

Challenge Journal of **CONCRETE RESEARCH LETTERS**

Vol.17 No.3 (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. Gebrail BEKDAŞ
İstanbul University-Cerrahpaşa, Türkiye

CO-EDITORS-IN-CHIEF

Prof. Dr. Sinan Melih NİGDELİ
İstanbul University-Cerrahpaşa, Türkiye

Prof. Dr. Ümit IŞIKDAĞ
Mimar Sinan Fine Arts University, Türkiye

ASSOCIATE EDITORS

Assoc. Prof. Dr. Serdar ULUSOY
Assoc. Prof. Dr. Aylin Ece KAYABEKİR
Dr. Ayla OCAK

Turkish-German University, Türkiye
İstanbul Gelişim University, Türkiye
İstanbul Gelişim University, Türkiye

ASSISTANT EDITOR

Research Assistant Yaren AYDIN

İstanbul University-Cerrahpaşa, Türkiye

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>
Prof. Dr. Chunjiang ZOU	<i>Wuhan University, China</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>

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

Comparative study on the use of quarry waste and river sand as fine aggregates in pervious concrete performance	222–239
<i>Mathuranayagam Arunan, Daniel Niruban Subramaniam, Navaratnarajah Sathiparan</i>	
Mechanical and durability characteristics of SCC incorporating recycled aggregate and steel slag	240–249
<i>Pottur Ramachandra, Periyapatna Shanthaguptha Niranjana</i>	
Effectiveness of TiO₂ coating on concrete surfaces for photocatalytic degradation of solutions	250–261
<i>Fatih Şamdan, Canan Şamdan, Emir Günaltı, Serdal Ünal, Mehmet Canbaz</i>	
Potential and production of pervious concrete incorporating rice husk as a partial aggregate replacement	262–277
<i>Mohd Syahrul Hisyam Mohd Sani, Nurul Huda Abdullah, Fadhlulhartini Muftah</i>	
Effect of crushed brick chips as coarse aggregate on the mechanical properties, water absorption and cost of concrete	278–292
<i>Md. Rashedul Haque, Md. Saied Sakib, Abu Saeed, Md. Abu Sufian</i>	
Effect of different activations of supplementary cementitious materials on the early-age compressive strength of mortars based on quaternary binders	293–304
<i>Ali Abbache, Zoubir Makhoulfi, Hichem Berkak, Rachid Rabehi, Mohammed Seghir Ammari</i>	
Mechanical performance evaluation of conventional and pervious concrete reinforced with steel and nylon fibers	305–318
<i>Md. Izharul Haque Azad, Md. Abu Helal, Md. Abdul Malek, Rahat Ali, Md. Ahmadullah Hossain Raihan, Md. Washim Akram</i>	
Evaluation of the effectiveness of glass waste powder in improving the durability of sand concretes	319–340
<i>Mohammed Seghir Ammari, Madani Bederina, Issam Zaiz, Boubaker Fethiza Ali, Ahmed Merrah, Hichem Berkak, Hiyam Khezzane, Reguia Zellouma</i>	
A field-exposure study on the effects of seasonal temperature variations and curing conditions on concrete strength and density	341–351
<i>Rukiye Koçkar Tuğla</i>	

Mechanical performance of concrete using rice husk ash-plastic artificial aggregates with varying particle sizes	352–363
---	----------------

*Dwi Nurtanto, Ketut Aswatama Wiswamitra,
Mohamad Fikri Nurhidayat, Bagas Rahmandita Subchan, Imam Junaidi*

Evaluation of shear strength prediction models for polypropylene fiber-reinforced concrete beams without stirrups: Influence of residual tensile strength estimation on fib-MC2010 code predictions	364–386
--	----------------

Kadir Sengun, Hasan Cem Akkaya

Review Articles

Sugarcane bagasse ash in cementitious systems: A review of fresh, mechanical, and durability properties	387–404
--	----------------

Sachin Kumar Verma, Anil Kumar Sachan, Rama Shanker

