

## Dr. Roopa M

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### Education

Degree	Year	Institute	Specialization
Ph.D.	2022	SAHE University, Tumakuru	Civil Engineering (Structures)
M.Tech	2015	UBDT College of Engineering	CAD Structures
B.E.	2012	SIT, Tumakuru	Civil Engineering

### Professional Experience

Date (from-to)	Designation	Organization
July 2023 - Present	Assistant Professor	SIT, Tumakuru
2015 - 2023	Assistant Professor	SSIT, Tumakuru
2012 - 2013	HOD	Akshaya Polytechnic, Tumakuru

### Positions Held

- AICTE-IIC Start-Up Coordinator for Institute
- Co-Convenor for ETSDCE-2023 Conference
- IQAC - Research Coordinator
- NEP Department Coordinator
- Department Extensive Survey Camp Officer
- NBA Department Coordinator
- Cultural Coordinator
- Placement Department Coordinator
- Coordinator for various workshops/seminars

### Affiliations of Professional Organizations

- Lifetime Member, M. INSTRUCT

### Awards and Honors

- Winner of "Suvarna Superstar" (Star Suvarna)
- Judge for various institutional cultural events
- Best Project of the Year (VTU-KSCST, 2022)

- First Prize in DBIT-TEXPO-2021
  - Selected for VTU Technical Book Writing (Kannada)
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## Courses Taught

### Undergraduate Courses

- Concept of Prefabrication and Precast Structures
- Composites & Smart Materials
- Computational Structural Mechanics
- Advanced Mechanics of Materials
- Applied Mechanics
- Construction Technology & Building Materials
- Applied Mechanics
- Design of RCC Structures
- Concrete Technology
- Design of Steel Structures
- Design and Drawing of RCC Structures
- Building Planning and Drawing
- Strength of Materials
- AutoCAD Lab
- Bridge Engineering
- AI in Structural Engineering
- Prestressed concrete structures
- AI and ML
- Building Construction and Technology
- Revit Lab

### Research Guidance

- Guided 10 PG Projects and 8 UG Projects
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## Research Areas

- Soil Structure Interaction
  - Geodesic Dome Analysis
  - Structural Dynamics
  - Smart Materials
  - Sustainable Structures
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## Sponsored Projects

### Completed Projects:

- Assessment of Archaeological Geometry Tumakuru Heritages Monuments – KSCST – 7000/- – 2022-23 – Role: PI
- Experimental Study on Geodesic Dome (Shake Table Test) – KSCST – 6000/- – 2019-20 – Role: PI
- Partial Replacement of E-Plastic Waste – KSCST – 6000/- – 2020-21 – Role: PI
- Bamboo Geodesic Dome Fabrication – KSCST – 8000/- – Role: PI
- AICTE-ATAL FDP on Soil Structure Interaction – AICTE – 3.5 Lakhs – 2023 – Role: Co-Coordinator

PUBLICATIONS Google Scholar Indexing: Citations-20, h-index -2, i10-index-1.

1. Roopa M, Venugopal H, J, Nagaral M. (2022) Soil Structure Interaction Analysis of a Single Layer Latticed Geodesic Dome. Indian Journal of Science and Technology. 15(7): 292-299. <https://doi.org/10.17485/IJST/v15i7.35>.
2. Roopa M., Lakshmi K.B., Venugopal H. (2022) Dynamic Analysis of Geodesic Dome Structure. Sustainability Trends and Challenges in Civil Engineering. Lecture Notes in Civil Engineering, vol 162. Springer, Singapore. [https://doi.org/10.1007/978-981-16-2826-9\\_56](https://doi.org/10.1007/978-981-16-2826-9_56).
3. M. Roopa, V Priyanka, H. Venugopal, “Dynamic Behaviour of Geodesic Dome Structure for Different Time Histories” Journal of Mines, Metals and Fuels, Volume 70, Issue 3A, March 2022. <https://doi.org/10.18311/jmmf/2022/30679>
4. Roopa, M; Venugopal, H; Dr. Ravi Kumar, C M, Dynamic Analysis of Single-Layer Reticulated Geodesic Dome: A Literature Review, Ravi. IUP Journal of Structural Engineering; Hyderabad Vol. 14, Iss. 4, (Oct 2021): 46-56.
5. Roopa M, Noor Hafsa, Dr. H Venugopal. Seismic Analysis of a Geodesic Dome Using Time History Method. International Research Journal of Engineering and Technology (IRJET). Volume 8, Issue 11. 2021. 118-121
6. Roopa M, Venugopal H (2019) “Soil Structure Interaction using Soft Computing Techniques: A Review” International Journal of Scientific Development and Research (IJS DR), Volume 4, Issue 3, 2019, Pages 188-190.

