

Challenge Journal of **CONCRETE RESEARCH LETTERS**

Vol.17 No.1 (2026)

acoustic emission aerated concrete artificial neural
network compressive strength corrosion
cracking ductility durability energy
absorption ferrocement flexural strength
fly ash fracture mechanics mechanical properties
mortar optimization nanoparticle palm oil
fuel ash polymer concrete reinforced concrete
self-compacting concrete steam curing
strengthening superplasticizer tensile strength
workability waste disposal water absorption



TULPAR
ACADEMIC PUBLISHING

ISSN 2548-0928



Challenge Journal of CONCRETE RESEARCH LETTERS

EDITOR-IN-CHIEF

Prof. Dr. Mohamed Abdelkader ISMAIL
Brunel University London, United Kingdom

EDITORIAL BOARD

Prof. Dr. Gamal Elsayed ABDELAZIZ	<i>Benha University, Egypt</i>
Prof. Dr. Zubair AHMED	<i>Keyano College, Canada</i>
Prof. Dr. Ahmet Ferhat BİNGÖL	<i>Atatürk University, Türkiye</i>
Prof. Dr. Jiwei CAI	<i>Henan University, China</i>
Prof. Dr. Ferit ÇAKIR	<i>Gebze Technical University, Türkiye</i>
Prof. Dr. Mohamed GHRICI	<i>Hassiba Benbouali University of Chlef, Algeria</i>
Prof. Dr. Khandaker M. Anwar HOSSAIN	<i>Toronto Metropolitan University, Canada</i>
Prof. Dr. Jamal KHATIB	<i>Beirut Arab University, Lebanon</i>
Prof. Dr. Han Seung LEE	<i>Hanyang University, Republic of Korea</i>
Prof. Dr. Jahangir MIRZA	<i>Hydro-Québec Research Institute, Canada</i>
Prof. Dr. Ashraf Ragab MOHAMED	<i>Alexandria University, Egypt</i>
Prof. Dr. Meral OLTULU	<i>Atatürk University, Türkiye</i>
Prof. Dr. Hamidah Mohd SAMAN	<i>Universiti Teknologi Mara, Malaysia</i>
Prof. Dr. Xiao-Yong WANG	<i>Kangwon National University, Republic of Korea</i>
Assoc. Prof. Dr. Saleh Omar BAMAGA	<i>University of Bisha, Saudi Arabia</i>
Assoc. Prof. Dr. Zinnur ÇELİK	<i>Atatürk University, Türkiye</i>
Assoc. Prof. Dr. Türkay KOTAN	<i>Erzurum Technical University, Türkiye</i>
Assoc. Prof. Dr. Mohammed Seddik MEDDAH	<i>Sultan Qaboos University, Oman</i>

Assoc. Prof. Dr. Brabha NAGARATNAM	<i>Northumbria University, United Kingdom</i>
Assoc. Prof. Dr. Ayman Youssef NASSIF	<i>University of Technology and Education HCMC, Vietnam</i>
Dr. Mahmoud SAYED AHMED	<i>Toronto Metropolitan University, Canada</i>
Dr. Ibrahim ALAMERI	<i>Sana'a University, Yemen</i>
Dr. Salam Rafea ARMOOSH	<i>University of Anbar, Iraq</i>
Dr. Aamer Rafique BHUTTA	<i>Aramco, Saudi Arabia</i>
Dr. Ali KEYVANFAR	<i>Kennesaw State University, United States</i>
Dr. Khairunisa MUTHUSAMY	<i>Universiti Malaysia Pahang, Malaysia</i>
Dr. Arezou SHAFAGHAT	<i>Georgia Institute of Technology, United States</i>
Dr. Jitendra Kumar SINGH	<i>Jindal Steel and Power, India</i>
Dr. Chunjiang ZOU	<i>Brunel University London, United Kingdom</i>

E-mail: cjcr1@challengejournal.com

Web page: cjcr1.challengejournal.com

Tulpar Academic Publishing
www.tulparpublishing.com





Challenge Journal of CONCRETE RESEARCH LETTERS

CONTENTS

Research Articles

- | | |
|--|-------|
| Effect of polyethylene terephthalate granules on nano-CaCO₃-blended concrete
<i>Awinash Kumar, Sachin Kumar Singh, Abhishek Mishra, Awadhesh Srivastava</i> | 1–12 |
| Effect of bacteria and fibers on the mechanical and structural behavior of self-healing fibrous concrete
<i>Mina Medhat Youssef, Alaa Ali Bashandy, Rateb Nabil Abbas, Amal Abdel Hady Nasser</i> | 13–29 |
| Using the efflorescence mechanism of portland cement to obtain a shiny calcium carbonate surface
<i>Juan Carlos Hernandez Palacios, Imelda Olivas Armendariz, Juan Francisco Hernandez Paz, Pedro Perez Rodriguez, Jose Luis Sandoval Granados, Hortensia Reyes Blas, Lorena Rivera Rios, Claudia Alejandra Rodriguez Gonzalez</i> | 30–40 |
| Mechanical properties assessment of recycled brick aggregate concrete using demolition waste from century-old masonry buildings in Nepal
<i>Bipul Niroula, Mahesh Raj Bhatt</i> | 41–56 |
| Effects of maximum aggregate grain size and gradation on roller compacted concrete pavements
<i>Ömer Faruk Keleş</i> | 57–70 |
| Utilization of fly dust generated during fired shale production for the preparation of aggregates and geopolymers
<i>Jan Urbánek, Petr Antoš</i> | 71–81 |

