

SCE e-NEWSLETTER

SCHOOL OF CIVIL ENGINEERING (SCE)

VIT - A Place to Learn; A Chance to Grow



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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 tenth issue of the 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 the students and faculty of SCE, VIT that has transpired between January - March 2022. 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.

- Dr. A.S. Shanthi

Fund for Improvement of S&T Infrastructure (FIST)

School of Civil Engineering has been granted with Fund for Improvement of S&T Infrastructure (FIST) of INR 94 lakhs from Department of Science and Technology (DST) for a period of three years. The project implement group includes Dr.M. Muthukumar, Dr. J. Jayaprakash, Dr. S. Thirumalini, and Dr. S. Balamurugan. The money is utilized to improve the research facilities by purchasing the following equipments.

Mercury intrusion porosimetry (MIP)

The equipment has been extensively used for the evaluation of porosity, distribution of pore size, and volume of pores to characterize the concrete materials and cementitious materials. This can be used for any composite materials like nano-reinforced, geopolymer to test how well the microstructure is developed and packing density of substitute materials.



Energy Dispersive X-Ray Fluorescence (ED-XRF)

Spectrometer equipment is used to measure the basic compositions of raw materials include calcium oxide, magnesium oxide, alumina, silica, and iron oxide.



Memorandum of Understanding

We, School of Civil Engineering (SCE), Vellore Institute of Technology, have signed Memorandum of Understanding (MoU) with M/s. Eco Services India Private Limited (ESIPL), Chennai for activities include consultancy services, organizing joint seminars/workshop/training program and student internship at ESIPL.

Students Achievement

Ms. Malavika (18MST0065) was awarded the best M. Tech Thesis Award by “Indian Association of Structural Engineers (IAStructE) National Awards 2021” and the results were announced on 25th March, 2022. Her Master thesis was guided of Dr. A.Sofi, Associate Professor, SCE, VIT, Vellore, India.

Ms. M. Priyanka (18PHD0282) was awarded with the Raman Research Award for the months of December 2021 and January 2022 for the papers entitled "A sustainable approach for removal of microplastics from water matrix using Colloidal Gas Aphrons: New insights on flotation potential and interfacial mechanism" and "New insights on aging mechanism of microplastics using PARAFAC analysis: Impact on 4-nitrophenol removal via Statistical Physics Interpretation” under the guidance of Dr. M. P. Saravana kumar, HOD and Associate Professor, SCE, VIT, Vellore, India.

Ms. S. Aishwarya (19PHD0048) received a cash prize of INR 10,000 from National Council for Science & Technology Communication (NCSTC) Division, Department of Science and Technology, Government of India for her science story entitled ‘Makeover with New Materials and Methods: A Transcendence in Structural Strengthening’ under PhD Category of Augmenting Writing Skills for Articulating Research (AWSAR) 2021. The student is guided by Dr. J. Jayaprakash, Professor, SCE, VIT, Vellore

Baairu Kelvin (20MST0077) M.Tech student received first prize in IIT Kanpur - Student Research Convention 2022 (SRC’ 22) under Civil Engineering Conference Category held during 4 - 6 March 2022 for his Oral Presentation entitled ‘Innovative Structural Mechanical Connectors’. The student is pursuing his project under the supervision of Dr. R. Siva Chidambaram, Scientist, CSIR - Central Building Research Institute (CBRI), Roorkee and Prof. Dr. J. Jayaprakash, Professor SCE, VIT, Vellore.

Gopika C Atul (21BCL0039), Sakshi (21BCL0070), and Akshara Sunil (21BCL0088) participated and were declared as winners in the 14th edition of Aakaar ENVIZN a High rise Architectural building design Competition organised by IIT Bombay. The concept of the competition is to develop mitigative building against impacts of Natural disasters on structures.

Consultancy Project

Dr. A. Sofi, Associate Professor, SCE, VIT received a consultancy project along with an M.Tech student internship on Carbon Capture and uses in SCM, from FLSmidth Private Limited, India. The sanctioned amount for the consultancy project is INR 1,80,000 during the month of October 2021.

