

SCE e-NEWSLETTER  
**SCHOOL OF CIVIL ENGINEERING (SCE)**

VIT - A Place to Learn; A Chance to Grow



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### Vision Statement of the School of Civil Engineering

To excel in Civil Engineering education and research with a global perspective and commitment to sustainability

### Mission Statement of the School of Civil Engineering

**M1. Academic Excellence:** Impart high-quality Civil Engineering education through innovative teaching methodologies and modern laboratory facilities.

**M2. Research:** Promote research, consultancy, and innovation addressing real-world Civil Engineering challenges with emphasis on sustainable infrastructure and societal needs.

**M3. Global Perspective & Industry Engagement:** Prepare globally competent Civil Engineers through industry interaction and collaboration with national and international institutions.

**M4. Ethics, Sustainability & Lifelong Learning:** Produce socially responsible Civil Engineers with strong ethical values and leadership skills, dedicated to sustainable development and lifelong learning.

### Program Educational Objectives (PEOs)

**PEO1:** Graduates will be successful civil engineering professionals / entrepreneurs.

**PEO2:** Graduates will pursue higher studies and research for professional development.

**PEO3:** Graduates will demonstrate civic responsibility in addressing societal and environmental challenges.

## DEAN'S MESSAGE

Civil Engineering is fundamental to the built environment and to the development of society—from the buildings and infrastructure around us to water resources, transportation, and sustainable cities. At the School of Civil Engineering (SCE), VIT, we build on this strong foundation while preparing our students to meet the changing needs of a rapidly evolving world.

We are committed to ensuring that our students develop a strong understanding of fundamental civil engineering principles while gaining exposure to emerging technologies such as Artificial Intelligence, Building Information Modelling (BIM), drones, LiDAR, Geographic Information Systems (GIS), and Remote Sensing. Through the integration of core knowledge, innovation, and technology, we strive to nurture competent, responsible, and future-ready Civil Engineers.

It is with great pride and enthusiasm that I publish the twentieth Issue of the SCE E-Newsletter, to you brought by the School of Civil Engineering (SCE), Vellore Institute of Technology (VIT), Vellore, Tamil Nadu, India. This issue showcases the achievements, activities, innovations, and contributions of our students, faculty, and scholars, while providing an insight into the vibrant academic, research, and professional environment at SCE, VIT

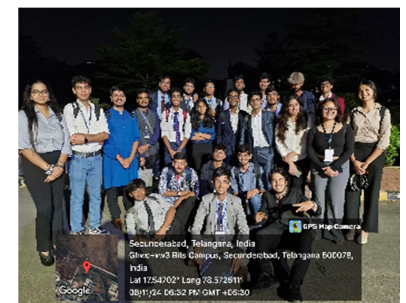
- Dr. A. S. Santhi

## STUDENTS' ACHIEVEMENTS

Ms. Vidita Shrivastava (21BCL0177) brought laurels to VIT by winning silver medal for 400m freestyle and bronze medal for 50m freestyle in Tamil Nadu Chief Minister's Trophy, the District Level Inter Collegiate tournament 2024.



Mr. Vrundan Patel (23BCL0063) participated in BITS MUN 2024, hosted by BITS Hyderabad on 8<sup>th</sup> November 2024, where multiple UN committees were simulated. He was honored with the Best Delegate Award in the United Nations Security Council (UNSC).



Mr. Harthik Varshan S. (21BCL0074) brought laurels to VIT by winning the Men's Basketball team in the District - Level Inter-Collegiate Tournament for the Tamil Nadu Chief Minister's Trophy.



Mr. Varun Srivatsav (21BCL0217) brought laurels to VIT by winning the Men's Hockey team in the District-Level Inter-Collegiate Tournament for the Tamil Nadu Chief Minister's Trophy.



## PATENTS FILED

Dr. Senthil Kumar N and Mr. Kummara Siva Prasad published a patent titled “Reinforced Precast Beam System for Improving Flexural Strength and Performance of a Prefabricated Beam-To-Beam Connection” on 04<sup>th</sup> September 2024.

