DEPARTMENT OF CIVIL ENGINEERING

NEWSLETTER

Volume 11; Issue 1 | January & February 2022

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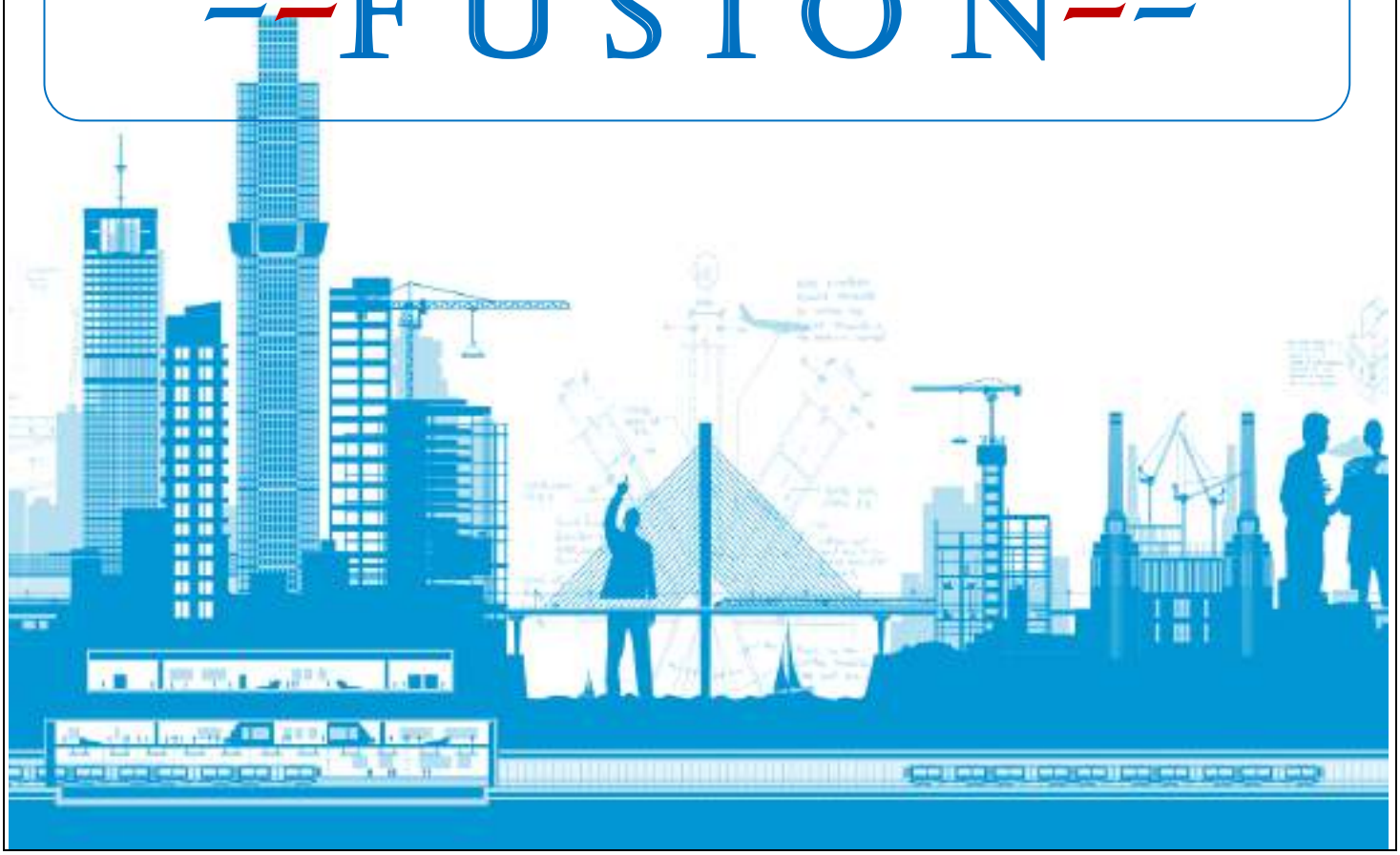

