

### Research and Development

#### Department Research & Development

Civil Engineering department has always given importance to Research and Consultancy to endow students with engineering practical knowledge for building a strong foundation in various aspects. The department is equipped with excellent infrastructure and with 7 laboratories with state-of-the-art facilities. The laboratories possess latest equipment, instruments and software packages.

Providing the content and the context, the department opens a wide window for the students to take hold of the opportunities in the Industry Based Training. The department boasts of its intellect with 3 doctorate faculty members and faculty with six different specializations. These research initiatives have been supported by major national laboratories, industry leaders and agencies.

#### Funded Projects Applied

S.No	Project Title	Funded Agency	Duration	Estimated Expenditure	Investigator and Co-Investigator Details
1	Investigation on Robustness Characteristics of Fibrous Self curing Concrete	DST	-	4, 95,000/-	Dr.D.Maruthachalam
2	Evaluation of High Performance Grouting for Post-Tensioning System	DST	-	4, 95,000/-	Dr.D.Maruthachalam

#### Ongoing Funded Projects

S.No	Project Title	Funded Agency	Duration	Cost	Investigator and Co-Investigator Details
1	Development and Investigation of Self Curing Concrete using Natural Fibres	DST	-	-	Dr. D. Maruthachalam

## Completed Funded Projects

S.No	Project Title	Funded Agency	Duration	Cost	Investigator and Co-Investigator Details
1	Investigation of Corrosion Damage and Repair System to Extend the Service Life of Critical Infrastructures	DST	1 YEAR	Rs. 1 Lakh	Dr.D.Maruthachalam

## Publication Details

S.No.	Paper Title	Author Details	Name of the Journal	Volume and Page Number	Year of Publishing
1	Studies of durability aspects of fibre reinforced concrete	Maruthachalam, D., and Vishnuram, B. G.	International Journal of Engineering Science and Technology	vol. 4, No. 2 pp. 620-628	2012.
2	Behaviour of concrete composite beam-columns under cyclic loading: A general review	Maruthachalam, D., and Vishnuram, B. G.	International Journal of Emerging Trends in Engineering and Development,	Issue 2, vol.4, pp. 185 to 191	2012
3	Statistical modeling of fiber reinforced high performance concrete.	Maruthachalam, D., and Vishnuram, B. G.	International Journal of Scientific & Engineering Research	vol. 3, No. 6, pp.	2012.
4	Behaviour of reinforced concrete exterior beam column joint: A general review.	Muthukrishnan V and Maruthachalam, D.	International Journal of Advanced Scientific and Technical Research (IJAST)	vol. 6, pp. 550-554	2012
5	Effect of waste plastic chips on the strength and swelling pressure of silt.	Khatri, V. N. Dutta, R. K., and Gayathri, V.	International Journal of Geotechnics and Environment	vol. 4, No. 2 pp. 121-133	2012
6	Effect of addition of treated coir fibers on the compression behavior	Dutta, R. K., Khatri, V. N. and Gayathri, V.	Jordan Journal of Civil Engineering	vol. 6, No.4, pp. 476-488	2012

