

**ADNAN QADIR, Ph.D. (Transportation)**

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**Citation Index: [Citations:251, h index 9, h10 index 7](#)**

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With a robust foundation in Civil Engineering, evidenced by my B.E. and M.Sc. degrees from NED University of Engineering and Technology, and further solidified by a PhD in Transportation engineering from Middle East Technical University, I have established myself as a distinguished professional in the field. My career commenced in 1992 as a junior civil engineer with an international firm, swiftly transitioning into academia where I have held the esteemed positions of professor and chairman of the Department of Urban and Infrastructure at NED University since 1997. My career highlights are

- Enhanced expertise through PhD scholarship and teaching at an international university.
- Specializes in highway materials, including polymer and geogrid-reinforced asphalt concrete, and highway pavement design.
- Successfully secured approval for cutting-edge research proposals.
- Actively involved in government and industry-sponsored research since 2011 and a member of the QNRF Fund.
- Served as chairperson at various prestigious international conferences.
- Committed to lifelong learning and knowledge dissemination to students.

With a strong focus on learner-centered curriculum development, I have successfully revised the entire curriculum for the Master of Engineering and Management, specifically within the Transportation Engineering discipline. My expertise extends to formulating the admission process, organizing courses, and providing overall supervision of the program. I am committed to continuous improvement and quality enhancement, which I achieve by monitoring and evaluating the program based on insightful student and faculty feedback.

My commitment to capacity building is demonstrated through my AutoCAD training initiatives for the Irrigation Department in Quetta and my contributions to the Communication and Works Department's pavement design efforts. My technical acumen is further supported by my proficiency in industry-standard software such as Abaqus, AutoCAD, Darwin 3.1, Eagle Point, MS Project, and MATLAB.

I am adept at integrating interactive learning technologies to bolster education and training activities, and I take pride in offering professional development courses that cater to the ongoing learning needs of practicing engineers. From 2010 to 2013, I served as the Secretary for the Construction Material Research Group (CMRG), where my responsibilities spanned the development of research programs across various disciplines, the evaluation of research proposals, and fostering university-industry collaborations through projects and knowledge-sharing events. Additionally, I played a pivotal role in extending educational resources to both technical and non-technical professionals.

As an advisor for senior-year design projects and independent study projects (ISP), I have demonstrated my ability to liaise with government and industry stakeholders to define key project objectives. My role as a team player and advisor on these projects, coupled with my responsibilities in evaluation and grading, underscores my comprehensive involvement in shaping future industry leaders.

- Actively involved in government and industry-sponsored research since 2011 and a member of the QNRF Fund.
- Served as chairperson at various prestigious international conferences.
- Committed to lifelong learning and knowledge dissemination to students.

## **Education**

**2010**      PhD, Middle East Technical University, Ankara, Turkey

### *PhD Dissertation thesis*

*“Investigation of low temperature cracking in Asphalt concrete”, funded by Higher Education, Ankara, Turkey, research included testing, modelling and equations to generate low temperature cracking “*

**1997**      Master of Science in Civil Engineering (MSc), NED University of Engg & Technology, Pakistan

**1991**      Bachelor of Engineering (Civil), NED University of Engineering & Technology, Pakistan

## 1. Technical Skills:

Area of Expertise	Description
Non-Destructive testing	Evaluated number of asphalt pavements, suggest corrective measure and recommend Rehabilitation design
Pavement Management	Field surveys to determine pavement condition, calculation of PCI, Interpretation of FWD data, Research on improvement of road distresses Determination of Remaining service life using Benkelman Beam apparatus Expert in calculation of PCR values of Airport Pavement as per ICAO Sound knowledge of pavement distress Survey
Pavement design	Designing highways and Port Pavement since 2012.
Project Management	Design -Build Management, Project Plans & Documentation, Engineering Cost Estimates, Cross-Functional Team Supervision
Engineering Disciplines	Traffic & Transportation Engineering, Structural & Construction Engineering
Investigation of pavement failures	Investigate premature failure of highway pavements in the country
Design and Consultancy project	Working as a Consultant in chief for third party validation of optimal route alignment of Rawalpindi ring road Pakistan Worked as advisor to local consultants and contractors for pavement design, evaluation and maintenance project
Pavement material testing	Expert in Job Mix formula of asphalt concrete and related Highway/Runway/Port material tests
Technical Training imparted	AutoCAD training for capacity building of Irrigation department, Quetta Pavement design for capacity building of Communication and work department, Quetta
Technical Tools	Abaqus, AutoCAD, Darwin 3.1, Eagle Point, MS Project, MATLAB
Geotechnical Investigation (Karachi)	TOPOGRAPHY, HYDRAULIC DESIGN & LANDUSE PLANNING OF 44 ACRE LAND IN MEHRAN that includes complete topographic survey with GNSS and drone, Geotechnical Investigation that includes SPT, soil investigation, calculation of bearing capacity, suggestion to improve wet land use and Design of infrastructure water, sewerage, stormwater drain, revetment wall, Runway pavement in the area
Geotechnical Investigation (Jeddah)	Study of Fish market land in Jeddah: Geotechnical Investigation that includes SPT, soil investigation, calculation of bearing capacity, Pile foundation recommendation
Soft skills	Mentioned separately in Table-2

