

Rao Arsalan Khushnood

Associate Professor
NUST Institute of Civil Engineering

Email: arsalan.khushnood@nice.nust.edu.pk
Contact: 0518741561
LinkedIn: <https://www.linkedin.com/in/rao-arsalan-khushnood-3a177257/?originalSubdomain=it>



About

Dr. Rao Arsalan Khushnood is working as Associate Professor in the NUST Institute of Civil Engineering. Dr. Rao Arsalan Khushnood has a PhD in Structural Engineering. Dr. Rao Arsalan Khushnood has published 87 research articles & conference papers having a citation count of 2715, carried out 12 projects and filed 2 intellectual property.

Qualifications

PhD in Structural Engineering University of Turin , Italy	2012 - 2015
MS in Structural Engineering NUST, Islamabad , Pakistan	2009 - 2011
BE in Civil Engineering NUST, Islamabad , Pakistan	2005 - 2009

Experience

Associate Professor NUST Institute of Civil Engineering	2023- Present
Associate Professor NUST Institute of Civil Engineering	2021 - 2023
Assistant Professor NUST Institute of Civil Engineering	2016 - 2021
Assistant Professor (Do Not Use-Duplicate)NUST Institute of Civil Engineering	2015 - 2016
PhD Candidate/Researcher Politecnico di Torino, Turin, Italy , Italy	2012 - 2015
Lecturer NUST, Pakistan , MCE Risalpur	2011 - 2012
Laboratory Engineer NUST Pakistan , MCE Risalpur	2009 - 2011
Internee Frontier Works Organization , Jamshoro, Sindh	2009 - 2009

Awards

Best Researcher Award

Best Researcher Award 2018-19

Who's Who in the World

Name appears in Marquis Who's Who in the World in Science & Engineering 2019-20.

Merit Scholarships

Awarded with Merit Scholarships on securing distinctions in each academic semester

Foreign Doctorate Scholar

Awarded with fully funded Foreign Doctorate Scholarship by Higher Education Commission.

Best Teacher Award

Best Teacher Award 2017-18

Professional Memberships

PEC

Research Projects

National Projects

Turning waste plastic into Bricks

2022

Funding Agency: PSF

Amount: PKR 9,790,000.00

Status: Approved_inprocess

Smart nano-coatings for the extended service life of paved concrete surfaces

2019

Funding Agency: HEC

Amount: PKR 14,450,000.00

Status: Completed

International Projects

Industry Projects

National Projects

SEMI-DESTRUCTIVE TESTING ON FIRE-EXPOSED PORTION OF CENTAURUS BUILDING ISLAMABAD Client: Capital Development Authority Amount: PKR 1,520,000.00 Status: Completed	2023
Provision of Consultancy Services for Feasibility Study and Rehabilitation Design of Bhakkar-DI Khan Bridge Client: Khyber Pakhtunkhwa Highway division Amount: PKR 2,535,000.00 Status: Completed	2023
Provision of Consultancy Services for Rehabilitation Design of 50,000 gallons OHWT at AFOHS (Falcon Complex) - Rawalpindi Client: Consultancy Firm Amount: PKR 1,076,955.00 Status: Completed	2020
Provision of Consultancy Services for Specialized Testing of EPS Panels Client: Consultancy Firm Amount: PKR 462,000.00 Status: Completed	2020
Consultancy Services for Testing for BAUPANELS Client: M/S SHS Projects Pakistan Amount: PKR 660,000.00 Status: Completed	2020
Expert Opinion on the Seismic Hazard Level and its Design Implications at Pakistan Gulpur Hydropower Project, District Kotli, AJK Client: Daelim Lotte Amount: PKR 1,275,000.00 Status: Approved_inprocess	2020
Structural Stability Survey of Royal Airport Services Building – New Islamabad Intl Airport Client: Royal Airport Services Amount: PKR 275,000.00 Status: Completed	2020
Material and Component-level Structural Evaluation of Baltit Fort, Hunza Client: Asian Institute of Technology (AIT), Thailand Amount: PKR 1,076,500.00 Status: Completed	2018
Evaluation of IFC Building (Awami Markaz) ? Islamabad Client: NESPAK Amount: PKR 639,960.00 Status: Completed	2018

International Projects

Non Destructive Testing of Sowon River Bridge (Kak Pul) at Islamabad Expressway Client: Zeeruk International Pvt Ltd, Pakistan Amount: PKR 18,000.00 Status: Approved_inprocess	2018
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Research Articles