	of clay.				
7	Corrosion behaviour of steel bar embedded in fibre reinforced high performance concrete.	Maruthachalam, D., and Vishnuram, B. G	International Conference on Advances in Construction, Manufacturing and Automation Research	pp. 179-184	2012
8	Effect of mineral admixtures on the behaviour of high performance concrete reinforced beam-columns	Maruthachalam, D., and Vishnuram, B. G	International Conference on Advances in Construction, Manufacturing and Automation Research	pp. 212-215	2012
9	Modelling for compressive strength of fibre reinforced high performance concrete.	Maruthachalam, D. and Vishnuram, B. G.	International Conference on Advances in Construction, Manufacturing and Automation Research	pp. 349-352	2012
10	Influence of fly ash and metakaolin on the behaviour of sustainable high performance concrete reinforced beam-columns	Maruthachalam, D. and Vishnuram B. G.	Conference on Sustainability Challenges and Advances in Concrete Technology (SCACT'12)	pp. 418-422	2012
11	Influence of Fly ash and Metakaolin on the behaviour of Sustainable High Performance Concrete Reinforced Beam-columns	Maruthachalam, D., and Vishnuram B. G.	International Conference on Sustainability Challenges and Advances in Concrete Technology (SCACT'12)	pp. 418-422	2012.
12	Experimental investigation on self-curing concrete	Manoj Kumar M and Maruthachalam, D.	International Journal of Advanced Scientific and Technical Research	vol. 2, pp. 300-306	2013
13	Mechanical properties of hybrid fibre reinforced concrete with steel and synthetic fibre	Muthukrishnan V and Maruthachalam, D.	International Journal of Engineering Sciences and Research Technology (IJESRT)	vol.4, pp.899-902	2013
14	Mechanical properties of hybrid fibre reinforced concrete	Karthik M. P. and Maruthachalam, D.	International Journal of Engineering	vol. 02, No.: 04, pp. 843-	2013

	with available of rural fibres		Science & Research Technology	847	
15	performance of recycled PET fiber reinforced concrete with low volume fraction	Muthukumar. J and Maruthachalam, D.	International Journal of Structural and Civil Engineering Research	vol. 02, No: 02, pp.: 100-108	2013
16	Mechanical Properties of Metallic and Non-Metallic Fiber (Steel – Recycled Polyethylene Terephthalate Fiber) Reinforced concrete.	Muthukumar. J and Maruthachalam, D.	International Journal of Sustainable Civil Engineering, (ISSN 0975 - 5314)	vol. 05, No: 03 , pp.: 25-33	2013
17	Influence of Polyolefin Macro-Monofilament Fibre on Mechanical Properties of High Performance Concrete.	Maruthachalam, D., Padmanaban I. and Vishnuram B. G.	KSCE Journal of Civil Engineering	vol.17, No.7, pp.1682-1689	2013
18	Unconfined compressive strength of sewage sludge stabilized with fly ash and cement	Sahu, V., Gayathri, V. and Singh, R. K.	International Journal of Advances in Science and Technology	vol. 6. No.2, pp. 108-118	2013
19	Utilization of sewage sludge in Civil Engineering applications for sustainable future environmental growth: Review	Sahu, V. and Gayathri, V.	International Journal of Geotechnics and Environment	5(1), pp. 66-88	2013
20	Effect of treated coir fibres on the compaction and CBR behaviour of clay.	Dutta, R. K., Khatri V. N., and Gayathri, V.	International Journal of Geotechnics and Environment	5(1), pp. 63-88	2013
21	Study of High Performance Concrete with Silica Fume and Glass Fibre	Durai, S., Boobalan, S. C., Muthupriya, P. and Venkatasubramani, R.	International Journal of Civil Engineering	vol.5, No.2, pp.117-122	2013
22	Impact of Saw Dust and Crushed Waste Glass in the Properties in Sandcrete Blocks – A General Review	Praveen Kumar, S. and Boobalan, S. C.	International Journal of Advanced Scientific and Technical Research	vol.1, No.3, pp.114-118	2013

