

Ala R. Abbas, Ph.D.
Full Professor
Auburn Science & Engineering Center 433
Department of Civil Engineering
The University of Akron
Akron, Ohio 44325-3905
Tel: (330) 972-8242, Fax: (330) 972-6020
E-mail: abbas@uakron.edu

EDUCATION

- Ph.D. Civil and Environmental Engineering Department (August 2004)
Washington State University, Pullman, WA
- M.S. Civil and Environmental Engineering Department (August 2001)
Washington State University, Pullman, WA
- B.S. Civil Engineering Department (January 1999)
The University of Jordan, Amman, Jordan

PROFESSIONAL AND ACADEMIC EXPERIENCE

- Professor, Department of Civil Engineering, University of Akron (UA), Akron, OH (08/17 – Present)
- Associate Professor, Department of Civil Engineering, University of Akron (UA), Akron, OH (08/11 – 08/17)
- Assistant Professor, Department of Civil Engineering, University of Akron (UA), Akron, OH (08/05 – 08/11)
- Highway Research Engineer, Soil and Land Use Technology, Inc. (SaLUT), Beltsville, MD (10/04 – 08/05)
- Highway Research Fellow, Turner-Fairbank Highway Research Center (TFHRC), Federal Highway Administration (FHWA), McLean, VA (01/03 – 07/04)
- Research Assistant, Civil and Environmental Engineering Department, Washington State University (WSU), Pullman, WA (09/01 – 12/02)
- Teaching Assistant, Civil and Environmental Engineering Department, Washington State University (WSU), Pullman, WA (08/99 – 08/01)

HONORS AND AWARDS

- Paper titled “Asphalt Mixture CTE Measurement and the Determination of Factors Affecting CTE” was nominated for the ASCE Norman Medal in 2018.
- Outstanding Researcher Award, College of Engineering, The University of Akron, 2018.
- American Society of Civil Engineering (ASCE) Excellence in Civil Engineering Education (ExCEED) 2009 Teaching Fellow.
- Eisenhower Graduate Research Fellowship in Transportation Engineering, Federal Highway Administration, 2003/2004.

- National Asphalt Pavement Association (NAPA) research and education scholarship for the year 2001/2002.
- Outstanding Teaching Assistant Award for the Year 2000, Civil and Environmental Engineering Department, Washington State University.

COURSES TAUGHT

- Introduction to Civil Engineering Design/Geotechnical Engineering Component (4300:120)
- Statics (4300:201)
- Soil Mechanics (4300:313)
- Geotechnical Engineering (4300:314)
- Pavement Engineering (4300:465/565)
- Highway Materials (4300:468/568)
- Advanced Characterization of Highway Materials (4300:694)
- Advanced Pavement Design and Analysis (4300:694)

RESEARCH INTERESTS

- Modeling of geomaterials
- Highway material characterization
- Quality control and quality assurance of aggregate materials and asphalt mixtures
- Pavement design and performance modeling
- Traffic characterization for pavement design
- Pavement maintenance and rehabilitation
- Pavement marking selection and evaluation
- Traffic-related noise measurement and analysis

FUNDING (AS PRINCIPAL INVESTIGATOR)

- “Crack Resistance and Durability of Ohio DOT Asphalt Mixtures Using I-FIT & IDEAL-CT: Phase 2,” Federal Highway Administration (FHWA) and Ohio Department of Transportation (ODOT), (\$286,803, 2019-2021). Role: Principal Investigator. Co-PIs: Dr. Munir Nazzal of the University of Cincinnati and Dr. Walaa Mogawer of the University of Massachusetts at Dartmouth.
- “Asphalt Mix Overlay Alternatives for Low Volume Roads on the Local Transportation System,” Federal Highway Administration (FHWA) and Ohio Department of Transportation (ODOT)/Ohio Research Initiative for Locals (ORIL), (\$199,937, 2018-2020). Role: Principal Investigator. Co-PIs: Dr. Munir Nazzal and Dr. Sang-Soo Kim of Ohio University and Dr. Fujie Zhou of Texas Transportation Institute (TTI)/Texas A&M University (TAMU).
- “Development of a Pavement Marking Materials Matrix for ODOT District 11,” Federal Highway Administration (FHWA) and Ohio Department of Transportation (ODOT), (\$232,913, 2013-2016). Role: Principal Investigator. Co-PIs: Dr. Omar Smadi and Mr. Neal Hawkins of Iowa State University.

