LEELA BHARATHI.S.M

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Career Objective:

To give my best in my professional pursuit for overall benefit and growth of the Institution that I serve by facing the challenges and gain working experience to apply my Knowledge.

Professional Brief

- **Qualification** **:** 1. Pursuing **F.T Ph.D** (submitted thesis) (funded by **MOEF**)
  2. **M.E Structural Engineering** (M.E Research in **CSIR, SERC**)
  3. B.E Civil Engineering

- **Experience** **: 6 years 9 months**
  1. Teaching (4 years): Karpagam Institutions, Coimbatore
  2. Research (2.9 years): R&D project funded by the Central government

- **Achievements** : 1. 17 numbers of published international research papers (**11 SCI** and 4 Scopus)
  2. Got an **Indian Patent (granted)** for my research work done for the Ministry of Environment, Forest and Climate change (MOEF), New Delhi
  3. Completed the **MOEF CD project** within the minimum time period and minimal budget amount.

- **Strength** **:** Design of steel structures, Strength of materials and Structural Analysis

Academic Qualification:

- Pursuing **Ph.D (F.T) in Structural Engineering** under the guidance of Dr.R.Mohana, Prof/Civil/MSEC (submitted the Thesis)

S.No	Degree	Year of Passing	Institution	Board/ University	CGPA/ Percentage
1.	ME-Structural Engineering	2016	Mepco Schlenk Engineering College, Sivakasi.	Anna University, Chennai	9.54
2.	BE-Civil Engineering	2014	Mepco Schlenk Engineering College, Sivakasi.	Anna University, Chennai.	8.00
3.	Higher Secondary School Certificate(HSC)	2010	M.N.R.D Higher Secondary School, Srivilliputtur.	State Board, Tamilnadu.	92%
4.	Secondary School Leaving Certificate (SSLC)	2008	Sacred Heart Girls Higher Secondary School, Srivilliputtur.	State Board, Tamilnadu.	95.4%

Software Known:

- AutoCAD
- Staad pro
- ABAQUS
- Ansys

Working Experience: 6 years 9 months (Teaching 4 years + Research 2 years 9 months)

S.No	Institution/Organization	Department	Designation	Experience
1.	Mepco Schlenk Engineering College, Sivakasi (sanctioned MOEF CD Project)	Department of Civil Engineering	Research Associate I	2 years 9 months (from 01.07.2020 to 31.03.2023)
2.	Karpagam Academy of Higher Education, Coimbatore	Department of Civil Engineering	Assistant Professor	4 years (from 06.06.2016 to 18.06.2020)
3.	CSIR-Structural Engineering Research Centre, Chennai	Steel Structures Research Facility	PG Project Student	6 months (from 30.11.2015 to 31.05.2016)

Details of MOEF CD Project:

The project has been approved by Ministry of Environment, Forest and Climatic change to Dr.R.Mohana, Principal Investigator, Professor, Department of Civil Engineering, Mepco Schlenk Engineering College, Sivakasi on 24.12.2019 (F.No 19-43 / 2018 – RE). The total duration of this project is 3 years. The project has been started at 2.3.2020 and completed at 31.03.2023. The total amount sanctioned for this project is Rs.22,88,160.

Subjects Handled:
Strength of Materials, Design of Steel Structures, Mechanics of Fluids, Bridge Structures

Publication Details:

- **Total number of papers Published : 17 (11 SCI + 4 Scopus + 2 TR + 1 PR)**
- **Patent : 1 Granted**
- **Conferences : 3**

