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

CIVIL BUZZ

Accreditation & Rankings

- Ranked 87th in Engineering Category by NIRF
- Accredited by NAAC with Highest grade A++
- Accredited by NBA under Tier 1 category for 3 Years
- Ranked in the band '11-50' in Innovation category by NIRF India Rankings 2023, the category erstwhile known as Atal Ranking of Institutions on Innovation Achievements (ARIIA)
- Ranked in Times Higher Education (THE) Rankings 2023 in Band 801-1000 in the world by THE World University Rankings 2023 in Engineering
- Ranked in the Band 651-700 in QS Asia University Rankings 2023

Specific Achievements

- 76% of faculty members are with doctoral qualification from eminent Institutions like IISc, State University.
- Faculty members have published 9 papers in per reviewed International Journals and attended 17 FDP's.
- Indian IPR – Patent granted: 2, Patent Published: 4, Design Application Registered: 1, Design Application Filed: 6.

Department Vision

To impart knowledge and excellence in Civil Engineering with global perspectives to the student community and to make them ethically strong engineers to build the nation.

Department Mission

- To produce Civil Engineers of high calibre with advanced technical skills and ethical values to serve the society and the nation.
- To make the Department as a centre of excellence in the field of Civil Engineering and allied research activities.
- To provide knowledge base and consultancy services to the community in all areas of Civil Engineering.
- To promote innovative ideas with original thinking in the minds of budding Engineers to face the future challenges.

Newsletter – Published by
Department of Civil Engineering,
School of Mechanical & Construction

Inside

ABOUT THE DEPARTMENT

The Department of Civil Engineering was started in the year 2009 and it offers B.Tech. Programme, M.Tech Programme (Structural Engineering and Environmental Engineering), and Ph.D Programme. The Department has 21 faculty members (most of them with Ph.D. qualifications). The department has been accredited by NBA (Tier I). Most of the faculty members are fellow and member 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 attending training programmes at IISc and other premier Institutions. Active participation of the faculty members in research, consultancy services & sponsored research activities help them to interact with industries and demonstrate the application of concepts in field and improve the teaching learning activities of the department.

HOD'S MESSAGE

Dr. A. Geetha Selvarani
Professor & Head – Civil Engineering

Greetings! It is an immense gratification in producing this newsletter-Civil prominence in all the academic related activities and events organized by the Civil Engineering department. I thank the faculty members and students for their incessant support and encouragement throughout the year in all the ways as usual, which is the prime tractive force of the Department. This news letter covers the substantial number of Guest Lectures delivered by national and international Professors and hands on training by industry experts which are more helpful in sharing ideas pertaining to recent trends and knowledge for the benefit of students and faculty members. Further Faculty members input in effective teaching learning, Implementation of active Learning Methods, their research activities, article publication in reputed Journals, patent filing have been reported.

Events Organized for Faculties

The One Day Faculty Motivation Programme on "Writing a Research Article Using AI Tools and Prompt Engineering" was organized on 20.03.2024 for the faculty members and research scholars of Civil Engineering department to enhance their research capabilities. The training was provided by Dr. G. Maheswaran, ISTE Member Founder, Sarguru Skill Development Centre, Salem.

Events Organized for Students

The Special Program Elective (3 credit course) "10212CE901 - IoT FOR CIVIL ENGINEERING" was conducted for third year undergraduate students during 05.02.2024 to 10.02.2023 and Industry Higher Learning (2 credit course) "10215CE902 - IoT for Civil Engineering - A hands on training" was conducted for second year undergraduate students during 05.02.2024 to 08.02.2023. Both the courses are conducted for the students career opportunities in interdisciplinary sector. The course was conducted by Dr. Bharani Iyengar, DSol Global Solutions Pvt. Ltd., United Kingdom (UK).

The "Career Connect Conclave" was conducted on 09.03.2024 for the undergraduate students and research scholars for their career opportunities in construction sector. The resource person was Er. K. Rajendhiren, Secretary, Concrete Study Circle.

The Civil Engineering Student Association (CESA), Vel Tech - Student Chapter of Indian Plumbing Association (IPA) and IPA Chennai Chapter organized "Celebration of World Plumbing Day and Founders Day" along with "Poster presentation and Essay Writing Competition" on 11.03.2024. The resource person was Dr. S. Virapan, Chairman Chennai Chapter, IPA.

The One Day Hands on Training in "Practical Applications and Innovations using BIM Modelling Software" was organized on 21.02.2024 to the second year undergraduate students to learn the basics and applications of BIM software. The resource person was Mr. Shamil Ahamed Civil Design Engineer, CADD Tech Solutions, Chennai.

The Four Days Value Added Course on "Remote sensing/ DIP software training" was conducted during 04.03.2024 to 07.03.2024 to the second year and third year undergraduate students to understand the concepts of GIS software and its applications. The training was provided by Mr. C. Selvaraj, Managing Director, Athira Geo Spatial Service Pvt. Ltd., Chennai.