7. Roopa M, Naikar H G and Dr.Prakash D S (2015) Soil Structure Interaction Analysis on a RC Building with Raft foundation under Clayey Soil Condition International Journal of Engineering Research & Technology Volume 4, Issue 12, pages 319-323.
8. Roopa M, Tejaswini M(2022)" Seismic Pounding Analysis on Two Adjacent Similar And Dissimilar Storey Buildings Using Time History" Journal of Maharaja sayajirao university of Baroda(UGC CARE GROUP 1 JOURNAL), Volume 56, Issue 6(1).
9. Roopa M, K N Meghana "Analytical study on Roof Structure of a Metro Station with respect to Earthquake and Wind Effect" International Journal of Creative Research Thoughts – IJCRT, Volume 9, Issue 6, pages 428-432
10. Roopa M, Rahul G "Study on Project Planning, Scheduling and Execution of Residential Apartment Using MSP" International Journal of Scientific Development and Research (IJS DR), Volume 4, Issue 5, 2019, Pages 252-257.
11. M Roopa, Sri raksha R. Das, M. Sanjana B. S. Thungashree, "Study on Partial Replacement of E-Plastic Waste as Coarse Aggregates" Journal of Mines, Metals and Fuels, Volume 70, Issue 3A, March 2022. <https://doi.org/10.18311/jmmf/2022/30678>.
12. Roopa, M., Jayachandra, and Manjunath Vatnalmath. "SSI on Geodesic Dome Using RSM and Comparison with ANN." International Conference on Interdisciplinary Approaches in Civil Engineering for Sustainable Development. Singapore: Springer Nature Singapore, 2023. [https://doi.org/10.1007/978-981-99-9610-0\\_14](https://doi.org/10.1007/978-981-99-9610-0_14)

## CONFERENCES

1. Presented a paper Dynamic Analysis of Geodesic Dome Structure in International conference on Civil Engineering Trends and Challenges for Sustainability CTCS 2020, organized by NMAMIT, Nitte, Karkala from 22-23 December 2020.
2. Presented a paper Dynamic Behaviour of Geodesic Dome Structures for Different Time Histories in Recent Advances in Mechanical Engineering & Allied Fields. AICTE Sponsored 3rd national conference, organized by Sir MVIT, Bengaluru During 17–19 January 2022.
3. Presented a paper SSI on Geodesic Dome using RSM and comparison with ANN in Interdisciplinary Approaches in Civil Engineering for Sustainable Development. 7-8 July-2023 organized by Jyothy Institute of Technology, Bengaluru.

## Patents

A metal matrix composite and method thereof- granted on 25-03-2025 (Patent Number: 563523 granted for 20 years)

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## Invited Lectures, Talks and Workshops

Delivered a Technical Talk on “Entrepreneurial Mindset and Skills” at Sri Jagadguru Mallikarjuna Murugharajendra Institute of Technology (SJMIT), Chitradurga, as distinguished speaker for the Entrepreneurship Awareness Programme (EAP) held on 10th March 2025.

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## Workshops/FDPs Attended

Participated in 12+ FDPs/workshops/seminars from institutions including NITTTR Chennai, JIT Bengaluru, and others. Topics range from BIM, Revit Architecture, Geotechnics, Biodiversity, Earthquake Design, Research Methodology, etc.

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## Languages Known

- Kannada, English, Hindi, Telugu
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## Software Skills

- AutoCAD, ETABS, SAP2000, OpenSees, Primavera, E-Survey CADD, STAAD.Pro, MATLAB, Revit Architecture.



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