Optimization in recipe design of interlocking compressed earth blocks by incorporating fine recycled concrete aggregate <i>Mohamed Ramsin Rayeesulhaq Mansoor Lizan Ahamed Rao Arsalan Khushnood Hammad Anis Khan</i> <i>Construction and Building Materials</i> , Volume 416, Article Number: 135167 Impact Factor: 7.4 Quartile: 1 Citations: 3 DOI: 10.1016/j.conbuildmat.2024.135167	2024
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<p>Enhanced fracture and durability resilience using bio-intrigged sisal fibers in concrete</p> <p><i>Hassan Amjad Rao Arsalan Khushnood Farhan Ahmad</i> <i>Journal of Building Engineering</i> , Volume 76, Article Number 107008</p> <p>Impact Factor: 6.4 Quartile: 1 Citations: 17</p> <p>DOI: 10.1016/j.jobbe.2023.107008</p>	2023
<p>Self-healing of recycled aggregate fungi concrete using <i>Fusarium oxysporum</i> and <i>Trichoderma longibrachiatum</i></p> <p><i>Nangyaley Khan Hammad Anis Khan Rao Arsalan Khushnood Muhammad Faraz Bhatti Danish Ilyas Baig</i> <i>Construction and Building Materials</i> , Volume 392, Article Number 131910</p> <p>Impact Factor: 7.693 Quartile: 1 Citations: 11</p> <p>DOI: doi.org/10.1016/j.conbuildmat.2023.131910</p>	2023
<p>Diagnosis of durability-related problems in concrete structures through comprehensive analysis and non-destructive testing: a case study</p> <p><i>Mati Ullah Shah Muhammad Usman Rao Arsalan Khushnood Asad Hanif</i> <i>Journal of Structural Integrity and Maintenance</i> , Pages 1-11</p> <p>Impact Factor: 3.00 Quartile: 2 Citations: 12</p> <p>DOI: https://doi.org/10.1080/24705314.2023.2233812</p>	2023
<p>Improved anti-corrosion and mechanical aspects of reinforced cementitious composites with bio-inspired strategies</p> <p><i>Maria Kanwal Rao Arsalan Khushnood Abdul Ghafar Wattoo Muhammad Shahid</i> <i>Journal of Building Engineering</i> , Volume 70, Article Number 105930</p> <p>Impact Factor: 7.144 Quartile: 1 Citations: 7</p> <p>DOI: https://doi.org/10.1016/j.jobbe.2023.105930</p>	2023
<p>Development of a new base isolation system using the concept of metamaterials</p> <p><i>Muhammad Nauman Masoom Qurat ul Ain Karim Irtaza Badar Rao Arsalan Khushnood Fawad Ahmed Najam Ahmer Naseer</i> <i>Engineering Structures</i> , Volume 286, Article Number 116151</p> <p>Impact Factor: 5.5 Quartile: 1 Citations: 11</p> <p>DOI: 10.1016/j.engstruct.2023.116151</p>	2023
<p>Shielding Encapsulation to Enhance Fire Endurance of Phase Change Materials in Energy-Efficient Concrete</p> <p><i>Wasim Khaliq Rao Arsalan Khushnood Muhammad Rizwan Muhammad Farhan Saleem Hassan Sardar</i> <i>Fire Technology</i> , Volume 59, Issue 4, Pages 1697-1723</p> <p>Impact Factor: 3.4 Quartile: 2 Citations: 5</p> <p>DOI: https://doi.org/10.1007/s10694-023-01404-9</p>	2023
<p>A hybrid data-driven and metaheuristic optimization approach for the compressive strength prediction of high-performance concrete</p> <p><i>Muhammad Imran Rao Arsalan Khushnood Muhammad Fawad</i> <i>Case Studies in Construction Materials</i> , Volume 18, Article Number e01890</p> <p>Impact Factor: 4.934 Quartile: 1 Citations: 33</p> <p>DOI: 10.1016/j.cscm.2023.e01890</p>	2023
<p>Assessment of mechanical attributes and microstructural densification of self-healing recycled coarse aggregate concrete using various bacterial immobilizers</p> <p><i>Muhammad Khubaib Akhtar Maria Kanwal Rao Arsalan Khushnood Muhammad Basit Ehsan Khan</i> <i>Journal of Building Engineering</i> , Volume 69, Article Number 106229</p> <p>Impact Factor: 7.144 Quartile: 1 Citations: 20</p> <p>DOI: https://doi.org/10.1016/j.jobbe.2023.106229</p>	2023
<p>Improved fracture response and electromagnetic interference shielding effectiveness of cementitious composites incorporating pyrolytic bagasse fibers and pine needles</p> <p><i>Abdullah Iftikhar Rao Arsalan Khushnood Anwar Khitab Sajjad Ahmad</i> <i>Construction and Building Materials</i> , Volume 370, Article Number 130722</p> <p>Impact Factor: 7.693 Quartile: 1 Citations: 6</p> <p>DOI: https://doi.org/10.1016/j.conbuildmat.2023.130722</p>	2023
<p>Biomimetic robust self-healing of <i>Bacillus Subtilis</i> immobilized through sisal fiber for next-generation concrete infrastructure</p> <p><i>Hassan Amjad Rao Arsalan Khushnood Shazim Ali Memon</i> <i>Construction and Building Materials</i> , Volume 368, Article Number 130299</p>	2023