## 2. Computer skills/Software Proficiency

Software Name	Purpose	Skills level
ROMDAS Software	Software for Road surface evaluation	Working knowledge
DARWIN 3.0	Pavement design using AASHTO Pavement Strength Evaluation data from FWD	Proficient
FAARFIELD	Airport Pavement Design	Proficient
COMFAA	Airport pavement strength Evaluation data from FWD	Proficient
PCAPAVE	Pavement design using PCA Method of Rigid pavement	Proficient
Asphalt Institute MS-1	Pavement design, JMF	Proficient
MICRO PAVER 6.0	Pavement condition index	Working knowledge
KENPAVE	Pavement Mechanistic Evaluation	Proficient
KEN track	Railway track design	Proficient
AutoCAD/civil 3d/Eagle Point	Geometric Design of Highways	Proficient
Elmod 6	Airport pavement strength Evaluation	Working knowledge
Primavera P6 Enterprise	Construction management	Working knowledge
Minitab	Statistical analysis of data	Proficient
MSACCESS	DATA ANALYSIS SOFTWARE	Working knowledge
MS EXCEL	Develop worksheet for following applications -flexible pavement design -CRCP pavement design -Pavement condition index calculation	Proficient
MATLAB	Develop software Evaluation of pavement condition index through digital imaging process	Working knowledge
Arc GIS	GIS software	Working knowledge

### 3. PUBLICATIONS

I am a distinguished transportation engineering professional with a significant track record of scholarly achievements, including 33 publications in esteemed journals and conferences. My research has garnered measurable impact, as reflected by an h-index of 9, indicating the frequency and significance of citations to my work, which is readily available for review on Google Scholar. My expertise lies in pioneering advancements in highway materials, with a particular focus on the development of polymer and geogrid-reinforced asphalt concrete, along with a deep understanding of roadway geometries and pavement design. This expertise has not only led to the endorsement of my research proposals but has also fueled my active involvement in government and industry-sponsored research initiatives since 2011.

#### a. Journal

1. Utilization of Plastic waste in Pavement Structure, Journal of Solid waste and technology, pp 185-194, volume 32, August 2006  
[https://scholar.google.com/citations?view\\_op=view\\_citation&hl=en&user=RX6rfpoAAA AJ&pagesize=80&authuser=1&citation\\_for\\_view=RX6rfpoAAAAJ:UeHWp8X0CEIC&gmla=AJsN-F4RRdW2lXFfL1Co0fQTNAfkUyl072MiKIcA0C0HOIWAXo-M\\_A1Tw25RCNkPr557CGIjqa\\_SEzRPMVozPAyydW-vbpB8FMYYbie\\_qz\\_cwknuiQ65x0&sciund=12610841500804559056](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=RX6rfpoAAA AJ&pagesize=80&authuser=1&citation_for_view=RX6rfpoAAAAJ:UeHWp8X0CEIC&gmla=AJsN-F4RRdW2lXFfL1Co0fQTNAfkUyl072MiKIcA0C0HOIWAXo-M_A1Tw25RCNkPr557CGIjqa_SEzRPMVozPAyydW-vbpB8FMYYbie_qz_cwknuiQ65x0&sciund=12610841500804559056)
2. A paradigm for down grading the nuisance of Polyethylene bag pollution Technology Updates Journal, Volume 3, Academic Year 2006-2008.pp 1-12  
[https://www.researchgate.net/publication/368721328\\_A\\_PARADIGM\\_FOR\\_DOWN\\_G RADING\\_THE\\_NUISANCE\\_OF\\_POLYETHYLENE\\_BAG\\_POLLUTION1](https://www.researchgate.net/publication/368721328_A_PARADIGM_FOR_DOWN_G RADING_THE_NUISANCE_OF_POLYETHYLENE_BAG_POLLUTION1)
3. Experimental testing of hot mix asphalt mixture made of recycled aggregates, Waste Management Research, Volume 29, Issue 12, 2011, pp 1316-1326 (Journal Impact Factor-1.222)  
[https://scholar.google.com/citations?view\\_op=view\\_citation&hl=en&user=RX6rfpoAAA AJ&authuser=1&citation\\_for\\_view=RX6rfpoAAAAJ:qjMakFHDy7sC](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=RX6rfpoAAA AJ&authuser=1&citation_for_view=RX6rfpoAAAAJ:qjMakFHDy7sC)
4. Design of thermal stress restrained testing machine for measurement of low temperature cracking in asphalt concrete, World Journal of Engineering, Volume 9, Issue 4, pp 339-348.  
<https://doi.org/10.1260/1708-5284.9.4.339>

