

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 Sixteenth 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

STUDENT ACHIEVEMENT

Mr. Naveen Shiju Joseph (22MST1008), student, M Tech (Structural Engineering) got internship at CSIR-SERC.

FACULTY ACHIEVEMENT

Dr. L. Vignesh Rajkumar, has been awarded the High-Level Scientific Research Fellowship (SSHN2023) from the French Embassy to collaborate with the Laboratory of Science on Climate and Environment in Paris, France.



FUNDED PROJECT

Dr. Bhasker Das, with Dr. Vinod Kumar Sharma as Co-Principal Investigator received a project titled “Sustainable Hydrogen Production from wastewater through Hybrid Photo- Electrochemical System and Purification through Metal Hydride Technology” from DST-SEB-CRG. The project was sanctioned under the School of Civil engineering, with a start date of September 2023 for a total duration of 3 years, with a funding amount of ₹39.06 lakhs.

CONSULTANCY PROJECTS

1. Dr. Hareesh M served as the Principal Investigator for the project “Investigation on Structural Design Adequacy and Construction Practice of a G+2 Steel Structure,” funded by Team Tech Environment Health Safety Pvt. Ltd., India. The project was undertaken under the School of Civil Engineering, on July 2023, for a duration of 2 days, with a sanctioned amount of ₹0.59 lakhs.
2. Dr. Ramamohan Rao P served as the Principal Investigator , with Dr. Prasanth S as Co-Principal Investigator, for the project “Integrity of Concrete Using Non-Destructive Techniques – Ultrasonic Pulse Velocity and Rebound Hammer Tests in Raft Footing,” funded by Elite Contractors Chennai Pvt. Ltd., India. The project was undertaken under the Centre for Disaster Mitigation and Management, VIT, Vellore on July 2023, for a duration of 15 days, with a sanctioned amount of ₹0.76 lakhs.
3. Dr. Ramamohan Rao P served as the Principal Investigator (PI), with Dr. Prasanth S as Co-Principal Investigator (Co-PI), for the project “Evaluation of Concrete Beams Using Non-Destructive Techniques for PRP Phase-II C Block,” funded by Kalpataru Projects International Ltd., India. The project was undertaken under the Centre for Disaster Mitigation and Management, VIT, Vellore, on August 2023 for a duration of 14 days, with a sanctioned amount of ₹0.10 lakhs.

FACULTY OUTREACH

1. Dr. B. Srimuruganandam delivered a lecture on “Solutions, Impacts and Reporting for Improving Air Quality” at Delegation of the European Union to India, New Delhi, India on 11th July 2023.
2. Dr. Uma Shankar M delivered a lecture on “Water Management” at Auxilium College, Vellore, India on 2nd August 2023.
3. Dr. Hareesh M delivered a lecture on “Design of RCC Structures using the Codal Provision IS 456:2000” at Vels Institute of Science Technology and Advanced Studies, Chennai, India on 03rd August 2023.

4. Dr. L. Vignesh Rajkumar participated in the "Monsoon School on Urban Floods" organised by Interdisciplinary centre for Water Research, Indian Institute of Sciences Bangalore from 7th to 12th August 2023.



5. Dr. L. Vignesh Rajkumar delivered a lecture on "Pumps motors and Switches for Water Resources Management" to the TWAD board, Vellore on 10th and 11th August 2023.
6. Dr. Mohan Ganesh G delivered a lecture on “Low-carbon Building Materials and Green Construction” at NICMAR University, Pune, India on 11th August 2023.

