

GMU - Faculty & Staff Profile



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Dr. Varun B K

Associate Professor in Civil Engineering & Program Director for M.Tech (CASE)

Faculty

Faculty of Engineering and Technology

School / Program

School of Engineering & GM School of Advanced Studies /
B.Tech. in Civil Engineering & M.Tech (CASE)

Faculty Introduction

Dr. Varun B K is an accomplished academician and researcher in Civil and Structural Engineering with over fourteen years of teaching and research experience. His expertise lies in sustainable construction materials, particularly in enhancing the mechanical and durability characteristics of concrete. He has published numerous research papers in reputed international journals and holds patents. Passionate about guiding young minds, Dr. Varun integrates research, innovation, and ethics into teaching, inspiring future civil engineers to contribute effectively to nation building.

Qualifications

Ph.D. in Faculty of Civil Engineering Sciences

Visvesvaraya Technological University, Belagavi, 2022

M. Tech. in Structural Engineering

Manipal University, Manipal, 2011

BE in Civil Engineering

Visvesvaraya Technological University, Belagavi, 2008

Experience

Teaching

- 12 Years at GM Institute of Technology, Davanagere
- 02 Years at GM University, Davanagere

Industry

NIL

Research

- Concrete technology and infrastructure sustainability

Training Program Attended

- Application of Ultrasonic Pulse Velocity Equipment for Non-Destructive Testing in Consultancy Services
- Training on “Rivet Architecture” at GM University, Davanagere (03/10/2024 - 05/10/2024).
- “Leadership Training Program” at School of Design Thinking Lab, Chennai (12/03/2025 - 13/03/2025).

Research Interest

- Sustainable construction materials
- Polymer-modified concrete
- Smart city technologies
- Concrete durability enhancement using industrial by-products.

Awards & Achievements

- Apparatus And Methods For Filling A Pit (App. No. 202241012814, Filed 09/03/2022, Published 18/03/2022).
- VANET-IoT Based Intelligent Traffic Management System For Smart Cities (App. No. 202341010713, Filed 17/02/2023, Published 17/03/2023).

Publication / Patents

- Hanumesh B M, B K Varun, Harish B A, The mechanical properties of concrete incorporating silica fume as partial replacement for cement, International Journal of Emerging Technology and Advanced Engineering, Vol. 5, Issue 9, 2250-2459, Sep 2015.
- B K Varun, Harish B A, Hanumesh B M, The mechanical properties of concrete incorporating quarry dust and foundry sand as partial and complete replacement for fine aggregate, International Journal of Emerging Technology and Advanced Engineering, Vol. 6, Issue 9, 2250-2459, Sep 2016.
- B K Varun, Harish B A, Effect of addition of fly ash and GGBS on cement concrete in fresh and hardened state, International Journal of Advance Engineering and Research Development, Vol. 5, Issue 2, Feb 2018.
- Kiran Kumar H S, Bharatharaj Etigi Y B, Varun B K, Punith C G, Water Quality Analysis of Avaragere Lake- A Case Study, International Research Journal of Engineering and Technology, Vol. 5, Issue 12, 526-532, Dec 2018.
- Kiran Kumar H S, Bharatharaj Etigi Y B, Varun B K, Punith C G, Water Quality Analysis of Aghanashini Estuary, Karnataka- A Case Study, International Research Journal of Engineering and Technology, Vol. 5, Issue 12, 609, Dec 2018.
- B K Varun, Harish B A, Y B Bharatharaj Etigi, Kiran Kumar H S, Hanumesh B M, Effect of Red Mud and Silica Fume on Cement Concrete in the Fresh and Hardened State, International Journal for Research in Applied Science and Engineering Technology, Vol. 6, 522-528, Dec 2018.

- B K Varun, Shreyas A R, Vasanth Kumar K P, Harsha R, Effect of Addition of Silica Fume and GGBS on Cement Concrete in Fresh and Hardened State, Journal of Emerging Technologies and Innovative Research, Vol. 7, 334-339, July 2020.
- B.K.Varun, C.P. Anila Kumar, Strength Characteristics of Polymer Modified High Volume Fly Ash Concrete, Materials Today: Proceedings, Vol. 46, 285-288, 2021.
- Varun B.K., Anila Kumar C.P., Flexural and Shear Characteristics of Polymer Modified High Volume Fly Ash Concrete, Materials Today: Proceedings, Vol. 46, 289-293, 2021.
- S. Neelambike and B K Varun., Effect of Addition of LD Slag Aggregate on Fresh and Hardened Properties of Cement Concrete, ASM Sc.J., 18, 2023.
- B K Varun, Y B Bharatharaj Etigi and S. Neelambike., Effect of Metakaolin and Fly Ash Addition on Fresh and Hardened Cement Concrete, International Journal of Recent Advances in Multidisciplinary Topics, Vol. 4, 2023.
- B K Varun, Y B Bharatharaj Etigi and S. Neelambike., Sugarcane Bagasse Ash Addition has a Positive Impact on Both the Fresh and Hardened Properties of Cement Concrete, International Journal of Recent Advances in Multidisciplinary Topics, Vol. 4, 2023.
- S. Neelambike and B K Varun., A Weight-Based Clustering Algorithm is Used by Military Vehicles for VANET Communication, ASM Sc.J., 20(1), 2025.

