoengineered materials, such as nano adsorbents, nanometals, nanomembranes, and photocatalysis, offer the potential for novel water technologies that can be easily adapted. However, several doubts need to be addressed. The full effects of exposure to nanomaterials from handling them at water treatment plants or drinking them in treated water are yet unknown. Nevertheless, nanoengineered materials offer great potential for water innovations in the coming decades, in particular for decentralized treatment systems, point-of-use devices, and heavily degradable contaminants.

ALUMINI WRITE UP

ER. YUVALATHA P

ALUMNI

BATCH (2018-2022)

FORMER IEI STUDENT CHAPTER – PRESIDENT

FUTURE DEVELOPMENTS IN CIVIL ENGINEERING-AI,3D PRINTING.

IMPORTANCE OF STUDENTS LEARNING SOFTWARE IN CIVIL ENGINEERING TO BECOME MORE SKILLED AT THEIR JOBS.

Since the first use of a computer in civil engineering, there has been a push for more advanced technologies. Advances in 3D printing and artificial intelligence have led to discoveries, as well as new challenges.

3D printing is an important part of modern civil engineering. It allows engineers to build structures without the need for traditional construction methods, which can be expensive and time-consuming.

Artificial intelligence can also be applied to civil engineering projects. It helps engineers determine how best to use resources like land or water, as well as predict how materials will behave in certain situations.

In this article, we will discuss how AI and 3D printing technologies are being used in civil engineering to improve the quality of life and the importance of students being equipped with software knowledge to thrive in the field of civil engineering.

Civil engineering is a sector that is focused on building bridges, roads, buildings and other structures.

The main purpose of civil engineering is to facilitate human movement. In this field, engineers use several tools such as computers which help them design new structures.

The construction industry is very labour-intensive and one of the major sources of employment in the world. The industry has been experiencing low productivity with minimum technological innovations for decades.

In recent times, various automation technologies including 3D printing have received increasing interest in construction.

3D printing in construction is found to be very promising to automate the construction processes and have the potential to save laborious work, material waste, construction time, risky operation for humans, etc

One of the latest advances in Civil Engineering is 3D Printing Technology for designing new structures using computer-aided design (CAD) software.This software helps engineers design new buildings by using computer-aided design (CAD).

3D printing is a process that produces solid objects from a digital model by laying down successive layers of material. The process is similar to how a 3D printer works, except that it involves multiple materials instead of plastic. This means that it can be used to create parts for construction projects, automobile manufacturing, and other areas where large quantities of complex structures need to be produced.

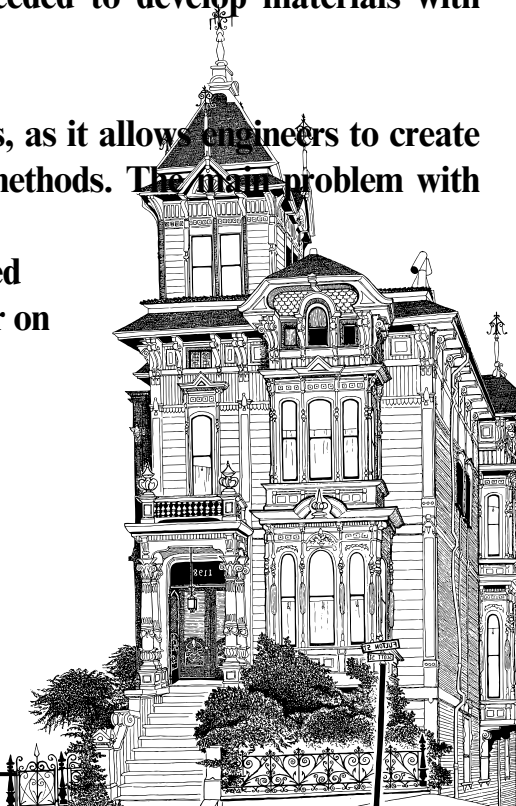
The compositions of 3D printable cement-based materials are the same as conventional materials except for the proportions of binders and aggregates. The wet mix of 3D printable materials undergoes various steps such as mixing, pumping, and deposition layer by layer; therefore, high-performance materials are required. In this regard, the proportion of binders and aggregates may vary from conventional materials.