5. Effect of air voids on low temperature fracture strength of asphalt concrete, The International Journal of Pavement Engineering & Asphalt Technology (PEAT), Volume 13, Issue2, 2012  
[https://www.researchgate.net/publication/368721113\\_EFFECTS\\_OF\\_AIRVOIDS\\_ON\\_LOW\\_TEMPERATURE\\_FRACTURE\\_STRENGTH\\_OF\\_ASPHALT\\_CONCRETE](https://www.researchgate.net/publication/368721113_EFFECTS_OF_AIRVOIDS_ON_LOW_TEMPERATURE_FRACTURE_STRENGTH_OF_ASPHALT_CONCRETE).
6. Investigation of statistical relationship between dynamic modulus and thermal strength of asphalt concrete, NED University Journal of Research, Volume 8, Issue 2, 2011, pp 52-61.  
[https://scholar.google.com/citations?view\\_op=view\\_citation&hl=en&user=RX6rfpoAAA&pagesize=80&citation\\_for\\_view=RX6rfpoAAAJ:9yKSN-GCBOIC](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=RX6rfpoAAA&pagesize=80&citation_for_view=RX6rfpoAAAJ:9yKSN-GCBOIC)
7. Yol kaplama malzemelerinde düşük sıcaklık çatlak dayanımlarının belirlenmesi, Report submitted to Department of Highways, Ankara  
[https://scholar.google.com/citations?view\\_op=view\\_citation&hl=en&user=RX6rfpoAAA&pagesize=80&citation\\_for\\_view=RX6rfpoAAAJ:3s1wT3WcHBgC](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=RX6rfpoAAA&pagesize=80&citation_for_view=RX6rfpoAAAJ:3s1wT3WcHBgC)
8. Rutting performance of polypropylene modified asphalt concrete, International Journal of Civil Engineering (Journal Impact Factor-0.681), 2013.  
[https://www.researchgate.net/publication/293120861\\_Rutting\\_performance\\_of\\_polypropylene\\_modified\\_asphalt\\_concrete](https://www.researchgate.net/publication/293120861_Rutting_performance_of_polypropylene_modified_asphalt_concrete)
9. Performance of Hot Mix Asphalt Mixtures Made of Recycled Aggregates Journal 42(2):20130004 · March 2014  
<https://trid.trb.org/view/1409449>
10. Flexure and shear strength of Fiber modified lightweight aggregates concrete and its application in water retaining structures, World Journal of Engineering 2017, Vol-14, No.2, pp-101-107 (Authored), Emerald.  
<https://www.emerald.com/insight/content/doi/10.1108/WJE-12-2016-0174/full/html>

11. Investigation of Glass Transition Temperature of asphalt concrete, Journal of Testing and Evaluation 2017, Vol-45, No.5, pp-1-13 (Authored), ASTM.  
<https://trid.trb.org/view/1571584>
12. Comparison of SBS and PP Fiber Asphalt Modifications for Rutting Potential and Life Cycle Costs of Flexible Pavement, Road Materials and Pavement Design (Authored), Taylor & Francis Ltd 2016.  
[10.1080/14680629.2016.1259124](https://doi.org/10.1080/14680629.2016.1259124)
13. Artificial Neural Network Models for performance design of asphalt pavement reinforced with geosynthetic, Transport Research Record, TRB 2020. Published online 20-06-2020. SAGE Publications  
<https://doi.org/10.1177/0361198120924387>
14. Statistical Analysis for Comparing and Predicting Rutting Resistance of Asphalt Pavements with Rigid and Flexible Geogrid Layers, Construction and Building Materials, 24-07-2021, Elsevier  
<https://doi.org/10.1016/j.conbuildmat.2021.124136>
15. Estimating Passenger Car Equivalent Factors for Heterogeneous Traffic Using Occupancy Density Linear Regression Model Transportation Research Record,2022.  
<https://journals.sagepub.com/doi/10.1177/03611981221083289>
16. Optimizing operational parameters through minimization of running costs for shared mobility public transit service: an application of decision tree models, Personal and Ubiquitous Computing,2023, Springer  
<https://link.springer.com/article/10.1007/s00779-023-01739-8>
17. Real-time road occupancy and traffic measurements using unmanned aerial vehicle and fundamental traffic flow diagrams Personal and Ubiquitous Computing,2023, Springer  
<https://link.springer.com/article/10.1007/s00779-023-01737-w>
18. Rutting performance of Cement Treated base and Hot mix asphalt layer in flexible pavements containing Recycle Aggregates, International Journal of Pavement Engineering , 2024 DOI: [10.1080/10298436.2023.2297945](https://doi.org/10.1080/10298436.2023.2297945);