Professional Membership

- Indian Society for Technical Education. (Membership No. LM108242) (Life Member)

Awards & Recognitions

- Honoured for exemplary contributions as a speaker and resource person in technical forums, NBA guidance sessions, and faculty development programs.
- Acknowledged for promoting academic excellence and professional growth in the field of civil engineering.

Administrative Responsibilities

- Lead Consultant for Civil Department consultancy services
- Coordinator for Centre of Excellence with Ultratech Cements
- 5S Auditor
- Green and Energy Audit Committee member
- Campus Management Committee member
- Idea Lab- Business Incubation and Start Ups
- Program Director for M.Tech CASE

Workshops / FDPs / Seminars Attended

- Workshop on “Research Methodology and Latex” at Don Bosco Institute of Technology, Bengaluru (19/06/2019 - 21/06/2019).

- Workshop on “NAAC Awareness Programme for Faculty” by MMIT, Lohgaon, Pune (08/05/2020 - 14/05/2020).
- FDP on “Advancements in Civil Engineering” at PESITM, Shivamogga (27/07/2020 - 31/07/2020).
- FDP on “Modeling and Computing Techniques in Civil Engineering” at Tontadarya College of Engineering, Gadag (17/08/2020 - 21/08/2020).
- FDP on “Civil Engineering Structures Subjected to Vibrations” at Ramaiah Institute of Technology, Bengaluru (02/09/2020 - 04/09/2020).
- 2nd International Conference on “Manufacturing, Material Science and Engineering” at CMRIT, Hyderabad (18/12/2020 - 19/12/2020).
- Workshop on “Intellectual Property Rights and IP Management For Start–Up” at RYMEC, Ballari (26/04/2021 - 01/05/2021).
- Workshop on “Concepts and Practices in Civil Engineering” at BIET, Davanagere (07/06/2021 - 09/06/2021).
- 2nd International Conference on “Emerging Trends in Science, Engineering and Management” at GMIT, Davanagere (15/07/2021 - 16/07/2021).
- Refresher Programme on “Developments in Building Diagnosis” at VTU, Kalaburgi (03/03/2022 - 09/03/2022).
- FDP on “Research, Work Etiquette and Healthy Lifestyles” at SJB Institute of Technology, Bengaluru (19/09/2022 - 24/09/2022).
- FDP on “Taking Research to Next Level” at Venkateshwara College of Engineering, Bengaluru (26/09/2022 - 30/09/2022).
- FDP on “Leadership Training Program” at GM University, Davanagere (25/06/2024 - 26/06/2024).
- ATAL FDP on “Roots to Recipes: Tech-Driven Agri Practices” at GMIT, Davanagere (20/08/2025 - 22/08/2025).
- Workshop on “Product Design” at GM University, Davanagere (22/08/2025 - 23/08/2025).

Workshops / FDPs / Seminars Organized

- Waterproofing & Tile Adhesive Training Program” under the UltraTech Skill Honing Academy (USHA) initiative for Practicing Civil Community, on 06/08/2025
- Waterproofing & Tile Adhesive Training Program” under the UltraTech Skill Honing Academy (USHA) initiative for Civil Contractors, on 17/09/2025

Projects Guided

- This series of research projects explores the sustainable development of concrete by incorporating industrial and agricultural by-products as partial replacements for cement and aggregates. Materials such as silica fume, GGBS, fly ash, metakaolin, LD slag, copper slag, and various biomass ashes were investigated for their influence on the fresh and hardened properties of concrete. The studies aim to enhance concrete performance while reducing environmental impact. Results indicate significant improvements in strength and durability with optimized mix

proportions. These projects contribute toward promoting eco-friendly and cost-effective construction materials.

- Effect of Addition of Silica Fume and GGBS on Cement Concrete in Fresh and Hardened State
- Effect of Addition of Metakaolin and Fly Ash on Cement Concrete in Fresh and Hardened State
- Effect of Addition of Sugarcane Bagasse Ash as a Partial Replacement of Cement on Fresh and Hardened Properties of Cement Concrete
- Study of Concrete Using Areca Nut Husk Ash and Rice Husk Ash as Partial Replacement of Cement
- Study of Concrete Using Cow Dung Ash and Wood Ash as Partial Replacement of Cement
- Effect of Addition of LD Slag Aggregate on Fresh and Hardened Properties of Cement Concrete
- Experimental Study on Concrete Using Copper Slag as Partial Replacement for Fine Aggregate

Funded Projects / Grants Received

- Experimental Study on Concrete Using Copper Slag as Partial Replacement for Fine Aggregate, KSCST funded project in the year 2023.
- Study of Concrete Using Areca Nut Husk Ash and Rice Husk Ash on Partial Replacement of Cement, KSCST funded project in the year 2024.
- A Study on Stabilization of Clayey Soil Subgrade Using Nano Material, GMU Seed money in the year 2025.

Any Other Contributions