The Four Days Value Added Course on "Drone Surveying" was conducted during 26.02.2024 to 29.02.2024 to the second year and third year undergraduate students to familiarize in drone surveying. The training was provided by Mr. C. Selvaraj, Managing Director, Athira Geo Spatial Service Pvt. Ltd., Chennai.

The following final year undergraduate students were undergone "Internship" to the reputed industries / organizations for their "Major Project" work.

S. No.	Name of the Student	Company Details
1.	ASODI KUSUMA HARI HARA NADHA REDDY	NSPR Constructions (India) Pvt. Ltd. Hyderabad, Telangana
2.	MONISH PRAVEEN	Mallika Constructions - Creating Elite Properties, Chennai.
3.	SURAJ KUMAR SHARMA	S. P. Singla Constructions Pvt. Ltd. Panchkula, Haryana
4.	ROHIT KUMAR	
5.	RAHUL KUMAR ROY	Central Level Project Implementation unit, Kathmandu, Nepal
6.	DIPENDRA SINGH	
7.	SHRUTHI KUMARI JHA	Road division Chandranighapur, Nepal
8.	POLIMERA AKHIL	KMV Projects Limited, Hyderabad, Telangana
9.	SANDESH MISHRA	Biragunj Municipality, Kathmandu, Nepal
10.	SAILESH KUMAR YADAV	
11.	OM PRAKASH YADAV	Aravind Nirman Sewa, Kathmandu, Nepal
12.	DURGESH KUMAR CHOWDARY	
13.	RUPESH KUMAR RAY	Aravind Nirman Sewa, Kathmandu, Nepal
14.	HISAMUDDIN KHAN	Gaidahwa Rular Municipality, Gaidahawa, Nepal
15.	SUNIL KUMAR GUPTHA	
16.	AANANDA KUMAR GUPTA	Gaidahwa Rular Municipality, Gaidahawa, Nepal
17.	PRABHUNATH TELI GUPTHA	

Industrial Visit

The second year (22 Nos.) and third year (34 Nos.) undergraduate students of Civil Engineering programme went **Industrial Visit to VME Precast Pvt. Ltd. Kanchipuram** on 29.02.2024. The students learned about the manufacturing / fabrication techniques of RC precast structural components used for construction of multistoried buildings.

MoUs Signed

Department of Civil Engineering Signed MoU with **Pishon Concrete Test Pvt Ltd, Chennai** on 23.01.2024.

Events - More than or equal to 5 days

S. No.	Name of the Faculty	Event Details
1.	Dr. S. Samson	FDP on Durability Challenges for Sustainable Concrete organized by SR University, from 18th – 22nd March 2024.
2.	Dr. K.R. Aswin Sidhaarth	FDP on Plastic Waste Management organized by NPTEL-AICTE, from Jan – Apr 2024.
3.	Dr. K. Tamilarasan	FDP on Biological Process Design for Wastewater Treatment organized by NPTEL-AICTE, from Jan – Apr 2024
4.	Dr. M. Vinod Kumar	STTP on "Futuristic Scope in Civil Engineering" conducted by K. D. K. College of Engineering, Nagpur, from 15-20 January, 2024.
5.		FDP on "Green Solutions for Smart Infrastructure Development" conducted by Geethanjali College of Engineering and Technology, Hyderabad, Telangana, January 29-February 02, 2024.
6.		FDP on "Civil Engineering Industry Oriented Innovative Softwares" conducted by Velammal College of Engineering and Technology, Madurai, February 05-09, 2024.
7.		FDP on "Emerging Technologies in Civil Engineering" conducted by Kongunadu College of Engineering and Technology, Tholurpatti, March 11-16, 2024.
8.		FDP on "Durability Challenges for Sustainable Concrete" conducted by SR University, Warangal, March 18-22, 2024.
9.		FDP on "Fundamentals of Machine Learning" conducted by NITTTR, Kolkata, Telangana, 11th – 15th March, 2024.

Evnts - More than or equal to 5 days

S. No.	Name of the Faculty	Event Details
10.	Dr. A. Chithambar Ganesh	FDP on Industry Oriented Innovative Softwares organized by Velammal College of Engineering and Technology, from 05th – 09th February 2024.
11.		FDP on Sustainable Waste Management organized by SSM Institute of Engineering and Technology, from 05th – 10th February 2024.
12.	Dr. K.K. Gaayathri	Workshop on Emerging Trends & Applications in Civil Engineering organized by SRM Institute of Science and Technology, from 29th January – 03rd February 2024.
13.	Dr. J. Anita Jessie	FDP on Development and Applications of Special Concretes organized by NPTEL-AICTE, from Jan – Apr 2024.
14.		Workshop on Emerging Trends & Applications in Civil Engineering organized by SRM Institute of Science and Technology, from 29th January – 03rd February 2024.
15.	Mr. S. Baskar	FDP on Durability Challenges for Sustainable Concrete organized by SR University, from 18th – 22nd March 2024.
16.	Mr. T. Nelson Ponnu Durai	FDP on Emerging Technologies in Civil Engineering – 2K24 organized by Kongunadu College of Engineering & Technology, from 11th – 16th March 2024.
17.	Dr. S. Gopi Kumar	Workshop on Internet of Things (IoT) – from Sensor Design to Data Analysis organized by Vel Tech Rangarajan Dr. Sagunthala R & D Institute Science and Tech, from 2nd – 6th January 2024

