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|--|--|--|---|------------------|
| <b>Name</b>                                    | Engr. Prof. Dr. Zafar Baloch   |  |   |                  |
| <b>Designation</b>                             | Professor/ Associate Dean  |  |   |                  |
| <b>Department</b>                              | Civil Engineering  |  |   |                  |
| <b>Research Profile</b>                        | ORCID ID: <a href="https://orcid.org/0000-0003-1314-3070">Zafar Baloch (0000-0003-1314-3070) (orcid.org)</a>   |  |   |                  |
|  | Research Gate ID:<br><a href="https://www.researchgate.net/profile/Zafar_Baloch3">https://www.researchgate.net/profile/Zafar_Baloch3</a>   |  |   |                  |
|  | Google Scholar Profile ID:<br><a href="https://scholar.google.com/citations?user=f1IC5sEAAAAJ&amp;hl=en">https://scholar.google.com/citations?user=f1IC5sEAAAAJ&amp;hl=en</a>                        |  |   |                  |
| <b>social media websites</b>                   | <a href="https://www.linkedin.com/in/baloch-zafar-126a5455">www.linkedin.com/in/baloch-zafar-126a5455</a><br><a href="https://twitter.com/engrzafarbalooch">https://twitter.com/engrzafarbalooch</a> |  |   |                  |
| <b>E-mail address</b>                          | Official   | <a href="mailto:engr.zafar@buitms.edu.pk">engr.zafar@buitms.edu.pk</a>             |   |                  |
|  | Personal   | <a href="mailto:engr.zafarbaloch@gmail.com">engr.zafarbaloch@gmail.com</a>         |   |                  |
| <b>Telephone Number</b>                        | Office Extension   | 730  |   |                  |
|  | Mobile   | +92-3351298761   |   |                  |
| <b>Qualification</b>                           |  |  |   |                  |
| <b>Year</b>                                    | <b>Degree/Certificate</b>  | <b>Name of the Institute/ University</b>   | <b>Field of study</b>                                 |                  |
| 2017   | PhD  | Hanyang University, Seoul, South Korea   | Civil Engineering<br>SHM, <b>Smart Infrastructure</b> |                  |
| 2018   | MS/ Mphil  | NED University of Engineering & Technology<br>Karachi, Pakistan.                   | <b>Environmental Engineering</b>                      |                  |
| 2003   | Graduation   | Balochistan University of Engineering & Technology, (BUET), Khuzdar, Pakistan.     | <b>Civil Engineering</b>                              |                  |
| 1998   | BSc  | University of Balochistan (UOB), Pakistan  | <b>Geography</b>                                      |                  |
| 1997   | DCs  | PETROMAN, Sindh Board of Technical Education, Pakistan                             | <b>C++</b> , ORACAL Data Communication                |                  |
| 1996   | FSc (Intermediate Education)   | Balochistan Board of Intermediate and Secondary Education (BBISE) Quetta, Pakistan | Math  |                  |
| 1994   | Metriculation (Secondary Education)  |  | Science   |                  |
| 1981-1992                                      | Schooling  | Sadiq Public School (SPS), Bahawalpur, Pakistan                                    | General Education                                     |                  |
| <b>Publications in HEC Recognized journals</b> |  |  |   |                  |
| S. No  | Title of Paper   | Name of Journal  | National/ International                               | Publication date |

|     |   |   |               |      |
|-----|---|---|---------------|------|
| 1.  | Comparative study on the performance of photochromic cement, epoxy, and polyester mortars   | Journal of Building Engineering   | International | 2023 |
| 2.  | Effectiveness of various polysaccharides for controlling properties of alkali-activated manganese-rich slag pastes                                | European Journal of Environmental and Civil Engineering<br>ISSN (2116-7214, 1964-8189)  | International | 2021 |
| 3.  | Removal of Hazardous Materials from Residential and Commercial Liquid Waste Using Solid Sorbents  | Journal of Applied and Emerging Sciences<br>ISSN (1814-070X,2415-2633)                  | National      | 2021 |
| 4.  | Indiscriminate Municipal Solid Waste Disposal An Influence on Ethnics and Social Norms of Inhabitants: A Community Based Study Of Ward 32, Quetta | PalArch's Journal of Archaeology of Egypt/ Egyptology<br>ISSN (1567-214X)               | International | 2021 |