Impact Factor: 7.693 Quartile: 1 Citations: 42 DOI: https://doi.org/10.1016/j.conbuildmat.2023.130299	
Assessment of the MICP potential and corrosion inhibition of steel bars by biofilm forming bacteria in corrosive environment <i>Maria Kanwal Rao Arsalan Khushnood Fazal Adnan Abdul Ghafar Wattoo Amna Jalil</i> <i>Cement and Concrete Composites</i> , Volume 137, Article Number 104937 Impact Factor: 9.930 Quartile: 1 Citations: 29 DOI: https://doi.org/10.1016/j.cemconcomp.2023.104937	2023
Experimental evaluation of bacterial self-healing concrete embodying <i>Bacillus pumilus</i> cured in normal and accelerated modes <i>Asim Sultan Nafeesa Shaheen Rao Arsalan Khushnood</i> <i>Materials and Structures</i> , Volume 56, Issue 2, Article Number 36 Impact Factor: 3.8 Quartile: 2 Citations: 5 DOI: https://doi.org/10.1617/s11527-023-02129-5	2023
Feasibility assessment of newly isolated calcifying bacterial strains in self-healing concrete <i>Nafeesa Shaheen Rao Arsalan Khushnood Shazim Ali Memon Fazal Adnan</i> <i>Construction and Building Materials</i> , Volume 362, Article Number 129662 Impact Factor: 7.693 Quartile: 1 Citations: 29 DOI: https://doi.org/10.1016/j.conbuildmat.2022.129662	2023
Machine Learning-Based Predictive Modeling of Sustainable Lightweight Aggregate Concrete <i>Fazal Hussain Shayan Ali Khan Rao Arsalan Khushnood Ameer Hamza Fazal Rehman</i> <i>Sustainability</i> , Volume 15(1), Article Number 641 Impact Factor: 3.889 Quartile: 2 Citations: 22 DOI: 10.3390/su15010641	2022
ANN based predictive mimicker for mechanical and rheological properties of eco-friendly geopolymer concrete <i>FazalRehman Sikandar Ali Khokhar Rao Arsalan Khushnood</i> <i>Case Studies in Construction Materials</i> , Volume 17, Article Number e01536 Impact Factor: 4.934 Quartile: 1 Citations: 38 DOI: 10.1016/j.cscm.2022.e01536	2022
Repair of mortar cracks using <i>Bacillus pumilus</i> based bio-suspension assessed by machine learning algorithm for image processing <i>Ali Raza Rao Arsalan Khushnood</i> <i>Journal of Building Engineering</i> , Volume 61, Article Number 105267 Impact Factor: 7.144 Quartile: 1 Citations: 6 DOI: 10.1016/j.job.2022.105267	2022
Digital image processing for precise evaluation of concrete crack repair using bio-inspired strategies <i>Ali Raza Rao Arsalan Khushnood</i> <i>Construction and Building Materials</i> , Volume 350, Article Number 128863 Impact Factor: 7.693 Quartile: 1 Citations: 19 DOI: 10.1016/j.conbuildmat.2022.128863	2022
Bacterial Carbonate Precipitation Using Active Metabolic Pathway to Repair Mortar Cracks <i>Ali Raza Rao Arsalan Khushnood</i> <i>Materials</i> , Volume 15, Issue 19, Article Number 6616 Impact Factor: 3.748 Quartile: 1 Citations: 3 DOI: 10.3390/ma15196616	2022
Predictive modelling of sustainable lightweight foamed concrete using machine learning novel approach <i>Junaid Ahmad Haji Sami Ullah Rao Arsalan Khushnood Furqan Farooq</i> <i>Journal of Building Engineering</i> , Volume 56, Article Number 104746 Impact Factor: 7.144 Quartile: 1 Citations: 62 DOI: https://doi.org/10.1016/j.job.2022.104746	2022
Effect of Bentonite as Partial Replacement of Cement on Residual Properties of Concrete Exposed to Elevated Temperatures <i>Sardar Farhan Mushtaq Ather Ali Rao Arsalan Khushnood Rana Faisal Tufail Ali Majdi Adnan Nawaz Serdar Durdyev Dumitru Doru Burduhos Nergis Jawad Ahmad</i>	2022

Pyrolysis as an alternate to open burning of crop residue and scrap tires: Greenhouse emissions assessment and mechanical performance investigation in concrete

2022

Anum Khalid Rao Arsalan Khushnood Shazim Ali Memon

Journal of Cleaner Production, Volume 365, Article Number 132688

Impact Factor: 11.1 | Quartile: 1 | Citations: 18

DOI: 10.1016/j.jclepro.2022.132688

Influence of pyrolytic waste tire residue on the residual performance of high strength concrete exposed to elevated temperatures

2022

Hassan Sardar Rao Arsalan Khushnood Wasim Khaliq Hammad Anis Khan Muhammad Farhan Saleem

Journal of Building Engineering, Volume 54, Article Number 104657

Impact Factor: 7.144 | Quartile: 1 | Citations: 16

DOI: <https://doi.org/10.1016/j.jobbe.2022.104657>

An Experimental Investigation on Assessment of Residual Mechanical Performance of Basalt Fiber Reinforced High Strength Concrete at Elevated Temperature

2022

Muhammad Talal Afzal Rao Arsalan Khushnood Wisal Ahmed

Fire Technology, Pages 1-24

Impact Factor: 3.605 | Quartile: 2 | Citations: 4

DOI: 10.1007/s10694-022-01279-2

An integrated and eco-friendly approach for corrosion inhibition and microstructural densification of reinforced concrete by immobilizing *Bacillus subtilis* in pyrolytic sugarcane-bagasse

