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Associate Professor of Civil Engineering  
North Carolina A&T State University, Greensboro, NC 27411  
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**EDUCATION**

- PhD** Department of Civil and Environmental Engineering, University of Illinois at Urbana-Champaign (UIUC), Urbana, IL, (2004-2008), <http://www.uiuc.edu>  
Dissertation: Adhesion Mechanism of Hot-Poured Crack Sealant to Aggregate  
Advisor: Dr. Imad Al-Qadi  
GPA: 3.92
- MS** Department of Civil Engineering, Sharif University of Technology (SUT), Tehran, Iran, (2000-2003), [www.sharif.ac.ir](http://www.sharif.ac.ir)  
Thesis: Development of Prediction Model for Pavement Roughness Using LTPP Data Base  
Advisor: Dr. Nader Tabatabaee  
GPA: 3.9
- BSCE** Department of Civil Engineering, Isfahan University of Technology (IUT), Isfahan, Iran, (1996-2000), [www.iut.ac.ir](http://www.iut.ac.ir)  
Advisor: Mehdi Abtahi  
GPA: 3.5 (First rank)

**RESEARCH INTERESTS**

Multi-scale Material Characterization, Sustainable Infrastructure Materials, Bio-based Construction Adhesives, Hierarchical Material Synthesis, Adhesion Mechanisms and Interface Characterization, Rheology, Constitutive Modeling, Atomistic and Multi scale Modeling Especially for Construction Adhesives, Infrastructure Nondestructive Testing and Evaluation, Asphalt and Modified Binder Rheology, Advanced Material Characterization

**CONTINUING EDUCATION**

- 2015 Computational Biophysics Workshop at Odense, Denmark, Oct. 12-16, 2015.  
2014 Sustainability Leadership Workshop, Nov 8, 2014, Long Beach, CA.  
2014 Molecular Dynamics Simulation with Material Design, Philadelphia, PA, Oct. 21-23, 2014  
2013 Computational Rheology Workshop, Society of Rheology, Montreal Canada, October 11-14, 2013.  
2013 NSF Summer Institute's short course on Material Genome, Northwestern University, Evanston, IL, June 10-11, 2013  
2012 NSF Entrepreneurial Workshop, Ann Arbor, MI, July 18-August 30.  
2012 Overview and Current Practice of Ground Tire Rubber Use in Asphalt, August 2.  
2012 NSF Summer Institute's short course on Materiomics, Massachusetts Institute of Technology, Cambridge, MA, May 29-June 1, 2012  
2011 Webinar on Engaging Deaf Learners in the Mainstream Classroom, April 18, 2011  
2011 Webinar on Sustainable Environment: Putting EARTH DAY into Practice on Our Nation's Roads and Highways, April 22, 2011  
2011 Workshop on Hot Mix Design Technology, Asphalt Institute, Lexington, KY, March 7-10, 2011  
2010 Workshop on Instructional Technology for Deaf and Hard of Hearing Students, Post secondary Education Programs Network (PEPNet), Denver, CO.

2005 An Intensive Course on Advanced Constitutive Modeling of Viscoelastic Materials, University of Maryland, College Park, MD

### **TEACHING EXPERIENCE**

2008-present North Carolina A&T State University: Advanced Material Characterization, Construction Materials, Transportation and Pavement Design, Transportation Engineering, System Analysis, Introduction to Civil Engineering, Construction Engineering, Construction Management, and Construction Projects.

2007-2008 University of Illinois at Urbana-Champaign: Geometric Design of Roads, Asphalt Materials

2001-2003 Sharif University of Technology: Asphalt Materials Lab, Tutoring Mathematics for college students

### **HONORS & AWARDS**

2016 Fulbright Professorship-Denmark America Foundation

2015 Intellectual Property Award, North Carolina A&T State University

2014 ASCE Edmund Friedman Young Engineer Award Nominee, ASCE-NC Section

2014 Piedmont Triad Biotechnology Research Excellence Award

2014 National Academy of Science Research Advising Award

2013 Triad's 40 Leaders under Forty Award, Business Journal, UNCG Bryan School of Business and Economics and Gilliam Coble & Moser, Greensboro, NC

2013 Transportation Research Board Advising Award, Washington D.C.

2012 National science Foundation (NSF)'s CAREER Award

2012 Kavli Frontiers of Science Research Recognition, National Academy of Science

2012 The Young Investigator Award, North Carolina A&T State University

2012 Transportation Research Board's advising award, Washington D.C., U.S.

2011 Leadership Development Institute's Fellowship, the Materials Research Science and Engineering Center (MRSEC), Massachusetts Institute of Technology

2011 American Society of Engineering Education's Gerald R. Seeley Best Paper Award.

2011 The "Rookie" Young Researcher of the Year Award, North Carolina A&T State University

2011 Transportation Research Board's award for advising Minority Student Fellows, Washington D.C., U.S.

2010 Post secondary Education Programs Network (PEPNet), Professional Development award, Denver, CO., U.S.

2009 Faculty Development Grant, North Carolina A&T State University

2008 Helene M. Overly Memorial Scholarship, Women in Transportation Systems (WTS), Chicago chapter, IL., U.S.

2007 Association of Asphalt Paving Technology Scholarship, White Bear Lake, MN, U.S.

2007 Eisenhower Graduate Fellowship, Federal Highway Administration, U.S.

2007 C.E. DeLEUW Award, University of Illinois at Urbana-Champaign, IL, U.S.

2006 Dissertation Grant, University of Illinois at Urbana-Champaign, IL, U.S.

2006 Research Award, University of Illinois at Urbana-Champaign, IL, U.S.

## APPOINTMENT

2013-present	Associate Professor, North Carolina A&T State University, NC
2008-2013	Assistant Professor, North Carolina A&T State University, NC
05/11-present	Research Affiliate, Massachusetts Institute of Technology, Center for Material Science and Engineering, Cambridge, MA
01/08-05/08	Graduate Teaching Assistant, Department of Civil and Environmental Engineering, University of Illinois at Urbana-Champaign
2004-2008	Graduate Research Assistant, Department of Civil and Environmental Engineering, University of Illinois at Urbana-Champaign, Urbana, IL
06/04-09/04	Graduate Research Assistant, Department of Civil Engineering, University of Nebraska-Lincoln (UNL), Lincoln, NE
2000-2003	Graduate Teaching and Research Assistant, Transportation Institute, Department of Civil Engineering, Sharif University of Technology, Tehran, Iran

## INVITED TALKS/ WORKSHOPS/ WEBINARS/INTERVIEWS

1. Interview with Office of Legislative and Public Affairs, National Science Foundation, disseminated by *Science Nation: Bio-Adhesive from Swine Manure for Road Application* [http://www.nsf.gov/news/special\\_reports/science\\_nation/swinebioadhesives.jsp](http://www.nsf.gov/news/special_reports/science_nation/swinebioadhesives.jsp)
2. Application of a Bottom-up approach to synthesize bio-based materials; *the Genome of Stone-based Civil Infrastructure Materials Workshop*, Beijing, China, June 8-9, 2016
3. Bio-Adhesive for Construction, *International Conference on Bio-based Building Materials*, Clermont Ferrand, France, June 21, 2015
4. Bio-modified Rubber Asphalt: A Sustainable Alternative for Petroleum-Based Asphalt, *Impact & Practice*, CTC & Associates LLC, April 10, 2015
5. Production and Characterization of Bio-Adhesives for Construction Applications, Worcester Polytechnic Institute, January 15, 2015.
6. Hierarchical Material Synthesis and Multi-scale Characterization of Bio-Based Construction Adhesives, University of California-Davis, Nov. 10, 2014.
7. Application of Bottom-up Approach to Study pi-pi Stacking in Asphaltene Molecules, Wake Forest University's Seminar Series, February 19, 2014.
8. Physio-Chemical Characteristics of a Bio-Based Construction Adhesive, *Adhesive & Sealant Convention*, Oct. 23, 2013, Minneapolis, MN.
9. Production and Characterization of Bio-based Adhesives for Construction Applications, *Bruce Podwal Seminar Series*, City College of New York, Oct. 29, 2013.
10. Workshop: There is Plenty of Room at the Bottom: Nanotechnology Applications for Asphalt and Concrete Materials, January 13, 2013, Washington D.C.
11. Swine Waste Could Figure in Asphalt Production, TV interview, *North Carolina News 14 with Ed. Scannell*, <http://triad.news14.com/content/665541/swine-waste-could-figure-in-asphalt-production>, Oct. 14, 2012
12. Webinar: Application Overview of Nanotechnology and Use of Nanomaterials as Modifiers for Asphalt Binders, Transportation Research Board, September 7, 2012.
13. Sustainable Construction Materials and Their Economic Impact, TV interview, *North Carolina People With William Friday*, <http://video.unctv.org/video/2157218101>