23	Shear Performance of Fibre Reinforced Concrete Beams: A General Review	Maruthachalam, D., and Karthick M. P	Indian Journal of Engineering	vol. 2, No. 3, pp. 843- 847	2013
24	Flexural Behaviour of Hybrid Fibre Reinforced Concrete Beams: A General Review	Maruthachalam, D., and Muthukumar, J.	Indian Journal of Engineering	vol. 2, No. 3, pp. 14 - 16	2013
25	Behaviour of High Performance Concrete in Exterior Beam-Column Joint-A General Review	Durai, S., Boobalan, S. C., Muthupriya, P. and Venkatasubramani, R.	Indian Journal of Engineering	vol.3, No.6, pp. 18-20	2013
26	Experimental Study on Fibre Reinforced High Performance Concrete with Silica Fume.	Durai, S., Boobalan, S.C., Muthupriya, P. and Venkatasubramani, R.	Journal of Construction Engineering, Technology and Management	vol. 3, No.1, pp. 26-30	2013 <sub>2</sub>
27	Assessment of Factors Influencing Cost of Construction Projects.	Kanmani, B., and Kothai P. S.	International Conference on Futuristic Innovations and Developments in Civil Engineering	vol. 1 pp. 75-79	2013
28	Study on the critical Factors Influencing Cost and Duration of Construction Projects.	Kanmani, B., and Kothai P. S.	Civil Engineering and infrastructural Issues in Engineering Economics	vol. 1 pp. 279-289	2013
29	Fly ash utilization-A review towards sustainable environment.	Sahu, V. and Gayathri, V.	National Seminar on Utilization of Fly Ash in Geotechnical Structures	pp. 178-186	2013
30	Earthquake Resistance Design of RC frames with and without Shear walls.	Abitha, S. and Arunachalam, N.	National Conference on Research Congress in Civil Engineering held at Government College of Technology	vol. 1 pp. 128-131	2013
31	Earthquake Resistance Design of RC frames without Shear walls." National Conference on Smart Systems	Abitha, S. and Arunachalam, N.	National Conference on Smart Systems	vol. 1 pp. 50-53	2013
32	Evaluation of Time Attributes of Construction Projects.	Kanmani, B., and Kothai, P. S.	Innovations in Mechanical, Mechatronics and Building Science (NCIMMBS – 2013)	vol. 1 pp. 115-120	2013
33	Behaviour of Fibre Reinforced High Performance Concrete in Exterior Beam-Column Joint.	Boobalan, S. C., Muthupriya, P., and Venkatasubramani, R.	National Conference on Innovations in Mechanical, Mechatronics and Building Sciences (NCIMMBS-13)	pp.28-34	2013

34	Influence of Fibres on Fresh and Hardened Properties of Self-Curing Concrete.	Joel, J. S., Varatharajan, S., Maruthachalam, D., and Jeyendran, A. S.	International Journal of Advanced Structures and Geotechnical Engineering	vol. 03, No. 01, pp 7-10	2014
35	Experimental Investigation on Bagasse Ash As an Eco-Friendly Building Material.	Maruthachalam, D., Rajeswari, S., and Iruthayaraj, S	Journal of Industrial Pollution Control	vol. 29 No. 1, pp. 159-164	2014
36	Experimental study on shear behaviour of hybrid Fibre Reinforced Concrete beams.	Karthik, M. P., and Maruthachalam, D.	KSCE Journal of Civil Engineering	pp. 1-6	2014
37	Effect of Compressive Strength on Abrasion Resistance for Fly Ash Concrete.	Padmanaban, I. and Maruthachalam, D.	International Journal of Ecology, Environment and Conservation	vol. 20, No.3; pp. 923-928	2014
38	The use of stabilized fly ash as a green material in pavement substructure: A review.	Sahu, V. and Gayathri	International Journal of Civil and Structural Engineering	vol. 4, pp. 306-314	2014
39	The use of fly ash and lime sludge as partial replacement of cement in mortar.	Sahu, V. and Gayathri	International Journal of Engineering and Technology Innovation	vol. 4, no. 1, pp. 30-37	2014
40	Geotechnical characterization of two low lime Indian fly ashes and their potential for enhanced utilization	Sahu, V. and Gayathri, V.	Civil Engineering and Urban Planning: An International Journal	1(3), pp. 22-33	2014
41	Strength studies of Dadri fly ash modified with lime sludge-A composite material	Sahu, V. and Gayathri, V.	International Journal of Engineering and Technology Innovation	vol. 4, no. 3, pp. 161-169	2014
42	Performance analysis of inventory management system in construction industries in India	Sindhu, S., and Nirmalkumar, K., and Krishnamoorthy, V.	International Journal of Innovation Research in Science, Engineering and Technology	vol.1 pp. 11488-93	2014
43	Information Technology in Construction Projects.	VinoBalaji, K. and Rajkumar D.	International conference on Advances in engineering, technology and management 2014	vol. 1 pp. 252-256	2014
44	Parametric study on service life of concrete structures for different cover thickness	Raja, M., Bhaskar, S., and Ravichandran, P.	National conference on Latest advancements in	vol. 1, pp. 111-114	2014

