



Volume 3 Issue 5

SEPTEMBER 2021

DEPARTMENT OF
CIVIL ENGINEERING
presents

CIVILIZATION

road to success is always

under construction

VISION

- ✚ To be a Department imparting knowledge in Civil Engineering Education, Research, Entrepreneurship and Industry outreach services for creating sustainable infrastructure and enhancing the quality of Life with professional and ethical values.

MISSION

- ✚ To provide an effective learning environment enabling to be a competent Civil Engineer.
- ✚ To motivate Research and Entrepreneurial initiatives in the Field of Civil Engineering.
- ✚ To inculcate ethical values to serve the society with high order Professionalism.

VASTU IN CIVIL ENGINEERING

Vastu is the ancient science, where it is used in many types of constructions like residential houses, corporate buildings, temples etc., basically it depends upon the sun light and air flow. It is also called as science of architecture. It has its own importance in civil constructions where an engineer should know about it. Vastu, is an ancient method where the ancient engineer Vishwakarma used it in all types of constructions like forts, temples and old historical monuments.

It is interplay of various forces which are involved in solar system like land, wind, water, fire and sky. It is an ancient construction science which covers the theory of architectural works and also the philosophy. It is based upon various energies which are present in this atmosphere like sun energy, earth energy, magnetic energy, wind energy, light energy, thermal energy and cosmic energy.

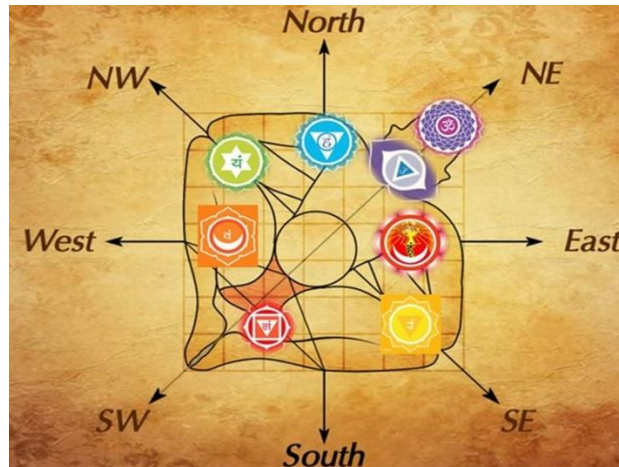
Utilizing of these types of energies in the construction gives the best positive result. The correct combination of vastu rooms gives the positive result to the entire house or building. Not only for buildings, vastu can be considered for every city planning, house, temple, industries, towns etc. Vastu is the only thing which depends upon the sun light and air flow of the environment system. To start considering vastu we need to find the North direction for the reference point because north is considered as auspicious since of magnetic line of force moves from north to south.

RELATION OF VASTU WITH CIVIL ENGINEERING

Vastu is a part of civil engineering as the ancient engineer Vishwakarma said that the vastu is used in every part of civil structure, and it has no expire date. Now a day's civil engineers are particular about the construction as per vastu.

In civil engineering point of view vastu helps the engineer to show the proper direction of doors, windows, bed directions, bedroom design, interior and entrance. All living beings in this universe is moulded by nature with 5 elements like earth, water, fire, air and sky and these elements should be balanced for a harmonium to live in. It is

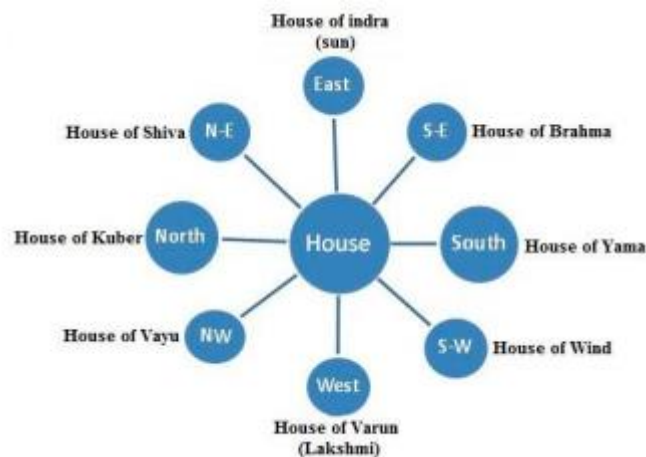
a science of balancing all these five elements for good health and prospects of wealth of any living being. It also helps to give information about the house or building facing. The change in direction gives the change in vastu for the building or house.



