

Shashikant Kumar

Doctor of Philosophy
Structural Engineering



Contact Details

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Languages

English
Hindi

Hobbies

Writing
Sketching
Playing Cricket
Listening Music

Personal Details

Father's Name: Upendra Kumar
Date of Birth: 18/09/1990
Marital Status: Married

Career Objectives

My career objectives include gaining expertise in a multitude of facets of the organization of which I am a part, through continuous development. Subsequently, I will devote my skills and knowledge to efficiently and effectively handle whatever responsibility I have to shoulder.

Professional Experience

Assistant Professor: August 2020 to till date

- Currently working as an Assistant Professor at *Muzaffarpur Institute of Technology, Muzaffarpur* from Oct 2022 to till date.
- Worked as an Assistant Professor at Government Engineering College, Jamui from Aug 2020 to Sept 2022.

Educational Qualification

- Ph.D. in Structural Engineering/Civil Engineering, from *National Institute of Technology, Patna* (2015-2021).
- M.Tech. in Structural Engineering/Civil Engineering, from *National Institute of Technology, Patna* (2013-2015) & Secured 8.69 CGPA (81.99%).
- B.Tech. in Civil Engineering, from *Muzaffarpur Institute of Technology, Muzaffarpur* (2009-2013) & Secured 81.53%.
- I.Sc. (+2), from *Gaya Collage, Gaya* (BSEB Patna) (2007) & Secured 63.67%.
- Matriculation, 10th Std. from *Shyam Babu High School, Gaya* (BSEB Patna) (2005) & Secured 79.14%.

Project Work

- Project for partial fulfilment of degree in Ph.D. "*Development of High Volume Fly Ash Self-Compacting Concrete with Silica Fume*"
- Project for partial fulfilment of degree in M.Tech. "*Performance of Fly Ash induced Self-Compacting Concrete with Silica Fume*"
- Project for partial fulfilment of degree in B. Tech. "*Mix Design of M-40 Grade Concrete*"

Technical Skills

- Operating Systems: Windows, macOS, Linux, Android, and iOS
- Software Packages: MS Office, Computer Aided Design, STAAD PRO
- Programming Languages: FORTRAN, Python, Microsoft Azure

Scholastic Achievement

- Participated in Short Term Training Program “*Induction Programme Phase II*” conducted by NITTTR Bhopal, from 15th September to 26th September, 2025 (2 Weeks).
- Participated in Short Term Training Program “*Induction Programme Phase I*” conducted by NITTTR Bhopal, from 10th March to 21st March, 2025 (2 Weeks).
- Participated in Faculty Development Program/Short Term Training Program on “*Advanced Pedagogy*” organised by NITTTR Kolkata, from 24th June to 5th July, 2024 (2 Weeks).
- Successfully completed the AICTE “*8 Module course*” of NITTTR in September 2023.
- Participated in Faculty Development Program on “*NBA and SAR Preparation*” organised by NITTTR Kolkata, from 24th to 28th July, 2023.
- Successfully completed the Professional Development Course “*Induction Training*” at Bihar Institute of Public Administration and Rural Development (BIPARD Gaya, Bihar) during 12th to 17th June, 2023.
- Participated in Faculty Development Program on “*Data Science using Python*” conducted by the iHUB Divya Sampark at Indian Institute of Technology Roorkee in association with Department of Science & Technology, Bihar during 04th Jan to 07th Feb, 2023 (4 Weeks).
- Participated in Two days online workshop on “*Outcome Based Education (OBE) & Preparedness for NBA Accreditation*” organized by State Project Implementation Unit, Bihar (SPIU Bihar) during 29th to 30th May, 2020.
- Participated in National Workshop on “*Recent Advances in Civil Engineering Research (RACER-2019)*” organized by Department of Civil Engineering, NIT Jamshedpur during 21st to 25th January, 2019.

Work Loads and Responsibilities

- Work Load: B.Tech.
 - Computer Aided Civil Engineering Drawing
 - Mechanics of Material
 - Analysis & Design of Concrete structure
 - Structural Analysis
 - Design of Steel Structure
 - Construction Cost Analysis
- Work Load: M.Tech.
 - Advanced Concrete Technology
 - Analysis & Design of Substructure
- Professor in-charge of Concrete lab & Mechanics of Solid Lab.
- Coordinator of Acting and Drama Society of Junoon Club.
- Gem Team Consignee
- Nodal officer of BBAS
- Assistant warden of Hostel.
- Lab Testing Executive Officer
- Professor in-charge MIT Smart.
- Departmental Academic Coordinator
- Coordinator for industrial visit
- Standing Committee Member of Civil Work
- AICTE Coordinator
- Departmental Faculty Coordinator of MOXIE
- Assistant Registrar

Additional Work

- Worked as a *Project Evaluator* for Bihar Council of Science and Technology (BCST) under the scheme “Support to Innovative Projects”

- Checked the quality of work of building construction at Sahid Khudiram Bose Central Jail, Muzaffarpur.