Various types of cement-based materials such as conventional mortar mix, geopolymer mortar, fibre mixed mortar, and nanoparticles mixed mortar have been successfully used in 3DCP by the researchers However, in the majority of the research, sand is used as aggregate and limited research can be found where coarse aggregate was used summarizes the mix compositions for 3D printable materials used by the researchers.

It can be seen that a significantly higher content of binders is used. Nevertheless, the volumetric stability in these high binder content and fine aggregate-based 3D printable materials might be an issue for large-scale construction. Therefore, more research is needed to develop materials with coarse aggregates.

3D printing has become an essential part of automating the process, as it allows engineers to create precise models of their designs without having to use traditional methods. The main problem with using CAD software for designing new structures is that it takes a long time for engineers to create a detailed drawing of their ideas which often leads them to make mistakes later on when they try to build the structure themselves after making sure all details have been taken care of properly beforehand!

One way around this problem is by using artificial intelligence (AI) which can help engineers analyse large amounts of data in real time quickly and accurately.



Civil engineering is the practice of designing and constructing buildings, roads, canals, tunnels, bridges, dams and other structures. It is an important part of the construction industry and many civil engineers are employed by public works departments to design and maintain infrastructure.

AI has made it possible for engineers to use software to analyse data from construction sites or other locations to identify problems early on. This can prevent costly mistakes during production and construction. In addition, AI can help engineers develop new products and improve existing ones by making them more efficient or cheaper to produce. In recent years, AI has been used in the design process to automate some of these processes. This allows engineers to focus on more complex elements of the design process, like designing bridges or skyscrapers rather than just making sure they're sturdy enough.

With this ability comes new challenges for the field—how can we ensure that our creations are safe? How do we prevent accidents from happening in the first place? How do we ensure that humans are designing our creations instead of AI?

This brings the necessity of students being equipped with software knowledge to thrive in the field of civil engineering.

There are many different types of software used in the field of civil engineering. Some of these software programs are used for creating and analysing designs, while others are used to perform various calculations. Going forward in this article, we will discuss the importance of students learning software in civil engineering and how it can be a great way to help them become more skilled at their jobs.

In today's world, the need for technology in all aspects of life has become more vital than ever. This is especially true when it comes to civil engineering.

In this field, students need to learn software and tools that can be used for designing new bridges and buildings, but also for analysing existing ones.

The best way to teach these skills is by using a programmable 3D printer. This device allows students to create models of their design and then print them out onsite without having to worry about costly shipping fees or lengthy production times.

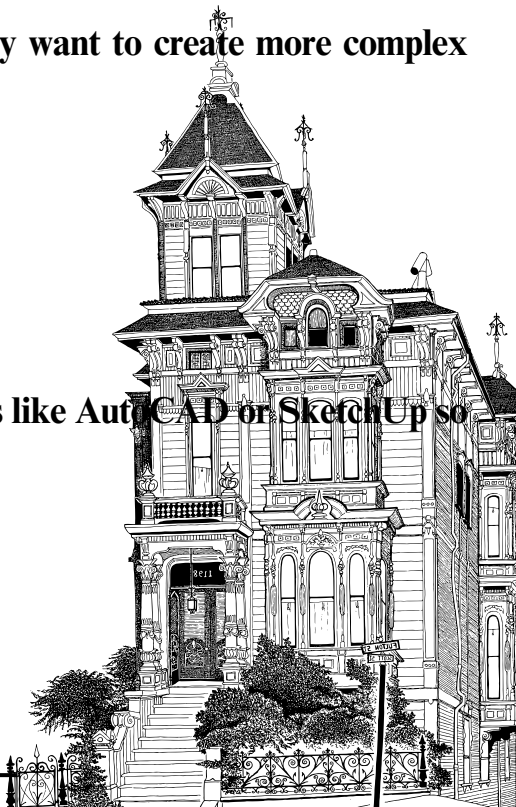
Civil engineers are also faced with the challenge of designing computer-generated models that are realistic enough for builders to use in their construction plans. While traditional methods may work fine in most cases, they often require more time and money than necessary—and sometimes aren't even suitable for all types of buildings or structures at all times!