2022

Maria Kanwal Rao Arsalan Khushnood Muhammad Shahid Abdul Ghafar Wattoo

Journal of Cleaner Production, Volume 355, Article Number 131785

Impact Factor: 11.1 | Quartile: 1 | Citations: 40

DOI: 10.1016/j.jclepro.2022.131785

Self-healing fungi concrete using potential strains *Rhizopus oryzae* and *Trichoderma longibrachiatum*

2022

Rao Arsalan Khushnood Ateeab Muhammad Ali Muhammad Faraz Bhatti Haris Ahmed Khan

Journal of Building Engineering, Volume 50, Article Number 104155

Impact Factor: 5.318 | Quartile: 1 | Citations: 26

DOI: <https://doi.org/10.1016/j.jobbe.2022.104155>

Prediction of Compressive Strength of Sustainable Foam Concrete Using Individual and Ensemble Machine Learning Approaches

2022

Haji Sami Ullah Rao Arsalan Khushnood Furqan Farooq Junaid Ahmad Nikolai Ivanovich Vatin Dina Yehia Zakaria Ewais

Materials, Volume 15, Issue 9, Article Number 3166

Impact Factor: 3.748 | Quartile: 1 | Citations: 66

DOI: <https://doi.org/10.3390/ma15093166>

Synthesis of pyrolytic carbonized bagasse to immobilize *Bacillus subtilis*; application in healing micro-cracks and fracture properties of concrete

2022

Rao Arslan Khushnood Maria Kanwal Abdul Ghafar Wattoo Wasim Khaliq Tauseef Shahid

Cement and Concrete Composites, Volume 126, Article Number 104334

Impact Factor: 7.586 | Quartile: 1 | Citations: 57

DOI: 10.1016/j.cemconcomp.2021.104334

Performance Evaluation of MWCNTs Reinforced Cement Mortar Composites using Natural and Commercial Surfactants

2022

Qareeb Ullah Rao Arsalan Khushnood Sajjad Ahmad Muhammad Usman Shad Muhammad Jean-Marc Tulliani

Journal of Wuhan University of Technology-Mater. Sci. Ed., Volume 37, Pages47-57

Impact Factor: 0.957 | Quartile: 4 | Citations: 2

DOI: <https://doi.org/10.1007/s11595-022-2498-y>

Bio-inspired self-healing and self-sensing cementitious mortar using *Bacillus subtilis* immobilized on graphitic platelets

2022

Rao Arsalan Khushnood Ajlal Arifa Nafeesa Shaheen Ahmad Gul Zafar Talal Hassan Muhammad Akif

