SCE e-NEWSLETTER

SCHOOL OF CIVIL ENGINEERING (SCE)

VIT - A Place to Learn; A Chance to Grow

INSIDE

VISION

- To be internationally recognized in Civil Engineering through groundbreaking contributions and exceptional leadership for sustainable development of the society.

MISSION

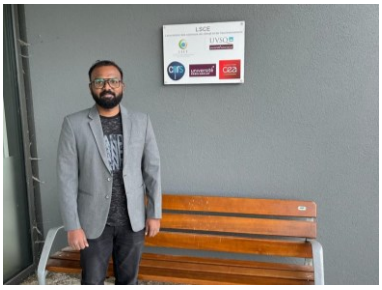
- To pioneer the emerging technology in Civil Engineering.
- To address the complex societal scale challenges in areas of resilient infrastructure, smart and sustainable cities, water and energy security, climate change, mobility of goods and people, and environmental protection.
- To inspire and nurture innovative leaders and entrepreneurs.

DEAN'S MESSAGE

It is my immense pleasure to welcome you all to view the Sixteenth issue of SCE e - Newsletter by the School of Civil Engineering (SCE), Vellore Institute of Technology (VIT), Vellore, Tamil Nadu, India. This issue brings out the accomplishment of VITians which include the students and faculty of SCE that has transpired between July - September 2023. This issue highlights the active participation and contribution in various outreach activities by faculty members and the achievements of undergraduate & postgraduate students and Ph.D. research scholars.

I hope you all enjoy reading the updates and achievements of students and faculty members of SCE and extend your co-operation and support for all our future accomplishments.

FACULTY ACHIEVEMENT



Dr. L. Vignesh Rajkumar, Assistant Professor, School of Civil Engineering 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.

NATIONAL AND INTERNATIONAL LECTURES

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. 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.

3. 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.

4. 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.

5. 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.

6. 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.

7. Dr. Hazi Azamathulla, Professor, Department of Civil and Environmental Engineering, St. Augustine Trinidad and Tobago delivered Foreign Expert Lecture on “Application of Soft Computing Techniques in Assessment of Groundwater Resources” organized by Dr. M. Uma Shankar, Professor, School of Civil Engineering and Dr. S. Mahendran, Assistant Professor, School of Civil Engineering on 10th October 2023.

8. Mr. Murali Krishna G, Deputy Business Manager, Geophysical Division, AIMIL Limited, Hyderabad delivered Industrial Expert Lecture on “Geophysical exploration for Civil Engineering Applications” organized by Dr. Parimala Renganayaki S, Associate Professor, School of Civil Engineering and Dr. S. Mahendran, Assistant Professor, School of Civil Engineering on 11th October 2023.

9. Ms. Priyanka Mishra, Earthquake Model Developer, AON Consulting Pvt. Ltd., Bengaluru, Karnataka delivered Expert Guest Lecture on “Application of ML to Quantify Earthquake Hazard” organized by Dr. K. S. K. Karthik Reddy, Assistant Professor, School of Civil Engineering and Dr. J. Visuvasam, Assistant Professor, School of Civil Engineering on 11th October 2023.

10. Dr. Temitope O. Sogbanmu, Senior Lecturer, Ecotoxicology Unit, Department of Zoology, University of Lagos, Nigeria delivered International Expert Lecturen on “Surface Water Pollution from Agricultural Production – A Case studies from Nigeria” organized by Dr. P. Porchelvan, Professor, School of Civil Engineering and Dr. Parimala Renganayaki S, Associate Professor, School of Civil Engineering on 27th October 2023.

11. Ar. Amutha Krishnamurthy, Principal Architect, Amuthasurabhi Architects, Chennai delivered Industrial Expert Lecture on “Smart cities-Overview in Urban Planning” organized by Dr.Sofi A, Professor, School of Civil Engineering on 31st October 2023.

12. Dr. Leon Raj, Scientist, CSIT North East Institute of Science and Technology, Jorhat delivered Industry Expert Guest Lecture on “Advanced Strength of Materials and Failure Theories” organized by Dr. Hareesh M, Assistant Professor, School of Civil Engineering and Dr. Meena T, Associate Professor, School of Civil Engineering on 1st November 2023.

13. Dr. Jean Paolo Gomes Minella, Professor, Department of Soils, Federal University of Santa Maria, Brazil delivered Foreign Expert Lecture on “Catchment Network Monitoring and Modeling for Planning of Soil Conservation Practices and Water Resources Protection” organized by Dr. T. S. Viswanathan, Associate Professor, School of Civil Engineering and Dr. L. Vignesh Rajkumar, Assistant Professor, School of Civil Engineering on 8th November 2023.

14. Dr. Kris Roy, Senior Lecturer, Dept. of Civil Engineering, University of Waikato, New Zealand delivered Foreign Expert Lecture on “Application of Cold-Formed Steel in the Construction Industry” organized by Dr. G. Mohan Ganesh, Professor, School of Civil Engineering and Dr. A. S. Santhi, Professor, School of Civil Engineering on 22nd November 2023.

LECTURES DELIVERED

Dr. L. Vignesh Rajkumar, Assistant Professor, School of Civil Engineering delivered a lecture on "Pumps motors and Switches for Water Resources Management" to the TWAD board, Vellore on 10th and 11th August 2023.

FACULTY OUTREACH

Dr. S. Vasantha Kumar, Professor, School of Civil Engineering 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.

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 on the teaching and research in the field of pavement and traffic engineering.

Dr. L. Vignesh Rajkumar, Assistant Professor, School of Civil Engineering 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.

PUBLICATIONS

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)

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).

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)

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)

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)

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)

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)

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)

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)

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)

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)

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)

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)

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)

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).

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).

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).

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).

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)

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)

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)

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)

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).

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).

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)

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).

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).

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).

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).

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.

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.

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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