14. Bio-adhesive Technology to Facilitate Manure Management, Interview with *Laura Hundley*, *National Hog Framers*, August 22, 2012; <http://nationalhogfarmer.com/environment/making-asphalt-swine-manure>
15. Curb your hog? *Business Journal*, Interview with *Matt Evans*, Sep. 20, 2012.
16. Adhesive road asphalt from hog wastes focus of current research, Interview with *Jolene Stevens*, *Le Mars Daily Sentinel*, Le Mars, Iowa, 2012, <http://www.lemarssentinel.com/story/1905162.html>
17. Sustainable Adhesives from Bio-mass, University of Nottingham, U.K., May 24, 2011.
18. Sustainability in Highway Construction Materials, Massachusetts Institute of Technology, November 29, 2011.
19. Sustainable Development in Pavement Construction, Sharif University of Technology, Iran. December 12, 2011.
20. How to Make Sustainability Sustainable: Education and Research, Faculty Research Day, North Carolina A&T State University, Apr;14, 2011
21. Sustainability in Transportation, Greensboro Community Sustainability Council, April 11, 2011
22. Pavement Sustainability, Association of Asphalt Paving Technologists, Tampa, FL, March 28 2011
23. Sustainable Paving Technology, Western Michigan University, March 7, 2011.
24. Toward Sustainable Roads, University of Utah, February 28, 2011.
25. Sustainable Practices and Technology in Pavements, University of Massachusetts-Amherst, February 4, 2011.
26. Toward Sustainable Roads, Clarkson University, January 24, 2011.
27. Sustainable Construction Materials, Clemson University, October 11, 2011.
28. Sustainable Maintenance Activities for Pavements, Santa Clara University, March 9, 2010.
29. How to Compete for Federally Funded Instrumentation Grants, The Quality Education Minorities (QEM) Network, Atlanta, GA, November 12, 2010.
30. Toward Sustainability in Transportation System, North Carolina Society of Engineers, Atlantic Beach, NC, August 26-31, 2010.
31. Sustainable Pavements, Transportation Institute, North Carolina A&T State University, July 28, 2010.
32. Swine Manure Pollution Prevention by Producing Bio-binder to be used in Highways' Pavements, Establishing EPA-FHWA Collaboration Meeting, Atlanta, GA, July 2009.
33. Production of Bi-binder from Swine Manure to Be Used in Highways' Pavements, North Carolina Department of Transportation, January 2010.

## **PUBLICATION**

### **Book and Book Chapters:**

1. **Fini. E.** *Bituminous materials and adhesion mechanisms: Characterization and modeling*, LAP LAMBERT Academic Publishing, 2012, ISBN-13: 978-3-8484-9026-4  
<https://www.morebooks.de/search/gb?utf8=%E2%9C%93&q=Bituminous+materials+and+adhesion+mechanisms>  
Fini. E. *Nanotechnology: Synthesis and Characterization*, 2013, Vol.3, Chapter 12, Stadium Press LLC, Houston, TX, USA, ISBN: 1-62699-003-4

### **Patent Registration**

1. Development of Bio-Binder from Swine Manure to Be Used in Asphalt Pavement (US and PCT pending application).
2. Amide modified Asphalt and Uses Thereof (provisional patent application filed)

3. Bio-modified rubber technology (Invention disclosure under review)
4. Development of Pressurized Blister Test to Measure Interfacial Fracture energy of Bituminous Material and Aggregate through Interlaken Technology Corporation.
5. Polymerization process for wood pallet-based oils using activated coal ash (Invention disclosure submitted to Office of Tech Transfer NC A&T and University of Illinois)
6. Development of adhesive with self-healing characteristics (Invention disclosure by NC A&T and MIT)

**Journal Refereed Papers:**

1. Magonova, S., J. Alexander, M. Surtcheva, A. M. Hung and E. H. **Fini**, 2016, Compositional Mapping of Bitumen Utilizing Local Electrostatic Force Interactions in Atomic Force Microscopy, *Journal of Microscopy* (in print)
2. Mousavi, M., F. Pahlavan, D. J. Oldham, T. Abdollahi, and E. H. **Fini**, 2016, Alteration of Intermolecular Interactions Between Units of Asphaltene Dimers Exposed to an Amide-Enriched Modifier, *RSC Advances*, RSC Advances 6 (58), 53477-53492.
3. Hill, B. D. Oldham, B. Behnia, E. Fini., B. Buttlar, and H. Reis, 2016, Evaluation of low temperature viscoelastic properties and fracture behavior of bio-asphalt mixtures, *International Journal of Pavement Engineering*. pp. 1-8.
4. Pahlavan, F., M. Mousavi, and A. Hung, and E. H. **Fini**, 2016, Investigating Molecular Interactions and Surface Morphology of Wax-Doped Asphaltenes, *Journal of Physical Chemistry Chemical Physics*, 18, 8840 - 8854, DOI: 10.1039/C5CP07180A.
5. **Fini**, E., Sh. Hosseinnzhad, D. J. Oldham, B. Kumar, E. Chailleux and V. Gaudefroy, 2016, Investigating Source Dependency of Rheological and Surface Characteristics of Bio-Asphalts, *Road Materials and Pavement Design*: DOI: 10.1080/14680629.2016.1163281
6. **Fini**, E., A. Khodaii, and P. Hajikarimi, 2016, A Fractional Viscoelastic Study of Low Temperature Characteristics of Bio-Modified Asphalt Binders, *Journal of Materials in Civil Engineering*, American Society of Civil Engineers, DOI: 10.1061/(ASCE)MT1943-5 533.00 01525 .
7. Mousavi, M., F. Pahlavan, D. Oldham, E. H. Fini, 2016, Multi-Scale Investigation of Oxidative Aging in Bio-Modified Asphalt Binder, *Journal of Physical Chemistry C*, 120 (31):17224-17233
8. Kuli, I., T. M. Abu-Lebdeh, E. H. **Fini** and S. A. Hamoush, 2016, The Use of Nano Silica for Improving Mechanical Properties of Hardened Cement Paste, *American Journal of Engineering and Applied Sciences*, DOI : 10.3844/ajeassp.2016.146.154, 9(1):146-154.
9. Mousavi, M., F. Pahlavan, and T. Abdollahi, E. H. Fini, 2016, The Influence of Asphaltene-Resin Molecular Interactions on the Colloidal Stability of Crude Oil, *Fuel*, 183:262-271.
10. Lamarre, A., E. H. **Fini**, and T. M. Abu-Lebdeh, 2016, Investigating Effects of Water Conditioning on the Adhesion Properties of Crack Sealant, *American Journal of Engineering and Applied Sciences*, DOI : 10.3844/ajeassp.2016.178.186, 9(1):178-186.
11. Martin-Martinez, F. J., E. H. **Fini**, M. J. Buehler. 2015, Molecular Asphaltene Models Based on Clar Sextet Theory, *RSC Advances*, 5 (1): 753 - 759.
12. Oldham, D. J., E. H. **Fini**, and E. Chailleux. 2015, Application of a Bio-binder as a Rejuvenator for Wet Processed Asphalt Shingles in Pavement Construction, *Construction and Building Materials*, 86 (1):75–84.
13. Hung, A., E. **Fini**, 2015, AFM Study of Asphalt Binder “bee” Structures: Origin, Mechanical Fracture, Topological Evolution, and Experimental Artifacts, *RSC Advances*, 5, 96972-96982, DOI: 10.1039/c5ra13982a.