			Civil Engineering-LACE 2014		
45	Service life prediction model for reinforced concretes structures subjected to chloride induced corrosion	Raja, M., Bhaskar, S., and Ravichandran, P.	National Level conference on Innovations in Mechanical, Mechatronics and Building Sciences	vol. 1, pp. 31-36	2014
46	Study on inventory management system in construction industry.	Sindhu, S., and Nirmalkumar, K., and Krishnamoorthy, V.	National Level conference on Frontier Applications in Civil and Environmental Engineering	vol. 1 pp. 3. 119-123	2014
47	Study on Inventory Management System in Construction Industry.	Sindhu, S., and Nirmalkumar, K., and Krishnamoorthy, V.	National Level conference on Innovations in Mechanical, Mechatronics and Building Sciences (NCIMMBS 2014)	vol. 1 pp. 21-25	2014
48	Technology in Construction Projects	VinoBalaji, K., and Rajkumar, D.	Sixth National Conference on Innovations in Civil Engineering ICE-14	vol. 3, pp. 213-217	2014
49	Behaviour of Fibre Reinforced High Performance Concrete in Exterior Beam Column Joint	Muthupriya, P., Boobalan, S. C., and Vishnuram, B. G.	Second International Conference on Advances in Materials and Techniques in Civil Engineering (ICAMAT-2014)	pp.105-109	2014
50	Geochemical characterization of expansive soil stabilized with fly ash.	Vinodhkumar, S., and Meenambal, T.	Third National conference on recent advancements in geotechnical engineering NCRA-14	vol. 1 pp. 147-15	2014
51	Experimental Asymptotic Analysis of Fibrous self-curing Concrete exposed to Acid and Salt attack.	Joel, J. S., Maruthachalam, D., and Jeyendran, A. S.	International Journal of Industrial Pollution Control	vol. 31, No.1, pp. 61-67	2015.
52	Influence of fibres on Robustness Characteristics of self-curing concrete.	Varatharajan, S., Maruthachalam, D., and Poomima, V.	International Journal of Ecology	vol. 21, No.1, pp. 357-362	2015.
53	Behaviour of Polyolefin Macro-Monofilament Fibre Reinforced High Performance Concrete Beam-columns	Maruthachalam, D., and Rajeswari, S.	International Journal of Earth Sciences and Engineering	vol. 08, no. 01, pp. ....	2015

54	Shear strength behaviour of clay reinforced with treated coir fibres.	Khatri, V. N., Dutta, R. K., Gayathri, V., and Shrivastava, R.	Periodica Polytechnica Civil Engineering	DOI: 10.3311/PP.ci.7917	2015
55	Mechanical properties of high strength concrete with metallic and non-metallic fibres.	Karthik M. P., and Maruthachalam, D.	Journal of Structural Engineering,	vol. 41, No. 6, pp. 649-654	2015
56	Study on aerobic In-Vessel Composting of Food Waste.	<b>Mafaz Ahamed.R and Dr. Saraswathi R</b>	Research Journal of Environmental sciences E-ISSN 2319-1414	Volume 5 (7) page number 1-9	2016
	Simulation of Runoff for Amaravathi Sub-watershed using SWAT model	<b>S.Sowmiya and Dr.Carolin Arul</b>	International Research Journal of Environmental sciences E-ISSN 2319-1414	Volume 5 (7) page number 1-9	2016

### Consultancy Projects

S.No	Name of the Organization	Project Details	Duration	Cost	Team Members
-	-	-	-	-	-