Most of the time, these software have some parts that can be customized according to your needs so you can create something unique for yourself or even someone else. The most important thing is that students should not only be aware of the software's capabilities but also the limitations of the software.

For example, students must understand that 3D printing is not like other types of printing. While it can be used for small parts or prototyping, 3D printing is still not completely reliable for large-scale applications. Therefore, it is necessary to use low-cost 3D printers in civil engineering projects.

Students must also learn how to use various software applications in civil engineering projects. For example, they can use CAD software to design structures and maps using GIS (Geographic Information System). They can also use AutoCAD LT 2016 or AutoCAD LT 2017 if they want to create more complex designs. Students should learn about different data types and how they can be used in civil engineering projects. For example, if a project requires a lot of data about soil types, then students should learn about soil properties such as water absorption capacity and drainage characteristics so that they can design effective drainage systems accordingly.

As such, it's crucial that students learn how to use computer programs like AutoCAD or SketchUp so they can create accurate blueprints before they start building anything themselves!



INDUSTRIAL ARTICLE

K.KOWTHAM RAJ M.S., STRUCT (NUS)
STRUCTURAL ENGINEER,
IDEAL CONSTRUCTIONS,
CHENNAI.

WHY ENGINEERS MAKE THE BEST ENTREPRENEURS?

While Engineering field is often associated with technical knowledge and expertise many people fail to recognize the unique set of skills and attributes that us Engineers possess that make them Great Entrepreneurs. The two most important skills that engineers possess; Critical Thinking and Problem-Solving. A daily challenge that as Entrepreneurs need to analyse the situation to arrive at an efficient and quick solution. We are uniquely set to meet such Demands.

When coming to the field of Civil Engineering, Projects both Real Estate and Infrastructure tend to increase day by day with Market values and their demands to other Sectors as well. As one of the main revenue generating sector for the GDP of our Nation, we play a critical role to establish continuity and development in the field.

One such division on Entrepreneurship in Civil Engineering would be that of a Project Management Consultant. Based on the vastness of the project, its value and complexity, Projects needs to be managed at every level to meet its requirements.

A relationship between a client and the Builder plays a vital role to establish and complete the project on time. However, recent times shows mismanagement leading to failure of projects and some even to drop off works. This creates issues to various sectors depending on these projects.

As per the report from PMI 2023, on average, South India alone demands more than 70,000 Professional Project Managers annually in the coming decade to meet industry's requirements. This role is in demand in almost every industry for better decision-making, results and revenue growth.

PROJECT MANAGEMENT CONSULTANCY

Project management is the application of knowledge, skills, tools and techniques to project activities to meet or exceed stakeholder needs and expectations of a project. PM is the process and activities of planning, organizing, motivating, and controlling resources, procedures and protocols to achieve specific goals.

REASONS FOR COMPANIES APPOINTING PMC.