PLACE AND DIRECTION INDICATIONS

The directions of places and their significance help the builder or engineer to know the tips for vastu.

- **East** – it is called House of Indra. Main entrance at this place gives positive energy like health, and good wealth.
- **South - East** – it is also called House of Bramha. Kitchen or bath room should be constructed at this place. No main door should be placed.
- **South** – It is also called as House of Yama. The god of death is called Yama. Main Entrance at the center of south wall result the death of main person in that family. Avoid main door in center of south wall.
- **South - West** – It is also called as House of Wind. Main bedroom should be constructed at this place for peace full sleep. It is a place where positive energy enters.
- **West** - It is also called as House of Varuna or Lakshmi. Main Entrance at center of west wall gives good wealth.
- **North – West** - It is also called as House of Vayu. This is the place where we keep heavy load like lockers for money and gold. This help to save the money for more time.



- **North** - It is also called as House of Kubera, the god of money is called Kubera. No toilets and no water drains should be kept at this place.
- **North - East** - It is also called as House of Shiva. It should be free from all the constructions and it should be open to sky. The more increase of this side gives the more increase of health, wealth, and good family relations.

THINGS THAT SHOULD NOT BE KEPT / SHOULD NOT BE DONE IN A HOUSE AS PER VASTU

- Never keep medicines in kitchen because kitchen is place where health environment takes place but when we keep medicines in kitchen it provides negative energy which affects the healthy environment.
- Never keep a mirror in front of bed in bed room because the person when sleep goes into subconscious states where soul moves out and comes in when we wake up. When the soul comes out of body when we reach subconscious state the soul should not see the mirror, if the soul see the mirror as soon as it comes out from the body it results to death.
- Plants should not be kept in bed room because it produces carbon dioxide. This is not good for health.
- No devil paintings or un-natural arts should not be in house.
- Broken mirror, Painting of Maha Bharata, painting of horse which has one or two legs in air, sinking boat.

