



RESEARCH DIGEST

# Selected Journal Publications

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**35**

TOTAL PUBLICATIONS

**24**

SCIE/SCOPUS-INDEXED

**9**

SUMMARIZED HERE

**341**

TOTAL CITATIONS

Effect of Dolomite & Glass Fiber on Properties of Self-Healing Concrete

Banchhor, S., Sahu, T.K., Meshram, K., Mishra, U., Imam, A. (2025) · Cleaner Waste Systems, Elsevier, 10, 100204 · Corresponding Author

Investigates how dolomite and glass-fibre additions influence the self-healing performance of concrete, evaluating crack-closure efficiency and the resulting improvement in durability. Findings support the use of these additives to extend service life and reduce long-term maintenance needs in reinforced concrete structures.

Impact Factor 3.9   CiteScore 5.5   ESCI & Scopus

Evaluating the Durability Parameters and Bibliometric Trends of Alkali-Activated Concrete Containing Fly-Ash and GGBS

Imam, A., Banchhor, S., Mishra, U., Murmu, M., Deo, S.V., Meshram, K., Vijay, K. (2026) · Innovative Infrastructure Solutions, Springer, 11, 95 · Corresponding & First Author

Combines a systematic durability evaluation (permeability, absorption, and related transport properties) of fly-ash/GGBS alkali-activated concrete with a bibliometric analysis mapping global research trends in the field, identifying key gaps and future research directions.

Impact Factor 2.4   ESCI & Scopus

Performance Evaluation of Sustainable Concrete Utilising Waste Marble Dust and Glass Fibre Employing ANN-PSO

Lahre, P., Meshram, K., Mishra, U., Jan, A.Z., Imam, A. (2025) · Innovative Infrastructure Solutions, Springer, 10(57), 1-23 · Corresponding Author

Evaluates the strength performance of concrete incorporating waste marble dust and glass fibre, then applies an Artificial Neural Network optimized with Particle Swarm Optimization (ANN-PSO) to model and predict strength outcomes — demonstrating how industrial waste utilization can be paired with data-driven mix optimization.

Impact Factor 2.3   ESCI & Scopus

A Review Study on Sustainable Development of Ultra-High-Performance Concrete

Imam, A., Sharma, K.K., Kumar, V., Singh, N. (2021) · AIMS Materials Science, 9(1), 9-35 · Corresponding & First Author

A comprehensive review of sustainable approaches to Ultra-High-Performance Concrete (UHPC) development, covering supplementary cementitious material substitution, fibre reinforcement, and mix-design strategies for reducing UHPC's typically high cement content without compromising its exceptional strength and durability.

Impact Factor 1.8   CiteScore 3.7   Scopus & ESCI

Review Study Towards Corrosion Mechanism and its Impact on the Durability of Concrete Structures

Imam, A., Mishra, S., Bind, Y.K. (2018) · AIMS Materials Science, 5(2), 276-300 · Corresponding & First Author

A detailed review of the electrochemical mechanisms driving reinforcement corrosion in concrete structures, examining how chloride ingress and carbonation initiate and accelerate corrosion, and surveying mitigation strategies relevant to durability-focused structural design.

Impact Factor 1.8 CiteScore 4.2 Scopus & ESCI

Predicting the Compressive Strength of a Quaternary Blend Concrete Using Bayesian Regularized Neural Network

Imam, A., Salami, B.A., Oyehan, T.A. (2021) · Journal of Structural Integrity and Maintenance, Taylor & Francis, 6(4), 237-246 · Corresponding & First Author

Develops a Bayesian-regularized artificial neural network model to predict the compressive strength of quaternary blended concrete, demonstrating that machine-learning approaches can reliably estimate strength outcomes from limited mix-design datasets, reducing the physical testing burden of mix optimization.

Impact Factor 3.1 CiteScore 4.8 Scopus & ESCI

Seismic Site Characterization Using MASW in the Singhbhum Region of Jharkhand, India: A Case Study

Imam, A., Sharma, K.K., Kumar, V. (2023) · Acta Geodaetica et Geophysica, Springer, 58, 217-239 · Corresponding & First Author

Applies Multichannel Analysis of Surface Waves (MASW) to characterize subsurface shear-wave velocity profiles across the Singhbhum region, supporting seismic microzonation and site-specific ground-response assessment relevant to infrastructure risk planning in seismically active zones.

Impact Factor 1.8 SCIE & Scopus

# Data-Driven & Predictive Modelling

## Indirect Estimation of Compressive Strength of Blended Concrete with a Limited Dataset Utilizing the Random Forest Method

Imam, A., Anifowose, F., Pandey, A., Paswan, R.K., Mishra, U., Meshram, K., Reddy, N.G. · Construction Materials (Proceedings of the ICE), Emerald · First Author · Revised

Demonstrates that Random Forest regression can reliably estimate the compressive strength of blended concrete even from a small experimental dataset — a practical advantage for research and industry settings where extensive physical testing is costly or time-constrained.

Impact Factor 1.2    ESCI & Scopus

## Data-Driven Modelling of Quaternary Concrete Strength Using Machine Learning and Hyperparameter-Tuned Neural Networks

Imam, A., Yadav, N., Mishra, U., Pagariya, A., Kumar, R.H.S., Kumar, A., Prasad, P.B. · Emergent Materials, Springer · Corresponding Author · Under Review

Applies hyperparameter-tuned neural network architectures to model the compressive strength of quaternary blended concrete, systematically comparing tuning strategies to identify the model configuration that best balances predictive accuracy and generalizability.

Impact Factor 4.1    ESCI & Scopus

## Compressive Strength Modeling of Blended Concrete Based on Empirical and Artificial Neural Network Techniques

Sharma, K.K., Imam, A., Anifowose, F., Srivastava, V. (2020) · Journal of Structural Integrity and Maintenance, Taylor & Francis, 5(4), 252-264 · Corresponding Author

Compares traditional empirical regression models against artificial neural network models for predicting blended concrete compressive strength, establishing that ANN-based approaches offer measurably improved prediction accuracy over conventional empirical formulas.

Impact Factor 2.1    CiteScore 2.8    Scopus & ESCI

# Verify the Complete Publication Record

The nine publications summarized in this document represent a selection spanning Dr. Ashhad Imam's core research themes: self-healing and sustainable concrete, corrosion and structural durability, and AI/ML-driven materials modelling. They are drawn from a complete academic record of 35 peer-reviewed journal articles (24 SCIE/Scopus-indexed), 9 conference proceedings and papers, and 5 authored/edited books.

The complete, continuously updated publication record can be independently verified via:

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**Web of Science ResearcherID:** E-5445-2017

*Note: All journal names, impact factors, and citation metrics presented here reflect the most recent figures available to the author at time of writing and may be updated by the respective indexing services (Scopus, Clarivate/Web of Science) over time. Journal Impact Factors shown are as reported in the author's most recent academic CV.*