| 5.  | Dynamic Response Study of a Single Tower Cable Stayed Bridge using Finite Element Method  | Journal of Applied and Emerging Sciences<br>ISSN (1814-070X,2415-2633)                  | National      | 2020 |
| 6.  | Assessment of Seismic Performance of Submerged Floating Tunnel Under Multi-Support Seismic Excitations  | NED university journal of Research-structural Mechanics<br>ISSN (:2706-5758, 2304-716X) | National      | 2020 |
| 7.  | Comparative Analysis of Pressure Regions of Gaseous Benzene Using Ground Activated Carbon Sorbents Under Ambient Conditions                       | Journal of Applied and Emerging Sciences<br>ISSN (1814-070X,2415-2633)                  | National      | 2019 |
| 8.  | Dynamic Characteristics of submerged floating tunnel under irregular waves  | Journal of Applied and Emerging Sciences<br>ISSN (1814-070X, 2415-2633)                 | National      | 2019 |
| 9.  | Effect of Cable Stiffness and Waves Parameters on the Dynamic Responses of Submerged Floating Tunnel  | Journal of Applied and Emerging Sciences<br>ISSN (1814-070X, 2415-2633)                 | National      | 2019 |
| 10. | Assessment of the Dynamic Behaviors of Submerged Floating Tunnel Under a High-Speed Train Loading   | Oceanography & Fisheries Open Access Journal (OFOAJ)<br>ISSN (2476-0536)                | International | 2019 |

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|------------------------|--|--|---------------|------|
| 11.                    | Properties of Chemically Synthesized Nano-geopolymer Cement based Self- Compacting Geopolymer Concrete (SCGC)  | Journal Wuhan University of Technology, Materials Science Edition<br>ISSN (1993-0437, 1000-2413) | International | 2019 |
| 12.                    | Performance Evaluation of the Fiber-Reinforced Cement Composites Blended with Wheat Straw Ash  | Advances in Materials Science and Engineering<br>ISSN (1687-8442,1687-8434)                      | International | 2019 |
| 13.                    | Effect of the confining method on the cyclic undrained behaviors of sand   | IOP Series Materials Science and Engineering<br>ISSN (1757-899X)                                 | International | 2018 |
| 14.                    | Effect of w/b ratio and binder content on the properties of self-compacting high performance concrete (SCHPC)  | Journal of Ceramic Processing Research<br>ISSN (1229-9162)                                       | International | 2018 |
| 15.                    | Investigation of corrosion assessment of hydrogen-rich water based cement mortars  | Journal of Ceramic Processing Research<br>ISSN (1229-9162)                                       | International | 2017 |
| 16.                    | Investigation of the acid and sulfate resistance performances of hydrogen-rich water based mortars   | Construction and Building Materials<br>ISSN (0950-0618)  | International | 2017 |
| 17.                    | Strength and Durability Assessment of Portland Cement Mortars Formulated from Hydrogen-Rich Water  | Advances in Materials Science and Engineering<br>ISSN (1687-8442,1687-8434)                      | International | 2017 |
| 18.                    | Effectiveness of sewage sludge ash combined with waste pozzolanic minerals in developing sustainable construction material: An alternative approach for waste management | Journal of Cleaner Production<br>ISSN (0959-6526,1879-1786)                                      | International | 2017 |
| 19.                    | Internet of Things-Based Arduino Intelligent Monitoring and Cluster Analysis of Seasonal Variation in Physicochemical Parameters of Jungnangcheon, an Urban Stream       | Water (Switzerland)<br>ISSN (2073-4441)  | International | 2017 |
| 20.                    | Assessment of Utilizing Marble Stone Dust and Wood Saw Dust as Partial Replacement for Cement and Sand in Concrete   | Journal of Applied & Emerging Sciences<br>ISSN (1814-070X, 2415-2633)                            | National      | 2017 |
| 21.                    | Effect of incorporation of self-healing admixture (SHA) on physical and mechanical properties of mortars.  | Journal of Ceramic Processing Research<br>ISSN (1229-9162)                                       | International | 2015 |
| <b>Paper Presented</b> |  |  |               |      |

| S. No                         | Title of Paper  | Name of Conference   | National/ International | Date           |
|-------------------------------|---|--|-------------------------|----------------|