14. Hosseinnezhad, Sh., E. H. **Fini**, B. K. Sharma, M. Basti and B. Kunwar. 2015, Physiochemical Characterization of Synthetic Bio-oils Produced from Bio-mass: A Sustainable Source for Construction bio-adhesives, *RSC Advances*, 5(1), pp. 519 –527.
15. **Fini**, E., P. Hajikarimi M. Rahi, F. Moghadas Nejad. 2015, Physiochemical, Rheological and Oxidative Aging Characteristics of Asphalt Binder in Presence of Mesoporous Silica Nanoparticles, *Journal of Materials in Civil Engineering*, American Society of Civil Engineers, 28(2), [10.1061/\(ASCE\)MT.1943-5533.0001423](https://doi.org/10.1061/(ASCE)MT.1943-5533.0001423).
16. **Fini**, E, Sh. Hosseinnezhad, D.J. Oldham, B. K. Sharma, 2015, Effectiveness of Liquid Rubber as a Modifier for Asphalt Binder, *Road Materials and Pavement Design*, DOI:10.1080/14680629.2015.1124800, pp. 1-16
17. Mogawer W.S., E. H. **Fini**, A. J. Austerman, A. Booshehrian, B. Zada, 2015, Performance Characteristics of High RAP Bio-Modified Asphalt Mixtures, *Road Materials and Pavement Design*, DOI: 10.1080/14680629.2015.1096820, pp. 1-15.
18. **Fini**, E., A. Bocoum, Sh. Hosseinnezhad, F. Martin-Martinez, 2015, Bio-Modification of Rubberized Asphalt and Its High Temperature Properties, *Transportation Research Record: Journal of the Transportation Research Board*, No. 2506, pages 81-89.
19. **Fini**, E., F. S. Buabeng, T. Abu-Lebdeh, and F. Awadallah, 2015, Effect of Introduction of Furfural on Asphalt Binder Aging Characteristics, *Road Materials and Pavement Design*, DOI: 10.1080/14680629.2015.1108219.
20. Bocoum, A, Sh. Hosseinnezhad, E. **Fini**, 2014, Investigating Effect of Amine-based Additives on Asphalt Rubber Rheological Properties, *ISAP, Taylor & Francis Group*, London, CRC Press 2014, ISBN 978-1-138-02693-3, Chapter 86, , pp.921-931.
21. Oldham, D., E. **Fini**, A. Onochie, 2014, The Low Temperature Characterization of Bio-modified Shingles, *ISAP, Taylor & Francis Group*, London, CRC Press 2014, ISBN 978-1-138-02693-3, Chapter 29, pp. 297–307.
22. Rahi, M., E. H. **Fini**, P. Hajikarimi, F. Moghadas Nejad, 2014, Rutting Characteristics of Styrene-Ethylene/Propylene-Styrene Polymer Modified Asphalt, *Materials in Civil Engineering*, American Society of Civil Engineers, 27(4), 04014154.
23. Fadiel, A., F. Al Rifaie, T. Abu-Lebdeh and E. **Fini**. 2014, Use of Crumb Rubber to Improve Thermal Efficiency of Cement-Based Materials, *Am. J. Eng. Applied Sci.* 7 (1): 1-11.
24. Hill, B. D. Oldham, B. Behnia, E. **Fini**., and B. Buttlar, Low-Temperature Performance Characterization of Biomodified Asphalt Mixtures That Contain Reclaimed Asphalt Pavement, *Transportation Research Record*, volume 2371: Asphalt Materials and Mixtures, 2014, pp. 49-57, ISSN 0361-1981.
25. Price, A., R. Yeargin, E. **Fini** and T. Abu-Lebdeh, 2014, Investigating Effects of Introduction of Corncob Ash into Portland Cements Concrete: Mechanical and Thermal Properties. *Am. J. Eng. Applied Sci.*, 7: 133-144.
26. Walters, R., Sh. A. Begum, E. **Fini**, T. M. Abu-Lebdeh, 2014. Investigating Bio-Char as Flow Modifier and Water Treatment Agent for Sustainable Pavement Design, *Am. J. Eng. Applied Sci.*, 8(1):138-146.
27. Abutalib, N., E. H. Fini, S. Aflaki, and T. M. Abu-Lebdeh, Investigating Effects of Application of Silica Fume to Reduce Asphalt Oxidative Aging, *Am. J. Eng. Applied Sci.*, 8(1): 176-184.
28. Sedhay, G., E.H. **Fini** and T. Abu-Lebdeh 2014, Investigating Effects of Amine-based Modifier on Recycled Asphalt Shingles Blending. *Am. J. Eng. Applied Sci.*, 7: 101-110.
29. Walters, R.C., E.H. **Fini** and T. Abu-Lebdeh, 2014. Enhancing Asphalt Rheological Behavior and Aging Susceptibility Using Bio-char and Nano-clay. *Am. J. Eng. Applied Sci.*, 7: 62-72.

30. Aflaki, S., P. Hajikarimi, E. H. **Fini**, and B. Zada, 2013, Comparing Effects of Bio-binder with other Asphalt Modifiers on Low Temperature Characteristics of Asphalt, *Materials in Civil Engineering*, American Society of Civil Engineers, 26(3), 429–439.
31. **Fini**, E., D. Oldham and T. Abu-Lebdeh, 2013, Synthesis and Characterization of Biomodified Rubber Asphalt: Sustainable Waste Management Solution for Scrap Tire and Swine Manure, 2013, *ASCE Journal of Environmental Engineering*, 139(12): 1454–1461
32. **Fini**, E. H., E. W. Kalberer, G. Shahbazi, M. Basti, Z. You, H. Ozer and Q. Aurangzeb, 2012, Chemical Characterization of Biobinder from Swine Manure: Sustainable Modifier for Asphalt Binder, *Materials in Civil Engineering*, American Society of Civil Engineers (ASCE), 23, special issue: Energy Efficient and Environmentally Friendly Paving Materials: 1506–1513.
33. **Fini**, E. H., I. L. Al-Qadi, Z. You, B. Zada, and J. Mills-Beale, 2012, Partial Replacement of Binder with Bio-binder: Characterization and Modification to Meet Grading System, *International Journal of Pavement Engineering*, 2012. 13 (6): 515-522.
34. Mills-Beale, J., Z. You; E. **Fini**, B. Zada, Ch. Lee, Y. Yap, 2012, Aging Influence on Rheology Properties of Petroleum-based Asphalt Modified with Bio-binder, *Materials in Civil Engineering*, American Society of Civil Engineering (ASCE), 26(2): 358–366.
35. You, Z., J. Mills-Beale, E. H. **Fini**, Sh. W. Goh and B. Colbert, 2011, Evaluation of Low-Temperature Binder Properties of Warm Mix Asphalt, Extracted and Recovered RAP and RAS, and Bio-Asphalt, *Materials in Civil Engineering*, American Society of Civil Engineering (ASCE), 23 (11):1569-1574.
36. **Fini**, E. and M. Mellat-Parast, 2012, Effect of Pavement Type on Overlay Roughness Progression, *Journal of Transportation Engineering*, 138 (12): 1558-1562.
37. Abu-Lebdeh, T.M., E. H. **Fini** and M. Lumpkin, 2012, Flexural and Tensile Characteristics of Micro fiber-reinforced High Strength Concrete Thin Panels. *Am. J. Eng. Applied Sci.*, 5: 184-197.
38. Xiu, S. H. K. Rojanala, A. Shahbazi, E. H. **Fini**, L. Wang, 2012, Pyrolysis and Combustion Characteristics of Bio-oil from Swine Manure, *Journal of Thermal Analysis and Calorimetry* 107 (2): 823-829.
39. **Fini**, E. H., T. Abu-Lebdeh, 2011, Bonding Property of Bituminous Crack Sealants in the Presence of Water, *Am. J. Eng. Applied Sci.*, Vol. 4, No. 1, 24-129.
40. You., Z., J. Mills-Beale, E. H. **Fini**, Sh.W. Goh, and B. Colbert, 2011, “Evaluation of Low-Temperature Binder Properties of Warm Mix Asphalt, Extracted and Recovered RAP and RAS, and Bioasphalt,” *Materials in Civil Engineering*, American Society of Civil Engineers (ASCE), 23(11): 1569 – 1574.
41. Dhungana, R. K., T. M. Abu-Lebdeh, and E. H. **Fini**, 2011. Wind Load Effects on Manufactured Home Foundations. *Am. J. Eng. Applied Sci.*, 4(4): 548-555.
42. Mellat Parast, M. and E. **Fini**, 2011, Investigating the Effect of Productivity, Quality, and Safety on Profitability in the US Airline Industry, *International Journal of Logistics Systems and Management*, 10(1): 70 – 89.
43. **Fini**, E., I. L. Al-Qadi, 2011. Development of Pressurized Blister Test for Interface Characterization of Aggregate-Highly Polymerized Bituminous Materials, *Journal of Materials in Civil Engineering*, American Society of Civil Engineers (ASCE), 23(5): 656 – 663.
44. Mellat Parast, M and E. **Fini**, 2011, The Effect of Disruptions on Service Quality and Market Share: Evidence from the US Domestic Airline Industry, *Transportation Research Record*, Journal of Transportation Research Board, National Academy, TRR NO. 2214, pp. 34-40.