Quality Week 2022

The School of Civil Engineering organised a 'Quality Week' training programme during the period 21 - 25 February 2022 under the theme of "Codes and Standards" for the benefit of Undergraduate & Postgraduate students, Research Scholars, Faculty and Staff members. The speakers from Academia and Industry are delivered the talks in various diversified area of standards. More than 950 participants attended the event. This event was organised by Dr. A. Punitha Kumar, Assistant Professor and Prof. Dr. J. Jayaprakash, Professor, SCE, VIT, Vellore. The details of the lectures and speakers are as follows:



Title: **Code of Practice for Design Loads**

Speaker: Dr. Colonel. P. Nallathambi, Managing Director, Sakthi Civil & Structural Consultancy Pvt. Ltd., Chennai.



Title: **General Construction in Steel - Code of Practice**

Speaker: Dr. Senthil R, Professor, Department of Civil Engineering, Anna University, Chennai.



Title: **Methods for Measurement of Air Pollution**

Speaker: Dr. Srimuruganandam B, Associate Professor, School of Civil Engineering, Vellore Institute of Technology, Vellore



Title: **Indian Road Congress**

Speaker: Er. Rajalakshmi, Assistant Engineering Manager, Special Bridges, EDRC, L&T, Chennai.



Title: **Drinking Water**

Speaker: Dr. Shahul Hameed, Former Scientist, and Head, Centre for Water Resources Development and Management, Calicut University, Kerala.



Title: **Plain and Reinforced Concrete - Code of Practice**

Speaker: Dr. Gopinath, Chief Engineering Manager, L&T Construction, Chennai.



Title: **Methods of Sampling and Testing for Water and Wastewater**

Speaker: Dr. K. Anoop Krishnan, Scientist, National Centre for Earth Science Studies (NCESS), Ministry of Earth Sciences (MoES), Govt. of India, Akkulam, Trivandrum, Kerala.



Title: **Criteria for Earthquake Resistant Design of Structures**

Speaker: Dr. Senthil Kumar R, Assistant Professor, Department of Civil Engineering, National Institute of Technology, Tiruchirappalli.

**Title: Environmental Health and Safety**

Speaker: Dr. M. P. Saravanakumar, Head & Associate Professor, School of Civil Engineering, Vellore Institute of Technology, Vellore.

**Title: Quality Management**

Speaker: Dr. Darius Gnanaraj S, Professor, School of Mechanical Engineering (SMEC), Vellore Institute of Technology, Vellore.

**Title: Lab Safety Measures**

Speaker: Dr. Leon Raj, Scientist, CSIR North East Institute of Science and Technology, Assam.

**Title: Maintenance and Calibration of Equipment**

Speaker: Er. Anil Kumar Singh, Senior Engineer - Quality Assurance, Aimil Pvt. Ltd., Chennai.

**Title: Electrical Safety and Prevention**

Speaker: Dr. Balamurali G, Executive Engineer, Tamil Nadu Transmission Corporation Limited, Chennai.

**Title: Fire Safety, Prevention and Risk Assessment**

Speaker: Dr. G. P. Ganapathy, Professor, Centre for Disaster Mitigation and Management, Vellore Institute of Technology, Vellore.

**Title: Basic First Aid for Laboratory Accidents**

Speaker: Dr. Dona Stephan, Medical Officer, Vikram Sarabhai Space Centre, Thiruvananthapuram, Kerala.

NATIONAL AND INTERNATIONAL LECTURES

Dr. R. Manikandan, National Head-Technical Support Services, Dalmia Bharat Cement Ltd. New Delhi delivered a lecture on “Importance of water-cement and water-binder ratio in concrete performance” on 5th January 2022 organized by Dr.A.Sofi Associate Professor, SCE, VIT, Vellore.

Mr. Dherya Saraswat, Technical Support Team, Midas R&D Centre, Gurgaon delivered a lecture on “Introduction to Analysis and Design of Bridges using Midas Civil”, on 23 March 2022 organized by Dr. G. Mohan Ganesh Professor SCE, VIT and Dr. A. S. Santhi Dean and Professor, SCE, VIT, Vellore.

NATIONAL AND INTERNATIONAL LECTURES

Dr. Abinaya, Paediatrician and Certified Lactation counselor, Namakkal, Tamil Nadu delivered a lecture on “Managing Stress and Anxiety” on 27th April 2022 organized by Dr. B. Divya Priya, Assistant Professor, SCE, VIT, Vellore.

Mr. Hussain Babu D, Assistant Engineering Manager (GeoSpatial Technologies) Larsen & Toubro, Chennai delivered a lecture on “Application of GIS & Remote Sensing in Civil Engineering: Industry’s Perspective”, on 22nd April 2022 organized by Dr. B. Divya Priya Assistant Professor, SCE, VIT, Vellore.