Sl. No	Title of the Paper	Authors	Name of the Journal	Year, Volume, Issue	Impact Factor as per Clarivites
1.	Assessment on the mesh and mortar effect of the impact resistant nano fly ash based geopolymer ferrocement panels using rubber and plastic aggregates	Dr.R. Mohana, **S.M.Leela Bharathi**	Structures	2024, 107147	4.1 (SCI)
2.	Sustainable alternative activators from the textile mercerizing water for the durable and cost-effective flyash-GGBS based geopolymer concrete	Dr.R. Mohana, **S.M.Leela Bharathi**	Construction and Building Materials	2024, 429, 136370	7.4 (SCI)
3.	Eggshell catalysed rubber aggregates for the sustainable green mortar constructions	Dr.R.Mohana, **S.M.Leela Bharathi**	Construction and Building Materials	2024, 420, 135475	7.4 (SCI)
4.	Sustainable approach of promoting impact resistant rubberized geopolymer by reducing the embodied emission rate of climate changing substances	Dr.R.Mohana, **S.M.Leela Bharathi**	Structures	2023, 57, 105241	4.1 (SCI)
5.	Sustainability of pre-treated and nano-fly ash powder on the thermal stability and environmental impact of green mortars under	Dr.R.Mohana, **S.M.Leela Bharathi**	Journal of Building Engineering	2023, Vol. 71, 106494	7.144 (SCI)

	ambient conditions				
6.	Parametric investigation on the novel and cost effective nano fly ash impregnated geopolymer system for the sustainable construction	Dr.R.Mohana, **S.M.Leela Bharathi**	Frontiers of Structural and Civil Engineering	2023	3.252 (SCI)
7.	Review on the Hybridized Application of Natural Fiber in the Development of Geopolymer Concrete	R.Mohana, B.Karthiga and **S.M.Leela Bharathi**	Journal of Natural Fibre	2023, VOL. 20, NO. 1, 2178578	3.507 (SCI)
8.	Sustainable utilization of pre-treated and nano fly ash powder for the development of durable geopolymer mortars	R.Mohana, **S.M.Leela Bharathi,**	Advanced Powder Technology	Volume 33, Issue 8, August 2022	4.969 (SCI Expanded)
9.	Sustainable utilization of industrial wastes for the cleaner production of ferrocement structures: A comprehensive review	R. Mohana, S. Prabavathy, **S.M. Leela Bharathi**	Journal of Cleaner Production (Elsevier)	2021, Volume 291	11.072 (SCI Expanded)
10.	FEA Simulation of connection behaviour between steel-foam concrete composite panels	P. Prabha, **S.M. Leela Bharathi**, G.S. Palani, R. Senthil and R. Theenathayalan	Journal of Structural Engineering	2017, Vol. 43, No. 6	0.13 (SCI Expanded)
11.	Experimental investigation on compressive behaviour of plastic brick using M Sand as fine aggregate	**S.M. Leela Bharathi**, V. Johnpaul, R. Praveen Kumar, R. Surya, T. Vishnu Kumar	Materials Today : Proceedings (Elsevier)	2020	1.24 (Scopus)
12.	Dissection on the compressive strength	Abhijith Sajeeve, J. Arun Raj, G.T.	International Journal of Civil	2017, Volume 8,	9.7820 (Scopus)

	of concrete by replacing sand with laterite soil and M-sand	Ananth, **S.M. Leela Bharathi**	Engineering and Technology	Issue 3, pp.373-384	
13.	Experimental Work on the Flexural Behaviour of Infilled Composite Concrete Beams	**S.M.Leela Bharathi,** R.Mano Karthick , R.Sathish Kumar, U.Ajay Kumar and A.Srithar	Test Engineering and Management	2020, Volume 82	0.43 (Scopus)
14.	Experimental study on behaviour of Paver Block Using Crushed rubber powder	P. Kirubagharan, R. Gowtham, Albert Duraisingh, Akshai B Nair, **S.M. Leela Bharathi**	International Journal of Civil Engineering and Technology	2017, Volume 8, Issue 3, pp.582-589	9.7820 (Scopus)
15.	Parametric Study on Steel-Foamed Concrete Composite Panel Systems	**S.M.Leela Bharathi,** P.Prabha	SSRG International Journal of Civil Engineering	2017, Volume 4, Issue 8	1.21 (Thomson Reuters)
16.	An Experimental Study on the Flexural Behaviour of Natural Fibre Reinforced Concrete with Partial Replacement of Flyash and GGBS	**S.M.Leela Bharathi,** M.Kumar	SSRG International Journal of Civil Engineering	2019, Volume 6, Issue 4	1.21 (Thomson Reuters)
17.	Experimental study on hybrid fiber self Compacting Concrete	**S. M. Leela Bharathi**	International Journal of Engineering Research and Modern Education	2017, Special Issue	6.525 (Peer Review)