International Journals

- Kumar, D.R., **Kumar, S.**, Senjuntichai, T., & Kaewunruen, S. (2026). Hybrid explainable machine learning models for predicting rapid chloride penetration test and sorptivity of self-compacting concrete with fly ash and silica fume under thermal exposure. *Engineering Structure and Civil Engineering*, <https://doi.org/10.1007/s11709-026-1258-z>
- Kumar, S.**, Kumar, R., Sirimontree, S., Kumar, D.R., Wipulanusat, W., Keawsawasvong, S., & Thongchom, C. (2025). Smart prediction: Hybrid random forest for high-volume fly ash self-compacting concrete strength. *Frontiers of Structural and Civil Engineering*, 19, 892–918. <https://doi.org/10.1007/s11709-025-1184-5>
- Kumar, R., **Kumar, S.**, Rai, B., & Samui, P. (2024). Development of hybrid gradient boosting models for predicting the compressive strength of high-volume fly ash self-compacting concrete with silica fume. *Structures*, 66, 1–18. <https://doi.org/10.1016/j.istruc.2024.106850>
- Kumar, S.**, Kumar, D.R., Wipulanusat, W., & Keawsawasvong, S. (2024). Development of ANN-based metaheuristic models for the study of the durability characteristics of high-volume fly ash self-compacting concrete with silica fume. *Journal of Building Engineering*, 94, 1–26. <https://doi.org/10.1016/j.jobbe.2024.109844>
- Kumar, S.**, Kumar, R., Rai, B., & Samui, P. (2024). Prediction of compressive strength of high-volume fly ash self-compacting concrete with silica fume using machine learning techniques. *Construction and Building Materials*, 438, 1–18. <https://doi.org/10.1016/j.conbuildmat.2024.136933>
- Yadav, H., **Kumar, S.**, & Rai, B. (2023). Durability and fire resistance of high-performance fiber reinforced concrete with fly ash. *Journal of Structural Integrity and Maintenance*, 9(1), 1–16. <https://doi.org/10.1080/24705314.2023.2262249>
- Biswas, R., Li, E., Zhang, N., **Kumar, S.**, Rai, B., & Zhou, J. (2022). Development of hybrid models using metaheuristic optimization techniques to predict the carbonation depth of fly ash concrete. *Construction and Building Materials*, 346, 128483. <https://doi.org/10.1016/j.conbuildmat.2022.128483>
- Kumar, S.**, & Rai, B. (2021). Synergetic effect of fly ash and silica fume on the performance of high volume fly ash self-compacting concrete. *Journal of Structural Integrity and Maintenance*, 7(1), 61–74. <https://doi.org/10.1080/24705314.2021.1892571>
- Kumar, S.**, Rai, B., Biswas, R., Samui, P., & Kim, D. (2020). Prediction of rapid chloride permeability of self-compacting concrete using Multivariate Adaptive Regression Spline and Minimax Probability Machine Regression. *Journal of Building Engineering*, 32, 1–10. <https://doi.org/10.1016/j.jobbe.2020.101490>
- Kumar, S.**, & Rai, B. (2019). Pulse velocity–strength and elasticity relationship of high volume fly ash induced self-compacting concrete. *Journal of Structural Integrity and Maintenance*, 4(4), 216–229. <https://doi.org/10.1080/24705314.2019.1657615>
- Kumar, S.**, & Rai, B. (2018). A review of durability properties of SCC with high volume fly Ash. *International Journal of Civil Engineering and Technology*, 9(4), 1023–1038.

International Conference

- Kumar, S.**, Kumar, N., Kumar, V., Rahul, A.K., Priyadarshree, A., & Ansari, M.I. (2025). Influence of high-volume fly ash and silica fume on the behaviour of self-compacting concrete. In International Conference on Structural Integrity and Interactions of Materials in Civil Engineering Structures (SIIMCES-2025). *Structural Integrity Procedia* 70, 501-508. <https://doi.org/10.1016/j.prostr.2025.07.083>

Kumar, V., Priyadarshree, A., Rahul, A.K., **Kumar, S.**, Kumar, V., & Kumar A. (2025). Evaluating the influence of cement addition on the geotechnical properties of brick dust-mixed local soil. In International Conference on Structural Integrity and Interactions of Materials in Civil Engineering Structures (SIIMCES-2025). *Structural Integrity Procedia* 70, 303-310. <https://doi.org/10.1016/j.prostr.2025.07.057>

Kumar, A., Ansari, M.I., Bhusan, M., Kumar, S., Kumar, A., & **Kumar, S.** (2025). Numerical analysis of buried plate anchors in two-layered soil. In International Conference on Structural Integrity and Interactions of Materials in Civil Engineering Structures (SIIMCES-2025). *Structural Integrity Procedia* 70, 175-182. <https://doi.org/10.1016/j.prostr.2025.07.041>

Kumar, S., Kumar, N., & Kumar, V. (2024). Effect of High-Volume Fly Ash and Silica Fume on the Fresh, Hardened and Microstructural Properties of Self-Compacting Concrete. In International Conference on Sustainable Approach in Desalination, Water, Energy, Environment, and Advanced Materials for Water Purification & Annual Congress of InDA (InDACon - 2024) February 24-25, 2024, MIT Muzaffarpur.

Patent Granted

Shashikant Kumar, and Baboo Rai. 2022. "High Volume Fly Ash Self-compacting Concrete with Silica Fume having Post Fire Durability." : 1–36.

Extra-Curricular Activities

- Coordinator for Bihar Divas 2012 organized by 2009 batch on 22 March 2012.
- Participated in Cricket Tournament as a batsman.

Industrial Training

- Title : Vocational Training
- Organization : BSC-C&C JV. DFCC Project Site Mohaniya, Bihar
- Designation : Student of second Year of B.Tech.
- Duration : 28/09/2011 to 25/10/2011
- Description : The Training deal with Railway Bridge Construction Project under BSC-C&C JV of freight corridor.

References

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Place: Bihar

Date: 12/07/2024

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