7. Dr. Uma Shanker M delivered a lecture on “IoT Applications in Water Resources Engineering” at Sri Venkateswara College of Engineering and Technology Autonomous, Chittoor, India on 28th August 2023.
8. Dr. Prasanna Venkatesan R delivered a lecture on " Competitive Exams for Engineering Graduates" at Thanthai Periyar Government Institute of Technology, Vellore, India on 29th August 2023.
9. Dr. Mahenthiran S delivered a lecture on “Science and Technology Capacity Building for Industrial Needs Towards Leadership Development” at Thanthai Periyar Government Institute of Technology, Vellore, India on 30th August 2023.
10. Dr. Punitha Kumar A delivered a lecture on “Industry Expectation” at Thanthai Periyar Government Institute of Technology, Vellore, India on 31st August 2023.
11. Dr. S. Vasantha Kumar participated in Five days online Short-Term Training Program on "Application of Advanced Statistical and Machine Learning Techniques in Transportation and Logistics" (AASMTL-2023) from 4th to 8th September 2023 at Gati Shakti Vishwavidyalaya, Central University under Ministry of Railways, Vadodara, Gujarat, India conducted.
12. Dr. Prasanna Venkatesan R conducted a training programme on Science and Technology Capacity Building for Industrial Needs on 12th September 2023 at Thanthai Periyar Government Institute of Technology, Vellore, India.
13. Dr. Mahenthiran S conducted a training programme on Science and Technology Capacity Building for Industrial Needs on 13th September 2023 Thanthai Periyar Government Institute of Technology, Vellore, India.
14. Dr. Punitha Kumar A, Professor, School of Civil Engineering delivered a lecture on “Knowledge Beyond the Textbooks” at Thanthai Periyar Government Institute of Technology, Vellore, India on 14th September 2023.
15. Dr. S. Vasantha Kumar invited Dr. Ratnasamy Muniandy, Professor, Dept. of Civil Engineering, Universiti Putra Malaysia (UPM) and Adjunct Professor, VIT visited our school on September 14, 2023, and had a discussion with our Dean, SCE, HODs, and faculties from SCE regarding possible collaborations between VIT and UPM, Malaysia. He then visited the Transportation lab and discussed with the Transportation Engineering faculties how we can improve teaching and research in the field of pavement and traffic engineering.
16. Dr. Parimala Renganayaki S, conducted a training program on “Implementation of Remote sensing and Geographical Information System Technologies in Water Resources” on 14th September 2023 at Thanthai Periyar Government Institute of Technology, Vellore, India.



17. Dr. Senthilkumar N, Professor, School of Civil Engineering delivered a lecture on "Contact & Fracture Modeling" at Vellore Institute of Technology, Vellore, India on 19th September 2023.
18. Dr. S Parimala Ranganayaki, Professor, School of Civil Engineering delivered a lecture on "Estimation of Aquifer Parameters by Field and Laboratory Investigation" at Institute for Water Studies, Tharamani, India on 22nd September 2023.
19. Dr. Vaani N, Professor, School of Civil Engineering delivered a lecture on "Climate Change Over the Indian Subcontinent" at Shree Venkateshwara Engineering College, Erode, India on 22nd September 2023.
20. Dr. Punitha Kumar A, Professor, School of Civil Engineering delivered a lecture on "Finite element analysis of Compression Member" at VIT Vellore, Vellore, India on 23rd September 2023.

NATIONAL AND INTERNATIONAL EVENTS ORGANIZED

1. Mr. Sujan Kulkarni, General Manager - Technical, GeoDynamics Pvt Ltd, Vadodara, Gujarat delivered Industrial Expert Lecture on "Overview of Deep Foundation Testing" organized by Dr. M. Muthukumar, Professor, School of Civil Engineering and J. Malathy, Assistant Professor, School of Civil Engineering on 5th July 2023.
2. Dr Malathy J conducted an event "Future Proofing" on July 13th 2023, where participants presented innovative ideas, received constructive feedback, and worked collaboratively on the execution and refinement of feasible and impactful solutions for sustainable development.
3. Dr. S. Velmurugan, Chief Scientist and Head, Traffic Engineering and Safety Division, CSRI-CRRI, New Delhi delivered an Industry Expert Lecture on iRASTE (Intelligent Solutions for Road Safety through Technology & Engineering) in Nagpur: An Overview – Application of Artificial Intelligence in Road Safety organized by Dr. Vasantha Kumar S, Professor, School of Civil Engineering and Dr. P. Sasanka Bhushan, Associate Professor, School of Civil Engineering on 15 July 2023.