Events - Less than 5 days

S. No.	Name of the Faculty	Event Details
1.	Dr. J. Logeshwari	International Symposium on Geotechnical Aspects of Heritage structures organized by NIT Trichy, 14-16 February, 2024.
2.		International Conference on Advanced Materials Manufacturing & Structures organized by Rajalakshmi Engineering College, Chennai, 22-23 February, 2024
3.	Dr. S. Selva Kumar	International Symposium on Geotechnical Aspects of Heritage structures organized by NIT Trichy, 14-16 February, 2024
4.	Dr. K.K. Gaayathri	Webinar on My Story - Motivational Session by a Successful Innovator organized by Vel Tech Rangarajan Dr. Sagunthala R & D Institute Science and Technology, Chennai, 29th January 2024
5.	Dr. J. Cici Jennifer Raj	workshop on AI Tools for Researchers: Research Writing Strategies and Ethical Considerations organized by Nuhianwali Education Society, 13 – 15 March 2024.
6.	Dr. S. Gopi Kumar	Webinar on My Story - Motivational Session by a Successful Innovator organized by Vel Tech Rangarajan Dr. Sagunthala R & D Institute Science and Technology, Chennai, 29th January 2024
7.	Mr. S. Baskar	Seminar on Climate Change Impact on Groundwater Resources organized by Anna University Chennai, 18th March 2024.

Consultancy

S.No.	Name of the Faculty & Period	Project Title	Organization	Amount (Rs.)
1.	Dr. S. M. Vinod Kumar Dr. G. Kumar Mr. S. Baskar APRIL 2024	Compression strength for solid blocks	Florida Construction Pvt. Ltd., Chennai.	3,776
2.	Dr. J. Logeshwari MARCH 2024	SBC calculation for site in Kilputhur village, Kancheepuram site.	Tamil Nadu Civil Supplies Corporation, Regional Office, Kancheepuram	3,835

FDPs Attended

Interaction with Outside World

Dr. A. Geetha Selvarani attended "BoS Meeting" on 12.01.2024 at Department of Civil Engineering, Erode Sengunthar Engineering College, Erode, Tamil Nadu.

Dr. A. Geetha Selvarani given a "Expert Talk" on the topic: Leveraging Water for Peace for the World Water Day 2024 on 22.03.2024 at The Institution of Engineers (India), Salem Local Chapter, Salem, Tamil Nadu.

Dr. M. Vinod Kumar and Dr. A. Chithambar Ganesh acting as "Guest Editor" for International Conference on Sustainable Goals in Materials, Energy and Environment (ICSMEE'24), Organized by Mangalam College of Engineering, Kottayam, Kerala.

Dr. A. Chithambar Ganesh acted as "Resource Person" for the Guest Lecture: Geopolymer Concrete – An in depth focus on 18-01-2024 Organized by Mangalam College of Engineering, Kottayam, Kerala.

1. **Tamilarasan, K.**, Shabarish, S., Banu, J. R., & Sharmila, V. G. (2024). Sustainable power production from petrochemical industrial effluent using dual chambered microbial fuel cell. Journal of Environmental Management, 351, 119777. (WoS)

2. Ponnusamy, K., Ramasamy, K. A., Balu, S., Shanmugasundaram, V., **Subburaj, S.**, Thottipalayam, S. M., & Rajaram, R. P. (2024). Sustainable Reuse of Shredded Face Mask in Biopolymer Treated Expansive Soil. International Journal of Environmental Research, 18(2), 15. (Scopus)

3. **Jessie, J. A.**, Gaayathri, K. K., Sivaji, R., & Lavanya, N. (2024). Experimental Investigation on Color Change and Weight Loss of Steel Fibre Reinforced Concrete when Exposed to Elevated Temperature. Indian Journal of Science and Technology, 17(9), 863-869. (Scopus)

4. **Raj, J. C. J.,** Kumar, M. V., Kırgız, M. S., Nagaprasad, N., & Ramaswamy, K. (2024). Numerical modelling on geotechnical features of soil mixture using recycled tire crumb to strengthen the seismic isolation in building. Scientific Reports, 14(1), 225. (Scopus)

5. **Kandasamy, S.** (2024). Investigation study data to develop sustainable concrete mix using waste materials as constituents. Data in Brief, 52, 109837. (Scopus)

6. Rajapraveen K. N. J. Somasekar , A. **Geethaselvarani.** (2024)," Artificial Intelligence: Transformative Paradigms in Computing & Information Technology (IT) ",International Journal of Intelligent Systems And Applications In Engineering, ,12, 1446–1454. (Scopus)