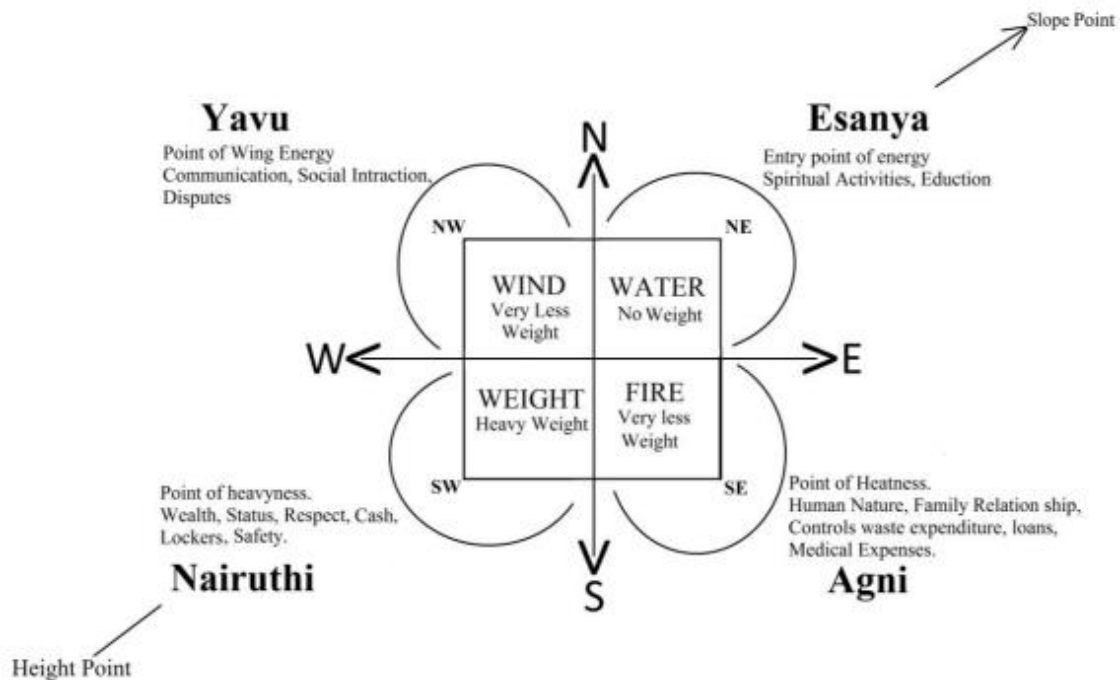
- Idol of Nataraja, waterfalls and terrifying giants and demons, War scenes, negativity in images etc.,
- Don't construct beam in the center of room and don't construct pillars inside the room.
- Avoids pet cats in home or office because they stay in negative energy places.
- Avoid T.V. set in bed room.
- Do not use separate mattresses and bed sheets on a king size bed in bed room.
- No mirrors should be placed in kitchen.
- No TV and Computer should be kept actually opposite to the bed. After switching off the TV or computer monitor the screen shows the reflection of bed it is a bad indication.

THINGS THAT SHOULD BE IN HOUSE/ DONE IN HOUSE AS PER VASTU

- After bed is placed in bed room, the room should have less space at south and west sides when compare to east and north.
- Mirror should be placed at south corner wall and it should not be in front of bed.
- Keep a window or a door at north-east corner. And keep the window always open at that corner.
- Keep Buddha or Lord Ganesha statue in front of main door.
- All idols of god should face east for good result.
- Room or house should always be in square or rectangles.
- Air flow and sun light should always come from north east direction.
- Adopt pet dogs, because dogs stay in positive energy places.
- Cook facing east.
- Keep water bodies like pot or bowl of water with flowers at north-east corner or at the main entrance.
- Take all the decision facing towards north for good result.
- Study facing towards east and north for better and good result.

- Construct a window or door for a Pooja room in such a way that the morning sun rays directly fall on the idols in pooja room, which give more energy or power to your prayers.
- South-west corner wall should be higher than the other direction walls.

SCIENTIFIC REASONS FOR VASTU



Vastu is a science of building construction, balancing all the five elements like water, air, fire, space, and land of the nature for a healthy living and prosperous life. The Foreign invasion lead to loose the grip on vastu with technological advances like mechanical ventilations and artificial lightings with extra comforts in life unfortunately neglecting laws of nature in bringing ill-health to us. Vastu is an observatory science in nature and applied science in our life.

The invisible energies which were discovered recently like electromagnetic fields, ultrasonic and infrared rays, gravity and radiations will directly have impact on the space we live and vastu shastra balances all these energies for healthy and prosperous happy life to live in. The fundamental principle of vastu mainly focuses on law of weights (i.e., low weight area and heavy weight area) and balance of weights in accordance with nature.

All energies arise from east and sun is only source of renewable abundant energy to be utilized for our future which brings life, Vitamins (Vitamin D), UV radiation and nutrients, and if east side is blocked completely, artificial lighting and mechanical ventilation like electric chimneys etc., has to be adopted which will lead to more electrical consumption and wastage. Natural lighting in kitchen should have more than 600- 1000 LUX, (light is measured in LUX) according to BIS standards which is equivalent to 100watts bulb of artificial lighting and also exposure of UV rays in the morning time of cooking enriches our food with natural vitamins and nutrients from direct sun light.