Vel Tech
Rangarajan Dr. Sagunthala
R&D Institute of Science and Technology
(Deemed to be University Estd. u/s 3 of UGC Act, 1956)

DEPARTMENT OF CIVIL ENGINEERING
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Faculty Development Programme on Green Concrete Technology

This Five Days Faculty Development Programme (FDP) is organized to foster exchange of information on challenges faced in Green Concrete Technology. Efforts for sustainable development and environmental preservation are necessary in order to balance the economic, social, and environmental impacts of the ever-growing human population as it continually strains the finite resources available on this planet. Reduce greenhouse gas emissions and attempt to develop various substitute techniques and goods that aid in the generation of "Clean Energy". Keeping in mind the current climate condition and the phenomena of global warming, there is a pressing need for the construction and other industries to go through a green revolution.

The objective of this FDP is to provide global exposure in the field of green concrete technology. This will help the faculty to know about the real time projects, recent advances in Construction Engineering, Green Concrete Technology and the challenges faced by Civil Engineers. This FDP is conducted for the benefit of Faculty members, research scholars and practicing engineers. The event will be conducted through online mode. The foolowing topics were covered in the FDP:

- Sustainable materials utilization
- Reduce, recycle and reuse
- Latest updates in Concrete Technology
- Industry waste as potential construction materials
- Enhancement of service life of RC Structures.

ABOUT THE INSTITUTE

VelTech is well-known for its renowned educational practices, which have been recognized and endorsed with several awards. The founders of the institution, Col. Prof. Vel. Dr. R. Rangarajan, Founder Chancellor & President and Dr. Sagunthala Rangarajan, Foundress President, believe that education is for all, despite their financial means, which will promote and uplift the society. "Global Alliances of Vel Tech" are working on international collaborations with more than 399 institutions across 30 countries and have entered in the Memorandum of Understanding (MoU) with 120 institutions for various Academic and Research exchange activities. Students, Faculty members, and Researchers get the collaborative platform for Academic progress to explore from leading practices and Research work with International Universities. Vel Tech believes that there are no boundaries in the pursuit of knowledge. Through these strategic alliances with International Universities, the standard of education at Vel Tech is on par with the standards of the best universities in the world.

ABOUT THE DEPARTMENT

The Department of Civil Engineering was started in the year 2008, and it offers B.Tech. Programme, M.Tech Programme (Structural Engineering and Environmental Engineering), and Ph.D. Programme. The department has been accredited by NBA (Tier I). Most of the faculty members are fellow and members of professional bodies in various fields of Civil Engineering covering the areas of concrete, soil mechanics, water resources, and remote sensing. Faculty members continuously update their knowledge by interacting with IITs, IISc, and other premier institutions. Active participation of the faculty members in research, consultancy services, & sponsored research activities helps them to interact with industries, demonstrate the application of concepts in the field, and improve the teaching learning activities of the department.

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REGISTRATION DETAILS

Registration is free for participants and can be registered through the link given below:

https://forms.gle/LgWKerr1zWtg8eXk

The link for the FDP will be sent to the registered mail id.

PARTICIPATION CERTIFICATE

E - Certificate will be issued based on the attendance percentage and assignment score.

TOPICS TO BE COVERED

- Sustainable materials selection
- Reduce, recycle and reuse
- Latest updates in Concrete Technology
- Industry waste as potential construction materials
- Enhancement of service life of RC Structures

Vel Tech
Rangarajan Dr. Sagunthala R&D Institute of Science and Technology

Five Days Faculty Development Programme on

Green Concrete Technology (GCT 2022)