7. M Jayadurgalakshmi & **S Kandasamy** (2024). "Behaviour of cenosphere and pumice powder as partial cement substitute material in the sustainable production of concrete". Journal of Building Pathology and Rehabilitation, 9, 1-13. (Scopus)

8. Anish, V., & **Logeshwari, J.** (2024). A review on ultra high-performance fibre-reinforced concrete with nanomaterials and its applications. Journal of Engineering and Applied Science, 71(1), 25. (Scopus)

9. Bharthavarapu Srikanth & Geetha Selvarani A (2024), "Groundwater NO3 Concentration And Potential Health Implications In Lower Krishna Basin". Indian Journal of Technical Education, 47, 132-138. (Scopus)

Details of Conference	Presentation Title	Faculty Name
International Conference on Advances in Concrete, Structural & Geotechnical Engineering organized by, BITS Pilani – Pilani campus, from February 26-28, 2024.	DEVELOPMENT OF LIGHT WEIGHT GEOPOLYMER INTERLOCKING BRICKS EVALUATION OF MECHANICAL PROPERTIES OF SELF CURING CONCRETE BY REPLACING CEMENT WITH SUGAR CANE BAGASSE ASH	Dr. A. Chitambar Ganesh
	AN ANFIS BASED MODELLING FOR EXPANDED CLAY BASED LIGHT WEIGHT CONCRETE WITH MICRO REIFORCEMENT	Dr. K.K. Gaayathri
	INFLUENCE OF ELEVATED TEMPERATURE ON THE COMPRESSIVE STRENGTH OF STEEL FIBRE REINFORCED CONCRETE	Dr. J. Anita Jessie
International Water Conference for Sustainable Development Goals organized by Maulana Azad national Institute of Technology, Bhopal, from 22-23 March, 2024.	EFFECT OF HYDROGEL IN CONSTRUCTED WETLAND BASED MICROBIAL FUEL CELL FOR CLEAN ENERGY GENERATION	Dr. S. Gopi Kumar
International Conference on Mobile Computing and Sustainable Informatics organized by Tribhuvan University, Nepal, from 18-19 January 2024.	PREDICTIVE PARENTING: AN IOT-ENABLED CRADLE SYSTEM WITH AI-DRIVEN SLEEP PATTERN ANALYSIS	

S.No.	Inventors Name in Vel Tech	Name of the Invention	Application No. & Date	Granted / Published
		Patent - Granted		
1	Ms. D. G. S. Nivedha Ms. V. Yamini Research Scholar(s)	POLLUTANT ABSORBENTS FOR PAINTS	202141054897 & 07-02-2024	Granted
2	Mr. NELSON PONNUDURAI Faculty Ms. ABIRAMI Student	RUBBER IN-FILLER CONCRETE	202041057272 & 10-02-2024	Granted
		Patent - Published		
3	Dr. J. LOGESHWARI Faculty Mr. V. ANISH Research Scholar Dr. S. SAMSON Faculty	A GRAPHENE OXIDE INFUSED HIGHPERFORMANCE CONCRETE REINFORCED WITH HYBRID FIBRES	202341089381 & 12-01-2024	Published
4	Dr. J. ANITA JESSIE Dr. K. K. GAAYATHRI Faculty(s)	EXPERIMENTAL INVESTIGATION ON HYBRID FIBRE REINFORCED CONCRETE	202441005459 & 09-02-2024	Published
5	Dr. M. VINOD KUMAR Faculty Ms. RAZAN ALZEIN Research Scholar	INCORPORATING THE FOOD PACKING CONTAINER WASTE PLASTICS IN THE FORM OF FIBRES IN CONCRETE - A STEP TOWARDS PROMOTING SUSTAINABILITY IN BOTH ENVIRONMENTAL AND CONSTRUCTION SECTORS	202441016651 & 22-03-2024	Published
6	Mr. S. BASKAR Dr. K. R. ASWIN SIDHAARTH Dr. K. TAMILARASAN Dr. M. VINOD KUMAR Faculty(s)	EXPLORATION OF POWDERED CLAMSHELL AS A SUSTAINABLE ADSORBENT FOR REMOVAL OF NICKEL AND MERCURY FROM AQUEOUS SOLUTION	202441024635 & 27-03-2024	Published