4. Dr. Komali Kantamaneni, Senior Research Fellow (Coastal Scientist), School of Engineering, University of Central Lancashire (UCLan), United Kingdom delivered Foreign Expert Lecture on "Disasters Preparedness and Mitigation Planning" organized by Dr. OM. Suganya, Associate Professor, School of Civil Engineering and Dr. G. P. Ganapathy, Professor, School of Civil Engineering on 7th August 2023.
5. Dr Konala S K Karthik Reddy organized a quiz on "Engineering Seismology" on 6th September 2023 where Dr. J. Visuvasam, Faculty Coordinator of ISET Student Chapter delivered a brief introduction about engineering seismology and the significance of its effects on buildings.
 
6. Dr. Subbarao Pichuka, Assistant Professor, IITM delivered a lecture on "Role of Remote Sensing and GIS in sustainable Management of Natural Resources" organized by Dr Jagadeesh P, Associate Professor, School of Civil Engineering and Dr Visuvasam J, Associate Professor, School of Civil Engineering on 5 September 2023. A total of 69 students participated in the Eighth Module lecture.
 
7. Mr. V Rajkumar, Scientist'F', Defence Research and Development Laboratory, Hyderabad delivered Guest Expert Lecture on "Smart cities-Overview in Urban Planning" organized by Dr. Sofi A, Professor, School of Civil Engineering on 6th September 2023.
8. Dr. Vishnuvardhan S, Principal Scientist, CSIR-SERC, Chennai delivered Industrial Expert Lecture on "Fatigue and Fracture Studies on Steel Structures and Structural Components" organized on 27th September 2023.
9. Dr. Hareesh M, Professor, VIT Vellore organized a one-day workshop on "Cold Formed Steel Structures" on 29th September 2023 by, Dr Raghavan Ramalingam, Assistant Professor, NIT Trichy and Dr J Vijaya Vengadesh Kumar, Assistant Professor, NIT Surathkal.

PUBLICATIONS

1. Venkadavarahan, M., Joji, M. S., & Marisamynathan, S. (2023). Development of spatial econometric models for estimating the bicycle sharing trip activity. *Sustainable Cities and Society*, 98, 104861. (Impact Factor: 11.7)