Dr. M. Senthil Kumar, Scientist C, from Central Groundwater Board, Ministry of Water Resources, Government of India on the theme of World Water Day for the year 2022 is "Groundwater: Making invisible Visible", delivered a special lecture titled "Groundwater Management using Numerical Modelling" on 23 March 2022 organized by Dr. M. Parimala Renganayaki, Associate Professor, SCE, VIT, Vellore.

WORKSHOP ORGANISED



Dr. J. Visuvasam, Assistant Professor Sr., School of Civil Engineering organized a one day workshop on “Modelling, Analysis and Design of RC buildings using ETABS” on 12th March, 2022. A total of 46 students attended the workshop and learnt about the modelling techniques of buildings as per Indian Standards.

FACULTY OUTREACH

Dr. R. Prasanna Venkatesan, SCE, VIT delivered an invited talk on the topic “Leaning towards Lean Construction for Effective Project Controls -Some Indian Experiences” for American Association of Cost Engineers (AACE) India Section on 19 February 2022.

ISET - Disaster Risk Reduction and Strategies

Indian Society of Earthquake Technology (ISET), Vellore Chapter, School of Civil Engineering (SCE) and Centre for Disaster Mitigation and Management (CDMM) in association with National Institute for Construction Management and Research (NICMAR), Pune organized one day virtual workshop on “Disaster Risk Reduction Strategies and Challenges” on 21st January, 2022. The Speakers were Dr. Ravi Sankar Jakka, Associate Professor, IIT Roorkee; Dr. S. Elavenil, Professor and Dean, School of Civil Engineering, VIT, Chennai; Mrs. Annapoorani Iyer, Founder, Engosym Consultants, Chennai and Dr. Sagar Malsane, Associate Professor, School of Construction Management, NICMAR, Pune. The Convenors of the event were Dr. G. P. Ganapathy, Professor, CDMM-VIT, Chairman - ISET Vellore Chapter; Dr. S. S. Chandrasekaran, Professor and Director, CDMM, VIT; Dr. A. S. Santhi, Professor and Dean, SCE, VIT and Dr. Gokhale Chandrakant, Dean, School of Construction Management, NICMAR, Pune. The faculty coordinators were Dr. J. S. Sudarsan, Assistant Professor, School of Construction Management, NICMAR, Pune and Dr. J. Visuvasam, Assistant Professor Sr., SCE-VIT, Secretary - ISET Vellore



PUBLICATIONS

N. Manojkumar and B. Srimuruganandam (2022). Spatio-temporal health benefits attributable to PM2.5 reduction in an Indian city, International Journal of Environmental Health Research (Available Online). (<https://doi.org/10.1080/09603123.2022.2040959>)

Ricky R., Shanthakumar S (2022). Phycoremediation integrated approach for the removal of pharmaceuticals and personal care products from wastewater - A Review, Journal of Environmental Management, 302, 113998. (<https://doi.org/10.1016/j.jenvman.2021.113998>).

Ricky R., Chiampo F., Shanthakumar S (2022). Efficacy of Ciprofloxacin and Amoxicillin removal and the effect on the biochemical composition of Chlorella vulgaris, Bioengineering, 9, 9040134. (<https://doi.org/10.3390/bioengineering9040134>)

K. Ayeratharasu Rajasekharan, Porchelvan P (2022) An analysis of low carbon energy assessors (LCEA) in public buildings, Journal of Engineering Research (Kuwait), Vol:9, DOI : <https://doi.org/10.36909/jer.ACMM.16327>

A Sofi, Abhinav Bhatt, Rajesh Kumar, Saurabh Chauhan (2022). Optimization and modeling of porous concrete made of ceramic waste, silica fume, and fly ash, The Indian Concrete Journal, 95, pp.28-37.

Priyanka, M., Saravanakumar, M.P., 2022. A sustainable approach for removal of microplastics from water matrix using Colloidal Gas Aphrons: New insights on flotation potential and interfacial mechanism. Journal of Cleaner Production 334, 130198. (I.F - 9.297)

Priyanka, M., Saravanakumar, M.P., 2021. New insights on aging mechanism of microplastics using PARAFAC analysis: Impact on 4-nitrophenol removal via Statistical Physics Interpretation. Science of the Total Environment 150819. (I.F - 7.963)

EDITORIAL TEAM

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