| 1.                            | Comparison of Accumulated Stress Based Pore Pressure Model and Plasticity Model in 1D Site Response Analysis.                   | 1 <sup>st</sup> South Asia Conference on Earthquake Engineering (SACEE 19)                       | National                | 21-22 Feb 2019 |
| 2.                            | Assessment of the seismic performance of submerged floating tunnel under multi-support seismic excitations.                     | 1 <sup>st</sup> South Asia Conference on Earthquake Engineering (SACEE 19)                       | National                | 21-22 Feb 2019 |
| 3.                            | Dynamic Response analysis of Submerged Floating Tunnel under waves and Earthquakes  | 10 <sup>th</sup> International Civil Engineering Conference (ICEC-2019)                          | National                | 23-24 Feb 2019 |
| 4.                            | Development of Mobile Ecosystem for Smart Sharing of Domestic Water Efficient Collection and Supply Management, for Quetta City | 1 <sup>st</sup> International Conference on Advances in Engineering & Technology                 | International           | April 2018     |
| 5.                            | Effect of the Confining Method on the Cyclic Undrained Behaviors of Sand  | 1 <sup>st</sup> International Conference on Advances in Engineering & Technology                 | International           | April 2018     |
| 6.                            | A Web 2.0 based Integrated Information Sharing Framework for Structural Health Monitoring of Road Tunnels                       | 6 <sup>th</sup> International Conference of Euro Asia Civil Engineering Forum Seoul, South Korea | International           | June 2017      |
| 7.                            | Internet of Things Based Arduino Efficient Monitoring and Data Analysis of Physicochemical Parameters, An Urban Stream          | 6 <sup>th</sup> International Conference of Euro Asia Civil Engineering Forum Seoul, South Korea | International           | June 2017      |
| 8.                            | Ecosystem for Drought in Balochistan, Pakistan  | Korean Society of Civil Engineers  | International           | 2014           |
| 9.                            | Tunnels Construction Planning and Suggestions to Speed up Tunnel Excavation Progress  | Korean Society of Civil Engineers  | International           | 2014           |
| 10.                           | Evaluation of Properties of Concrete Using Aggregates Obtained from Demolished Concrete Structures                              | Korean Society of Civil Engineers  | International           | 2014           |
| 11.                           | Synthesis of an Alternative Cementitious Material using Pozzolanic Material Infused with Hydrated Alumina                       | Korean Society of Civil Engineers  | International           | 2014           |
| 12.                           | Mobil Ecosystem Smart Platform for Solid Waste Grade in Developing Countries  | Korean Society of Civil Engineers  | International           | 2013           |
| <b>Books Authored/ Edited</b> |   |  |                         |                |

| S. No                  | Name of book   | Publisher      | ISBN  |                                  |
|------------------------|----------------|----------------|---|----------------------------------|
| <b>Work Experience</b> |                |                |   |                                  |
| S. No                  | From (year)    | To (year)      | Name of the Institution/ Organization   | Position held                    |
| 1.                     | October 2022   | Up-to-date     | Faculty of Engineering & Architecture (FOE&A), BUITEMS, Quetta, Pakistan.   | Professor/ Associate Dean        |
| 2.                     | July 2017      | Up-to-date     | Infrastructure and Infrastructure 4.0, Structural Health Monitoring, WASH, Man Made Disaster Management, Sustainable living, Smart Construction Materials, Water Resources Management, Outcome-Based Education (OBE), | Consultant                       |
| 3.                     | March 2022     | October 2022   | Department of Civil Engineering and Chairperson, (FOE&A), BUITEMS, Quetta, Pakistan.  | Professor/ Chairperson           |
| 4.                     | December 2021  | Feb 2022       | Department of Civil Engineering and Chairperson, Department of Geological Engineering (FOE&A), BUITEMS, Quetta, Pakistan.   | Professor/ Chairperson           |
| 5.                     | August 2017    | August 2023    | BUITEMS Civil Works and Developments  | Civil Technical Expert           |