2. Venkadavarahan, M., & Marisamynathan, S. (2023). Development of freight trip generation model using observed and unobserved information of supply chain characteristics for a sustainable urban transformation. *Journal of Cleaner Production*, 421, 138500.. (Impact Factor: 11.1).
3. Kumanan, T. S., & Sofi, A. (2023). Progression of bio-modified adobes with derivatives of cassava periderm and clay brick waste by experimental and probabilistic prediction models. *Construction and Building Materials*, 399, 132535. (Impact Factor: 7.4)
4. Sheikh, T. M., Anwar, M. P., Muthoosamy, K., Jaganathan, J., Chan, A., & Mohamed, A. A. (2023). Graphene oxide's regenerative acidity and its effects on the hydration of Type II Portland Cement. *Construction and Building Materials*, 364, 129933. (Impact Factor: 7.4)
5. Budamala, V., Wadhwa, A., Bhowmik, R. D., Mahindrakar, A., Yellamelli, R. S. R., & Kasiviswanathan, K. S. (2023). Multi-temporal downscaling of daily to sub-daily streamflow for flash flood watersheds at ungauged stations using a hybrid framework. *Journal of Hydrology*, 625, 130110. (Impact Factor: 6.4)
6. Kesavamoorthi, R., & Ganesh, G. M. (2023). Impact resistance of micro and macro crimped steel fibre reinforced self-compacting concrete with SCM. *Case Studies in Construction Materials*, 19, e02452. (Impact Factor: 6.2)
7. Abdalla, J. A., Hawileh, R. A., Bahurudeen, A., Jyothsna, G., Sofi, A., Shanmugam, V., & Thomas, B. S. (2023). A comprehensive review on the use of natural fibers in cement/geopolymer concrete: A step towards sustainability. *Case Studies in Construction Materials*, e02244.. (Impact Factor: 6.2)
8. Nagaraj, S., & Masilamani, U. S. (2023). Hydrogeochemical and multivariate statistical approaches to investigate the characteristics of groundwater quality in fluoride-enriched hard rock region in Tirupathur district of Tamil Nadu, India. *Environmental Science and Pollution Research*, 30(44), 99809-99829. (Impact Factor: 5.8)
9. Wani, S., Selvaraj, T., Faria, P., Mehra, A., & Shukla, R. (2023). Study on ancient green materials and technology used in Udaipur palace, India: an input to abate climate changes in modern construction. *Environmental Science and Pollution Research*, 30(41), 93952-93969. (Impact Factor: 5.8)
10. Ricky, R., & Shanthakumar, S. (2023). An investigation on removal of ciprofloxacin and norfloxacin by phycoremediation with an emphasis on acute toxicity and biochemical composition. *Scientific Reports*, 13(1), 13911. (Impact Factor: 4.6)
11. Harikrishnan, S., Sudarshan, S., Sivasubramani, K., Nandini, M. S., Narenkumar, J., Ramachandran, V., ... & Jayalakshmi, S. (2023). Larvicidal and anti-termite activities of microbial biosurfactant produced by *Enterobacter cloacae* SJ2 isolated from marine sponge *Clathria* sp. *Scientific Reports*, 13(1), 15153. (Impact Factor: 4.6)
12. Reehana, S., & Muthukumar, M. (2023). Undrained response of fibre reinforced expansive soil subjected to cyclic loading. *Soil Dynamics and Earthquake Engineering*, 173, 108154. (Impact Factor: 4.0)

13. Akomah, B. B., & Ramani, P. V. (2023). Local government institutions in Ghana: Core partners in health and safety performance in the construction industry. *Heliyon*, 9(9). (Impact Factor: 4)
14. Bhandari, I., Kumar, R., Sofi, A., & Nighot, N. S. (2023). A systematic study on sustainable low carbon cement–Superplasticizer interaction: Fresh, mechanical, microstructural and durability characteristics. *Heliyon*. (Impact Factor: 4)
15. Jenefar, S., Kaviyarasan, V., Narenkumar, J., Almutairi, B. O., Arunkumar, P., & Ramalingam, S. (2023). Response surface based optimization of laccase production from *Perenniporia subtephropora* and its application in decolorization of dyes. *Biomass Conversion and Biorefinery*, 1-10. (Impact Factor: 4).
16. Hemanandhini, S., & Vignesh Rajkumar, L. (2023). Performance evaluation of CMIP6 climate models for selecting a suitable GCM for future precipitation at different places of Tamil Nadu. *Environmental Monitoring and Assessment*, 195(8), 1–37. (Impact Factor: 3).
17. Salaimanimagudam, M. P., & Jayaprakash, J. (2023). Effect of printing parameters on inter-filament voids, bonding, and geometrical deviation in concrete 3D printed structures. *Materials Letters*, 134815. (Impact Factor: 3).
18. Gaikadi, S., & Selvaraj, V. K. (2023). Allometric model based estimation of biomass and carbon stock for individual and overlapping trees using terrestrial LiDAR. *Modeling Earth Systems and Environment*, 1-12. (Impact Factor: 3).
19. Pradeep, P. S., & Mayakrishnan, M. (2023). Understanding the Engineering Behaviour of Expansive Soil Amended with Bagasse Ash and Lime Using Microstructural Analysis. *International Journal of Geosynthetics and Ground Engineering*, 9(3), 26. (Impact Factor: 2.9)
20. Babu, T., & Thangaraj, S. (2023). A Novel Approach for the Synthesis of Eco-friendly Geopolymer Ternary Blended Mortar with GGBS, Sugarcane Bagasse Ash, and Sewage Sludge Ash under Ambient Curing Conditions. *KSCE Journal of Civil Engineering*, 1-14. (Impact Factor: 2.2)
21. Venkatesan, V., Mayakrishnan, M., & Shukla, S. K. (2023). Effect of pile spacing in helical pile groups in soft clays under combined loading. *Marine Georesources & Geotechnology*, 1-21. (Impact Factor: 2.2)
22. Vignesh, R., & Abdul-Rahim, A. (2023). New insights into the production of sustainable synthetic aggregates and their microstructural evaluation. *Materiales de Construcción*, 73(351), e324-e324. (Impact Factor: 2.1)
23. Athira, K., & Shanmugapriya, T. (2023). Investigation on Properties and Heavy Metal Ion Extraction of Thermally Activated Red Mud Incorporated Cement Mortar. *Polish Journal of Environmental Studies*, 32(5). (Impact Factor: 1.8).
24. Kiran Prabha, M., & Punitha Kumar, A. (2023). Study on a Stiffened Circular Steel Hollow Section Under Axial Compression. *Iranian Journal of Science and Technology, Transactions of Civil Engineering*, 1-9. (Impact Factor: 1.7).