45. Mellat Parast, M. and E. **Fini**, 2010, The Effect of Productivity and Quality on Profitability in US Airline Industry: An Empirical Investigation,” *Journal of Managing Service Quality*, Vol. 20 No. 5, pp.458-474.
46. Al-Qadi, I. L. and E. **Fini**, 2010, Development of the Crack Sealant Adhesion Test (CSADT) Specification, *ASTM Journal of Testing and Evaluation*, Vol. 39, No. 2, 2010.
47. Al-Qadi, I. L., S. H. Yang, E. **Fini**, J-F. Masson, and K. McGhee, 2009, Performance Based Specification Guidelines for the Selection of Bituminous-Based Hot-Poured Crack Sealants, *Journal of Association of Asphalt Paving Technologists*, pp. 491-534.
48. **Fini**, E., I. L. Al-Qadi, J-F. Masson, 2008, Interfacial Fracture Energy: An Indicator of Bituminous Materials Adhesion, *Journal of Association of Asphalt Paving Technologists*, pp. 827-849.
49. Al-Qadi, I. L., E. **Fini**, J-F. Masson, 2008, Effect of Bituminous Material Rheology on Adhesion, *Transportation Research Record: Journal of the Transportation Research Board*, TRR NO. 2044, pp. 96-104.
50. Al-Qadi, I. L., E. **Fini**, M. Elseifi, J-F. Masson, and K. McGhee, 2007, Development of a Viscosity Specification for Hot-Poured Bituminous Sealants, *Testing and Evaluation Journal*, ASTM, Vol. 35, No. 4, pp. 395-403.
51. **Fini**, E., I. L. Al-Qadi, J-F. Masson, 2007, A New Blister Test to Measure Bond Strength of Asphaltic Materials, *Journal of Association of Asphalt Paving Technology (AAPT)*, Vol. 76, pp. 275-302.
52. Al-Qadi, I. L., E. **Fini**, J-F. Masson and M. Elseifi, 2006, Viscosity Determination of Hot-Poured Bituminous Sealants, *Transportation Research Record: Journal of the Transportation Research Board*, TRR No. 1958, National Research Council, Washington, D.C., pp. 74-81.

**Peer Reviewed Conference Papers:**

1. **Fini**, E., Lamarre, A., Abu-Lebdeh, T., Impacts of Water Conditioning on Crack Sealants Properties (accepted), Transportation Research Board, paper# 16-5986, to be presented at TRB 95<sup>th</sup> Annual Meeting (January 10-14, 2016).
2. **Fini**, E., Oldham, D., Buabeng, F., Hosseinnezhad, S. Investigating the Aging Susceptibility of Bio-Modified Asphalts. Airfield and Highway Pavements Conferenc, June 7-10, 2015, Miami, FL.
3. Oldham D., E. **Fini**, T. A. Hung, Investigating the Rejuvenating Effect of Bio-Binder on Recycled Asphalt Shingles, Transportation Research Board, paper# 14-3775, January, 2015, Washington D.C.
4. Mohatarami Sh, E. **Fini**, A, Bocoum, Producing a Sustainable and Bio-Based Alternative for Petroleum-Based Asphalt: NCHRP IDEA Project 171, Transportation Research Board, paper# P14-5145, January, 2014, Washington D.C.
5. Mohatarami Sh, E. **Fini**, A, Bocoum, Decoupling Physical Filler Effect and Time-Dependent Dissolution Effect of Crumb Rubber on Asphalt Matrix Rheology, Transportation Research Board, paper# 14-5184, January, 2014, Washington D.C.
6. Onochie A. E. **Fini**, X. Yang, J. Mills-Beale, Z. You, Rheological Characterization of Nanoparticle based Bio-modified Binder, Transportation Research Board, paper# 13-4895, January, 2013, Washington D.C.
7. **Fini**, E. F. Awadalleh, M. Mellat-Parast, Highways and Transportation Implications on Environmental Sustainability: Urban Planning, Construction and Operation Counter Measures, International Conference on Sustainable Design, Engineering and Construction (ICSDEC 2012), November 7-10, 2012, Dallas, TX.