A building is compared to human body and living organism in accordance with five elements of nature. The amount of gap left in the middle portion of house is called Bhramasthana, which is like a lungs space to a house bringing good health and prosperity, even Romans also followed this principle in construction. Vastu encourages the green building construction by use of natural materials with coordination of natural lighting and ventilation, decreasing the power consumption and utilizing sun's energy and nature up to maximum extent.

Vastu at Mohanjadaro, the ancient city in the year 5500 AD in Indus valley built all the houses in rectangular shape and cooking area located at south-east with an open central court yard, great architecture monuments like Egyptian pyramids, roman coliseum, Greek Parathion and Taj mahal were built according to vastu.

***By. Mr. M. Manoharan / Assistant Professor
Department of Civil Engineering***

DEPARTMENTAL ACTIVITIES

STUDENT ACHIEVEMENTS

STUDENT PARTICIPATION IN EVENTS

- ✚ **T. Sumithra** of Final Year Civil Engineering participated in **CADD Competition** in **CADATHON 2021** organized by Dr. N.G.P. Institute of Technology, Coimbatore from 21.07.2021 to 28.07.2021.
- ✚ **D. Srinivasan** of Final Year Civil Engineering participated in **CADD Competition** in **CADATHON 2021** organized by Dr. N.G.P. Institute of Technology, Coimbatore from 21.07.2021 to 28.07.2021.

DETAILS OF STUDENT INPLANT TRAINING

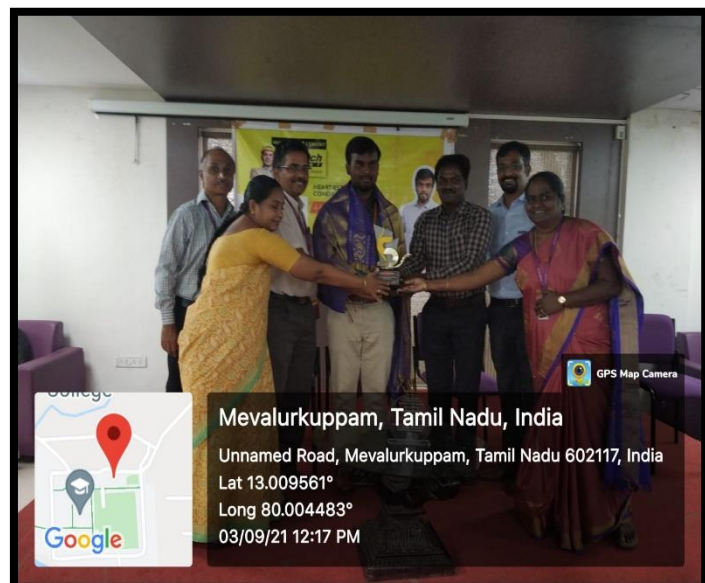
S. No.	Name	Year/ Section	Name of the company	Duration		No of days
				From	To	
1.	Kaviya Valavan	III/A	UNIQ Technologies	02.08.21	06.08.21	5
2.	S M Dharsathraaj	III/A	UNIQ Technologies	02.08.21	06.08.21	5
3.	M Akash	III/A	UNIQ Technologies	02.08.21	06.08.21	5
4.	A Naveen Rajasekar	III/A	A B Builders	02.08.21	06.08.21	5
5.	Amitesh Madhaav	III/B	UNIQ Technologies	02.08.21	06.08.21	5
6.	A S Dawn Adaikaladass	IV/A	UNIQ Technologies	16.08.21	01.09.21	15
7.	D Ajay Kumar	IV/A	UNIQ Technologies	16.08.21	01.09.21	15
8.	S Deepak	IV/A	UNIQ Technologies	16.08.21	01.09.21	15
9.	D Vasanth	IV/B	Sona College of Institution (Online)	25.08.21	24.09.21	1 Month
10.	C Srimathi	IV/B	Sona College of Institution (Online)	25.08.21	24.09.21	1 Month