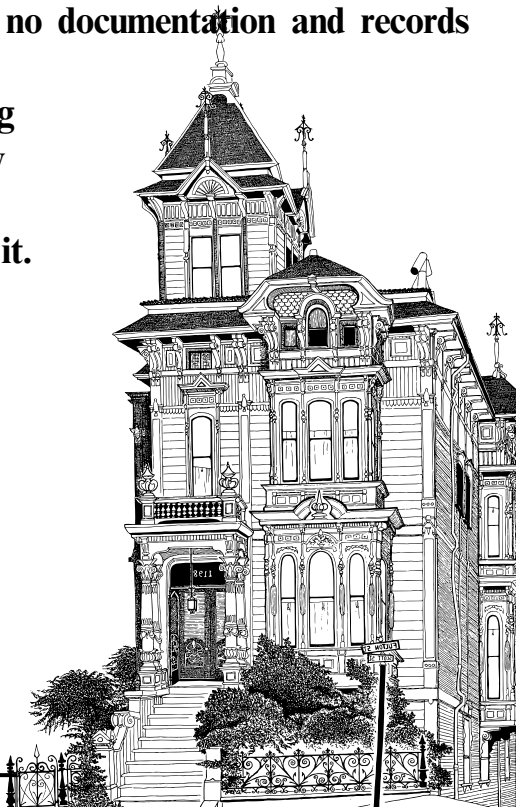
To handle complex projects effectively in an organization. To define the project and agree with the customer plan and assess resource needs for the project. To estimate project costs and make proposals. To plan and schedule activities in a project. To allocate the right resource at the right time. To assess risk and failure points and make a backup plan. To lead a project team effectively and communicate well.

CURRENT CHALLENGES BY PMC.

Inability to achieve on time, on budget and quality of the deliverables due to lack of controls. Lack of visibility on project procurement and/or contract management. Lack of buy-in due to less/ no project communication. Lack of vigour in risk management/QA. Poor or no documentation and records management in place. No irregular project health checks. Inability to review existing projects against changing priorities/conditions. The scope is not tightly controlled leading to Return on Investment (ROI) goals being unmet. Inaccurate scope definition and/or no detailed project plans to achieve it.

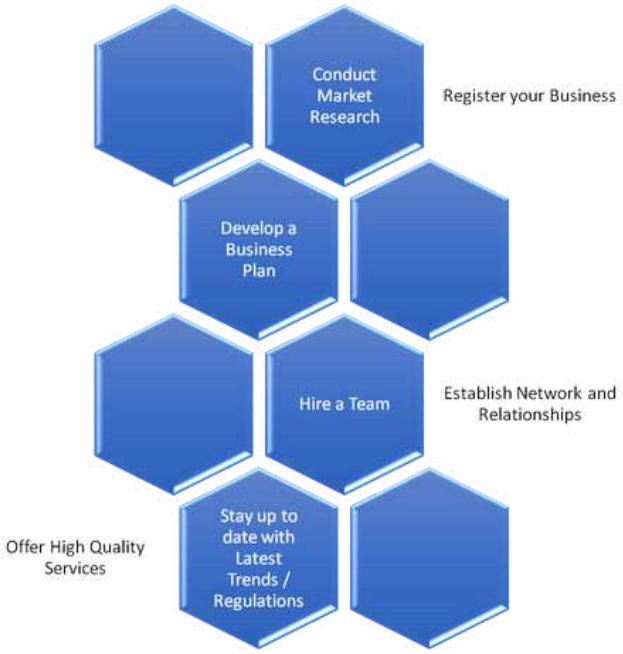
STANDARD OPERATING PROCEDURE FOR PMC (SOP).

It is a set of detailed step-by-step instructions that describe how to carry out any given process in the specific way of getting things done. In a project, things are often changing, employees come and go and the commitment to keep delivering high quality services regardless of the obstacles has to be dealt with.



So, to have to maintain steady consistency of end results, standard operating procedures (SOP) come in. SOPs helps us in breaking down activities into the most complex processes so that even a novice can complete the project from start to finish by going through these various topics of SOP's. PMC prepare a SOP for all the stockholders to understand their responsibilities in a project.

PROCESS TO START A PROJECT MANAGEMENT CONSULTANCY.



PROCESS IN A PROJECT MANAGEMENT CONSULTANCY.