S.No.	Inventors Name in Vel Tech	Name of the Invention	Application No. & Date	Registered / Filed
Design Application - Registered				
1.	Dr. M. VINOD KUMAR Faculty Ms. RAZAN ALZEIN Research Scholar	HELICAL PLASTIC FIBER	400917-001 & 22-03-2024	Registered
Design Application - Filled				
1.	Dr. M. VINOD KUMAR Faculty Ms. RAZAN ALZEIN Research Scholar	PROFILED STEEL SHEETS WITH RECTANGULAR PROJECTIONS IN COMPOSITE SLABS	411446-001 & 23-03-2024	Filed
2.	Dr. M. VINOD KUMAR Faculty Ms. RAZAN ALZEIN Research Scholar	HAT SECTION SHEAR CONNECTORS	411447-001 & 23-03-2024	Filed
3.	Dr. M. VINOD KUMAR Faculty Ms. RAZAN ALZEIN Research Scholar	PROFILED STEEL SHEETS WITH TRIANGULAR PROJECTIONS IN COMPOSITE SLABS	411448-001 & 23-03-2024	Filed
4.	Dr. M. VINOD KUMAR Faculty Ms. RAZAN ALZEIN Research Scholar	PROFILED STEEL SHEETS WITH TRAPEZOIDAL PROJECTIONS IN COMPOSITE SLABS	411449-001 & 23-03-2024	Filed
5.	Dr. M. VINOD KUMAR Faculty Ms. RAZAN ALZEIN Research Scholar	DOUBLE BAR SHAPED SHEAR CONNECTORS	411450-001 & 23-03-2024	Filed
6.	Dr. M. VINOD KUMAR Faculty Ms. RAZAN ALZEIN Research Scholar	CHANNEL WASTE PLASTIC FIBER AS REINFORCING FIBER IN CONCRETE	411451-001 & 23-03-2024	Filed

The following TWO Faculty members received Research Proposal worth of amount 18.3 Lakhs from SERB – TARE (Teachers Associateship for Research Excellence) on 09-01-2024.

1. **Dr. S. SELVAKUMAR for the project titled "Innovative Utilization of Biopolymers as a Green Adhesive for the Stabilization of Expansive Soils".**

2. **Dr. B. RAMALINGAM for the project titled "Collagen-based Fabrication of Microbial Biofilm Immobilized Graphene-Magnetite Nanocomposite Aerogel: A Novel Approach for Utilization of Leather Solid Wastes and Potential Application in Sustainable Wastewater Treatment".**

The following TWO faculty members were submitted their research proposals to SERB – POWER (Promoting Opportunities for Women in Exploratory Research) for the AY 2023-2024 during January – March 2024.

S.No.	Name of the Faculty (PI)	Project Title	Amount (Rs.)
1.	Dr. J. ANITA JESSIE	Eco-Conscious Green Building Construction Harnessing Magnifera Indica Leaf Ash and Industrial Residues for Bio-Mass Brick Manufacturing	26,36,827
2.	Dr. K. K. GAAYATHRI	Eco-Friendly Concrete for Sustainable Built Environment	28,60,000

The following FORTEEN Faculty Members were received REWARDS FOR PUBLICATIONS / FUNDED PROJECTS / CONSULTANCY AND PATENTS for the CY 2023 on 15.03.2024.

Name of the Faculty	Designation	Amount
Mr. Udhaya Kumar. T	Assistant Professor	₹ 45,263.00
Dr. Vinod Kumar. M	Professor	₹ 32,333.00
Dr. S. Selvakumar	Assistant Professor	₹ 30,000.00
Dr. Samson. S	Professor	₹ 25,000.00
Dr. Ramalingam. B	Assistant Professor	₹ 20,000.00
Dr. A. Chithambar Ganesh	Associate Professor	₹ 15,000.00
Mr. Baskar S	Assistant Professor	₹ 12,139.00
Dr. Kandasamy. S	Professor	₹ 11,666.33
Dr. Tamilarasan. K	Assistant Professor	₹ 10,000.00
Dr. Gopikumar. S	Assistant Professor	₹ 10,000.00
Dr. Cici Jennifer Raj. J	Assistant Professor	₹ 10,000.00
Dr. Logeshwari. J	Associate Professor	₹ 8,333.00
Dr. Aswin Sidhaarth. K.R	Professor	₹ 7,333.00
Dr. G. Kumar	Associate Professor	₹ 4,716.00

The following FOUR Faculty Members were received Research Development Fund (RDF) Seed Reward for the publications in the CY 2023.

Name of the Faculty	Designation	Cumulative Impact Factor	No. of Publications	Reward (Rs)
Dr. S. Samson	Professor	4	2	50000
Dr. A. Chithambar Ganesh	Associate Professor	3.6	2	50000
Dr. K. Tamilarasan	Assistant Professor	4	1	50000
Dr. S. Selvakumar	Assistant Professor	11.9	3	75000

NPTEL – Faculties

The following FACULTY MEMBERS completed the NPTEL course during Jan - Mar 2024:

Name of the Faculty	NPTEL Course	Category
Dr. K. R. ASWIN SIDHAARTH	Plastic Waste Management	Elite + Silver
Dr. K. TAMILARASAN	Biological Process Design for Wastewater Treatment	Elite + Silver
Dr. J. ANITA JESSIE	Development and Applications of Special Concretes	Successfully Completed

NPTEL – Students

The following STUDENTS completed the NPTEL course in Jan - Mar 2024 :

Name of the Student	NPTEL Course	Category
L V SAI VAISHNAVI	Plastic Waste Management	Elite
K PRAVEEN KUMAR		Elite
UPPULURI SIVA SAI CHARAN		Successfully Completed
D SAI CHARAN		Successfully Completed
AKILAN V		Successfully Completed

