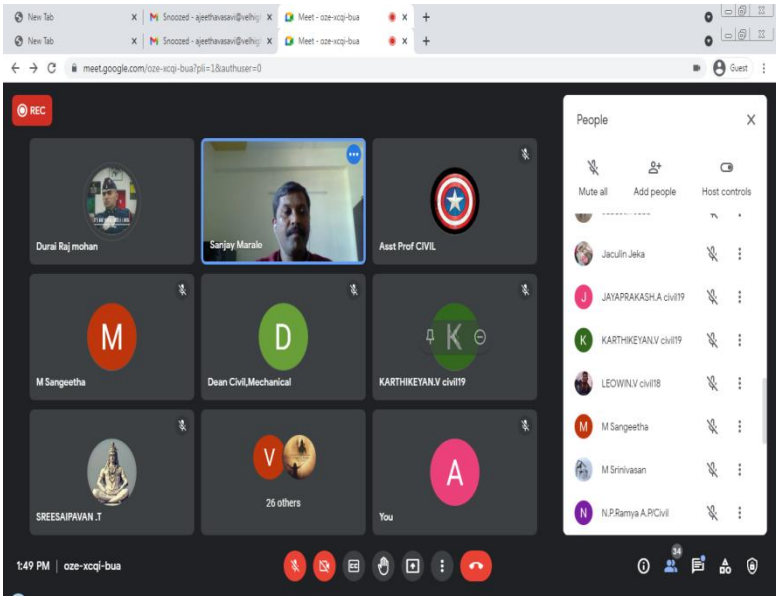
October to December 2021

INDUSTRIAL VISITS

Visit No 1: 400 KLD Sewage treatment plant **Date of Visit: 2nd December 2021**

The Department of Civil Engineering arranged an Industrial Visit on 2nd December 2021 to 400KLD sewage treatment plant, Vel Tech Dr.RangarajanDr.Sakunthala R&D Institute of Science and Technology for the II, III and IV year students. Faculty Mr.M.Manoj Kumar, AP and Mr.B.J.Karthikeyan, AP, Department of Civil Engineering accompanied the students to the visit. In this industrial visit, students learned physically about the sewage treatment system.



FDPs/WORKSHOPS/SEMINARS CONDUCTED

Webinar No 1: Global Progress on Sustainable Development Goals and Covid-19

Date:22.10.2021

Resource Person: Dr.SanjayMarale

The Department of civil Engineering conducted an online workshop on 22nd October 2021 on the topic "Global Progress on Sustainable Development Goals and Covid-19" by Dr.SanjayMarale, Associate professor, Kamala Nehru College, University of Delhi and the president of SESD.

He started the session with introduction to Global Progress on Sustainable Development goals. He explained about the new policies for protecting the Environment and also he explained to create awareness among the people and society to reach sustainable development.

Workshop No 1: Innovative concept in Building Construction

Date: 1st October 2021

Resource Person: Mr. UdhayasankarRamasamy

Vel Tech High Tech

Dr.Rangarajan Dr.Sakunthala Engineering College

(An Autonomous Institution)

Department of Civil Engineering

In Association with

Institution's Innovation Council

Presents

Webinar Series on

INNOVATIVE CONCEPTS IN BUILDING CONSTRUCTION

01.10.2021 (Friday) 2.30 P.M- 4.30 P.M

https://bit.ly/3gfiuv6

Chief Patrons

Col. Prof. Dr. Vel. Shri. R. Rangarajan,
Founder President and Chairman

Dr. Sagunthala Rangarajan,
Vice Chairman

Patron

Dr. E. Kamalanaban,
Principal

Convenors

Dr. S. Govindasami,
Dean (CE & ME)

Dr. M. Gopinath,
Associate Dean / IIC

Co-ordinator

Mr. M. Manoj Kumar,
Assistant Professor / CE

AGENDA

2.30 P.M - 2.40 P.M	*INVOCATION*
2.40 P.M – 2.45 P.M	*WELCOME ADDRESS*
2.45 P.M -2.55 M	*CHIEF GUEST INDROTUCTION*
3.00 P.M - 4.00 P.M	*CHIEF GUEST ADDRESS*
4.20 P.M - 4.25 P.M	*Q& A*
4.25 P.M - 4.30 P.M	*VOTE OF THANKS*

Resource Person

The Department of civil Engineering conducted an online workshop on 1st October 2021 on the topic "Innovative concept in Building Constructionby Mr. UdhayasankarRamasamy, Civil Engineering Software Professional.

He started the session with introduction to Building Construction in Civil Engineering. He explained about the Building codes as a part of the building regulatory process for the safety and general welfare of the public.

Workshop No 2: Entrepreneurship and Innovation as Career Opportunity

Date: 1st November 2021

Resource Person: Mr.R.Karthick

The Department of civil Engineering conducted an online workshop on 1st November 2021 on the topic "Entrepreneurship and Innovation as Career Opportunity"by Mr.R.Karthick, Senior Structural Engineer, Founder and owner-Aacitra construction.

He explained about the skills required for organizing and carrying out entrepreneurial activities and also he explained about the ability of analyzing and understanding business situations in which entrepreneurs act and master the knowledge necessary to plan entrepreneurial activities.