19. Improving flexible pavement performance through the application of geotextiles, Journal of Liaoning Technical University (Natural Science Edition), 2024.  
<https://www.lgjdxn.asia/search.php?query=geotextile#>

**b. Conference:**

1. Traffic Delays and queue buildup due to damaged road in Karachi-23-24th January 2001, First International Road Conference, Lahore organized by IEP, 2001.  
[https://www.researchgate.net/publication/368755903\\_Traffic\\_Delay-Paper\\_1](https://www.researchgate.net/publication/368755903_Traffic_Delay-Paper_1)
2. Post Disaster Mitigation – A Relief to Human Sufferings 14th – 15th November, 2002, International Conference on Protection of Structures against Hazards, Singapore.  
[https://www.researchgate.net/publication/368757946\\_Post\\_disaster\\_mitigation](https://www.researchgate.net/publication/368757946_Post_disaster_mitigation)
3. Use of Recycled plastic waste as an aggregate in Pavement structure 14-16 March, 2005, International Symposium on Pavement Recycling, SAO PAULO Brazil).  
[https://www.researchgate.net/publication/368719953\\_use\\_of\\_recycled\\_plastic\\_waste\\_aggregate\\_as\\_a\\_partial\\_substitution\\_material\\_in\\_pavement\\_structure](https://www.researchgate.net/publication/368719953_use_of_recycled_plastic_waste_aggregate_as_a_partial_substitution_material_in_pavement_structure)
4. Effect of aggregate type and rate of temperature change on fracture strength of asphalt concrete, 5th International Conference Bituminous Mixtures and Pavements, 1-3 June 2011, Thessaloniki, Greece, Hyatt Regency Hotel  
<https://trid.trb.org/view/1374937>
5. Effect of air voids on low temperature fracture strength of asphalt concrete, 11th International Conference on Pavements Engineering and Infrastructure, 15-16 February 2012, Liverpool, United Kingdom.  
[https://www.researchgate.net/publication/368757880\\_effects\\_of\\_airvoids\\_on\\_low\\_temperature\\_fracture\\_strength\\_of\\_asphalt\\_concrete](https://www.researchgate.net/publication/368757880_effects_of_airvoids_on_low_temperature_fracture_strength_of_asphalt_concrete)
6. Use of Recycled Aggregates in Hot Mix Asphalt Mixture, paper presented in 3rd International Conference on Construction in developing countries, Bangkok, Thailand 4-6 July 2012.  
[https://www.researchgate.net/publication/291336277\\_Use\\_of\\_Recycled\\_Aggregates\\_in\\_Hot\\_Mix\\_Asphalt\\_Mixture](https://www.researchgate.net/publication/291336277_Use_of_Recycled_Aggregates_in_Hot_Mix_Asphalt_Mixture)