STUDENT ACCOMPLISHMENTS

- ✚ **Ms. K. Sathyashriya** of Batch 2016-2020 has graduated and secured **Anna University 16th Rank**.
- ✚ **J. Govindha Krishnan** of Batch 2017 – 21 won **National Runner-up in India Next 2021 Stimulus - A Civil Engineering Quiz** conducted by Ultra Tech Cement, Aditya Birla Group on 29.07.2021.

FELICITATION CEREMONY

Consultancy cell members & Professors from the Department of Civil Engineering met Regional Head Mr. A. P. Murugan, Ultra Tech Cement, on September 3, 2021 on the occasion of the Felicitation Ceremony of our 2017 Batch student **Mr. J. GOVINDHA KRISHNAN, National Runner-up of ULTRA TECH INDIA NEXT STIMULUS (A Civil Engineering Quiz)**. Mr. A. P. Murugan delivered a Talk to the Second & Third Year Civil Engineering Students regarding the opportunities at Ultra Tech Cement.



FACULTY ACCOMPLISHMENTS

RESEARCH PROPOSAL SUBMITTED

- ✚ **Dr. M. Selvakumar (PI), Dr. S. Geetha (Co-PI) & Mrs. S. Muthu Lakshmi (Co-PI)** have submitted a research proposal on “**Desalination of Brackish Water using Graphene Oxide and Nano porous Graphene Membrane**” submitted to DST – WTI on 27th September 2021 for a funding of Rs. 63,08,016/-.

JOURNAL PUBLICATION

- ✚ Journal paper titled “**Self Prestressing Concrete Composite with Shape Memory Alloy**” by **Dr. S. Geetha, & Dr. M. Selvakumar** has been published in Materials Today Proceedings, Elsevier, Volume 46, Part 10, 2021, Pages 5145-5147 (Scopus Indexed with impact factor 0.694).
- ✚ Journal paper titled “**Strength Properties of Aerated Cement Composite Reinforced with Steel Fibres**” by **Dr. M. Selvakumar, Dr. S. Geetha & Mrs. S. Muthu Lakshmi** has been published in Materials Today Proceedings, Elsevier, Volume 46, 2021, Pages 7061-7068 (Scopus Indexed with impact factor 0.694).
- ✚ Journal paper titled “**Strength Enhancement of Clayey Sand Subgrade using Lime and Rice Husk Ash**” by **Mrs. S. Muthu Lakshmi, Dr. S. Geetha, Dr. M. Selvakumar** has been published in Materials Today Proceedings, Elsevier, Volume 46, 2021, Pages 7430 – 7435 (Scopus Indexed with impact factor 0.694).
- ✚ Journal paper titled “**3D Concrete Printing Matrix Reinforced with Geogrid**” by **Dr. S. Geetha , Dr. M. Selvakumar & Mrs. S. Muthu Lakshmi** has been published online on 23rd July 2021 in Materials Today Proceedings, Elsevier (Scopus Indexed with impact factor 0.694).