| 6.                     | August 2019    | December 2021  | Department of Civil Engineering and Chairperson, Department of Geological Engineering (FOE&A), BUITEMS, Quetta, Pakistan.   | Associate Professor/ Chairperson |
| 7.                     | October 2019   | September 2022 | World Food Program of the United Nations (WFP-UN), Districts of Balochistan i.e. Killa Abdullah, Chaghi, and Washuk   | Engineering Team Leader          |
| 8.                     | February 2019  | August 2019    | Department of Civil Engineering, (FOE&A), BUITEMS, Quetta, Pakistan.  | Associate Professor              |
| 9.                     | January 2015   | Feb 2017       | Department of Civil & Environmental Engineering, Hanyang University, Seoul Campus, South Korea.   | Research Assistant               |
| 10.                    | April 2013     | December 2014  | Department of Civil & Environmental Engineering, Hanyang University, Seoul Campus, South Korea.   | Teacher Assistant                |
| 11.                    | January 2010   | February 2019  | Department of Civil Engineering, (FOE&A), BUITEMS, Quetta, Pakistan.  | Assistant Professor              |
| 12.                    | February 2005  | December 2009  | Military Lands & Cantonment Boards, Pakistan  | Cantonment Engineer              |
| 13.                    | September 2004 | March 2005     | Taraqee Foundation Quetta, Pakistan   | Field Engineer                   |
| 14.                    | September 2003 | September 2004 | M. Azim Khan Panaza   | Site Engineer                    |

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|--|---------------|-----------|---|------------------|
| 15.  | November 2002 | May 2003  | Abdul Malik & Company   | Trainee Engineer |
| <b>Member</b>                                    |               |           |   |                  |
| 1.   | July 2022 to  | July 2025 | Syndicate Member, BUIITEMS, Quetta  | Member           |
| 2.   | June 2022     | Till Date | Board of Studies, Department of Civil Engineering, BUIITEMS   | Convener         |
| 3.   | June 2022     | Till Date | Industrial Advisory Board (IAB), Department of Civil Engineering, BUIITEMS  | Convener         |
| 4.   | March 2022    | Till Date | Board of Studies, Department of Architecture, BUIITEMS  | Member           |
| 5.   | October 2021  | June 2022 | Sanate Member, BUIITEMS, Quetta   | Member           |
| 6.   | August 2019   | Feb 2022  | Board of Studies, Department of Geological Engineering, BUIITEMS  | Convener         |
| 7.   | August 2019   | Till Date | Board of Faculty, Faculty of Engineering & Architecture, BUIITEMS   | Member           |
| 8.   | August 2019   | Feb 2022  | Industrial Advisory Board (IAB), Department of Geological Engineering, BUIITEMS   | Convener         |
| <b>Area of specialization</b>                    |               |           | Structural Health Monitoring, Remote Monitoring of Infrastructures, Smart Construction Materials, Multidisciplinary and Holistic Approach, Water Resources Management, Man Made Disaster Management, Mobil Ecosystem Smart Platform of Municipal Corporation Grade, Civil Engineering Projects, Drought Mitigation, Multidisciplinary and Holistic Approach, Outcome-Based Education, Developing Learning Outcomes: Student Center Learning (Course Design: Teaching and Learning), |                  |
| <b>Research Interest</b>                         |               |           | Man-Made Disasters, 3D Construction, Structural Health Monitoring, Remote Monitoring of Structures, Smart Construction Materials, Artificial Neural Network, Deep Learning, Internet of Things (IoT), Block- Chain.   |                  |
| <b>SDGs Goals mapping with worked experience</b> |               |           |   |                  |
| <b>Future Research Plans</b>                     |               |           | Smart Infrastructure Grade, Smart Living, One percent Insurance for Ecosystem (Flood, Scarcity and Drought)   |                  |
| <b>HEC Approved supervisor</b>                   |               |           | <b>Yes</b>  |                  |
| <b>If Yes, provide HEC URL</b>                   |               |           | <a href="https://www.hec.gov.pk/english/scholarshipsgrants/ASA/Pages/APS-EPORTAL.aspx">https://www.hec.gov.pk/english/scholarshipsgrants/ASA/Pages/APS-EPORTAL.aspx</a>   |                  |

