

**Md Nafiur Rahman**  
**Ph.D. Student**  
Tempe, AZ 85251, Arizona  
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## **QUALIFICATION SUMMARY**

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- **Research Assistantship** at Arizona State University for pavement materials research.
- Hands on experience in **asphalt rheology**.
- In depth knowledge of **chip sealing** and its performance in the field.
- Experienced in performing laboratory tests.

## **EDUCATION**

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### **Doctor of Philosophy in Civil Engineering**

**Ongoing**

*Arizona State University (ASU), USA*

### **Master of Science in Civil Engineering**

**August, 2020**

*Louisiana State University (LSU), USA*

#### **Thesis Title**

*"Laboratory and Short-term Field Performance of Crumb Rubber Modified Asphalt Emulsion in Chip Sealing Applications."*

### **Bachelor of Science in Civil Engineering**

**November, 2015**

*Islamic University of Technology (IUT), Bangladesh*

#### **Thesis Title**

*"Effect of Types of Aggregate and Sand-to-Aggregate Volume Ratio on UPV in Concrete."*

## **WORKING EXPERIENCE**

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*Arizona State University (ASU), Tempe, Arizona*

### **Graduate Research Associate**

**August, 2020 – Present**

- Performance and Volumetric Based Optimization of Fiber Reinforced Asphalt Mixtures.
- Fracture energy characterization of HMA.

*Louisiana State University (LSU), Baton Rouge, Louisiana*

### **Graduate Research Assistant**

**August, 2018 – August, 2020**

- Molecular and rheological characterization of crumb rubber modified asphalt emulsion.
- Laboratory performance of crumb rubber modified asphalt emulsion in chip sealing application.
- Evaluation of field performance of crumb rubber modified asphalt emulsion in chip sealing.

*Islamic University of Technology (IUT), Board Bazar, Gazipur*

### **Lecturer**

**January, 2017 – July, 2018**

- Instructor in Mechanics of solids Lab, Engineering materials Lab, Design of concrete structure Lab, Structural analysis and design – II Lab, and Analytic mechanics.
- To collaborate in various research projects.

## **PUBLICATIONS (Journal & Conference Papers)**

[Total Citations: 55]

1. Md Nafiur Rahman<sup>★</sup>, Md Tanvir Sarkar, Mostafa Elseifi, Corey Mayeux, and Samuel B. Cooper III, **Short-term field performance and cost-effectiveness of crumb rubber modified asphalt emulsion in chip sealing**, *Transportation Research Record* (2021). (Accepted)
2. Md Tanvir Sarkar, Md Nafiur Rahman<sup>★</sup>, Mostafa Elseifi, Corey Mayeux, and Samuel B. Cooper III, **Rheological and Molecular Characterizations of Tire Rubber Modified Asphalt Emulsion**, *Constr. Build. Mater.* (2020). (Under review)
3. Md Tanvir Sarkar, Md Nafiur Rahman<sup>★</sup>, Mostafa Elseifi, Corey Mayeux, and Samuel B. Cooper III, **Rheological and Molecular Characterizations of Tire Rubber Modified Asphalt Emulsion**, *Transportation Research Record*, 2020, 2674(3):12-26. [Citations: 01]  
DOI: <https://doi.org/10.1177/0361198120908871>
4. Md Nafiur Rahman<sup>★</sup>, Md Tanvir Sarkar, Mostafa Elseifi, Corey Mayeux, and Samuel B. Cooper III, **Effects of emulsion types, application rates, and crumb rubber on the laboratory performance of chip seal**, *Constr. Build. Mater.* 260 (2020): 119787.  
DOI: <https://doi.org/10.1016/j.conbuildmat.2020.119787>
5. Md Nafiur Rahman<sup>★</sup>, Md. Tanvir Sarkar, and Mostafa Elseifi, **Rheological and Molecular Characterization of Rubberized Asphalt Emulsion**, in: 2019 Tran-SET Annual Conference, San Antonio, Texas, US, 2019: Paper No. 3001.  
DOI: <https://doi.org/10.1051/matecconf/201927103001>
6. Tarek U. Mohammed, Md. Mahafizul Hassan, Md Nafiur Rahman<sup>★</sup>, and Shibly Mostafiz Apurbo, **Brick Fine Aggregate and Ladle Furnace slag as Alternative to Natural River Sand**, in: 5th Int. Conf. Sustain. Constr. Mater. Technol., Kingston University London, UK, 2019: Paper No. 5077.  
DOI: <https://doi.org/10.18552/2019/IDSCMT5077>. (Received A Grade)
7. T.U. Mohammed, H. K. Das, A. H. Mahmood, M.N. Rahman<sup>★</sup>, and M. A. Awal, **Flexural performance of RC beam made with recycled brick aggregate**, *Constr. Build. Mater.* 134 (2017): 67–74. [Citations: 18]  
DOI: <https://doi.org/10.1016/j.conbuildmat.2016.12.135>.
8. T.U. Mohammed, M.N. Rahman<sup>★</sup>, **Effect of types of aggregate and sand-to-aggregate volume ratio on UPV in concrete**, *Constr. Build. Mater.* 125 (2016) 832–841. [Citations: 29]  
DOI: <https://doi.org/10.1016/j.conbuildmat.2016.08.102>.
9. T.U. Mohammed, M.N. Rahman<sup>★</sup>, A.H. Mahmood, T. Hasan, S.M. Apurbo, **Utilization of Steel Slag in Concrete as Coarse Aggregate**, in: 4th Int. Conf. Sustain. Constr. Mater. Technol., Las Vegas, USA, 2016: p. Paper No. – S184. [Citations: 07]  
DOI: <https://doi.org/10.13140/RG.2.1.3804.4404>.

## **AWARD/HONORS/ACTIVITIES**

- Dr. Matthew W. Witczak graduate fellowship at Arizona State University (ASU).
- Affiliated as a student member at American Concrete Institute (ACI).
- Serving as a reviewer for journal of construction and building materials (2019, 2020), journal of development in build environment (2019), and Transportation Research Board (2019 - Present).