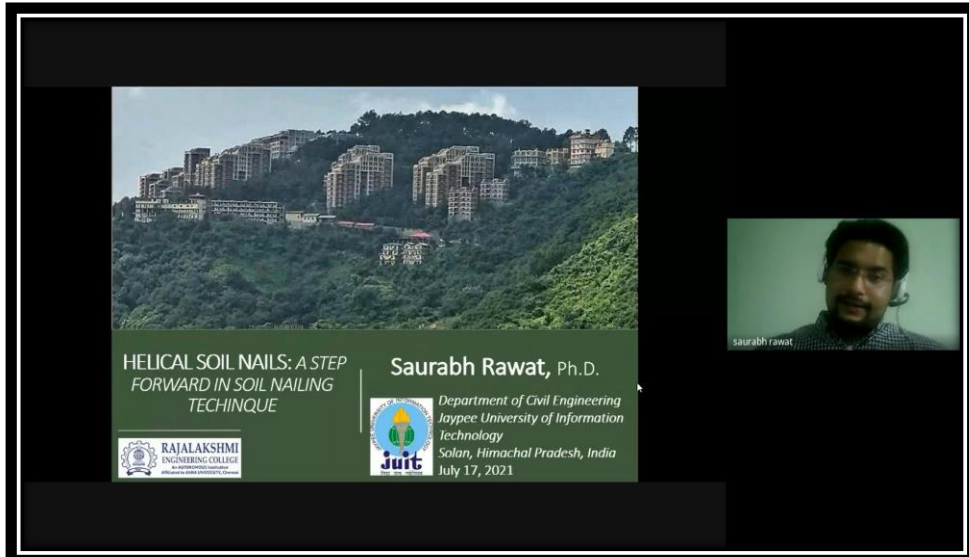
CONFERENCE PAPER PUBLICATION

✚ **Dr. M. Selvakumar, Dr. S. Geetha & Mrs. S. Muthu Lakshmi** presented a conference paper entitled “**3D Concrete Printing Matrix Reinforced with Geogrid**” in the Global Conference on Recent Advancements in Sustainable Materials (GC-RASM 2021) conducted by A. J. Institute of Engineering and Technology, Mangalore, Karnataka on 29th and 30th July 2021.

TECHNICAL WEBINAR ORGANIZED

One Day Civil Engineering Technical Expert Webinar on “**Helical Soil Nails: A step forward in Soil Nailing Technique**” was organized by the Department of Civil Engineering, Rajalakshmi Engineering College in association with Indian Concrete Institute & Institution’s Innovation Council on 17.07.2021 at 4.00 pm through Google Meet.

The lecture was delivered by **Dr. Saurabh Rawat, Assistant Professor (Senior Grade), Department of Civil Engineering, Jaypee University of Information Technology, Wagnaghat, Solan, Himachal Pradesh, India.** Around 35 participants from various Educational Institutions and Industries from different states throughout the country had actively participated and also clarified their doubts from the expert during the Webinar. This webinar was very informative and useful for the final year students for their end semester project work and also for the industry personals.



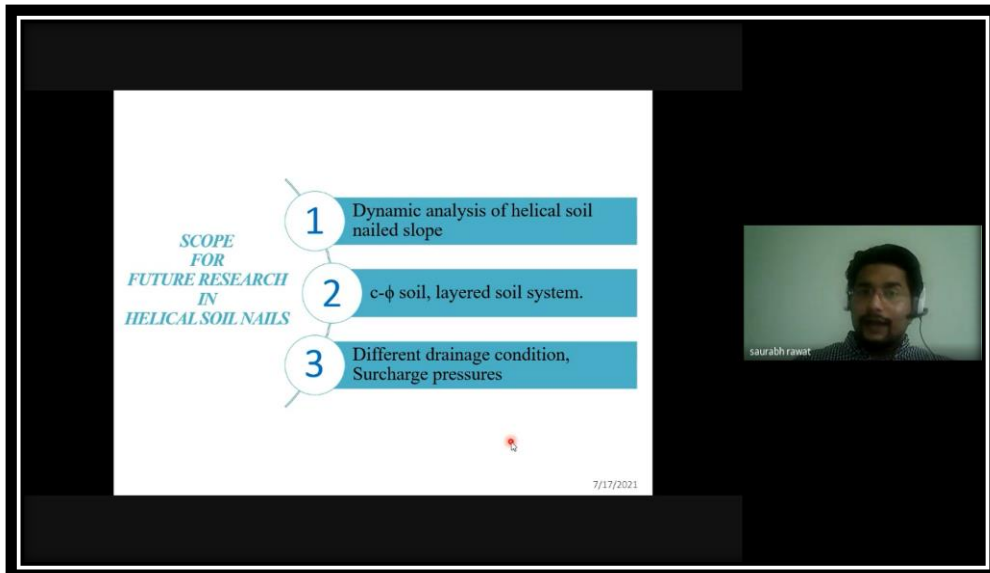
HELICAL SOIL NAILS: A STEP FORWARD IN SOIL NAILING TECHNIQUE

Saurabh Rawat, Ph.D.