## FUNDED PROJECT

Dr. R. Prasanna Venkatesan, Associate Professor Grade 1, SCE has received a grant of INR 2.50 lakhs from SEED (RGEMS) to conduct a six-month multidisciplinary research project on the title “Development of an IoT and BIM-based Facility Management system for roads on August 29<sup>th</sup>, 2024.

Dr Parimala Renganayaki S, Professor Grade 1, SCE has received a grant of INR 12 lakhs from The Association of Commonwealth university (AUE) to conduct a Six-month research project on the title “Identification of water security solutions and climate changes adaptation through citizen science and co creation in Low- and Middle-income countries: Case Studies from Nigeria, India and South Africa on September 3<sup>rd</sup>, 2024.

## CONSULTANCY PROJECT

1. Dr. Prasanth S, with Dr. Abdul Rahim A as Co-PI, received a project titled “Evaluating the Integrity and In-Situ Compressive Strength of Concrete in the Roof Slab of Block-A” from Kalpataru Projects International Ltd., India, under the Centre for Disaster Mitigation and Management, VIT, Vellore, for a duration of 22 days, with a funding amount of ₹0.41 lakhs.(August 24)
2. Dr. Konala S K Karthik Reddy, with Dr. Prasanth S, Dr. Visuvasam J, and Dr. Abdul Rahim A as Co-PIs, received a project titled “Commercial Complex Reinforced Assessment” from The Woodbox – Carpentry Company, India, under the School of Civil Engineering, VIT, Vellore, for a duration of 2 months, with a funding amount of ₹0.70 lakhs.(September 24)
3. Dr. Prasanth S, with Dr. Sekar S K as Co-PI, received a project titled “Evaluating the Integrity of Concrete of RCC Members at AB4 Building, Chennai” from Elite Contractors Chennai Pvt. Ltd., India, under the Centre for Disaster Mitigation and Management, VIT, Vellore, for a duration of 7 days, with a funding amount of ₹1.04 lakhs.( September 24)

## FACULTY OUTREACH

Dr. Punitha Kumar delivered a webinar on “Best Practices and Emerging Trends in Steel Structure Connections” on 20<sup>th</sup> August 2024 at Paavai Engineering College, Namakkal, India.

Dr. G.P. Ganapathy delivered a lecture on “Application of Geospatial Technology for Earthquake Disaster Risk Reduction” on 26<sup>th</sup> September 2024 at Science City, Govt. of Tamil Nadu & University of Madras, Chennai, India.

## NATIONAL / INTERNATIONAL EVENTS ORGANISED

1. Dr. S. Vasantha Kumar, Professor Grade 1 and Dr. N Vaani, Assistant professor Sr. Grade 1 coordinated an event titled " Sustainable Groundwater Management for Addressing Climate Change." The event featured a talk by Prof. Pennan Chinnasamy, Associate Professor, Centre for Technology Alternatives for Rural Areas (CTARA), IIT Bombay.



2. Dr. L. Vignesh Rajkumar, Assistant Professor Sr. Grade 2, SCE, coordinated an FDP on "Basics of Drone Operation and Mapping" on 27<sup>th</sup> August, 2024. The resource persons for the event were Mr. A.J. Arun Jeya Prakash, CEO of AVIOCIAN Technologies Pvt. Ltd. New Delhi.



3. Dr. K. S. K. Karthik Reddy, Assistant Professor Sr. Grade 1 and Dr. J. Visuvasam Assistant Professor Sr. Grade 2, SCE, VIT organized a guest lecture on Harnessing Engineering Expertise and Automation for Advancements in the Solar Industry during 04<sup>th</sup> September 2024. The resource persons of the event were Mr. Syed Faheemuddin, Assistant Manager – Design and Automation Nuevosol Energy Pvt. Ltd., Hyderabad, Telangana India.



4. Dr. R. Prasanna Venkatesan, Associate Professor Grade 1, SCE and Dr. Velvizhi G, Associate Professor, CO2 Research and Green Technologies center, VIT conduct a guest lecture titled “Ultra High-Performance Concrete- A Promising Candidate for repair and retrofitting application” on 22<sup>nd</sup> August 2024. The resource persons of the event were Dr. A. Ramachandra Murthy, Chief Scientist and Head, Professor, ACSIR- Academy of Scientific and Innovative Research- an Institute of national importance, India CSIR-Structural Engineering Research Centre (SERC), Govt.of India, Taramani, Chennai.

