Dr. VARSHA BN

Email: ankanacc@gmail.com / varsha.bhushana@gmail.com

Ph: +91-9035746766

Moto : ***Collaborate : Industry - Research & Development - Academics***

EDUCATION SUMMARY

- **PhD** (2019) in 'Life cycle energy and cost of urban residential buildings' - VTU, Belagavi.
- **M.Tech** (2010-2012) Construction Technology and Management - NITK, Surathkal.
- **BE** (2006-2010) Civil Engineering - BMS College of Engineering (VTU), Bengaluru.

INDUSTRY EXPERIENCE

Founder **- ANKANA CONSTRUCTION CONSULTANTS**

The company incepted in December 2018 handles projects in specialized field of repair, restoration and rehabilitation of structures, structural health and design consultation, third party audits, material evaluation and initiates construction related workshops and awareness programs.

Conservation projects handled :

- Structural evaluation and repair methodology of *Bangalore gate [Octroi]* building at Royan circle, Bengaluru - INTACH Bangalore Chapter
- Structural assessment of Chambers - *Heritage block at Bangalore club* - INTACH Bangalore Chapter
- Preliminary structural and foundation assessment of *St. Mark's Cathedral*, Bengaluru - INTACH Bangalore Chapter
- Structural evaluation and restoration plan for heritage buildings [*Government Mines Middle School and Mahanagara Palike Corporation Building*] in Shivamogga under the Smart city program - INTACH Bangalore Chapter
- Scrutiny of repair methodology adopted by M/s Helifix India Pvt. Ltd. for the restoration works carried out at *Ripon building*, Chennai
- Holistic structural assessment of *Government Girls High School* building in Malleshwaram, Bengaluru - Esthétique Architects
- Structural assessment and repair methodology for heritage buildings in *RBANM campus* in Bengaluru - INTACH Bangalore Chapter

Few other projects :

- Structural assessment of load-bearing elements for different residential, commercial and institutional buildings.

- Structural strengthening and modification schemes of load-bearing elements in a private residence.
- Design and construction methodology for construction of astronomical structures - Samrat yantra - M/s. LMWBP, Ar. Sanjog Shetty
- Scrutiny of design concepts & detailing and Issue of stability certificate for erected Stalls & allied special structures for Aero India Show 2019, 2021, 2023 at Yelahanka AFS.
- Providing structural design and integration protocol of existing load-bearing masonry residential building and to-be constructed building of a private residence, in Lakshimipuram, Mysuru - LMWBP, Ar. Sanjog Shetty

We are also involved in **RESEARCH AND DEVELOPMENT** of construction materials & technologies, lifecycle analysis of buildings and sustainable construction practices :

- Lifecycle analysis and cost optimisation in Urban residential buildings
- Evaluation of Interlocking hollow concrete block masonry - M/s Ashok Lall Architects, New Delhi
- Embodied energy implications on the restoration of heritage structures - a case study of Fort high school, Bengaluru - INTACH Bangalore Chapter

ACADEMIC EXPERIENCE

I have associated since October 2020 with ***B.M.S. College of Engineering, Bengaluru as Assistant Professor*** in the Department of Civil Engineering to empower the next generation civil engineers.

Recent Publications

- Chaithra, E., Keshava, M., Varsha, B.N. (2025). A Study on Embodied Energy of GGBFS-Based Mortar Mixes. In: Guruprasad, Y.K., Dodagoudar, G.R., Rao, K.S.N., Pandey, P.C., Nagaraj, H.B. (eds) Recent Advances in Infrastructure Development and Management - Volume 1. MTCEIDM 2023. Lecture Notes in Civil Engineering, vol 570. Springer, Singapore. https://doi.org/10.1007/978-981-96-1554-4_19
- Vidyadhara, V., Ranganath, R. V., & Varsha, B. N. (2025). Optimization of Na2O and Activator modulus to produce sustainable ground pond ash and GGBS-based geopolymer concrete. Environmental science and pollution research international, 32(26), 15975-15994.
- Amrutha T A, Chaithra E, Mangala Keshava, Varsha B N, “Studies on copper slag as a substitute to fine aggregates in mortar mixes”, Paper presented on 23.01.2025 in the International Conference on “1st International conference on Innovation in Sustainable and Digital construction Practices ISDCP 2025”, organized by DSCE during 23rd-25th January 2025. Paper ID- ISDCP_008
- Varsha BN, Jitha PT and Raghunath S, Embodied Energy and Cost of Load-bearing

Masonry with alternative Binders and Units – Case study, 3rd International Conference on Innovative Technologies for Clean and Sustainable Development (ITCSD2020), Chandigarh, February 19 – February 21, 2020; Book chapter in RILEM Book series, Vol 29. Springer.

- Varsha BN, Saranya S and Jayanth KR, Embodied Energy of Aggregates and Masonry Units produced around Bengaluru, India, International Journal of Advances in Science Engineering and Technology, Vol-6, Issue 1, Spl. Issue 1, 2018, 42-45.
- Varsha BN, Raghunath S and Mangala Keshava, Influence of Choice of Structural System & In-Fill Masonry on the Embodied Energy & Cost of a Low-Rise Residential Urban- Building Indian Case Study, Open Journal of Energy Efficiency, 6, 2017, 41- 60.
- Jyothi TK, Varsha BN, Raghunath S and Jagadish KS, Embodied Energy & Cost Issues of Tank-Bed-Lime Based Geopolymer Adobes, Open Journal of Energy Efficiency, 6, 2017, 128- 139.

Under the knowledge sharing initiative ***technical talks*** have been delivered at Administrative Training Institute, Mysore for the PPP Cell and at other workshops and technical platforms.

In an effort to update and enhance my knowledge with current trends in the field of civil engineering, I have actively participated in various faculty development programs and enrolled in NPTEL courses over time.

RESTORATION PROJECTS

Before and after restoration - Bangalore gate [Octroi]

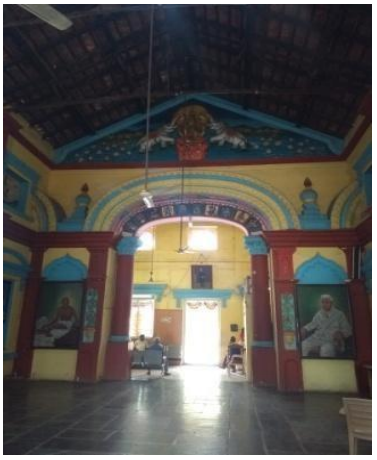

Structural assessment of Heritage Block - Bangalore Club


Structural and foundation assessment - St. Marks Cathedral



Shivamogga Heritage Project - Government Mines Middle School

Shivamogga Heritage Project - Mahanagara Palike Corporation Building



Structural repair scrutiny - Ripon Building

Holistic restoration plan - Government Girls High School building, Malleshwaram

RESEARCH & DEVELOPMENT

Evaluation of Interlocking hollow concrete block masonry

Individual specimen, prisms, shear triplets testing in Laboratory

Full scale wall testing