Indian Patent

- R.Mohana, S.M.Leela Bharathi, Development of cost- effective and environmental friendly crumb rubber for pretreatment technique for the structural applications by using natural egg-shell wastes, Application number 202241030235 published on 03/06/2022, Patent number 452687, Granted on 19.09.2023

Conferences

- ❖ Presented and **won best paper award** for the paper titled "Sustainable utilization of plastic wastes for the impact resistant green panel applications in the International Conference on Sustainable Technology in Civil Engineering and Applied Sciences 2023 (ICSTCA -2023)" on 24.03.2023-25.03.2023 in Ramco Institute of Technology, Rajapalayam
- ❖ Presented the paper of Experimental Study on Hybrid Fibre Self Compacting Concrete in the 6th National Conference on Innovative Practice in Construction and Waste Management on 25.4.2017 in Sri Ramakrishna Institute of Technology, Coimbatore
- ❖ Presented a Research paper on Experimental Work on the Flexural Behaviour of Infilled Composite Concrete Beams in the International Conference on Innovative Research in Science and Technology (ICRIST-2019) conducted on 30.8.2019-31.8.2019 in Madurai,

Project Profile:

Sustainable utilization of rubber and plastic wastes for the cleaner production of nano fly ash impregnated green ferrocement panels under impact load (funded by MOEF, India)

- Sustainable development of new generation nano composite system from the abundant industrial waste particles such as fly ash in the prefabricated structural applications.
- Growth of high impact resistant structures in the bridge girders and deck slab applications by the creative implementation of waste rubber and plastics as partial replacement materials to fine aggregate.
- Development of corrosion free ferrocement system by using cost effective and sustainable nano fly ash geopolymer system.

Numerical Investigations on steel-foamed concrete composite panel system for buildings (in CSIR-SERC)

The behavior of foamed concrete panel system sandwiched between corrugated steel sheets has been studied numerically by using the Finite Element software ABAQUS. For the same profile configuration the wall action and slab action are ensured by changing the loading pattern. Also the connection angle thickness and diameter of bolts used have been optimized in order to ensure composite action. The various parameters which influence the composite behaviour of the panel are considered and the full scale model of the panel is also studied numerically using the finite element software ABAQUS.

Experimental study On Hybrid Fiber Self Compacting Concrete:

The role of glass fiber and polyester fiber in self compacting concrete is studied experimentally. The quantity of fiber used is varied by different percentage of concrete volume. In self compacting concrete cement is partially replaced by using fly ash.

Seismic Analysis and Design of Residential Building:

The effect of seismic forces acting on the residential building located in seismic zone 3 is studied analytically. Staadpro software is used for analysis. For seismic analysis the footing support is considered as pinned support. From the analysis result, ductile detailing is provided as per Indian code IS13920.

NPTEL/SWAYAM:

- Got Elite level Certification in the Design of Steel Structures by NPTEL online Certification course
- Got Elite + Gold level Certification in the Reinforced Concrete Road Bridges by NPTEL online Certification

Inplant Training:

S.No.	Title	Company	Place	Duration
1.	Manufacturing, Testing and Transportation methods of Cement.	Tamilnadu Cements Corporation Limited (TANCEM).	Alangulam.	4 days. (from 6.5.12 to 9.6.12)
2.	Canal Lining, Irrigation and Water Supply System in Vaigai River.	Public Works Department (PWD), Madurai.	Madurai.	3 days. (from 26.12.12 to 28.12.12)

Areas of Interest:

Strength of materials and Structural Analysis.

Hobbies:

- Playing Veena,
- Reading Books

Personal Details:

Age	:	31 years
Date of Birth	:	01.09.1992
Gender	:	Female
Nationality	:	Indian.
Languages Known	:	Tamil, English.
Professional Status	:	Pursuing F.T Ph.D (funded by MOEF, New Delhi)

References:

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Declaration:
The information given above is true and correct to the best of my knowledge.

Yours sincerely,
S.M.Leela Bharathi.

Place: Srivilliputtur
Date: 14.07.2025