21st - 25th February 2022

Organized by

DEPARTMENT OF CIVIL ENGINEERING

SCHOOL OF MECHANICAL AND CONSTRUCTION

In association with

ICI - VEL TECH STUDENT CHAPTER

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ORGANIZING COMMITTEE

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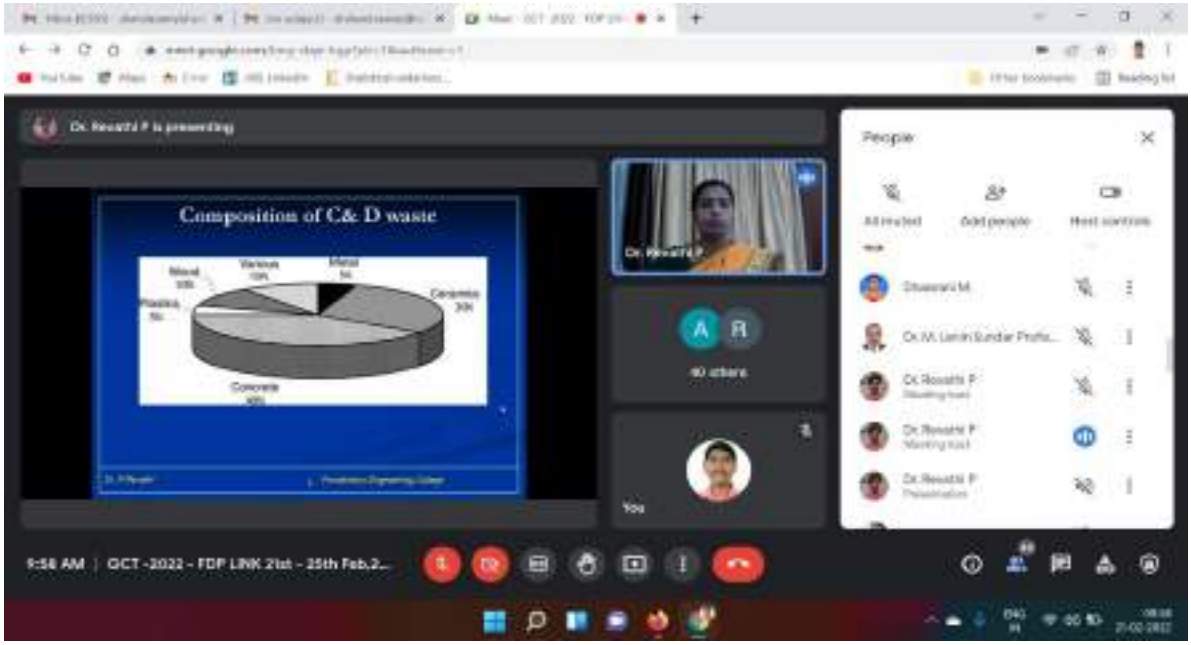
Assistant Professor

DETAILS OF THE RESOURCE PERSONS AND SCHEDULE

	RESOURCE PERSONS		DATE	TIME
Academician				
1.	Dr. P. Revathi	Assistant Professor, PTU, Puducherry	21-02-2022	[illegible]
2.	Dr. R. Jaya Chandran	Assistant Professor, NIT Calicut	22-02-2022	
3.	Dr. T. Palanisamy	Assistant Professor, NITK Surathkal	23-02-2022	
4.	Dr. M. Anitha	Assistant Professor, NIT Puducherry	24-02-2022	
5.	Dr. Vidya Venkataraman	Assistant Professor, BMSIT&M, Bangalore	25-02-2022	
Industry Persons				
1.	Er. L. Suresh Kumar	Assistant Engineer, CPWD, Chennai	21-02-2022	[illegible]
2.	Er. L. Suresh Kumar	Assistant Engineer, CPWD, Chennai	22-02-2022	
3.	Er. Ramakrishnan Subash	Manager, M/s VA Tech WABAG Ltd., Chennai	23-02-2022	
4.	Dr. Colonel P. Nallathambi	Sakthi Consultancy Pvt Ltd, Chennai	24-02-2022	
5.	Dr. J. Lorin Raj	Scientist, CSIR-NEIST, Assam	25-02-2022	


Vel Tech
School of Mechanical and Construction
Department of Civil Engineering
welcomes all for the
Five Day Faculty Development Programme
on
Green Concrete Technology
(GCT 2022)


Dr. Revathi P is presenting
Composition of C& D waste
People
40 others
You
9:58 AM | GCT -2022 - FDP LINK 21st - 25th Feb,2...