Construction and Building Materials, Volume 316, Article Number 125818

Impact Factor: 6.141 | Quartile: 1 | Citations: 24

DOI: 10.1016/j.conbuildmat.2021.125818

<p>A Predictive Mimicker of Fracture Behavior in Fiber Reinforced Concrete Using Machine Learning</p> <p><i>Rao Arslan Khushnood Sikandar Ali Khokhar Touqeer Ahmed Syed Muhammad Ali Shahnawaz</i></p> <p><i>Materials</i> , Volume 14(24), Article Number 7669</p> <p>Impact Factor: 3.623 Quartile: 1 Citations: 19</p> <p>DOI: https://doi.org/10.3390/ma14247669</p>	2021
<p>Synthesis, characterization and application of graphene oxide in self consolidating cementitious systems</p> <p><i>Majeed Ullah Shahzada Burhan Ahmad Imtiaz Rao Arsalan Khushnood Erum Pervaiz Wisal Ahmed Asad Ullah Zarar Ali Qureshi</i></p> <p><i>Construction and Building Materials</i> , Volume 296, Article Number 123623</p> <p>Impact Factor: 6.141 Quartile: 1 Citations: 13</p> <p>DOI: https://doi.org/10.1016/j.conbuildmat.2021.123623</p>	2021
<p>Mechanical and energy performance of variably cured effective microorganisms cementitious composite designed via Taguchi</p> <p><i>Rao Arslan Khushnood Nafeesa Shaheen Syed Ali Rizwan Thomas A.Bier</i></p> <p><i>Journal of Cleaner Production</i> , Volume 310, Article Number 127350</p> <p>Impact Factor: 11.072 Quartile: 1</p> <p>DOI: Volume 310, 10 August 2021, 127350</p>	2021
<p>Incorporation of Wheat Straw Ash as Partial Sand Replacement for Production of Eco- Friendly Concrete</p> <p><i>Rao Arslan Khushnood Shazim Ali Memon Usman Javed Muhammad Haris Jong Kim</i></p> <p><i>Materials</i> , Volume 14(8), Article Number 2078</p> <p>Impact Factor: 3.623 Quartile: 1</p> <p>DOI: Materials 2021, 14(8), 2078</p>	2021
<p>Isolation of alkaliphilic calcifying bacteria and their feasibility for enhanced CaCO₃ precipitation in bio-based cementitious composites</p> <p><i>Amna Jalil Nafeesa Shaheen Fazal Adnan Rao Arsalan Khushnood</i></p> <p><i>Microbial Biotechnology</i> , Pages 1-16</p> <p>Impact Factor: 5.813 Quartile: 1 Citations: 39</p> <p>DOI: doi.org/10.1111/1751-7915.13752</p>	2021
<p>Influence of carbon nano fibers (CNF) on the performance of high strength concrete exposed to elevated temperatures</p> <p><i>Rao Arslan Khushnood Muhammad Talal Afzal</i></p> <p><i>Construction and Building Materials</i> , Volume 268, Article Number 121108</p> <p>Impact Factor: 6.141 Quartile: 1</p> <p>DOI: Volume 268, 25 January 2021, 121108</p>	2021
<p>Exploring mechanical performance of hybrid MWCNT and GNMP reinforced cementitious composites</p> <p><i>Rao Arslan Khushnood Arslan Akbar Furqan Farooq K.M. Liew</i></p> <p><i>Construction and Building Materials</i> , Volume 267, Article Number 120721</p> <p>Impact Factor: 6.141 Quartile: 1 Citations: 31</p> <p>DOI: https://doi.org/10.1016/j.conbuildmat.2020.120721</p>	2021
<p>Comparative performance of different bacteria immobilized in natural fibers for self-healing in concrete</p> <p><i>Momina Rauf Wasim Khaliq Rao Arsalan Khushnood Iftikhar Ahmed</i></p> <p><i>Construction and Building Materials</i> , Volume 258, Article Number 119578</p> <p>Impact Factor: 6.141 Quartile: 1 Citations: 142</p> <p>DOI: https://doi.org/10.1016/j.conbuildmat.2020.119578</p>	2020
<p>Spalling sensitivity and mechanical response of an ecofriendly sawdust high strength concrete at elevated temperatures</p> <p><i>Ehsan Ullah Khan Rao Arsalan Khushnood Waqas Latif Baloch</i></p> <p><i>Construction and Building Materials</i> , Volume 258, Article Number 119656</p> <p>Impact Factor: 6.141 Quartile: 1 Citations: 37</p> <p>DOI: https://doi.org/10.1016/j.conbuildmat.2020.119656</p>	2020
<p>Analysis of full-scale aircraft impact to reinforced concrete and steel plate reinforced concrete multiple barriers protecting nuclear power plants</p> <p><i>Muhammad Sadiq Wasim Khaliq Rao Arsalan Khushnood Shaukat Ali Khan Pan Rong Pan Rong Muhammad Ilyas</i></p> <p><i>Structures</i> , Volume 27, Pages 732-746</p> <p>Impact Factor: 2.983 Quartile: 2 Citations: 10</p>	2020

DOI: https://doi.org/10.1016/j.istruc.2020.06.030	
Comparative assessment of impact analysis methods applied to large commercial aircraft crash on reinforced concrete containment <i>Muhammad Sadiq Muhammad Ilyas Shaukat Ali Khan Pan Rong Wasim Khaliq Rao Arslan Khushnood</i> <i>PLoS ONE</i> , Volume 15(10), Article Number e0237264 Impact Factor: 3.240 Quartile: 2 Citations: 4 DOI: https://doi.org/10.1371/journal.pone.0237264	2020
Influence of graphite nano/micro platelets on the residual performance of high strength concrete exposed to elevated temperature <i>Rao Arsalan Khushnood Waqas Latif Baloch Hafiz Waheed Iqbal Adnan Nawaz Rana Faisal Tufail</i> <i>Construction and Building Materials</i> , Volume 253, Article Number 119029 Impact Factor: 6.141 Quartile: 2 Citations: 54 DOI: https://doi.org/10.1016/j.conbuildmat.2020.119029	2020
Sustainable incorporation of lime-bentonite clay composite for production of ecofriendly bricks <i>Usman Javed Rao Arsalan Khushnood Shazim Ali Memon Fazal E. Jalal Muhammad Saeed Zafar</i> <i>Journal of Cleaner Production</i> , Volume 263, Article Number 121469 Impact Factor: 9.297 Quartile: 1 Citations: 45 DOI: https://doi.org/10.1016/j.jclepro.2020.121469	2020
Sustainable incorporation of waste granite dust as partial replacement of sand in autoclave aerated concrete <i>Muhammad Saeed Zafar Usman Javed Rao Arsalan Khushnood Adnan Nawaz Tayyab Zafar</i> <i>Construction and Building Materials</i> , Volume 250, Article Number 118878 Impact Factor: 6.141 Quartile: 2 Citations: 73 DOI: https://doi.org/10.1016/j.conbuildmat.2020.118878	2020
Pyrolytic carbonaceous reinforcements for enhanced electromagnetic and fracture response of cementitious composites <i>Ayesha Mahmood Rao Arsalan Khushnood Muhammad Zeeshan</i> <i>Journal of Cleaner Production</i> , Volume 248, Article Number 119288 Impact Factor: 9.297 Quartile: 1 Citations: 20 DOI: https://doi.org/10.1016/j.jclepro.2019.119288	2020
Bio-mineralized self-healing recycled aggregate concrete for sustainable infrastructure <i>Rao Arsalan Khushnood Zarar Ali Qureshi Nafeesa Shaheen Sikandar Ali</i> <i>Science of The Total Environment</i> , Volume 703, Article Number 135007 Impact Factor: 7.963 Quartile: 1 Citations: 137 DOI: https://doi.org/10.1016/j.scitotenv.2019.135007	2020
A comparative study on performance evaluation of hybrid GNPs/CNTs in conventional and self-compacting mortar <i>Furqan Farooq Sardar Kashif Ur Rahman Arslan Akbar Rao Arsalan Khushnood Muhammad Faisal Javed Rayed alyousef Hisham Alabduljabbar Fahid Aslam</i> <i>Alexandria Engineering Journal</i> , Volume 59, Issue 1, Pages 369-379 Impact Factor: 3.732 Quartile: 1 Citations: 41 DOI: https://doi.org/10.1016/j.aej.2019.12.048	2020
Experimental Investigation of Hybrid Carbon Nanotubes and Graphite Nanoplatelets on Rheology, Shrinkage, Mechanical, and Microstructure of SCCM <i>Furqan Farooq Arslan Akbar Rao Arsalan Khushnood Waqas Latif Baloch Muhammad Sardar Kashif Ur Rehman Muhammad Faisal Javed</i> <i>Materials</i> , Volume 13(1), Article Number 230 Impact Factor: 3.623 Quartile: 2 Citations: 71 DOI: https://doi.org/10.3390/ma13010230	2020
Development of structural thermal energy storage concrete using paraffin intruded lightweight aggregate with nano-refined modified encapsulation paste layer <i>Naseem Iqbal Sher Afgan Rao Arsalan Khushnood Shazim Ali Memon</i> <i>Construction and Building Materials</i> , Volume 228, Article Number 116768 Impact Factor: 4.419 Quartile: 1 Citations: 25 DOI: 10.1016/j.conbuildmat.2019.116768	2019

