

Lecture Notes in Civil Engineering

Kamal Laksiri
Brajesh Kr Dubey
Smitha Gopinath
Preetha Prabhakaran *Editors*

Proceedings of ICITES-2025 Volume 2

Smart, Digital and Sustainable
Construction

 Springer

Lecture Notes in Civil Engineering

Volume 755

Series Editors

Marco di Prisco, Politecnico di Milano, Milano, Italy

Sheng-Hong Chen, School of Water Resources and Hydropower Engineering,
Wuhan University, Wuhan, China

Ioannis Vayas, Institute of Steel Structures, National Technical University
of Athens, Athens, Greece

Sanjay Kumar Shukla, School of Engineering, Edith Cowan University,
Joondalup, Australia

Anuj Sharma, Iowa State University, Ames, USA

Nagesh Kumar, Department of Civil Engineering, Indian Institute of Science
Bangalore, Bengaluru, India

Chien Ming Wang, School of Civil Engineering, The University of Queensland,
Brisbane, Australia

Zhen-Dong Cui , China University of Mining and Technology, Xuzhou, China

Xinzheng Lu , Department of Civil Engineering, Tsinghua University,
Beijing, China

Prediction of Unconfined Compressive Strength of Stabilized Soil Using Machine Learning	221
Anusree G. Lal, Thimothi George, Vaishnavi S, Vrindalekshmi P, and Ashok Mathew	
Study and Analysis on Reinforced Earth Walls and RCC Retaining Walls Using Plaxis	231
R. Anagha, S. R. Nihala, Arjun S. Kumar, A. K. Alfiya, and Gouri Antherjanam	
Reduction of Traffic Congestion by the Construction of a Skywalk at Adoor	239
Arjun Krishna, Abey Muhammad K, Abhishek Ananthan, A. Navaneeth Narayan, and Unnikrishnan S	
Mechanical Properties of Jute Fiber Reinforced Concrete	249
Sankalp Sonani and Jahanvi Suthar	
Enhancing Strength and Durability of Concrete Using Bacterial Impregnation and Mineral Admixtures	257
C. M. Meera and Subha Vishnudas	
Influence of Carbon Nanotube in GGBS-Based Geopolymer Mortar	271
Meetu R. Binu, K. Anjana, and T. Shanmuga Priya	
Assessment of Methane Emissions from the Lucknow Municipal Solid Waste Disposal Site Using LandGEM	281
Aditi Bhushan and Avneesh Tiwari	
Evaluating the Impact of Fly Ash, GGBFS, Silica Fume, and Metakaolin on Autogenous Shrinkage and Mechanical Properties of Concrete	293
Jerison Scariah James and Elson John	
An Experimental Study on the Mechanical Behavior of Human Hair Fiber Reinforced Dredged Soil	315
Mohammad Iqbal Mirza, Shujaat Hussain, Tajalee Muneer, Zubair Ahmad Malik, Shahzad Hussain, and Akash Mohd Lone	
Mechanical Properties of Silica Fume Coated Coir Fiber Reinforced Concrete	323
G. S. Jija and R. F. Shalu	
A Nonlinear Study of the Impact of Internal Braced Core Configurations in Diagrid Buildings	333
N. Gopika and V. N. Krishnachandran	
AI-Driven Traffic Signal Optimization for Emergency Vehicles	347
Abel Uthuppan Mathew, Amal Chacko, Ananthakrishna Anil, Christo Cyril, and George T. Soosan	