8. **Fini**, E. D. Oldham and T. Abu-Lebdeh, Bio-modified Rubber: A Sustainable Alternative for Use in Asphalt Pavements, International Conference on Sustainable Design, Engineering and Construction (ICSDEC 2012), November 7-10, 2012, Dallas, TX.
9. **Fini**, E., and M. J. Buehler, Enhancing Asphalt Pavement's Low-Temperature Properties by Extending Amorphous Structure of Asphalt Binder, 7th RILEM International Conference on Cracking in Pavements, Delft, The Netherlands, 20-22 June 2012.
10. Mellat-Parast, M., E. Fini, Using Project-Based Learning (PBL) to Improve Student Learning in Transportation Engineering, Paper No. 12-2588, the 91st Transportation Research Board Annual Meetings, Washington, DC, January 2012.
11. Mellat-Parast, M., E. **Fini**, Moderating Effect of Organizational Slack on Relationship Between Disruptions and Service Quality in U.S. Airline Industry, Paper No. 12-2567, the 91<sup>st</sup> Transportation Research Board Annual Meetings, Washington, DC, January 2012..
12. Mogawer, W. S., E. **Fini**, A. J. Austerman, A. Booshehrian, B. Zada, Performance Characteristics of High RAP Biomodified Asphalt Mixtures, Paper No. 12-2411, the 91<sup>st</sup> Transportation Research Board Annual Meetings, Washington, DC, January 2012.
13. Oldham, D.J., E. **Fini**, Rheology of Asphalt Binder Extracted from Recycle Shingles in Presence of Bio-Based Additives, 2<sup>nd</sup> International Conference on Green and Sustainable Technology, Greensboro, NC, November 7-8, 2011.
14. Smith, M., E. Kalberer, E. **Fini**, J. Sattler, and B. Zada, Evaluation of an Asphalt Binder Modifier Produced from the Thermochemical Processing of Swine Manure, Peterson Conference, Laramie Wy, July 12, 2011.
15. **Fini**, E. H., E. W. Kalberer, G. Shahbazi, Application of Bio-Binder from Swine Manure in Asphalt Binder, Paper No. 11-3453, the 90<sup>th</sup> Transportation Research Board Annual Meetings, Washington, DC, January 2011.
16. **Fini**, E., M. Parast, S. Sarin, The Effect of Project-Based Learning (PBL) on Improving Student Learning in Transportation, American Society of Engineering Education, Vancouver, BC, Canada, June 26-29, 2011 (received best paper award from ASEE) .
17. Green, K. and E. **Fini**, Performance of Reflective Crack Mitigation Strategies on Cracked Flexible Pavements, Paper No. 11-3480, the 90<sup>th</sup> Transportation Research Board Annual Meetings, Washington, DC, January 2011.
18. **Fini**, E., S-H. Yang, X. Shuangning, "Characterization and Application of Manure-Based Biobinder in Asphalt Industry", Paper No. 10-2871, the 89th Transportation Research Board Annual Meetings, Washington, DC, January 2010.
19. **Fini**, E., GH. Shahbazi, Sh. Xiu, and B. Zada, Bio-Binder from Swine Manure: Production of a Sustainable Binder for Asphalt Pavement Construction, 1<sup>st</sup> International Conference on Green and Sustainable Technology, Greensboro, NC, November 2010.
20. **Fini**, E., S. Hamoush, "Rheology Characterization of Bituminous Crack Sealant in Wet Environment," the 10th International Conference on Computational & Experimental Engineering and Sciences (ICCES), Las Vegas, March 2010.
21. You, Z. and E. **Fini**, "State of the Art in Sustainable Asphalt Pavement Materials" submitted to International Workshop on Energy and Environment in the Development of Sustainable Asphalt Pavements, 2010. Chang'an University, China, June 6-8, 2010.
22. **Fini**, E., "Incorporating a Real World Case Study into the Syllabus of a Senior Construction Engineering Course," 2009 HBCU-UP National Research Conference in Washington, DC.
23. **Fini**, E., S. Hamoush, S-H. Yang, "Study Adhesion Characteristics of Crack Sealant In Wet And Dry Condition," In Proceedings of Sixth Mexican Asphalt Congress, Cancun, Mexico, 2009, pp. 37-41.
24. Yang, S-H., I. L. Al-Qadi, J-F. Masson, and E. **Fini**, "Development of Performance-Based Selection Guidelines for Hot-Poured Crack Sealant," 4<sup>th</sup> International Gulf Conference on Roads, Qatar 2008.

25. Al-Qadi, I. L., E. **Fini**, J-F. Masson, "Bond Strength Prediction of Asphaltic Materials to Aggregates," International ISAP Symposium on Asphalt Pavements and Environment, ISAP 2008, Zurich, Switzerland.
26. Al-Qadi, I. L., J-F. Masson, S-H. Yang, and E. **Fini**, "Towards Performance-Based Selection Guidelines for Roadway Crack Sealant," International ISAP Symposium on Asphalt Pavements and Environment, ISAP 2008, Zurich, Switzerland.
27. Al-Qadi, I. L., E. **Fini**, "Curing Time and Asphalt-aggregate Bond Strength, Using a New Blister Test," International Conference on Advanced Characterization of Pavement and Soil Engineering Materials, 2007, Athens, Greece.
28. **Fini**, E., "Using a Blister Test to Measure Bond Strength of Asphalt to Aggregate, Proceedings of 30<sup>th</sup> Annual Meeting of the Adhesion Society, Tampa, Florida 2007, pp. 449-451.
29. Al-Qadi, I. L., E. **Fini**, M. Elseifi, J-F. Masson, H. Figueroa, K. McGhee, "Repeatability and Reproducibility of the Newly Developed Hot-Poured Bituminous Sealant Viscosity Test," Paper No. 2789, the 86<sup>th</sup> Transportation Research Board Annual Meetings, Washington, DC, January 2007.
30. **Fini**, E., I. L. Al-Qadi, S. H. Dessouky, "Adhesion of Hot-Poured Crack Sealant to Aggregate," Paper No. 2888, the 85<sup>th</sup> Transportation Research Board Annual Meeting, Washington, DC, January 2006.
31. Khonsari, S. V., G. L. England, S. M. H. Parvinnia, and E. **Fini**, "Innovative Structural Joint Tolerates High Rotational and Shear Overload," Proceedings of the 23<sup>rd</sup> International Conference on Offshore Mechanics and Arctic Engineering (OMAE'2004), Paper # 51494, ASME, Vancouver, Canada, June 20-25, 2004, pp. 1-9.

#### **Reports and Other Publications:**

1. E. **Fini**, B. Zada, *Development and Characterization of Bio-Binder from Swine Manure for Use in Pavements*, National Science Foundation's Division of Civil, Mechanical and Manufacturing Innovation (CMMI), 2014.
2. Al-Qadi, I. L., E. **Fini**, M. Elseifi, H. Figueroa, K. K. McGhee, J-F. Masson, "Apparent Viscosity Testing Procedure for Hot-Poured Crack Sealants," Virginia Transportation Research Council, 2009.
3. Al-Qadi, I. L., E. **Fini**, and J-F. Masson, "Adhesion Testing Procedure for Hot-poured Crack Sealants," Virginia Transportation Research Council, 2008.
4. Ghasemi, S. and E. **Fini**, "Fracture Criteria in Fiber Reinforced Concrete," Sara Magazine (The Civil Engineering Students Magazine of the Isfahan University of Technology (IUT), No 1, Isfahan, Iran, 1997.
5. Ghasemi, S. and E. **Fini**, "Tension Resistance in Fiber Reinforced Concrete," Sara Magazine, No. 3, IUT, Isfahan, Iran, 1997.

#### **Conference Presentation:**

1. Investigation of Effectiveness of Liquid Rubber as a Modifier for Asphalt Binder, paper # 15-5488, Transportation Research Board, Washington D.C. Jan 11-15, 2015.
2. Effect of Water Conditioning on Crack Sealant's Cohesive Properties, paper # 15-6091, Transportation Research Board, Washington D.C. Jan 11-15, 2015.
3. Producing a Sustainable and Bio-Based Alternative for Petroleum-Based Asphalt, NCHRP IDEA 171, Transportation Research Board, Washington D.C. Jan 12-16, 2014.
4. Environmental Sustainability and Highway Transportation: Counter Measures, Association for Environmental Studies and Sciences (AESS), Santa Clara, CA, June 21-24, 2012.
5. Production of a Sustainable Binder for Asphalt Pavement Construction, 1st International Conference on Green & Sustainable Technology, Greensboro, NC, November, 18-19, 2010.

6. Characterization and Application of Manure-Based Biobinder in Asphalt Industry, the 89th Transportation Research Board Annual Meetings, Washington, DC, January 2010.
7. Incorporating a Real World Case Study into the Syllabus of a Senior Construction Engineering Course, 2009 HBCU-UP National Research Conference in Washington, DC.
8. Interfacial Fracture Energy: An Indicator of the Adhesion of Bituminous Materials, Association of Asphalt Paving Technology (AAPT), April 2008.
9. The Rheology of Bituminous Material and its Role in Adhesion, the 87th Transportation Research Board Annual Meeting, Washington, D.C. January 2008.
10. Developing Performance-Based Specifications for Hot-Poured Bituminous Crack Sealant, Rhode Island Department of Transportation, March 2007.
11. Repeatability and Reproducibility of the Newly Developed Hot-Poured Bituminous Sealant Viscosity Test, the 85th Transportation Research Board Annual Meetings, Washington, DC, January, 2007.
12. Deformation and Tracking of Bituminous Sealants in Summer Temperatures: Pseudo-Field Behavior, the 85th Transportation Research Board Annual Meetings, Washington, DC, Jan. 2007.
13. Adhesion of Hot-Poured Crack Sealant to Aggregate, the 85th Transportation Research Board Annual Meetings, Washington, DC, January 2006.
14. Variations in the Composition and Rheology of Crack sealants, the 84th Transportation Research Board Annual Meetings, Washington, DC, January 2005.