Department of Civil Engineering
Jaypee University of Information Technology
Solari, Himachal Pradesh, India
July 17, 2021

RAJALAKSHMI ENGINEERING COLLEGE
JUIT

saurabh rawat



SCOPE FOR FUTURE RESEARCH IN HELICAL SOIL NAILS

- 1 Dynamic analysis of helical soil nailed slope
- 2 c- ϕ soil, layered soil system.
- 3 Different drainage condition, Surcharge pressures

7/17/2021

saurabh rawat

Webinar on Helical Soil Nails: A step forward in Soil Nailing Technique

OTHER ACHIEVEMENTS

- ✚ Dr. S. Geetha & Dr. M. Selvakumar completed a Consultancy project for Sakthi Auto Component Limited, Tirupur. Their consultancy work involved “**Research on Potential Utility of Foundry Sand Waste as Sustainable Construction Material**” and an invoice for a funding of Rs. 1,43,000/- has been sent and the amount will be paid after completing the presentation to the company.

- ✚ **Dr. S. Geetha & Dr. M. Selvakumar** visited **WABCO India Ltd.** at Ambattur Industrial Estate, Chennai on 27th August 2021 to discuss the possibility of using Automobile Brake Pad Grinding Sludge Waste in Construction. They met Mr. G. Subash, Regional SHE Leader, ZF Group, Commercial Vehicle Control Systems, WABCO India Limited.
- ✚ **Dr. M. Selvakumar & Dr. S. Geetha** were nominated by DST SERB to attend the Research meeting organized by IISC Bangalore and DST to discuss about “**Aspects on Developing Research Proposals in the areas of Civil, Infrastructure and Transportation Engineering** ” on 21st July 2021.
- ✚ **Dr. M. Selvakumar & Dr. S. Geetha** attended a Research meeting organized by CSRC REC to interact with Scientists and Professors of various Organizations regarding the Research activities carried out in Sustainable Construction Materials Research Lab.
- ✚ **Dr. S. Geetha** arranged and coordinated GATE and Conceptual Understanding classes for the students of Civil Engineering Department conducted by the Research Scholars under IIT Madras Prime Minister's Research Fellowship (PMRF).
- ✚ **Dr. A. Rose Enid Teresa** has been appointed as a member of the syllabus Sub Committee for framing the Curricula and Syllabi for B.E Civil Engineering to be offered in UG Degree Programme under Regulation 2021 by the Non-Autonomous Colleges affiliated to Anna University, Chennai.
- ✚ **Dr. A. Rose Enid Teresa** has been recognized as a **Reviewer** for **Innovative Infrastructure Solutions** a peer-reviewed International Journal.
- ✚ **Mr. M. Ammaiappan** won **FIRST PRIZE** with cash reward in **Tamil Essay Writing competition** conducted at Rajalakshmi Engineering College on 15th August 2021 - Independence Day celebration ceremony with special appreciation from Chief Guest Mr. S. Krishnakumar, Inspector of Police, Sriperumbudur.
- ✚ **Mrs. M. Hemavathy** won **FIRST PRIZE** with cash reward in **English Essay Writing competition** conducted at Rajalakshmi Engineering College on 15th August 2021 - Independence Day celebration ceremony.