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| <p><b>Research grants/ Projects</b></p>                | <ul style="list-style-type: none"> <li>• Development of Mobile Ecosystem for Smart Sharing of Domestic Water Efficient Collection and Supply Management for Quetta City.</li> <li>• Effect of Wheat Straw Fibers on Behavior of Clayey Soil</li> </ul>  |
| <p><b>Additional Information</b></p>                   |   |
| <p><b>Research grants/ Projects (Un-succeeded)</b></p> | <ul style="list-style-type: none"> <li>• Assessment of Insulating Properties of Building Walls using Pumice Fine Aggregate Powder: A Sensor Based Investigation (<b>BUITEMS ORIC</b>)</li> <li>• Utilization of Additive Manufacturing (3D Printing) In Construction Industry (<b>BUITEMS ORIC Large-scale Competitive Grants</b>)</li> <li>• Assessment and removal of hazardous pollutants species in both air and liquid phase in the industrial zone Hub (Balochistan) using recycle approach) (<b>BUITEMS ORIC Large-scale Competitive Grants</b>)</li> <li>• Evaluating Insulating Properties of Pumice (<b>BUITEMS ORIC</b>)</li> <li>• Intelligent Skip Waste Bin with Effective Trash Bin Site Location in Metropolitan City Quetta (<b>CM, Balochistan</b>)</li> <li>• Smart Domestic Water supply and Efficient Distribution Management for Quetta City (<b>CM, Balochistan</b>)</li> <li>• Development of Miniature 3D construction Prototype (<b>GCF</b>)</li> <li>• Development Prototype of Miniature Smart Domestic Water Supply And Efficient Distribution Vain Neural Network Management. An aqua tube detection for WASA, Quetta (<b>NRPU</b>)</li> <li>• Monitoring and removal of Volatile Organic Compounds (VOCs) from urban areas of Balochistan (<b>NRPU</b>)</li> </ul> |

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| <p><b>MS Thesis Supervised</b></p>           | <ul style="list-style-type: none"> <li>• Solute Transport Modelling Through Porous Media With Fraction Advection Dispersion Equation (Fade)</li> <li>• Simulation Of Tracer Transport Through Porous Media Using Advection Dispersion Equation (Ade)</li> <li>• Development Of Pervious Concrete Pavement Using Polyethylene Terephthalate As Coarse Aggregate</li> <li>• Effect Of Silica Fume And Lime On The Compressibility Of Baleli Soil</li> <li>• Analysis Of The Engineering Properties Of Pumice Block: An Energy Efficient Structural Member</li> <li>• Partial Replacement Of Polypropylene Random Copolymer As Coarse Aggregate In Concrete</li> <li>• GIS Based Solid Waste Collection And Transportation A Case Study Of Quetta City</li> <li>• Indiscriminate Municipal Solid Waste Disposal An Influence On Ethics And Social Norms Of Inhabitants: A Community Based Study Of Ward 32, Quetta</li> <li>• Effect Of Date Seeds As Partial Replacement Of Coarse Aggregates On Properties Of Concrete</li> <li>• Effect Of Pumice On Heat Insulating Properties Of Cement Mortar</li> <li>• Evaluation Of Water Quality Of Nari Gaj River In Balochistan, Pakistan</li> <li>• Performance Evaluation of Self Compacting Geopolymer Concrete by Incorporating Polyethylene Terephthalate</li> </ul> |
| <p><b>MS External Examiner</b></p>           | <ul style="list-style-type: none"> <li>• Effects of Temperature and Age on Compressive Strength of Cement Mortar Containing Volcanic Pumice and Stone Quarry Dust, Engr. Aneesa, 21MECE44, BUET, Khuzdar, Pakistan</li> </ul>  |
| <p><b>International Journal Reviewer</b></p> | <ul style="list-style-type: none"> <li>• MDPI,</li> <li>• International Journal of Geo-Information (IJGI)</li> <li>• Remote Sensing</li> <li>• Sensors</li> <li>• Water</li> <li>• Bentham Manuscript Processing System</li> <li>• Water, Air, &amp; Soil Pollution</li> </ul>   |
| <p><b>HEC Research Grant Reviewer</b></p>    | <ul style="list-style-type: none"> <li>• CPEC</li> <li>• Grand Challenge Fund (GCF)</li> <li>• Local Challenge Fund (LCF)</li> <li>• National Research Program for University (NRPU)</li> <li>• PERIDOT Research Program</li> <li>• Pak –Turk Researchers’ Mobility Grant Program</li> </ul>   |



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| <b>Certificate Trainer:</b> | <ul style="list-style-type: none"><li>• <b>Water Law</b> (Panjwani-Hisaar Water Institute (PHWI))</li><li>• Outcome Based Accreditation for <b>Program Evaluators</b></li><li>• HEC <b>PhD Supervisors</b> Capacity Building Program</li><li>• Decentralised Wastewater Treatment Systems (<b>DEWATS</b>)</li><li>• Professional Competency Enhancement Program for Teachers (<b>PCEPT</b>)</li><li>• Outcome Based Education System (<b>OBES</b>)</li></ul> |
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