7. Karachi Circular Railway-A need for Karachiites, paper presented in 3rd International Conference on Construction in developing countries, Bangkok, Thailand 4-6 July 2012.  
[https://scholar.google.com/citations?view\\_op=view\\_citation&hl=en&tzom=-300&user=lhGX1AgAAAAJ&pagesize=80&citation\\_for\\_view=lhGX1AgAAAAJ:hC7cP41nSMkC](https://scholar.google.com/citations?view_op=view_citation&hl=en&tzom=-300&user=lhGX1AgAAAAJ&pagesize=80&citation_for_view=lhGX1AgAAAAJ:hC7cP41nSMkC)
8. Flexural behavior of reinforced lightweight aggregate concrete and the effect of polypropylene fibre, 12th International Conference on Pavements Engineering and Infrastructure, 27-28 February 2013, Liverpool, United Kingdom.  
[https://www.researchgate.net/publication/368757861\\_flexural\\_behaviour\\_of\\_reinforced\\_lwa\\_concrete\\_and\\_the\\_effect\\_of\\_pp\\_fibre](https://www.researchgate.net/publication/368757861_flexural_behaviour_of_reinforced_lwa_concrete_and_the_effect_of_pp_fibre)
9. Finite Element Modelling of Thermal Stress Restrained Specimen Test, 5th Euro asphalt and Eurobitume Congress, 13-15th June 2012, Istanbul, Turkey.  
[https://www.academia.edu/68320833/Finite\\_Element\\_Modelling\\_of\\_Thermal\\_Stress\\_Restrained\\_Specimen\\_Test](https://www.academia.edu/68320833/Finite_Element_Modelling_of_Thermal_Stress_Restrained_Specimen_Test)
10. Using Dynamic Modulus as an Indicator for Thermal Strength of Asphalt Concrete, 1<sup>st</sup> Meeting and Technical Conference of the Middle East Society of Asphalt Technologists, MESAT 2010, 05-08 July 2010, Beirut, Lebanon.  
[https://www.researchgate.net/publication/368757851\\_Dynamic\\_Modulus\\_as\\_an\\_Indicator\\_for\\_Thermal\\_Strength\\_of\\_Asphalt\\_Concrete](https://www.researchgate.net/publication/368757851_Dynamic_Modulus_as_an_Indicator_for_Thermal_Strength_of_Asphalt_Concrete)
11. Finite Element Analysis of Tractor Trolley Tires on Bituminous-bound Macadam Roads of Pakistan, 17th IRF World Meeting & Exhibition, the Premier Event for Transportation Professionals, 10-14 November 2013, Riyadh, KSA.  
[https://www.researchgate.net/publication/368757593\\_finite\\_element\\_analysis\\_of\\_tractor\\_trolley\\_tires\\_on\\_bituminous-bound\\_macadam\\_roads\\_of\\_pakistan](https://www.researchgate.net/publication/368757593_finite_element_analysis_of_tractor_trolley_tires_on_bituminous-bound_macadam_roads_of_pakistan)
12. Experimental Investigation of Geotextiles in Asphalt Concrete Pavement, 17th IRF World Meeting & Exhibition, the Premier Event for Transportation Professionals, 10-14 November 2013, Riyadh, KSA  
[https://www.academia.edu/7640120/experimental\\_investigation\\_of\\_geotextiles\\_in\\_asphalt\\_concrete\\_pavement](https://www.academia.edu/7640120/experimental_investigation_of_geotextiles_in_asphalt_concrete_pavement)

13. Effect of overloaded vehicles on the performance of highway bridge girder: A case study”; Published in the Procedia Engineering, Volume 77, pp. 95-105, 2014 (Fourth International Symposium on Infrastructure Engineering in Developing Countries (IEDC-2013); Pakistan, 26-28 December, 2013.  
<https://www.sciencedirect.com/science/article/pii/S1877705814009874>
14. Performance Evaluation of Geocomposite Reinforcement in Flexible Pavements using Marshall Test Protocol, 5th ICCOEE international conference, 14th-15th August 2018, Kuala Lumpur Malaysia published in MATEC Web of Conferences 203, 06020 (2018)  
<https://doi.org/10.1051/mateconf/201820306020> ICCOEE 2018.

### c. Research Grants

I have obtained a total of four Research grants of PKR 8.567 million

- a. **Use of Polypropylene fibres for control of Asphalt pavement’s Rutting in Pakistan, funded by frontier work organization, completed in September 2012, duration: six months, award amount Pak Rs. 4,80,000/-**  
<https://www.researchgate.net/publication/368780079> Use of Polypropylene Fibres for Control of Asphalt Pavement's rutting in Pakistan
- b. **Application of polymer modified asphalt for control of asphalt pavement’s rutting in Pakistan, funded by Messrs. Pak Hy-oils limited, duration 06-month, year, award amount PAK RS. 5,25,000/-**  
<https://www.researchgate.net/publication/368780167> Application of Polymer Modified Asphalt for Control of Asphalt Pavement's rutting in Pakistan
- c. **Application of woven geosynthetic materials for control of rutting in asphaltic concrete pavements in Pakistan**  
<https://www.researchgate.net/publication/368831214> finite element analysis of woven geotextile in pavement structure
- d. **National research program for universities ( NRPU), HEC project for “investigation of the rutting and fatigue performance of asphalt concrete reinforced with geotextile materials”, amounting to nearly PKR Rs 7.562 million**  
<https://www.researchgate.net/publication/368831005> Final NRPU report-190503updadnan