Structural health assessment of fire damaged building using non-destructive testing and micro-graphical forensic analysis: A case stud <i>Ahmed Aseem Waqas Latif Baloch Rao Arsalan Khushnood Arslan Mushtaq</i> <i>Case Studies in Construction Materials</i> , Volume 11, Article No. e00258 Impact Factor: N/A Citations: 46 DOI: https://doi.org/10.1016/j.cscm.2019.e00258	2019
Synthesis and characterization of bio-immobilized nano/micro inert and reactive additives for feasibility investigation in self-healing concrete <i>Nafeesa Shaheen Wasim Khaliq Habib Murtaza Rafay Iqbal Muhammad Humza Khan Rao Arsalan Khushnood</i> <i>Construction and Building Materials</i> , Volume 226, Pages 492-506 Impact Factor: 4.419 Quartile: 1 Citations: 100 DOI: 10.1016/j.conbuildmat.2019.07.202	2019
Impact of pyrolytic carbonaceous nano inerts addition on fracture and electromagnetic interference shielding characteristics of cementitious composites <i>Anum Khalid Rao Arsalan Khushnood Ayesha Mahmood</i> <i>Theoretical and Applied Fracture Mechanics</i> , Volume 103, Article Number UNSP 102320 Impact Factor: 3.021 Quartile: 1 Citations: 26 DOI: 10.1016/j.tafmec.2019.102320	2019
Effect of adding graphite nano/micro platelets on salt freeze-thaw resistance of nano-modificent concrete <i>Rao Arsalan Khushnood Ahmad Nawaz</i> <i>Materials Research Express</i> , Volume 6, Issue 9, Article Number 095023 Impact Factor: 1.929 Quartile: 3 Citations: 7 DOI: 10.1088/2053-1591/ab2d86	2019
Durability of sustainable concrete subjected to elevated temperature ? A review <i>Shazim Ali Memon Syed Farasat Ali Shah Rao Arsalan Khushnood Waqas Latif Baloch</i> <i>Construction and Building Materials</i> , Volume 199, Pages 435-455 Impact Factor: 4.419 Quartile: 1 Citations: 134 DOI: 10.1016/j.conbuildmat.2018.12.040	2019
Eco-friendly utilization of corncob ash as partial replacement of sand in concrete <i>Shazim Ali Memon Usman Javed Rao Arsalan Khushnood</i> <i>Construction and Building Materials</i> , Volume 195, Pages 165-177 Impact Factor: 4.419 Quartile: 1 Citations: 81 DOI: https://doi.org/10.1016/j.conbuildmat.2018.11.063	2019
Bio-inspired self-healing cementitious mortar using Bacillus subtilis immobilized on nano-/micro-additives <i>Rao Arsalan Khushnood siraj ud din Nafeesa Shaheen sajjad ahmad filza zarrar</i> <i>Journal of Intelligent Material Systems and Structures</i> , Volume: 30, Issue: 1, Pages 3-15 Impact Factor: 2.410 Quartile: 3 Citations: 43 DOI: 10.1177/1045389X18806401	2019
Influence of multi-walled carbon nanotubes on the residual performance of concrete exposed to high temperatures <i>Rao Arsalan Khushnood Waqas Latif Baloch Wasim Khaliq</i> <i>Construction and Building Materials</i> , Construction and Building Materials Volume: 185 Pages: 44-56 Impact Factor: 4.046 Quartile: 1 Citations: 128 DOI: 10.1016/j.conbuildmat.2018.07.051	2018
Theoretical and experimental analysis of multifunctional high performance cement mortar matrices reinforced with varying lengths of carbon fibers <i>Rao Arsalan Khushnood Shad Muhammad Sajjad Ahmad Jean-Marc Tulliani Muhammad Uzair Qamar Qareeb Ullah Shaukat Ali Khan Ahsen Maqsoom</i> <i>Materiales de Construcción</i> , Volume 68, Issue 332, Article Number e172 Impact Factor: 1.886 Quartile: 2 Citations: 5 DOI: 10.3989/mc.2018.09617	2018
Structural reliability analysis of superstructure of highway bridges on China-Pakistan Economic Corridor (CPEC): a case study <i>Abdur Rasheed muhammad Usman Rao Arsalan Khushnood Syed Hassan Farooq Asad Hanif Noman A. Khan</i> <i>Journal of Structural Integrity and Maintenance</i> , Volume:3, Issue: 3, Pages 197-207	2018