25. Wani, F. M., Vemuri, J., Rajaram, C., & Reddy, K. K. (2023). Investigating the efficiency of machine learning algorithms in classifying pulse-like ground motions. *Journal of Seismology*, 27(5), 875-899. (Impact Factor: 1.6)
26. Harini, S., Barik, D. K., Pratyusha, N., Sameera, M., Varsha, M., & Shruthi, S. (2023). A Case Study on GIS Based Method to Develop Geographically Distributed Synthetic Unit Hydrograph using Geo-Spatial Tools in Ungauged Sub-watershed of Ambika River Basin, Gujarat. *Journal of the Geological Society of India*, 99(8), 1165-1172. (Impact Factor: 1.3).
27. Shankar, H. N. K., & Ponnusamy, P. (2023). Seasonal Distribution of Escherichia coli and Relationship Among Physicochemical Parameters in Lake Water in the Gudiyattam Area, Tamil Nadu, India. *Aquatic Sciences and Engineering*, 38(2), 89-96. (Impact Factor: 0.7).
28. Nair, N. A., & Viswanathan, T. S. (2023). EFFECT OF WOLLASTONITE AND COLLOIDAL NANO-SILICA ON MECHANICAL, AND DURABILITY PROPERTIES OF CEMENT MORTAR. *Revista Romana de Materiale*, 53(2), 176-183. (Impact Factor: 0.7).
29. Jayabaskaran, M., & Das, B. (2023). Land Use Land Cover (LULC) Dynamics by CA-ANN and CA-Markov Model Approaches: A Case Study of Ranipet Town, India. *Nature Environment & Pollution Technology*, 22(3).
30. Ghosh, D., Kavil, S. P., Arya, P. C., & Das, B. (2023). Biogeochemical networks in the abandoned historical gold mines affecting mobilization and transport of arsenic in Kolar. *Journal of Hazardous Materials Advances*, 10, 100316.
31. Chaithanya, M. S., Das, B., & Vidya, R. (2023). Distribution, chemical speciation and human health risk assessment of metals in soil particle size fractions from an industrial area. *Journal of Hazardous Materials Advances*, 9, 100237.
32. Krishnam Shankar, H. N., & Ponnusamy, P. (2023). Investigation of Heavy Metals in the Surface and Groundwater and its Health Risk Assessment in the Parts of Gudiyattam Region, Tamilnadu, India. *Ecological Engineering & Environmental Technology*, 24.

EDITORIAL TEAM

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