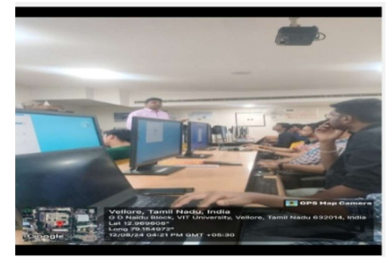


5. Dr. A. Punitha Kumar, Assistant Professor Sr. Grade 2 and Dr. Santhi A S, Professor Higher Academic Grade, SCE jointly organized an Industry expert lecture titled “Introduction to fatigue and fatigue-resistant design of steel structures” on 25<sup>th</sup> September 2024. Dr. Vishnuvardhan S, Principal Scientist, CSIR-SERC, Chennai was invited as Chief Guest.



6. Dr. A. Punitha Kumar, Assistant Professor Sr. Grade 2 and Dr. Santhi A S, Professor Higher Academic Grade, SCE jointly organized an Industry expert lecture titled as “Challenges in Steel Construction” on 13<sup>th</sup> September 2024. Er. R. Satheesh Kumar, Engineering Manager, Eversendai Engineering LLC, United Arab Emirates was invited as Chief Guest.

7. Dr. P. Sasanka Bhushan Assistant Professor Grade 1 conducted a competition on “Enhancing Livability with Technology” on 28<sup>th</sup> September 2024. They prepared a write-up and presented their understanding of the problem and solutions. Mr. Amalanathan, Retd Assistant Engineer, ISRO Satellite Centre (ISAC, Bangalore) and Dr. J. Jayaprakash, Professor, SCE, VIT, Vellore have provided their guidance and judged the presentation.



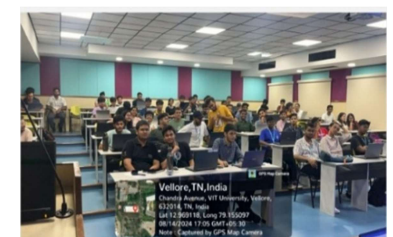
8. Dr J. Jayaprakash, Professor, Higher Academic Grade conducted a one-day workshop on Concrete 3D Printing in Construction Industry on 27<sup>th</sup> September 2024 at VIT.



9. Dr Balamurugan S organized “SDG: Lake Rejuvenation by Phytoremediation” on 19<sup>th</sup> August 2024, a discussion by Mr. Deshmukh who introduced phytoremediation as a sustainable solution, explaining how this method uses plants to absorb, degrade, and remove pollutants from water bodies. A group of 20 students participated in the session which concluded with a Q&A segment exploring the practical aspects of implementing phytoremediation.



10. The Indian Society of Earthquake Technology (ISET) conducted a specialized workshop on “Design of Earthquake-Resistant Structures using STAAD software” on 12<sup>th</sup> August 2024 by Dr. Konala S Karthik Reddy with around 40 participants from various academic years, including a notable number of enthusiastic freshers. The workshop provided attendees with a hands-on, practical learning experience that goes beyond the regular academic curriculum. It not only enhanced their understanding of earthquake-resistant design principles but also equipped them with practical skills in using industry-standard software.



11. A guest lecture "Science & Technology and Innovations for Disaster Risk Reduction (DRR) and Climate Actions" by Kratika Pandey from the National Institute of Disaster Management was organized by Dr Visuvasam J on 6<sup>th</sup> September 2024 with around 80 participants.
12. The 'Design Extravaganza' Digital Poster Making Contest organized by Dr. Visuvasam J on 14<sup>th</sup> August 2024 concluded with 97 participants unleashing their creativity on themes of Independence Day. Using Figma and Canva, they crafted captivating visuals that showcased their design skills.
13. An online session "Sustaining Sphere – Environmental Sustainability" featuring Dr. Vignesh Rajkumar L, Assistant Professor Sr. Grade 1 at VIT Vellore was organized by Dr Visuvasam J on 7<sup>th</sup> July 2024 where the attendees delved into the intricacies of Sustainable Development Goals 7, 8, 9, 11, and 15, while exploring their intersections. Dr. Vignesh shed light on the profound impacts of climate change and elucidated how renewable energies can shape a sustainable future.



