

UMME AMINA MANNAN, E.I.T.

(330) 622-0916 • mannan.amina@gmail.com • <http://www.aminamannan.com>

Summary of Qualifications

- Seven years of experience in pavement and recycled materials during PhD and MS study
- Experience in geotechnical analysis related to deep foundation, road constructions and soil testing
- Relevant experience in GIS, highway design and data analysis
- Successfully conducted two NMDOT projects independently and as a cooperative team leader
- Advanced skills with Matlab, Microsoft Office and statistical analysis
- Excellent verbal and written communication skills

Professional License

Engineer Intern (EI), Ohio Board of Registration for Professional Engineers and Surveyors 2012

Education

PhD with distinction, Civil Engineering (Concentration: Pavement Materials) 2017
University of New Mexico, Albuquerque, NM GPA 4.00/4.00
Dissertation: "Characterization of Asphalt Healing and Incorporation in A Fatigue Damage Model"
Related courses: Pavement Design, Highway & Traffic Engineering, Advance Soil Mechanics, Continuum Mechanics, Adv. Mechanics of Material, Adv. Data Analysis I

Master of Science, Civil Engineering (Concentration: Recycled Materials) 2012
University of Akron, OH GPA 3.953/4.00
Thesis: "Effect of Recycled Asphalt Shingles (RAS) on Physical and Chemical Properties of Asphalt Binders"
Related courses: Highway Materials, Adv. Characterization of Highway Materials, Highway Design, Foundation Engineering I, Soil Improvement, Applied Numerical Methods I, Geographic Information Systems

Bachelor of Science, Civil Engineering 2009
Bangladesh University of Engineering & Technology, Dhaka, Bangladesh GPA 3.64/4.00
Thesis: "Analytical Study of Horizontally Curved Bridge Deck by STAAD.Pro"

Professional Experiences

Research Assistant, University of New Mexico, Albuquerque, NM August 2012–December 2017

- Lab Testing: Viscoelastic materials / asphalt binder, composite materials / asphalt concrete, soil
- Field Testing: Evaluation distresses of flexible pavement, pavement serviceability index (PSI) calculation, non-destructive testing of flexible pavement
- Data Analysis: Analysis of Long-Term Pavement Performance (LTPP) database, Traffic data analysis using Geographic Information System (GIS), Performed cluster analysis to estimate Mechanistic-Empirical Pavement Design Guide (MEPDG) traffic data input
- Mentoring: Supervised and mentored two undergraduate, two Masters and three new PhD students

Research Assistant, University of Akron, Akron, OH August 2010–August 2012

- Conducted experiments on recycled materials and asphalt binders using DSR, BBR and Rotational Viscometer

- Performed chemical testing on recycled materials and asphalt binders using FTIR, GPC, XRD
- Mentored and trained one undergraduate and two new Masters students
- Supervised undergraduate students during the lab; graded lab reports as a Teaching Assistant

Junior Project Engineer, Design Develop Build Ltd., Dhaka, Bangladesh 2009–2010

- Project scheduling and monitoring, Checked and designed structural drawing, Cost estimation

Computer & Software Skills

- **Pavement Design:** AASHTOWare, WinJULEA, KENPAVE, KENLAYER, LTPP
- **Traffic Simulation:** VISSIM
- **Highway Design:** AutoCAD, Civil 3D, MicroStation
- **Miscellaneous:** ArcGIS, Matlab, L^AT_EX
- **FEM Software:** STAAD, ABAQUS, SAP
- **Microsoft Office:** Word, Excel, Access, PowerPoint, Project
- **Statistics:** RStudio, SPSS

Honors, Grants & Awards

- *APANM Best Poster Award*, Asphalt Pavement Association of New Mexico, NM 2017
- *UNM Civil Engineering Scholarship*, University of New Mexico, NM 2017
- *Best Paper Award*, 6th International Conf. on Geotechnique, Construction Materials & Environment, Bangkok, Thailand 2016
- *APANM Asphalt Industry Scholarship*, Asphalt Pavement Association of New Mexico 2016
- *UNM Civil Engineering Travel Grant*, University of New Mexico 2016 & 2015
- *Elvidio V. Diniz, P.E. UNM Water Resources Scholarship*, New Mexico Section of ASCE 2015
- *Student Research Grant (SRG)*, Graduate & Professional Student Association, University of New Mexico, NM 2014
- *Technological Scholarship* (award for excellence in engineering education), Govt. of Peoples' Republic of Bangladesh 2008
- *Academic Achievement Scholarship* (award for excellent result), Bangladesh University of Engineering & Technology, Dhaka, Bangladesh 2007

Volunteer Services

- **Reviewing Services:** Applied Rheology, Journal of Testing and Evaluation, Transportation Research Board (TRB), Canadian Journal of Civil Engineering
- **Arranged Workshops:** Introduction To Rheology with Anton-Paar (2015), Asphalt Binder extraction and recovery (Rotavapor) for NMDOT (2014), DSR Testing for NMDOT (2014)

Professional Affiliations

- Society of Women Engineers (SWE)
- American Society of Civil Engineers (ASCE)
- Engineers Without Borders UNM (EWB-UNM)