Workshop No 3: Design thinking, Critical thinking and Innovation Design

Date: 2nd November 2021

Resource Person: Mr.M.Ranjith Kumar

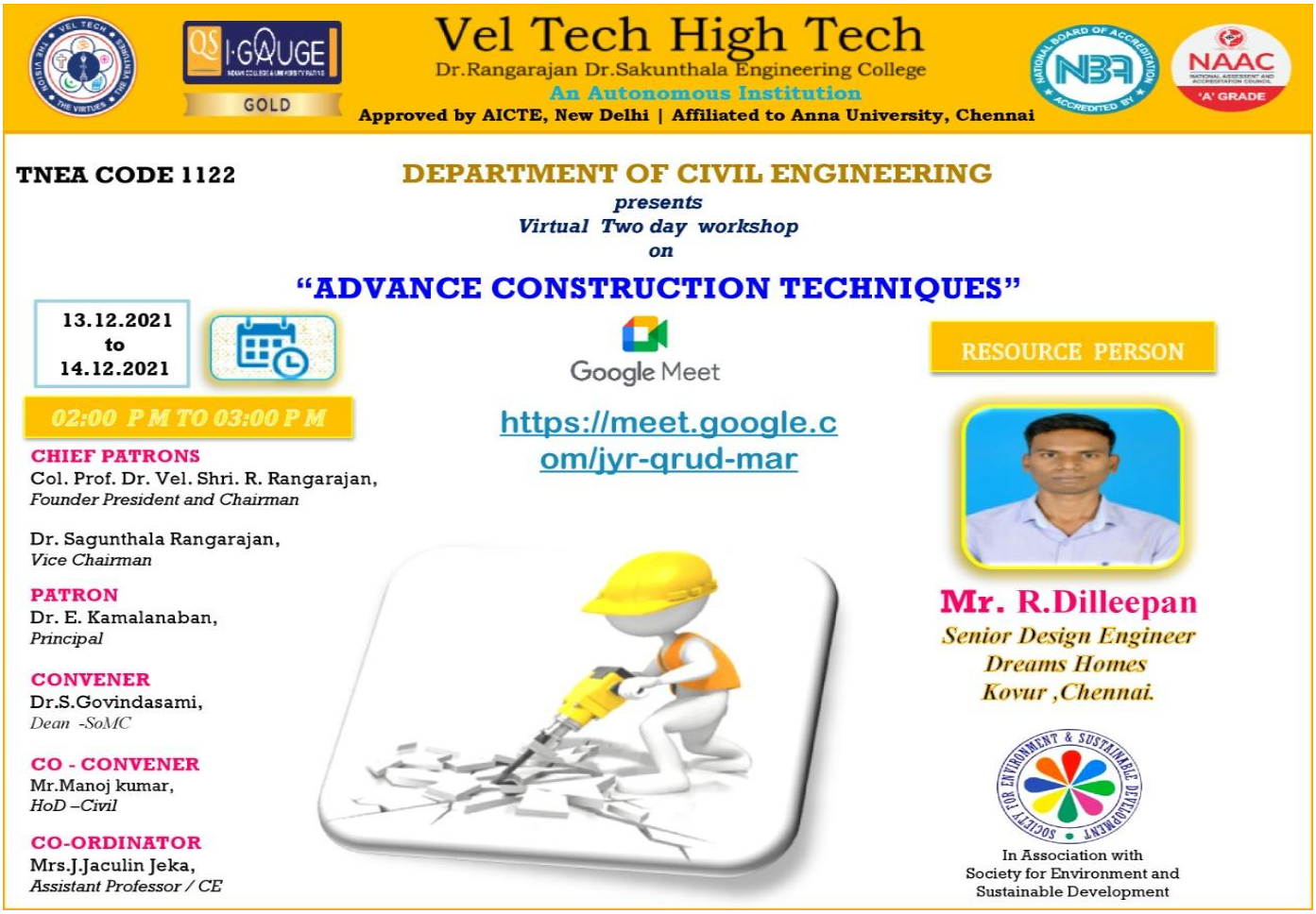
The Department of civil Engineering conducted an online workshop on 2nd November 2021 on the topic "Design thinking, Critical thinking and Innovation Design"by Mr.M.Ranjith Kumar, Design Engineer, i3 Design Technologies.

He explained about the skills required for organizing and carrying out entrepreneurial activities and also he explained about the ability of analyzing and understanding business situations in which entrepreneurs act and master the knowledge necessary to plan entrepreneurial activities.

Workshop No 4: Advanced Construction Techniques **Date: 13th and 14th December 2021**

Resource Person: Mr.R.Dilleepan

The Department of civil Engineering conducted an online workshop on 13th and 14th December 2021 on the topic "Advanced Construction Techniques"by Mr.R.Dilleepan, Senior Design



Engineer, Dream Homes.