B.Tech. Third Year Civil Engineering Students
Ms. MEDHAVI NIROULA,
Mr. ANGATH K RAVI,
Mr. LANKA JYOTHI VARDHAN
got 1st Runner Up in "National Level Concrete Cube Test Competition" organized by PSG College of Technology, Coimbatore on 31.01.2024.
Faculty Mentor:
Mr. T. Udhayakumar

B.Tech. Final Year Civil Engineering Student Mr. T. Ravindran got "Player of the Match" award in Cricket Competition on 04.02.2024.
Mentor:
Dr. J. Logeshwari

The following Research Scholars were received "REWARDS FOR PUBLICATIONS / FUNDED PROJECTS / CONSULTANCY AND PATENTS" for the CY 2023 on 15.03.2024.

S. No.	Faculty Name	Category	Amount (Rs.)
1.	Mr. M. Sridhar	Full Time	5000
2.	Ms. Razan Alzein	Full Time	4000
3.	Mrs. T. Anstey Vathani	Full Time	5000
4.	Mrs. K. A. Vinothini	Full Time	3333
5.	Ms. M. Jayadurgalakshmi	Part Time	3333

B.Tech. Civil Engineering Students
Mr. SANJAY KUMAR SHRESTHA
Ms. KEERTHI ANUPOJU,
Mr. ANANJIT KHANGEMBAM
received IC-ACI Scholarship 2023 worth of Rs. 15,000 each on 09.03.2024.
Co-ordinator:
Dr. S. Selvakumar

B.Tech. Third Year Civil Engineering Students participated in Project Demo Competition (working Models) under the Theme: IoT for Civil Engineering on 23.03.2024.
First Prize: Rs. 5000
Second Prize: Rs. 4000
Third Prize: Rs. 3000
Co-ordinator:
Dr. J. Logeshwari

Higher Studies

B.Tech. Final Year Civil Engineering Student
Mr. Polimera Akhil got admission in March 2024 for the Program "Construction Engineering (MS)" at "Texas Tech University Graduate School", United States of America.

TEXAS TECH UNIVERSITY
Graduate School

Events Attended

S. No.	Name of the Student	Event Details
1.	R. Rajeshwaran (Research Scholar)	Seminar on "Effect of Petrology on Moisture Sensitivity of Hot Mix Asphalt" organized by Turtle Smart Solutions Kerala on 9th March 2024.
		STTP on "Sustainable Advancement in Structural and Transportation Engineering" organized by NIT, Punjab, from 11th – 15th March 2024.
2.	Razan Alzein (Research Scholar)	Workshop on "Characterization of Cementitious Materials and Laboratory Testing" organized by IIT Tirupathi, from 18th – 24th March. 
3.	K.A. Vinodhini (Research Scholar)	PDP on "Artificial Intelligence" organized by NITTTR, Chennai, from 29th January – 2nd February 2024.

1. **Bharthavarapu Srikanth (Research Scholar)** published article in "Groundwater NO3 Concentration And Potential Health Implications In Lower Krishna Basin". Indian Journal of Technical Education, 47, 132-138, 2024.
(Supervisor: Dr. A. Geetha Selvarani)

2. **M Jayadurgalakshmi (Research Scholar)** published article in "Behaviour of cenosphere and pumice powder as partial cement substitute material in the sustainable production of concrete". Journal of Building Pathology and Rehabilitation, 9, 1-13, 2024.
(Supervisor: Dr. S. Kandasamy)

3. **V. Anish (Research Scholar)** published article in "A review on ultra high-performance fbre-reinforced concrete with nanomaterials and its applications". Journal of Engineering and Applied Science, 71, 1-40, 2024.
(Supervisor: Dr. J. Logeshwari)

Bio-Nano Polymeric Adsorbent – A futuristic Perspective

Dr. K. R. Aswin Sidhaarth, Professor

Water is the most important natural resources for all living beings and the development of human civilization and remains a major global challenge. With the rapidly increasing industrialization, global population and the improvement of living standard continuously increasing the consumption of water is and water lack problem has one of the important problems for economic development. Wastewater from many industries including leather tanning, battery manufacturing industries, mining, metallurgical, and chemical manufacturing, contain these heavy metal ions. The removal of toxic metals wastewater has been a subject of broad research area in the area of waste water treatment. Several technologies have been identified for toxic metal removal from wastewater among them adsorption has become one of the techniques for wastewater treatment offer various advantages.