Impact Factor: 0 Citations: 9 DOI: 10.1080/24705314.2018.1492665	
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Flow duration curve regionalization with enhanced selection of donor basins <i>Muhammad Uzair Qamar Daniele Ganora Pierluigi claps Muhammad Azmat Muhammad Adnan Shahid Rao Arsalan Khushnood</i> <i>Journal of Applied Water Engineering and Research</i> , Volume: 6, Issue: 1, Pages: 70-84 Impact Factor: 0 Citations: 6 DOI: 10.1080/23249676.2016.1196621	2018
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Synthesis and Applications of Nano Titania Particles: A Review <i>A. Khitab S. Ahmad M.J. Munir S.M.S. Kazmi T. Arshad Rao Arsalan Khushnood</i> <i>Reviews on Advanced Materials Science</i> , Volume: 53, Issue:1, Pages 90-105	2018

Impact Factor: 1.828 Quartile: 3 DOI: NA	
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Elaboration and characterization of novel humidity sensor based on micro-carbonized bamboo particles <i>Ahmed S. Afify Sajjad Ahmad Rao Arsalan Khushnood Pravin Jagdale Jean-Marc Tulliani Sensors and Actuators B: Chemical</i> , Volume 239, Pages 1251-1256 Impact Factor: 5.667 Quartile: 1 Citations: 51 DOI: http://dx.doi.org/10.1016/j.snb.2016.09.130	2017
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Carbonized nano/microparticles for enhanced mechanical properties and electromagnetic interference shielding of cementitious materials <i>Rao Arsalan Khushnood Sajjad Ahmad Luciana Restuccia Consuelo Spoto Pravin Jagdale Jean-Marc Tulliani Giuseppe Andrea Ferro Frontiers of Structural and Civil Engineering</i> , Volume 10, Pages 209–213 Impact Factor: - Citations: 107 DOI: DOI:10.1007/s11709-016-0330-5	2016
Modified fracture properties of cement composites with nano/micro carbonized bagasse fibers <i>Rao Arsalan Khushnood Sajjad Ahmad Giuseppe Andrea Ferro Luciana Restuccia Jean Marc Tulliani Pravin Jagdale Fracture and Structural Integrity</i> , Volume 34, Pages 1140-1147 Impact Factor: - Citations: 26 DOI: DOI:10.3221/IGF-ESIS.34.59	2015
Improvement in electromagnetic interference shielding effectiveness of cement composites using carbonaceous nano/micro inerts <i>Rao Arsalan Khushnood Sajjad Ahmad Patrizia Savi Jean-Marc Tulliani Mauro Giorcelli Giuseppe Andrea Ferro Construction and Building Materials</i> , Volume 85, Pages 208-216 Impact Factor: 2.421 Quartile: 1 Citations: 119 DOI: doi:10.1016/j.conbuildmat.2015.03.069	2015
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Conference Proceedings

Bio-Inspired Delf-Healing and Corrosion Resistant Concrete

2022

Maria Kanwal Rao Arsalan Khushnood Abdul Ghaffar

CUKUROVA 9th International Scientific Researches Conference , res.country(224,)

Citations: N/A

DOI: 978-625-8246-29-2

Retrofitting of damaged reinforced concrete bridge structure

2019

Muhammad Fawad K Kalman Rao Arsalan Khushnood Muhammad Usman

25th International Conference on Fracture and Structural Integrity, res.country(109,)

Citations: N/A

DOI: 10.1016/j.prostr.2019.08.153

Improving the mechanical properties of cementitious composites with graphite nano/micro platelets addition

2018

Anum Khalid Rao Arsalan Khushnood Samar Saleem Shah Zaib Farooq Nafeesa Shaheen

14th International Conference on Concrete Engineering and Technology (CONCET 2018), res.country(157,)