**Poster Presentation:**

1. Investigating the Effect of Processing Parameters on Characteristics of Bio-binders Made from Swine Manure, ECO-BIO Conference, Rotterdam, Netherlands, March 6-9, 2016.
2. Developing a Viscoelastic Model to Describe Mechanical Response of Bio-Modified Asphalt at Low Temperatures, Transportation Research Board, paper# 16-5499, January, 2016, Washington D.C.
3. Impact of Implementing Sustainability Concepts in Improving Student Learning Outcomes in Transportation Engineering Courses, Transportation Research Board, paper# 16-5779, January, 2016, Washington D.C.
4. Investigating the Effect of Processing Parameters on Characteristics of Bio-binders Made from Swine Manure, Transportation Research Board, paper# 16-5535, January, 2016, Washington D.C.
5. Physiochemical and Rheological Characterization of Bio-Modified Gilsonite (BMG), Transportation Research Board, Washington D.C.; January 10-14, 2016.
6. Investigating the Feasibility of Rejuvenating Aged Asphalt with Bio-Oils, Transportation Research Board, Washington D.C.; January 10-15, 2015.
7. Application of a Bottom-up Approach to Study Bio-adhesives Molecular Conformation, LAMMPS Users' Workshop and Symposium, Albuquerque, NM., August 7 – 8, 2013.
8. Application of Swine Manure to Produce Bio-Adhesive, Allen Leman Swine Conference, Minneapolis, MN September 15-18, 2012.
9. Added-value Products from Swine Manure, North America Manure Expo. Prairie du Sac, WI, August 22, 2012.
10. A Study of Bio-Binder Effects on Phase Structure and Rheology of Asphalt, Materials Day, Massachusetts Institute of Technology, October 18, 2011.
11. Characterization of Recycled Asphalt Shingles for Use in Hot Mix Asphalt Pavement, American Society of Engineering Education (ASEE), Charleston, SC, April 10-12, 2011, (Received 2<sup>nd</sup> best poster award).
12. Production and Characterization of Sustainable Construction Bio-Adhesives, Massachusetts Institute of Technology, Research Day, August 3, 2011.

13. Application of Bio-Binder from Swine Manure in Asphalt Binder, Paper No. 11-3453, the 90<sup>th</sup> Transportation Research Board Annual Meetings, Washington, DC, January 2011.
14. Development of Three-Level Laboratory Test to Predict Adhesion of Bituminous Crack Sealant to Aggregate, the 87<sup>th</sup> Transportation Research Board Annual Meeting, Washington, D.C. January 2008.

#### **Submitted Papers/Under Review:**

1. **Fini**, E. F. Martín-Martínez, M. Alonso, D. J. Oldham and M. J. Buehler, 2014. Investigating  $\pi$ - $\pi$  Stacking Distance and Cluster Size of Asphaltene Molecules in Presence of Amide Functional Groups, *ACS Nano*.
2. Mousavi, M., F. Pahlavan, and T. Abdollahi, E. H. **Fini**, Role of Asphaltene-Resin Molecular Interactions on Colloidal Stability of Crude Oil, 2016, *Journal of Physical Chemistry*.
3. **Fini**, E. H., A. Onochie, and P. Hajikarimi, Investigating Mechanical Response of Bio-Modified Asphalt at Low Temperatures Using a Viscoelastic Model, *Materials in Civil Engineering*, American Society of Civil Engineers
4. **Fini**, E., and M. Parast, Use of LTPP Database to Develop Case Studies for Transportation Students, *Journal of Transportation Engineering*.
5. **Fini**, E., Incorporating a Real World Case Study into the Syllabus of a Senior Construction Engineering Course, *Journal of STEM Education: Innovations and Research*

#### **Funded Project**

1. PFI: AIR - TT: Developing A Bio-based Rejuvenator to Revitalize Asphalt in Scrap Roofing Shingles, *National Science Foundation*, Proposal number 1640517, 2016-2018 (**PI**), \$200K, (recommended).
2. NCHRP-IDEA Phase II: Producing a Sustainable and Bio-Based Alternative for Petroleum-Based Asphalt, *National Academy of Science*, NCHRP-IDEA, N-1497, (**PI**), \$170K, (awarded)
3. BioRePavation, Innovation in Bio-recycling of Old Asphalt Pavements, *European Union's 2014 Infravation Call*, Proposal number: NR.27, 2015-2018, \$550K (awarded)
4. INSPIRE: An Evolutionary Paradigm in Design and Engineering of Bio-Adhesives from Biomass, *National Science Foundation*, Proposal number: 1546921, 2015-2019. (**PI**), \$749, 938 (active)
5. CAREER: Integrated Research and Education to Improve Pavement Sustainability Using Bio-Binder, *National Science Foundation*, Proposal number: 1150695, 2012-2017. (**PI**), \$432,100 (active)
6. Using a Project-Based Learning Approach for Education and Training in Technological Innovation for STEM Students, NSF, 2015-2018 (**Co-PI**) (active), \$400,000
7. Center for Highway Pavement Preservation (CHPP), *USDOT*, 2013-2018. Collaborative research with Michigan State University (**a research thrust leader and the PI at NC A&T**), \$2.5M (active)
8. EAGER: Application of a Bottom-up Approach to Study Bio-adhesives Molecular Conformation, *National Science Foundation*, Proposal number: 1308728, 2012-2014. (**PI**), \$155,589(active)
9. Incorporation of Sustainability Concepts into Undergraduate Civil Engineering Curriculum Using Project-Based Learning, *National Science Foundation*, Proposal number: 1238852. (**PI**), \$416,392 (active)

10. NCHRP-IDEA Phase I: Producing a Sustainable and Bio-Based Alternative for Petroleum-Based Asphalt, *National Academy of Science*, NCHRP-IDEA, N-1497, **(PI)**, \$150,000 (completed)
11. STTR: Production and Scale-up of Bio-Adhesive from Animal Waste, *National Science Foundation*, \$225,000 **(PI)** (completed)
12. Production, Characterization and Multi-Scale Modeling of Bio-Adhesive from Bio-Mass in collaboration with the U.K. and France, *American Association for the Advancement of Science*, **(PI)**, \$19,500 (completed)
13. I-Corps: Commercialization Feasibility Research and Demonstration Preparation for Production of Bio-adhesive from Animal Waste, *National Science Foundation*, Proposal number: 1246330, **(PI)**, \$50,000 (completed)
14. Production and Characterization of Bio-based Adhesives from Swine Manure, *National Science Foundation*, Proposal number: 1040246, 2010-2013. **(PI)**, \$259,903.00 (completed)
15. U.S. – United Kingdom Collaborative Research on Production of Bio-adhesive from Biomass, *National Science Foundation*, Proposal number: 1046141, 2010-2012. **(PI)**, \$19,998.00 (completed)
16. Using Project Based Learning to Implement Sustainability Concepts into Undergraduate Civil Engineering Curriculum, *Texas Engineering Experiment Station*, (TEES), HRD-0930243. 2011-2012, **(PI)** \$10,000.00 (completed)
17. Development and Characterization of Bio-Binder from Swine Manure for Use in Pavements, National Science Foundation, (NSF 09-29) Proposal number: 0955001, 2009-2011. **(PI)**, \$29,971.00 (completed)
18. Interdisciplinary Experimental Studies, Teaching and Training: Use of By-Products of Bio-fuel from Swine Manure in Construction Adhesives Major Research Instrumentation, National Science Foundation (NSF 09-502), Proposal number: 0923425, 2009-2012. **(PI)**, \$349,986.00 (completed)
19. Implementation of Superpave Asphalt Binder Technology into Undergraduate Civil Engineering Curriculum, Targeted Infusion Projects, submitted to National Science Foundation (NSF 09-512), Proposal number: 0928213, 2009-2012. **(PI)**, \$191,639.00 (completed)
20. Integrating The Laboratory for Innovative Technology and Engineering Education (LITEE) case studies into Construction Engineering Course, National Science Foundation, Proposal number: 0934800, 2008-2009. **(Investigator)** (completed)