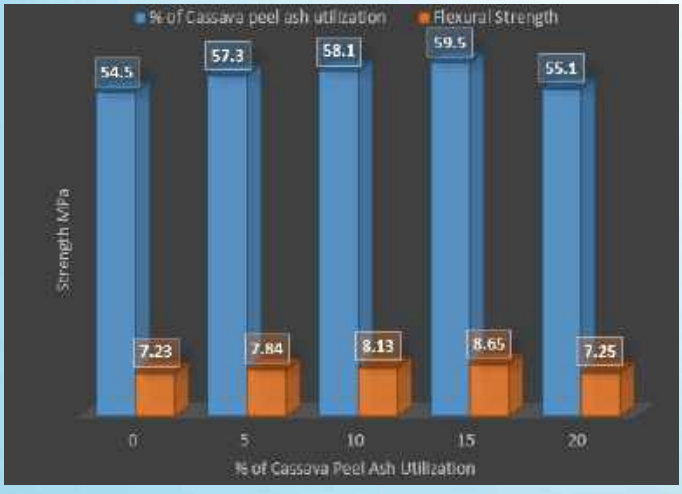
A Paradigm Shift in the Phenomenon of Adsorption

Over the last few decades, there has been a 4-fold increase in the number of reverse Osmosis (RO) desalination plants, and a 10-fold increase in the capacity, with over 10,000 installations of various sizes currently online around the world. Notwithstanding the constantly growing need to secure water production, the desalination industry still faces the challenge of improving its environmental sustainability. Although the large amount of energy needed to pressurize the feed water during RO desalination is the primary environmental concern, the disposal of old RO modules is emerging as a critical issue to be addressed.

CASSAVA PEEL ASH AS A SUSTAINABLE CEMENTITIOUS MATERIAL

Dr. A. CHITHAMBAR GANESH, Associate Professor

The cement industry, a significant contributor to global CO2 emissions, necessitates sustainable alternatives to mitigate environmental impact. This study explores the utilization of cassava peel ash (CPA) as a partial replacement for cement in mortar production. CPA, a by-product of cassava processing, offers economic and environmental benefits. Its potential as a cementitious material remains largely unexplored, making it a novel focus for this research. Cassava peel waste undergoes controlled incineration to produce ash rich in pozzolanic materials. The chemical composition analysis reveals significant content of silica, calcium, and potassium, making it a promising candidate for cement replacement. Experimental investigations involve mortar mixtures with varying CPA proportions (5%, 10%, 15%, and 20%) alongside a control without ash replacement. Results indicate a decrease in workability with increasing CPA content due to its water-absorbing nature. However, compressive and flexural strengths show improvement up to 15% CPA replacement, suggesting enhanced mechanical properties. Notably, water retention decreases with higher CPA content, necessitating proper curing practices for optimal strength development. Additionally, resistance to chloride attack decreases with increased CPA utilization. This study presents a systematic evaluation of the feasibility and effectiveness of incorporating CPA in mortar production. The findings highlight the potential of CPA as a sustainable alternative to cement, contributing to reduced carbon emissions and efficient waste management practices. Further research is warranted to explore long-term performance and environmental implications, advancing sustainable construction practices.



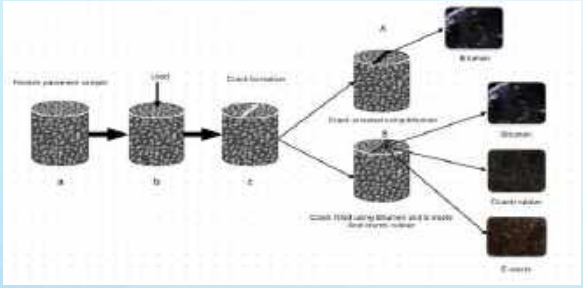
Compressive and Flexural Strength

Workability

Crack Filling Sealant Innovations: Utilizing Crumb Rubber and E-Waste in Powder Form as Partial Replacements for Bitumen

Vinodhini K A (Research Scholar Civil Engineering)

This work has been inspired by the increasing environmental issues around the disposal of rubber and electronic waste materials, as well as the imperative to improve the performance and sustainability of road sealants. The investigation commences by conducting a comprehensive characterization of the crumb rubber and e-waste powders, with a focus on evaluating their physical and chemical qualities. The crumb rubber, derived from repurposed tyres, undergoes a refining process to yield finely fragmented particles, whilst the e-waste, including electronic components, is pulverized into a powdered state. the experimental investigations in order to find the most effective combination of crumb rubber and e-waste powder as partial substitutes for bitumen in sealant compositions. Multiple mix designs are formulated and assessed for their mechanical characteristics, including tensile strength, elongation at fracture, and durability against aging and environmental stress factors. In addition, the rheological characteristics of the modified sealants are investigated in order to evaluate their appropriateness for real-world usage, encompassing factors like the ease of blending, manipulation, and solidification. The analysis also includes an examination of the effects of adding crumb rubber and e-waste on the thermal and aging properties of the sealants. The findings indicate that using crumb rubber and e-waste in powder form as a substitute for bitumen can result in sealants that exhibit enhanced mechanical and environmental characteristics. Moreover, this approach has promise for waste management purposes. This study is a valuable contribution to the field of sustainable development in road-building materials, as it addresses critical issues pertaining to waste management and the preservation of resources. In general, the results of this study offer significant insights into the viability of including crumb rubber and e-waste powder in sealant formulations as environmentally sustainable alternatives. These findings present a promising opportunity for the construction sector to mitigate its ecological impact.