Issues driving Sustainability
Depletion of non-renewable resources
Increase in number and size of landfills
Human exposure to toxics
Damage to environment
Excessive demand for energy
Impact on global climate (?)
Fly ash deposit


WHAT WE ARE EXPERIENCING TODAY
HEALTH RISKS
SEA LEVEL RISE
EXTREME WEATHER
GLOBAL WARMING

Board of studies

23rd Board of Studies meeting has been held on 25.02.22, External members Dr. S. Senthil Selvan, Professor, Department of Civil Engineering, SRM Institute of Technology and Mr. L. Suresh Kumar, Assistant Engineer, Central Public Works Department, Chennai participated in the meeting along with the Internal members and Alumni of our Department. The Discussion was about framing the new Curriculum VTUR22.

Board of Studies Meeting

Faculty Contributions

Dr. M. Vinod Kumar

Participated in three days online advanced course on "Applications of Soft Computing Techniques in Structural Engineering (ASCSE-2022)" organized by CSIR-SERC, Chennai, January 24-25, 2022.

Participated in Five days Online Faculty Development Program on "Ecological and Eco-Efficient Construction Practices (EECP-2022)" conducted by Swami Keshvanand Institute of Technology, Management and Gramothan, Jaipur, January 17-21, 2022.

Participated in One-week Short Term Training Programme through ICT Mode on "Modelling, Analysis and Design of Buildings with Software" conducted by National Institute of Technical Teachers Training and Research (NITTTR), Kolkata, January 31 to February 04, 2022.

Participated in Two weeks Short Term Training Programme on "Introduction to Finite Element Method in Engineering" conducted by National Institute of Technical Teachers Training and Research (NITTTR), Kolkata, February 07 to February 18, 2022.

Dr. J. Logeshwari

Presented paper in one day conference on "Experimental Study on strength improvement of concrete paver block by using copper slag and GGBS" at Vel Tech University, February 24,2022.

Dr. S.P. Saravanan

Presented Paper entitled " A DPSIR Approach for flood disaster risk reduction in Indian Megacities on second International Conference on Water, Megacities and Global Change (EAUMEGA 2022) at UNESCO, Paris, France, Jan 11 to 14, 2022.

Mr. T. Udayakumar

Presented paper titled " Experimental Studies on Flexural Behaviour of Concrete Beams Using Non-Conventional Aggregates to Produce Sustainable Concrete Products" at 5th International Conference on Innovative Design, Analysis & Development Practices in Aerospace and Automotive Engineering in 24 Feb, 2022.

Mrs. M. Jayadurgalakshmi

Presented paper titled " Experimental Studies on Flexural Behaviour of Concrete Beams Using Non-Conventional Aggregates to Produce Sustainable Concrete Products" at 5th International Conference on Innovative Design, Analysis & Development Practices in Aerospace and Automotive Engineering in 24 Feb, 2022.

Journal Publications

- M. Vinod Kumar, Razan Alzein, A. Chithambar Ganesh, K. Rajesh Kumar, N.Gurumoorthy, Adeyemi Adesina , “Analytical Investigation of the Influence of Various Void Shape and Spacing on the Load-Bearing Behavior of Concrete Hollow Core Slabs”, Springer: Journal of Building Pathology and Rehabilitation, 2022. (Scopus)

- K. RajeshKumar, P. O. Awoyera, G. Shyamala, Vinod Kumar, N. Gurumoorthy, S. Kayikci, L. M. Bendezu´ Romero, A. Krishna Prakash, “Structural Performance of Biaxial Geogrid Reinforced Concrete Slab”, Springer: International Journal of Civil Engineering, 2022. (SCIE and Scopus)

- T. Udhaya kumar, M. Goutham priya, A.J. Jeya Arthi, Samreen Bano,“Factors affecting time And cost overruns in the construction projects and its control Techniques" Journal of the Balkan Tribological Association Vol. 28, No 1, 45–57 (2022).