## **Professional and Community Services**

- **Professional Organization and Technical Activities**

American Society of Civil Engineering, Northern Branch, Past President

American Society of Civil Engineering, Northern Branch, President (2013-2015)

ASCE Journal of Materials, Associate Editor

Serving on the scientific committee of the ISAP 2016 Symposium: From Molecules to Innovative Pavements, Jackson Hole, WY, July 16-21, 2016

Serving on the scientific committee of the Transportation Research Congress (TRC), Beijing, China, 2016

Organizing a workshop on *Sustainable Asphalt Pavements Preservation*, 7th Civil Engineering Conference in the Asian Region, American Society of Civil Engineers, <http://content.asce.org/conferences/cecar7/> Waikiki, Hawaii, August 30, 2015

Serving on the scientific committee of the *International Conference on Bio-based Building Materials*, Clermont Ferrand, France, June 22-25, 2015

Organizing the workshop on *Bio-Adhesive for Construction: Innovation to Commercialization*, Clermont Ferrand, France, June 21, 2015

Serving on the scientific committee of Airfield and Highway Pavements Conference, Miami, FL June 7-10, 2015

Serving on the scientific committee of the 12th ISAP Conference on Asphalt Pavement, June 1-5 2014

Serving on the WG4 of ISAP Technical Committee on Asphalt Pavements and Environment, new technologies and special environmental aspects for asphalt pavements, January 18, 2013-present

Serving on the organizing committee of the 2nd International Conference on Green & Sustainable Technology Greensboro, NC, November, 7-9, 2011

Serving in AAPT's organizing committee for workshops on sustainability in pavements, Tampa, Florida, March 2011

Serving in TRB's organizing committee of Cross-Cutting Sessions on Sustainable Highway Infrastructure, Washington, D.C., January 2011,

Serving on the organizing committee of the 1st International Conference on Green & Sustainable Technology Greensboro, NC, November, 18-19, 2010

Serving on the organizing committee of the Sixth RILEM International Conference on Cracking in Pavements, June 2008

TRB AHD20 - Pavement Maintenance, communication coordinator

TRB AHD25 – Sealants and Fillers for Joints and Cracks, Secretary

TRB AFK20 – Characteristics of Asphalt Materials, communication coordinator

Institute of Transportation Engineers (ITE), member

National Association of Professional Women (NAPW), member

Advancing Women in Transportation System (WTS), Chicago Chapter, member

Transportation Research Board (TRB), member

Association of Asphalt Paving Technologists (AAPT), member

Transportation and Development Institute (T&DI), member

- **Conference/ Journal and Book Reviewer**

Construction Planning, Equipment, and Methods, by Robert L. Peurifoy, Clifford J. Schexnayder and Aviad Shapira, 7th, McGraw Hill Companies, 2006. ISBN: 9780072964202

Environmental Protection Agency (EPA), GRO and P3 panelist

National Science Foundation, Transforming Undergraduate Education in Science, Technology, Engineering and Mathematics (TUES), Panelist

National Science Foundation, Chemical, Bioengineering, Environmental, and Transport Systems (CBET), Environmental Sustainability, Panelist

National Science Foundation, GeoMechanics and GeoTechnical Systems (GGS), Panelist  
 National Science Foundation, Structural Materials and Mechanics (SMM), Panelist  
 National Science Foundation, Course, Curriculum, and Laboratory Improvement (CCLI), Panelist  
 Transportation Research Board Conference, <http://trb.org/Main/Home.aspx>  
 Special Conference on Airfield and Highway Pavements, ASCE  
 Association of Asphalt Paving Technologists, <http://www.asphalttechnology.org>  
 Int. J. of Pavement Engineering, <http://www.tandf.co.uk/journals/titles/10298436.asp>  
 International Society for Asphalt Pavements (ISAP), <http://asphalt.org>  
 International Union of Laboratories and Experts in Construction Materials, Systems and Structures, RILEM, <http://www.rilem.net>  
 ASTM, Journal of Testing and Evaluation (JTE), <http://www.astm.org>  
 ASCE Journal of Materials, <http://ascelibrary.org/mto>  
 African Journal of Biotechnology, <http://www.academicjournals.org/AJB>

- **University Service**

2/2014-present	Establishing the Center for Highway Pavement Preservation
2/1/2011-present	Serving on the University's Recycling Committee and Waste Management Advisory Board
5/1/2011-present	Serving on the Transportation Research Council, Transportation Institute, North Carolina
2009-present	Serving as the University Library Liaison for the Civil Engineering Department
2008-present	Faculty advisor of Institute of Transportation Engineers (ITE)-student chapter
2012-present	Serving on the Eisenhower Fellowship selection committee, Transportation Institute, North Carolina A&T State University, Transportation Research Board
2010-present	Faculty Advisor of Transportation Research Board (TRB) Minority Student Fellows Program
2013	Organizing & moderating Sustainable Construction Track, American Society of Civil Engineers Conference, Charlotte, NC, Sep. 5-6, 2013
2013	Organizing & moderating Transportation Track, American Society of Civil Engineers Conference, Raleigh, NC, April 26, 2013
2012	Organizing annual a field trip to the Environmental Protection Agency (EPA) Sustainable Design Expo. April 20-22, 2012. (12 students and two faculty members)
2011	Serving on the proposal selection committee for the Triad Interuniversity Project Planning (TIPP)
2011	Serve on scholarship committee of the Waste Management Institute
2011	Organizing Graduate Education Workshop, Massachusetts Institute of Technology, Cambridge, MA. (13 students and a faculty member), Oct. 20, 2011
2011	Organizing Sustainable Adhesive Station during Energy Day

- 2011 Organizing a workshop on Sustainable Construction Materials (training five deaf and hard of hearing middle school girls)
- 2011 Department Representative in the Division of Research & Economic Development seminar titled: “Colors of Innovation”, February 17, 2011.
- 2011 College Representative in the consultation meeting with the Quality Education for Minorities (QEM) Network hosted by the Provost Office, February 8, 2011.
- 2010 Serving as the track Chair at the 1<sup>st</sup> International Conference on Green & Sustainable Technology, Greensboro, NC, November, 18-19, 2010.
- 2010 Organizing a shown case during the Points of Pride: A Forum for Community Engagement, April 21, 2010.
- 2010 Faculty advisor of senior level students at Civil Engineering Department at North Carolina A&T State University
- 2010 Participating in Energy and Environment Research Cluster’s Meeting hosted by the Division of Research, March 2010.
- 2009 A member of faculty search committee in the Department of Civil Engineering at North Carolina A&T State University
- 2009 Faculty advisor of junior level students at Civil Engineering Department at North Carolina A&T State University
- 2008 Lecturer for Summer High School Transportation Institute, North Carolina A&T State University

- **Community and Professional Service**

- 2010-present Serving in the Communication Coordinators Council, Transportation Research Board, Washington, D.C.
- 2/2011-present Establishing the Science and Engineering Enrichment for K-12 Deaf Students (SEEDS)
- 2013 Presenting on Bio-Adhesive Technology Overview and Status, the Chamber of Commerce State of Our Community Luncheon, Koury Convention Center, August 28, 2013.
- 2012 Serving as a panelist for National Science Foundation’s MRI review panel, May 3-5, 2012.
- 2012 Organizing ASCE workshop on *Sustainability in Construction*, May 11, 2012, Greensboro, NC.
- 2011 Serving as a panelist for Environmental Protection Agency, EPA Grant Peer Review for the People, Prosperity, and the Planet (P3) Phase I Program, March 29-April 1, 2011  
Serving as the Communication Coordinator and secretary of three Transportation Research Board’s committees (AFK20, AHD20, AHD25), Washington, DC
- 2011 Serving as a panelist for Environmental Protection Agency, EPA Grant Peer Review for the People, Prosperity, and the Planet (P3) Phase I Program, March 29-April 1, 2011
- 2010 Deliver invited talks at North Carolina Society of Engineers, Atlantic Beach, NC, August, 26-31, 2010.