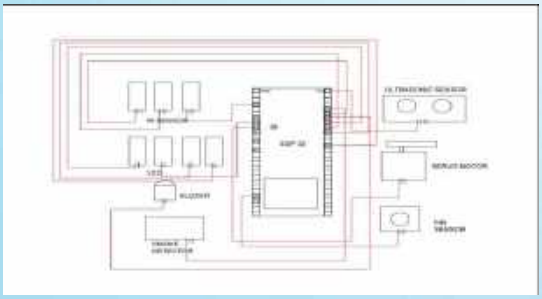


Schematic Diagram

SMART PARKING SYSTEM USING IOT

DIPSHIKA HOWLADER (3rd year Civil Engineering)

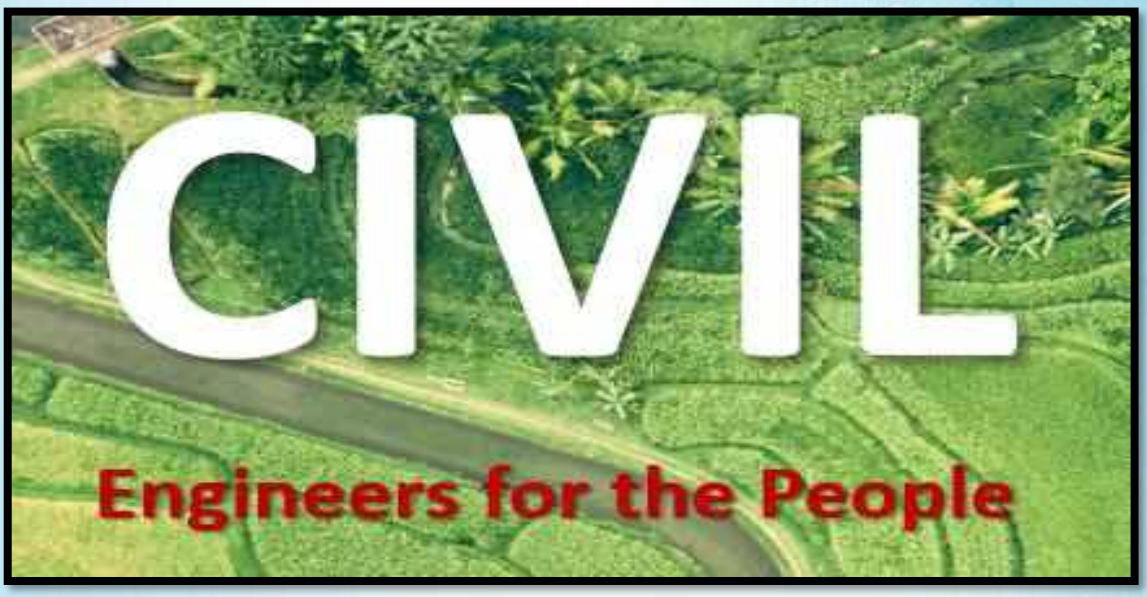
The global trend towards urbanization has intensified the demand for efficient parking solutions, necessitated by population density, traffic congestion, and infrastructure limitations. Parking shortages not only exacerbate congestion but also result in significant economic losses and environmental harm due to the increased emissions from circling vehicles. Addressing these challenges, advanced sensor technology has emerged as a pivotal tool in optimizing space utilization, reducing congestion, and providing real-time data for smoother traffic flow. Smart Parking Systems represent a critical component of urban development strategies, aligning with sustainability goals by promoting resource efficiency and reducing carbon footprint. The objective of such initiatives is to revolutionize urban parking management through the deployment of cutting-edge sensor technology and data analytics. By leveraging real-time monitoring and user-friendly interfaces, these systems aim to streamline parking operations, minimize congestion, and enhance the overall parking experience while reducing environmental impact. The Smart Parking System initiative integrates various components and sensors to achieve its objectives effectively. Upon a car's approach, an ultrasonic sensor detects its presence and communicates with a servo motor to operate the entrance gate, facilitating entry. Inside the parking facility, LED light sensors automatically illuminate, ensuring adequate lighting for safe parking . To assist drivers in finding available spaces, an IR sensor positioned at each parking point detects the presence of vehicles and relays this information to a digital display board, indicating whether spots are vacant or occupied. Additionally, the system incorporates a smoke sensor to detect potential fire hazards and a temperature sensor for early detection of fire outbreaks, enhancing safety measures within the facility . In summary, this smart parking system offers a comprehensive solution to urban parking challenges by integrating advanced sensor technology with efficient data management. By optimizing space utilization, reducing congestion, and enhancing safety measures, it contributes to the creation of smarter, more sustainable cities for future generations.



Schematic Diagram

Working Model

Editorial Board



Contact Us

Department of Civil Engineering,
School of Mechanical & Construction,
Vel Tech Rangarajan Dr Sagunthala R&D Institute of Science and Technology,
42, Vel Nagar, Vel Tech – Alamadhi Road,
Avadi, Chennai – 600 062, India
hodcivil@veltech.edu.in & +91 73388 03048