PROJECT CONCEPTION & INITIATION	•Project Charter •Project Initiation
PROJECT DEFINITION & PLANNING	•Scope & Budget •Work Breakdown Structure •Gantt Chart •Communication Plan / Risk Management
PROJECT LAUNCH FOR EXECUTION	•Status & Tracking •KPIs / Quality / Forecasts
PROJECT PERFORMANCE & CONTROL	•Objectives / Quality Deliverables •Effort & Cost Tracking / Performance
PROJECT PROJECT CLOSE	•Post Mortem •Project Punchlist / Reporting

PMC ACTIVITIES FOR CONSTRUCTION.

PRE-CONSTRUCTION ACTIVITIES	DURING CONSTRUCTION	POST-CONSTRUCTION ACTIVITIES
• Assess / Define Client's requirements. • Engagement of Consultants. • Secure necessary licences and planning permits. • Time & progress chart • Clearing sites/Demolitions works. • All Labour/Material sheds. Electricity/water. • GFC drawings • BOQ etc..,	• Execution of works • Planning fund flow chart/ Gantt chart/ Safety & housekeeping. • Scheduling • Controlling / Check for Deviations / QA & QC. • Flow of Resources.	• Pre-defined project requirements. • Ensure smooth delivery of outcome to the customer. • Updated results and modified plans. • Project close-out or project termination. • On time completion of project within budget without comprising Quality.

CONCLUSION.

Construction involves large numbers of activities and different types of resources and certain things are beyond human control. The success of the project can be achieved through proper construction management, detailed planning and execution considering all possible risks and failures. The complex nature of construction can be managed only by proper management consultant skills and practices. Therefore, Management consultancy is important to make all the people in the organization more productive. Management consultancy doesn't just teach someone how to inspire employees to be more productive, it also shows managers how to be good bosses. Planning in hurry and execute leisure to be avoided. Get approval from all agencies. The clarity in a sequence of work from start to end. A proper foundation design, detailed BOQ, Skilled and unskilled labour planning, CPM and Gantt Chart for monitoring are necessary for the successful completion of the project. Employing competent and skilled PMCs can overcome all the hurdles in the project.

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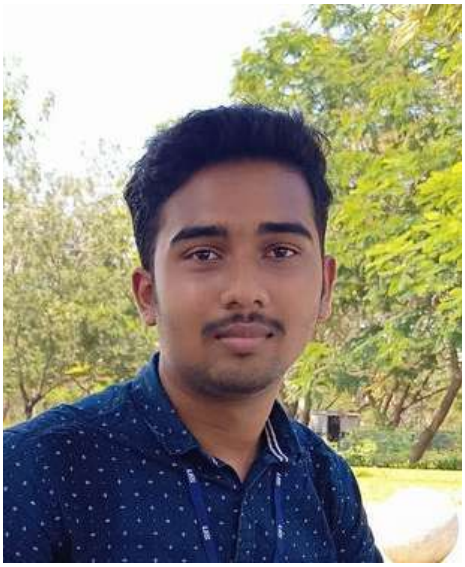

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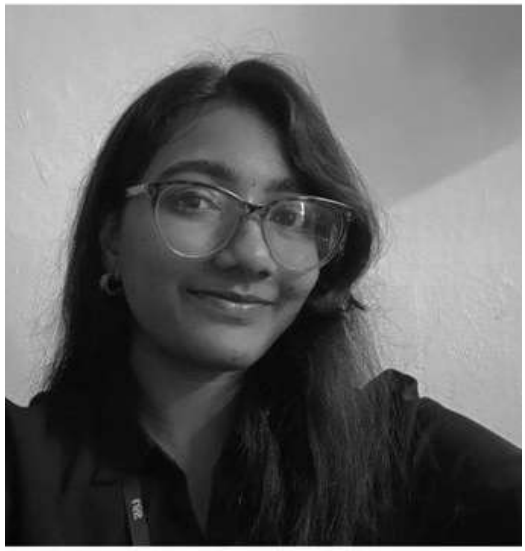

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