2008-present	Serving as a panelist for National Science Foundation's Engineering Directorate and Division of Undergraduate Education through following programs: HBCU-UP, CBET, CMMI, and TUES
2010-Present	Collaboration with Greensboro's Community Sustainability Council to arrange seminars on sustainability in the construction sector to promote sustainability throughout the community
2009-2010	Organizing seminars on Development of Sustainable Construction Materials from Swine Manure, held at EPA, FHWA and NCDOT
2009	Serving as a judge for students' papers in the Historically Black Colleges and Universities Undergraduate Program, National Research Conference, Washington, DC, October 29th-November 1st, 2009.
2008	Serving on the organizing committee of Sixth RILEM International

### Students and Post-doctoral Scholars

Student's Name	Degree seeking	Role in Committee	Achievement	Status/Graduation Year
Farideh Pahlavan	Post Doc.	Advisor	Submitted two manuscripts, working on molecular modeling of adhesion and adsorption mechanism of bio-binders	2016-2017
Alber Hung	Post Doc.	Advisor	Submitted two manuscripts, working on molecular modeling of bio-rejuvenation mechanism	2016-2017
Fereshteh Mousavi	Post Doc.	Advisor	Submitted two manuscripts, working on molecular modeling of bio-rejuvenation mechanism	2016-2017
Francisco Martin Martinez	Post Doc.	Advisor	Published one paper and working on a manuscript to be submitted to Journal of Physical Chemistry Letters	2013-2015
Sassan Aflaki	Post Doc.	Advisor	Published one paper and working on a manuscript to be submitted to ASCE Journal	2014-2015
Daniel Oldham	Ph.D.	Advisor	Published two and submitted two journal papers (RMPD, ASCE) Received GRDF Scholarship, received EPA and COMTO Awards	In progress (2018)
Alireza Samiadel	Ph.D.	Advisor	Working on a manuscript to be submitted to Journal of Physical Chemistry Letters	In progress (2018)
Nader Abutalib	Ph.D.	Advisor	Preparing manuscript on asphalt oxidation and rejuvenation using molecular dynamics simulations	In progress (2017)
Shahrzad Hossein Nezhad	Ph.D.	Advisor	Published two and submitted two journal papers (RSC Advances, TRB, ISAP), Delivered four conference presentations	In progress (2016)
Pouria Hajikarimi	Ph.D.	Advisor	Published three and Submitted two journal papers (ASCE, RMPD, IJPE)	In progress (2016)
Nihal Al Raees	Ph.D.	Co-Advisor	Submitted two journal papers (ASHE, ASCE)	In progress (2016)
Abdou Salami Yaya	MS	Advisor	Submitted two journal papers (TRB) Received Eisenhower Scholarship, ITE and COMTO awards	In progress 2018
Maohammed Jawed	MS.	Advisor	Studying bio-modified rubber characterization and phase separation	In progress (2017)
Mehdi Zadshir	MS.	Advisor	Study multi-scale characterization of bio-rejuvenation	In progress (2017)
Ahmed Lamarre	MS	Advisor	Submitted two journal papers (TRB) Received Eisenhower Scholarship, ITE and COMTO awards	Graduated 2016
Masoud Kamalahmadi	MS.	Co-Advisor	Published one and working on a paper to be submitted to Journal of Transportation Research Record	Graduated (2015)
Daniel Oldham	MS	Advisor	Submitted three papers (TRB, ASCE, ISAP) Published two journal articles (ASCE, TRB) Received NSF STTR, Eisenhower, ITE and ASCE awards	Graduated (2015)
Felix Smith Buabeng	MS	Advisor	Submitted one journal paper to ASCE and one conference paper to TRB	Graduated (2015)
Mohammad Jawad	MS	Advisor	Working on his literature review and research plan	In progress (2016)
Albert Onochie	MS	Advisor	Submitted one journal papers (ISAP) participated in research collaboration with Michigan Tech., co-authored a book chapter with Dr. Fini	Graduated 2015
Boubacar Zada	MS	Advisor	Published two journal articles (ASCE, IJPE) Received Eisenhower Award, Washington D.C.	Graduated 2015
Nader Abutalib	MS	Advisor	Submitted a paper to International Journal of Pavement Eng.	Graduated 2014
Govinda Sedhay	MS	Advisor	Published a paper in American Journal of Engineering and Applied Sciences	Graduated 2014
Amadou Bocoum	MS	Advisor	Submitted a paper to ISAP conference	Graduated 2014

Antonio Price	MS	Advisor	Delivered a poster presentation (CERT), NC	Graduated, 2013
Nihal AlRaees	MS	Co-Advisor	Presented a paper at ASHRAE and a poster at Green and Sustainable Technology Conf., NC	Graduated, 2013
Renaldo Walters	MS	Advisor	Submitted a paper to ISAP conference, NC	Graduated, 2013
Johny Bolden	MS	Co- Advisor	Published a paper in Am. J. Environ. Sci.,	Graduated, 2012
Ashraf Fadiel	MS	Co- Advisor	Published a paper at the Am. J. Eng. Applied Sci	Graduated, 2012
Yosseff Altowom	MS	Advisor	Delivered a presentation at CERT, NC	Graduated, 2010
Jeffrey Joyner	MS	Advisor	Delivered a presentation at CERT, NC	Graduated, 2010
Abdou Salami	Undergrad	Advisor	Working on laboratory experiments, received TRB fellow award	Graduated 2016
Zachary Mclaughlin	Undergrad	Advisor	Submitted a paper to TRB Received FHWA fellow award	Graduated 2016
Ahmed Lamarre	Undergrad	Advisor	Presented at TRB, participated in research collaboration with Univ. of Illinois	Graduated 2014
Cameron Johnson	Undergrad	Advisor	Working on laboratory experiments Submitted a paper to ISAP conference	Graduated 2016
La'Asia Manuel	Undergrad	Advisor	Participated in research collaboration with Univ. of Illinois	Graduated in 2015
Charsian Schaffer	Undergrad	Advisor	Participated in research collaboration with Univ. of Illinois	Graduated 2015
Randy Hill	Undergrad	Advisor	Won first prize for Infrastructure Innovation during Aggie Shark Tank, Attended TransTech Conf. WV	Graduated in 2015
Liamcy Hogan-Rivera	Undergrad	Advisor	Participated in research collaboration with Univ. of Illinois	Graduated 2015
Albert Onochie	Undergrad	Advisor	Delivered two poster presentations: Green and Sustainable Technology Conf. (won the second poster award); received TRB fellowship and paper award in 2012	Graduated, 2013
Daniel Oldham	Undergrad	Advisor	Delivered a poster presentation at ASEE conf. (won ASEE first post award), Won grand prize of ACC Clean Tech competition, Washington D.C.	Graduated, 2013
Anthony Kinslow	Undergrad	Advisor	Delivered a presentation (CERT, MIT MRSEC) Received 3rd poster award from CERT, currently working on his research as a grad student in Stanford	Graduated, 2013
Jamie Mapp	Undergrad	Advisor	Delivered a poster presentation at Bennett College Undergrad Research Symposium, NC	Graduated, 2011
Anthony Jaganaught	Undergrad	Advisor	Completed two summer undergrad paid research, Delivered a presentation at CEAT center in Illinois	Graduated, 2011