## INDUSTRIAL VISIT

Prof. John Sushil Packiaraj & Dr. T. Meena Associate Professor, SCE, VIT Organized an Industrial visit to L&T EWL Workshop Kancheepuram, for the students for explore the construction techniques and practices followed in L&T on 23<sup>rd</sup> September 2024.

## PUBLICATIONS

Dr. Manjunath, Jagadeesh P (2024) Dynamics of urban development patterns on thermal distributions and their implications on water spread areas of Vellore, Tamil Nadu, India, *Frontiers in Sustainable Cities* (Switzerland), Vol:6. DOI: 10.3389/frsc.2024.1462092. DOI: <https://doi.org/10.3389/frsc.2024.1462092>

T. Yeswanth Sai, Jagadeesh P (2024) A Review on Mechanical Characteristics of Graphene Oxide and Alccofine in Cement Composites, *International Conference on Materials Innovation and Sustainable Infrastructure, Journal of Physics Conference Series* 2779, 012006, DOI: <https://doi.org/10.1088/1742-6596/2779/1/012006>

Kumanan, T.S., Sofi, A (2024) A review of mechanical properties of clay adobe bricks stabilized with Agro-wastes and varied water-clay proportions. *Innov. Infrastruct. Solut.* **9**, 338 (2024). <https://doi.org/10.1007/s41062-024-016566>

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Priyanka K., Suganya OM., (2024). A Review on the Influence of Particle Packing Theory and Materials on Characteristics of ECC. Journal of Building Engineering, p.111079.  
<https://doi.org/10.1016/j.jobbe.2024.111079>.

Lakshmi A.G.S., Saravanakumar M.P (2024). Ageing behavior of starch-based food packaging bioplastics in riparian sediments and sediment-derived dissolved organic matter in the soil environment,  
<https://doi.org/10.1016/j.jhazmat.2024.135778>.

Vignesh R., Abdul Rahim A. (2024) Emerging eco-friendly fiber-reinforced concrete with shaped synthetic aggregates using Taguchi grey relational analysis and utility concept.  
<https://doi.org/10.1016/j.conbuildmat.2024.138039>.

Jagan P, Visuvasam J.A. (2024) Assessment of the influence of nonlinear soil effects on seismic response of RC structures with floating columns considering soil–structure interaction.  
<https://doi.org/10.1080/19475705.2024.2401997>.

Suhas V.S., Shanmugapriya T(2024) Evaluation of the Corrosion Inhibition Capability of Mild Steel Coated with a ZnONi/PVDF Nanocomposite in a Simulated Concrete Pore Solution: An Electrochemical Investigation and Numerical Simulation.DOI: [10.1007/s13369-024-09317-7](https://doi.org/10.1007/s13369-024-09317-7).

Saini D.S., Barik D.K. (2024), Simulation of the Hydraulic Model HEC-RAS Coupled with GIS and Remote Sensing to Study the Effect of River Cross-section Width in Detecting Flood-prone Areas.  
<https://doi.org/10.17491/jgsi/2024/173843>.

Nanabala S.G., Balamurugan S. (2024), Numerical studies on the strength enhancement of reinforced concrete building through the application of carbon fiber reinforced polymer.  
<https://doi.org/10.31893/multiscience.2024238>

Vigneshwari A., Jayaprakash J. (2024), Unleash the potential of mechanically activated Iron ore tailings in cement mortar containing silica fume and fly ash. <https://doi.org/10.1016/j.matlet.2024.137052>.

Salaimanimagudam M. P., Jayaprakash J (2024), Selection of digital fabrication technique in the construction industry — A multi-criteria decision-making approach. DOI: [10.1016/j.istruc.2022.10.094](https://doi.org/10.1016/j.istruc.2022.10.094)

#### EDITORIAL TEAM

**Dr. T. Meena** (Associate Professor - Senior)  
**Dr. OM. Suganya** (Associate Professor - Gr. I)  
**Sharvesh J** (Student 23BCL0085)  
**Niranjana** (Student 22BCL0054)  
**Lakshmi S** (Student 23BCL0089)  
**Pise Gaurav Tikaram** (Student 22BCL0114)

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