Technical Note by Student

AUTOMATION IN CONSTRUCTION INDUSTRY

B. Pradeep Kumar – VTU 15186 – III Year

Automation in construction industry may achieve the following advantages:

• Uniform quality with higher accuracy than that provided by skilled workers.
• Replacing human operators in tasks that involve hard physical or monotonous work.
• Replacing humans in tasks performed in dangerous environments such as those with heights, over a river etc.
• Making tasks that are beyond human capabilities easier.
• Increasing productivity and work efficiency with reduced costs.
• Economic improvement. Automation can serve as the catalyst for improvement in the economies of enterprises or society. For example, the gross national income and standard of living in Germany and Japan improved drastically in the 20th century, due in large part to embracing automation in construction and infrastructural development.
• Improving work environment as conventional manual work is reduced to a minimum, so the workers are relieved from uncomfortable work positions.

Areas of automation in Construction

• Roads & Runways construction
• Structures
• Buildings construction
• Ports
• Tunnels
• Factories and industries

Technical Note by Student

Phase Change Materials for Building Applications

Vikram Kumar – VTU 9337 – III Year

Phase-change materials (PCMs) possess high storage density in a narrow temperature interval. They release or absorb sufficient energy at phase transition (solid to liquid or vice versa) to provide useful heat or cooling. PCMs are used to enhance the thermal storage capacity of traditional building materials. They are prominently used for heating and cooling application for buildings in the form of walls, floors, ceilings, concrete, etc.

What is PCM as a building material?

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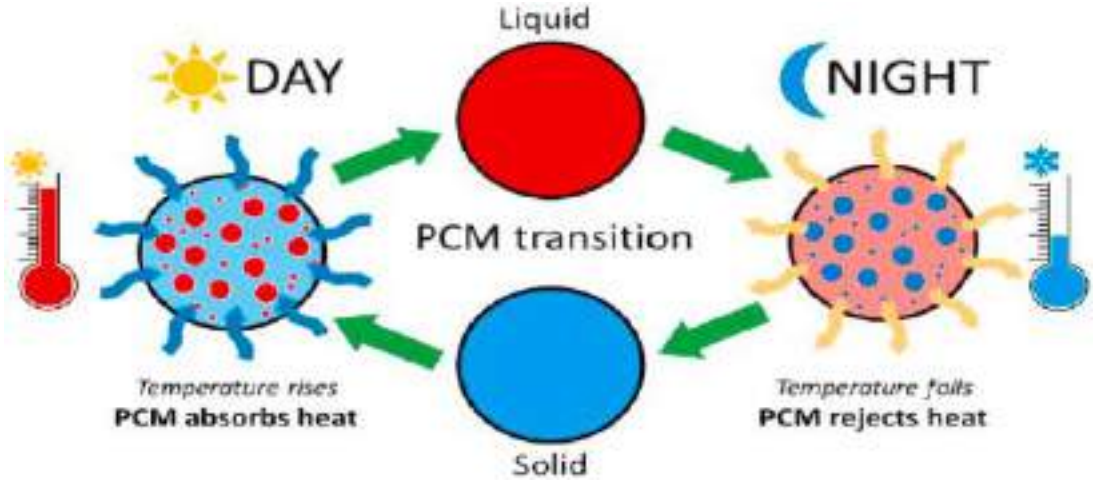

How does PCM building material work?

PCM has the property to store and release a large amount of energy. During this process, the material changes from solid to liquid and vice versa under a relatively constant temperature. The internal structure of the material changes during this transition.

How are PCMs used in building materials?

The different ways to use PCMs for heating and cooling buildings are:

1. PCMs in building walls
2. PCMs as floors and ceilings
3. PCM in concrete
4. PCM in gypsum wallboard

5. PCM for insulation materials in shipping containers
6. In building envelopes as heat barriers

Editorial Board