Citations: N/A

DOI: 10.1088/1757-899X/431/6/062005

Influence of bio-immobilized lime stone powder on self-healing behaviour of cementitious composites

2018

Nafeesa Shaheen Rao Arsalan Khushnood Siraj ud din Anum Khalid

14th International Conference on Concrete Engineering and Technology (CONCET 2018), res.country(157,)

Citations: N/A

DOI: 10.1088/1757-899X/431/6/062002

Synthesis, characterization and applications of nano/micro carbonaceous inerts

2018

Anum Khalid Rao Arsalan Khushnood Ayesha Mahmood Giuseppe Andrea Ferro Sajjad Ahmad

IGF Workshop "Fracture and Structural Integrity", res.country(109,)

Citations: N/A

DOI: 10.1016/j.prostr.2018.06.019

Book Chapters

Application of biosurfactants in juice industry

2022

Abdul Ghafar Wattoo Sara Yaseen Maria Kanwal Syed Mudassir Mehboob Zaidi Muhammad Alamgeer Danish Saeed Faizan Shabir Rao Arsalan Khushnood Zhenlun Song Kamran Ikram Saeed Ahmad Buzdar

In: *Book on Applications of Next Generation Biosurfactants in the Food Sector*, Chapter 25, Pages 527-536

Citations: N/A

DOI: 10.1016/B978-0-12-824283-4.00013-7

Advancements and challenges in production of biosurfactants

2022

Maria Kanwal Rao Arsalan Khushnood Abdul Ghafar Wattoo Atif Liaqat Rabia Iqbal Zhenlun Song

In: *Book on Applications of Next Generation Biosurfactants in the Food Sector*, Chapter 12, Pages 239-259

Citations: 3

DOI: 10.1016/B978-0-12-824283-4.00019-8

Biological Corrosion Inhibitors for Concrete

2021

Rao Arslan Khushnood Maria Kanwal R. Bagheri A.G. Wattoo M.I. Irshad Z. Song

In: *Book on Theory and Applications of Green Corrosion Inhibitors*, Volume 86, Chapter 7, Pages 183-203

Citations: N/A

DOI: <http://dx.doi.org/10.21741/9781644901052-7>

Fire performance of concrete containing nano-fibers and graphite nano-particles

2019

Wisal Ahmed Waqas Latif Baloch Rao Arsalan Khushnood

In: *Smart Nanoconcretes and Cement-Based Materials*, Part II: Applications, Chapter 11

Citations: N/A

DOI: 10.1016/B978-0-12-817854-6.00011-8

Editorial Activities

Materials

2022

Reviewed Papers for Journals

Impact Factor: 3.748	
Materials Reviewed Papers for Journals Impact Factor: 3.748	2022
Materials Reviewed Papers for Journals Impact Factor: 3.748	2022
Materials Reviewed Papers for Journals Impact Factor: 3.748	2022
Journal of Building Engineering Reviewed Papers for Journals Impact Factor: 7.144	2022
Construction and Building Materials Reviewed Papers for Journals Impact Factor: 7.693	2022
Materials Reviewed Papers for Journals Impact Factor: 3.748	2022
Journal of Building Engineering Reviewed Papers for Journals Impact Factor: 7.144	2022
Construction and Building Materials Reviewed Papers for Journals Impact Factor: 7.693	2022
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Construction and Building Materials Reviewed Papers for Journals Impact Factor: 7.693	2022
Construction and Building Materials Reviewed Papers for Journals Impact Factor: 7.693	2022
Journal of Building Engineering Reviewed Papers for Journals Impact Factor: 7.144	2022
Construction and Building Materials Reviewed Papers for Journals Impact Factor: 7.693	2022
Journal of Building Engineering Reviewed Papers for Journals Impact Factor: 7.144	2022
Construction and Building Materials Reviewed Papers for Journals Impact Factor: 7.693	2022
Buildings Edited Journal Issue / Proceeding / Book Impact Factor: 3.324	2022
Journal of Building Engineering Reviewed Papers for Journals Impact Factor: 7.144	2021
Construction and Building Materials	2021

Reviewed Papers for Journals	
Impact Factor: 7.693	
	2021
Reviewed Papers for Journals	
Impact Factor: 6.1	
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Impact Factor: 6.1	
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Impact Factor: 1.4	
Reviewed Papers for Journals	2019
Impact Factor: 4.046	
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Impact Factor: -	
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Reviewed Papers for Journals	2018
Impact Factor: 3.45	
Reviewed Papers for Journals	2018
Impact Factor: 5.65	
Reviewed Papers for Journals	2018
Impact Factor: 3.45	
Reviewed Papers for Journals	2018
Impact Factor: 1.372	
Reviewed Papers for Journals	2018
Impact Factor: 3.45	
Reviewed Papers for Journals	2017
Impact Factor: 3.45	

Intellectual Property

Copyrights

Patents

Development of carbon dioxide inhaling bio heal-able interlocking

Status: Filed

2021

Industrial Designs

Carbon dioxide inhaling Bio heal-able interlocking compressed earth bricks (class-04)

Status: Filed

2021

Trademarks