

## Faculty Profile

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**About me:** In 2015, I started my teaching career at NIE. I teach Civil Engineering subjects related to Mechanics and Design. Before joining NIE, I was pursuing research (Ph.D) at Indian Institute of Science, Bangalore (IISc) in the field of Structural Masonry, developing energy efficient & low carbon building materials utilising non-organic solid wastes. My PhD and undergraduate students tend to work in the design, testing and analysis of masonry structures, funded by the State/institutional level funding agencies. I have been awarded the Indo-U.S. Science & Technology Forum's Building Energy Efficiency Higher & Advanced Network (BHAVAN) Fellowship for the year 2019. I was a Visiting Assistant Professor (July 2019 to July 2020) in the Department of Civil and Environmental Engineering, University of South Carolina, USA. In the year 2022, I was nominated as Principal Member, Bureau of Indian Standards (BIS) for CED - 30 "Clay and Stabilized Soil Products for Construction".

### ***Positions held at NIE:***

- Co-ordinator: SC/ST & BCM cell, taking care of SC/ST & BCM students (01/2016 – till date)
- Officer in-charge: Basic Materials Testing Laboratory (10/2021 – till date)
- SPOC: Online test and SEE during COVID-19 (08/2020 – 09/2021)
- Valuation Co-ordinator: Semester End Exam (SEE), Academic year 2022-23

**Qualification:** B.E. (VTU, Belagavi), M.Sc. Engg., (IISc), Ph.D. (IISc)

### **Courses Taught:**

- Engineering Mechanics
- Design of RC Structures
- Design of Storage Structures
- Research Methodology
- Alternative Building Materials and Structural Masonry

### **Publications:**

#### **Journal Publication:**

1. **K. Gourav, K. S. Nanjunda Rao, B. V. Venkatarama Reddy.** Prediction of Out-of-plane Flexural Behaviour of FaL-G Brick Masonry using Simplified Micro-modelling

- Approach, *Masonry International* (International Masonry Society), 33(1), 2020. pp 1-14.
2. David A. Weed, Adam G Tennant, Mohamed Hosein Motamedi, **K. Gourav**, Craig D Foster, B. V. Venkatarama Reddy. Finite Element Model Application to Flexural Behavior of Cement Stabilized Soil Block Masonry, *Materials and Structures* (Springer Nature), 53 (61), 2020. <https://doi.org/10.1617/s11527-020-01490-z>
  3. **K. Gourav**, S. N. Ullas, B. V. Venkatarama Reddy. Studies on properties of Flowable Earth Mix concrete for monolithic load bearing walls, *Construction and Building Materials* (Elsevier). 2020;250:118876. doi:10.1016/j.conbuildmat.2020.118876.
  4. Shrinivas Hebbar A, Shrinidhi D Kulal, Tajmul Pasha, Prasanta Kumar, **K. Gourav**. Numerical and Experimental Investigation of Vibration Isolation of Three-storied Building Structure using Tuned Mass Damper, *International Journal of Recent Technology and Engineering*, 2019; 8(1): 141-149.
  5. **K. Gourav**, B. V. Venkatarama Reddy. Out-of-plane flexure behaviour of fly ash-lime-gypsum brick masonry walls. *Engineering Structures* (Elsevier). 2018;173:241-250. doi:10.1016/J.ENGSTRUCT.2018.06.114.
  6. **K. Gourav**, B. V. Venkatarama Reddy. Bond Development in Burnt Clay and Fly Ash-Lime-Gypsum Brick Masonry. *Journal of Materials in Civil Engineering* (ASCE). 2018;30(9):04018202. doi:10.1061/(ASCE)MT.1943-5533.0002412.
  7. P. Shobha, G. Ravi, **K. Gourav**. Dynamic analysis and testing of steel and wooden frames, *International Journal of Civil Engineering and Technology*. 2018; 9(6): 264-272.
  8. B. V. Venkatarama Reddy, H Hemanth Kumar, S. N. Ullas, **K. Gourav**. Non-organic solid wastes - potential resource for construction materials. *Current Science* (Indian Academy of Science). 2016;111(12):1968-1976.
  9. **K. Gourav**, B. V. Venkatarama Reddy. Characteristics of compacted fly ash bricks and fly ash brick masonry. *Journal of Structural Engineering* (JoSE). 2014;41(2):144 – 157.
  10. B. V. Venkatarama Reddy., **K. Gourav**. Strength of lime-fly ash compacts using different curing techniques and gypsum additive. *Materials and Structures* (RILEM). 2011;44(10):1793-1808. doi:10.1617/s11527-011-9738-5.

#### **Book Chapters:**

1. **K. Gourav**., Jahnavi, S., Manjula, R., Lahari, H., Dhanalakshmi, S., Mahanthesh, A. (2026). Comparison of the Embodied Energy of Traditional Lime Mortar and Modern Cement-Based Mortars. In: Pavan, G.S., Yaragal, S.C., Rao, K.S.N. (eds) *Sustainable Built Environments: Challenges and Innovations*. SIIOC 2024. Lecture Notes in Civil Engineering, vol 666. Springer, Singapore. [https://doi.org/10.1007/978-981-96-7971-3\\_4](https://doi.org/10.1007/978-981-96-7971-3_4)
2. K. Kavyashree and **K. Gourav**, “Study on Compression Strength of Masonry Prism Using Cementitious Grouting Material as Mortar,” in *Lecture Notes in Civil Engineering*, vol 455. Springer, Singapore, 2024, pp. 469–477. doi: 10.1007/978-981-99-9502-8\_40
3. H. G. Maniranganath and **K. Gourav**, “Studies on Flexural and Shear Bond Strength

of Masonry Using Cementitious Grouting Materials as Mortar,” in Lecture Notes in Civil Engineering, vol 455. Springer, Singapore., 2024, pp. 479–487. doi: 10.1007/978-981-99-9502-8\_41