He started the session with the usage of modern construction materials and its applications. He explained about the various advanced material and construction technique

STUDENTS COR

ARTICLE NO: 1

Student ID No: VH9950

Student name: T. Varun Raj

Year /semester :III/ V

SMART CONCRETE COULD PAVE THE WAY FOR HIGH-TECH, COST-EFFECTIVE ROADS

Infrastructure bridges, highways, pavementdeteriorates over time with continuous use. The life of structures could be extended, however, if damages were monitored in Real time. Freeze-thaw cycles in winter cause water to seep into the pavement where it freezes, expands and enlarges cracks, which can cause significant damage. If left unrepaired, this damage may propagate and break down pavements and bridges.Such damage can be identified and repaired autonomously. At an early stage of a crack, for example, self-healing pavement would activate super absorbent polymers to absorb water and produce concrete-like material that fills in the crack. Cracks as small as a few microns could be healed to prevent significant damage by preventing or delaying the later stages of the freeze-thaw cycle.Many researchers in the world are working on improving construction infrastructure. Technologies recently being explored include solar and energy-harvesting roads, charging lanes for electric vehicles, smart streetlights and reducing carbon-related emissions from construction materials.At the Purdue SMART Lab testing novel sensors that monitor transportation infrastructure by embedding them in several Indiana interstate highways. We plan to expand to other state highway systems in the next few years with a goal to better accommodate increased traffic and provide accurate estimates of road conditions during construction and its life.Sensors embedded in concrete pavement acquire information about theinfrastructure's health condition in real time and communicate the data to computers. Electrical signals are applied through the sensors. Concrete's vibrations are converted into electrical signals that are read and analyzed by lab-built customized software.This enables transportation engineers to make effective and data-driven decisions from opening roads to traffic and to proactively identifying issues that cause damage or deterioration.After concrete is poured for highway pavement, for example, it takes hours to cure and become strong enough to open for traffic. The timing of when to open a highway depends on when the concrete mix is cured. If a roadway opens too early and the concrete is under cured, it can reduce the life expectancy of the pavement andincrease maintenance costs. Waiting too long to open a road can result in traffic delays, congestion and increased safety risks for construction workers and commuters. Curing concrete for massive highway projects requires close attention by engineers in conjunction with the weather specific to thatregion. Smart sensors embedded

in concrete enable engineers to monitor the infrastructure and make data-driven decisions about when a road can open while retaining maximum life expectancy. Sensors can also help monitor the quality of concrete and whether it is robust enough to withstand traffic flow and corrosion after a roadway isopened.Smart, efficient infrastructure can significantly reduce structural failures, both catastrophic and through normal wear, as well as lead to reduced costs and provide new ways for structural engineers to assess real-time information about the pavement.Smart sensors and intelligent infrastructure system can enable significant savings of time and money with improved construction safety. Sensors can provide engineers with real-time data of the quality of our infrastructure to make the best decisions for building and maintaining roads, bridges and pavements while improving safety for drivers and construction workers. The addition of self-repairing properties can help build sustainable and long-lasting infrastructure to reduce maintenance and costs.

ARTICLE NO: 2

Student ID No: VH9362

Student name :Ganesh.S

Year /semester :IV/ VII

Mass Concrete Dam

Mass concrete can be defined as any large volume of cast-in-place concrete with dimensions large enough to require measures to cope with the generation of heat and attendant volume change to minimize cracking. Like regular concrete, mass concrete too is primarily composed of cement, aggregate, and water. Additionally, it has pozzolans and other admixtures to improve its characteristics. Proper proportioning of mass concrete mixture is aimed at: i) Achieving economy, ii)Low temperature-rise potential with adequate workability for placing, iii)Adequate strength, durability, and impermeability to serve efficiently the structure in which it is used.For this purpose, "low heat" Portland cement would always be preferred for massive structures such as dams. Obviously, both economy and low rise in temperature would be achieved by limiting the cement content of mass concrete to as low a value as possible. Aggregate grading has considerable effect on the workability of concrete. Fine aggregate is defined as aggregate passing No. 4 (4.76 mm) sieve. It may be composed of natural grains, manufactured grains obtained by crushing larger size rock particles, or a mixture of the two. i) Fine aggregate should consist of hard, dense, durable, and un-coated rock fragments, and should not contain harmful grains of clay, silt, dust, mica, organic matter or other impurities to such an extent that they affect adversely the desired properties of concrete. ii) Coarse aggregate is defined as gravel, crushed gravel, or a crushed rock, or a mixture of these, generally within the range of 4.76 mm to 150 mm in size. Coarse aggregate should also consist of hard, dense, durable, and un-coated rock fragments.

ALUMNI CORNER

Alumni Interaction

1. **Alumni Name: S.Vasanth** **Date : 13.12.2021**

The Department of Civil Engineering had arranged an Alumni Interaction session on 13th December 2021 to all the II year, III year and IV students of Civil Engineering. Our college alumnus Mr.S.Vasanth had an interaction with the students who shared his experience and job opportunities in Civil Engineering.

2. **Alumni Name: M.Yokeshwaran** **Date : 17.12.2021**

The Department of Civil Engineering had arranged an Alumni Interaction session on 17th December 2021 to all the II year, III year and IV students of Civil Engineering. Our college alumnus Mr.M.Yokeshwaran had an interaction with the students who shared his experience and job opportunities in Civil Engineering.