FACULTY PARTICIPATION IN ONLINE WEBINAR / FDP / STTP / WORKSHOP

Sl. No.	Name of the Faculty	Course Title	Organized by	Event	Date
<i>JULY 2021</i>					
1.	Dr. M. Selvakumar	Sustainable Construction Materials	Rajasthan Technical University, Kota	ATAL FDP sponsored by AICTE	05.07.2021 to 09.07.2021
2.		Application of Sustainable Construction Engineering for Enhancing Durability of Existing Structures	Visvesvaraya National Institute of Technology (VNIT Nagpur)	ATAL FDP sponsored by AICTE	19.07.2021 to 23.07.2021
3.		Geopolymers were used in pyramid construction?- A scientific view	Qcrete	Webinar	22.07.2021
4.	Dr. S. Geetha	Sustainable Construction Materials	Rajasthan Technical University, Kota	ATAL FDP sponsored by AICTE	05.07.2021 to 09.07.2021
5.		Application of Sustainable Construction Engineering for Enhancing Durability of Existing Structures	Visvesvaraya National Institute of Technology (VNIT Nagpur)	ATAL FDP sponsored by AICTE	19.07.2021 to 23.07.2021
6.		Geopolymers were used in pyramid construction?- A scientific view	Qcrete	Webinar	22.07.2021
7.	Mr.E.S.Karthic	Productive tools in AutoCAD (online level FDP)	ICT Academy	10 hrs FDP	12.07.2021 to 16.07.2021
8.	Mrs.S.Yugasini	Stress Management	Rajalakshmi Engineering College	Webinar	26.07.2021
9.		Professional Ethics for faculty development	Rajalakshmi Engineering College	Webinar	14.07.2021 to 15.07.2021
10.		In situ testing of wire ropes used in suspension bridges and other Installations.	SRM Insti.of Tech,Chennai.	Webinar	30.07.2021
11.	All Faculty Members	Helical Soil Nails: A Step forward in Soil Nailing Technique	Rajalakshmi Engineering College	Webinar	17.07.2021

AUGUST 2021

1.	Dr. M. Selvakumar	Various methods of construction for Multi-storeyed structures-A Review	St. Josph's Engg College, Mangaluru	Lecture	07.08.2021
2.		Practical Difficulties of concreting in the field	Qcrete	Webinar	07.08.2021
3.		Mistakes in implementation of Structural Designs	Qcrete	Webinar	27.08.2021
4.	Mrs. V. J. Vedhanayaghi	National seminar on Coastal Hydrodynamics and Structures	Naval Architecture and Offshore Engineering AMET University	Webinar	04.06.2021
5.		Geopolymer Concrete - Materials, Methods, Properties and Applications	Reversed media in association with CE & CR	Webinar	14.08.2021
6.		Exploring the Extents of Building Information Modelling	MNM Jain Engg.College	Webinar	25.08.2021
7.		Smart Transit Stations in a Smart City	SVCE	Webinar	26.08.2021

SEPTEMBER 2021

1.	Dr. M. Selvakumar	Recent Advancements in Geotechnical Earthquake Engineering	S.R.K.R. Engineering College, Bhimavaram	Indo-Chile Workshop	07.09.2021 to 09.09.2021
2.	Dr. S. Geetha	Recent Advancements in Geotechnical Earthquake Engineering	S.R.K.R. Engineering College, Bhimavaram	Indo-Chile Workshop	07.09.2021 to 09.09.2021
3.	Mrs. V J. Vedhanayaghi	Behaviour of Structures subjected to Extreme Events (Fire/Blast/earthquake/Wind)	Vellore Institute of Technology, Chennai	STTP	20.09.2021 to 24.09.2021
4.		Qualitative & Quantitative Metrics in RAAF of NAAC	Rajalakshmi Engineering College	Online Seminar	17.09.2021

EDITORIAL BOARD MEMBERS

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Mrs. S. Muthu Lakshmi / AP(SG)

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G. Yogashree (IV/B)