4. **K. Gourav.**, S. N. Ullas. (2019) Characteristics of Flowable Stabilised Earth Concrete. In: Reddy B., Mani M., Walker P. (eds) Earthen Dwellings and Structures. Springer Transactions in Civil and Environmental Engineering. Springer, Singapore

### Conference Proceedings:

1. Disha, J., and **Gourav, K.** A Collateral study on Optimization of Pre-Engineered building with Tubular sectional connection. IOP Conference Series: Earth and Environmental Science, 1130(1), 2023, 012028. <https://doi.org/10.1088/1755-1315/1130/1/012028>
2. Naik, P., and **Gourav, K.** Analysis of Skew Bridge-Slab Under IRC Vehicle Loading. IOP Conference Series: Earth and Environmental Science, 1130(1), 2023, 012034. <https://doi.org/10.1088/1755-1315/1130/1/012034>
3. Aruna K L., Dhruva Kumar M., Pratheepa H D., Sanjay and **Gourav K.** Flexure and Shear Strength of Joints Using Bonding Material, 4<sup>th</sup> International Conference on Recent Advances in Engineering Sciences (ICRAES 2022), October 13 - 14, 2022 at Ramaiah Institute of Technology, Bangalore.
4. Disha J. and **Gourav K.** Pre-Engineered Construction – A Review, International Virtual Conference on Emerging Research Trends in Structural Engineering (ERTSE 2022), March 24 -25, 2022 at Vellore Institute of Technology, Chennai, INDIA.
5. Shrinivas Hebbar A, Shrinidhi D Kulal, Tajmul Pasha, Prasanta Kumar and **Gourav K.** Numerical and Experimental Investigation of Vibration Isolation of Three-storied Building Structure using Tuned Mass Damper, International Conference on Advances in Mechanical Engineering & Management (ICAMEM - 2019), March 22 - 23, 2019 at Vidyavardhaka College of Engineering, Mysore, INDIA.
6. **Gourav K** and Ullas S N. Characteristics of Flowable Earth Concrete. International Symposium on Earthen Structures 2018, 22 - 24 August 2018, IISc, Bangalore, India.
7. **Gourav K**, Balaji NC, Venkatarama Reddy BV, Mani M. Studies into structural and thermal properties of building envelope materials. In: Energy Procedia. Vol 122. ; 2017. doi:10.1016/j.egypro.2017.08.037.
8. Sarangapani, G and **Gourav K.** Compressive Strength of Alternative Concrete Block Masonry units. In: Global Civil Engineering Challenges in Sustainable Development and Climate Change - (ICGCSC-17) Proceedings Volume Of International Conference. ; 2017:127-130.
9. **Gourav K** and Venkatarama Reddy B V. Strength development in lime-fly ash compacts using different curing techniques and additives. In: Proceedings International Seminar on Waste to Wealth. ; 2009:145-150.

## **Other achievements:**

### ***Professional Service:***

- Principal Member (Nominated), Bureau of Indian Standards (BIS) CED - 30 “Clay and Stabilized Soil Products for Construction”
- Reviewer, Journal of Materials in Civil Engineering (ASCE)
- Reviewer, Journal of Building Engineering (Elsevier)
- Reviewer, Process Safety and Environmental Protection (Elsevier)
- Reviewer, Sustainable Environment Research (Elsevier)
- Reviewer, Sadhana – Academy Proceedings in Engineering Sciences (Springer Nature)

### ***Research Projects:***

- “Developing earth-based building products utilising solid wastes,” UK-India Education and Research Initiative 2016. (Start date: 1.04.2017 End date: 31.03.2019) Role: Principal partners (with: Prof. B. V. Venkatarama Reddy, India Lead partner at Indian Institute of Science, Bangalore; Prof. Pete Walker, UK Lead partner at Department of Architecture and Civil Engineering, University of Bath, UK)
- “Seismic performance of adobe building – Model study of Bhunga Houses”, Karnataka State Council for Science and Technology (KSCST) Student’s Project 2018 – 19 [42S\_BE\_2137]. Start date: January 2019 End date: April 2019. Role: Guide

### ***Standards reviewed (Clay and Stabilized Soil Products for Construction Sectional Committee, CED 30):***

1. IS 1725: 2023 - Stabilized Soil Blocks Used in General Building Construction — Specification
2. IS 13317: 2023 - Clay Roofing Country Tiles, Half Round and Flat Tiles — Specification
3. IS 3951 (Part 1): 2023 - Hollow Clay Tiles for Floors and Roofs — Specification: Part 1 Filler Type
4. IS 3951 (Part 2): 2023 - Hollow Clay Tiles for Floors and Roofs — Specification: Part 2 Structural Type
5. IS 3367: 2023 - Burnt Clay Tiles for Use in Lining Irrigation and Drainage Works — Specification
6. IS 2690 (Part 1): 2023 - Burnt Clay Flat Terracing Tiles — Specification: Part 1 Machine Made
7. IS 2690 (Part 2): 2023 - Burnt Clay Flat Terracing Tiles — Specification: Part 2 Hand Made
8. IS 5454:2024 - Burnt Clay Bricks and Burnt Clay Tiles — Methods of Sampling
9. IS 1464: 2024 - Clay Ridge and Ceiling Tiles — Specification

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