- “Development of an Automated System for QC/QA of Asphalt and Aggregate Materials – Phase 2,” Federal Highway Administration (FHWA) and Ohio Department of Transportation (ODOT), (\$469,770, 2014-2016). Role: Principal Investigator. Co-PIs: None.
- “Optimization of Patching for Spray Injection Equipment,” Federal Highway Administration (FHWA) and Ohio Department of Transportation (ODOT), (\$191,776, 2013-2016). Role: Principal Investigator. Co-PI: Dr. Munir Nazzal of Ohio University.
- “Development of an Automated System for QC/QA of Asphalt and Aggregate Materials – Phase 1,” Federal Highway Administration (FHWA) and Ohio Department of Transportation (ODOT), (\$74,810, 2012-2013). Role: Principal Investigator. Co-PIs: None.
- “Influence of Warm Mix Asphalt on Aging of Asphalt Binders,” Federal Highway Administration (FHWA) and Ohio Department of Transportation (ODOT), (\$242,378, 2012-2014). Role: Principal Investigator. Co-PIs: Dr. Munir Nazzal and Dr. Savas Kaya of Ohio University.
- “Determining the Limitations of Warm Mix Asphalt by Water Injection in Mix Design, Quality Control and Placement,” Federal Highway Administration (FHWA) and Ohio Department of Transportation (ODOT), (\$250,555, 2011-2013). Role: Principal Investigator. Co-PIs: Dr. Munir Nazzal and Dr. Shad Sargand of Ohio University.
- “Nighttime Visibility of 3M All Weather Paint (AWP) and 3M 380WR ES Durable Tape under Dry, Wet, and Rainy Conditions”, Federal Highway Administration (FHWA) and Ohio Department of Transportation (ODOT), (\$20,000, 2011-2012). Role: Principal Investigator. Co-PIs: None.
- “Green Noise Wall Construction and Evaluation (Phase I),” Federal Highway Administration (FHWA) and Ohio Department of Transportation (ODOT), (\$106,998, 2010-2011). Role: Principal Investigator. Co-PIs: Dr. Robert Liang of the University of Akron, Dr. John Cardina of the Ohio State University, and Mr. Karel Cubick of MS Consultants, Inc.
- “Improved Characterization of Truck Traffic Volumes and Axle Loads for Mechanistic Empirical Pavement Design,” Federal Highway Administration (FHWA) and Ohio Department of Transportation (ODOT), (\$149,988 - ODOT covered \$74,541.63, the Ohio Transportation Consortium (OTC) covered \$16,030.00, and the rest was provided as a mandatory cost share by the University of Akron, 2010-2012). Role: Principal Investigator. Co-PIs: None.
- “Mechanical Properties of Warm Mix Asphalt Prepared using Foamed Asphalt Binders”, Federal Highway Administration (FHWA) and Ohio Department of Transportation (ODOT), (\$20,000, 2009-2011). Role: Principal Investigator. Co-PIs: None.
- “Acquisition of Basic Soil Testing Equipment”, Ohio Board of Regents (OBR), (\$50,000, 2007-2008).
- “Long Term Striping Alternatives for Bridge Decks”, Federal Highway Administration (FHWA) and Ohio Department of Transportation (ODOT), (\$105,399, 2006-2009). Role: Principal Investigator. Co-PIs: None.

FUNDING (AS CO-PRINCIPAL INVESTIGATOR)

- “Analysis of Aramid Synthetic Fibers in Asphalt Mixes on Local Roads,” Federal Highway Administration (FHWA) and Ohio Department of Transportation (ODOT)/Ohio Research Initiative for Locals (ORIL), (\$228,990, 2019-2021). Role: Co-Principal Investigator. PI: Dr.

Munir Nazzal of Ohio University and Co-PIs: Dr. Sang-Soo Kim of Ohio University and Dr. Walaa Mogawer of the University of Massachusetts at Dartmouth.

- “Roadway Kinetic Energy Capture and Conversion – Phase 1,” Federal Highway Administration (FHWA) and Ohio Department of Transportation (ODOT), (\$30,284, 2018-2019). Role: Co-Principal Investigator. PI: Dr. Savas Kaya of Ohio University and Co-PIs: Dr. Munir Nazzal of Ohio University and Dr. Yilmaz Sozer of the University of Akron.
- “Determining Bond Strength of Micro-surfacing Mixes – Phase 2,” Federal Highway Administration (FHWA) and Ohio Department of Transportation (ODOT), (\$305,472, 2018-2021). Role: Co-Principal Investigator. PI: Dr. Munir Nazzal of Ohio University and Co-PIs: Dr. Sang-Soo Kim of Ohio University and Dr. Louay Mohammad of Louisiana State University.
- “Determining Bond Strength of Micro-surfacing Mixes – Phase 1,” Federal Highway Administration (FHWA) and Ohio Department of Transportation (ODOT), (\$29,176, 2017-2018). Role: Co-Principal Investigator. PI: Dr. Munir Nazzal of Ohio University and Co-PIs: Dr. Sang-Soo Kim of Ohio University and Dr. Louay Mohammad of Louisiana State University.
- “Evaluation of Partial Depth Pavement Repairs on Routes Heavily Traveled by Amish Horse and Buggies – Phase 2,” Federal Highway Administration (FHWA) and Ohio Department of Transportation (ODOT), (\$285,961.37 – own Share \$41,757, 2017-2019). Role: Co-Principal Investigator. PI: Dr. Munir Nazzal of Ohio University and Co-PI: Dr. Sang-Soo Kim of Ohio University.
- “Optimizing the Effective Use of RAP in Local Roadways,” Federal Highway Administration (FHWA) and Ohio Department of Transportation (ODOT)/Ohio Research Initiative for Locals (ORIL), (\$258,379.33 – own Share \$92,170, 2016-2019). Role: Co-Principal Investigator. PI: Dr. Munir Nazzal of Ohio University and Co-PI: Dr. Sang-Soo Kim of Ohio University.
- “Fundamental Evaluation of the Interaction between RAS/RAP and Virgin Asphalt Binders,” Federal Highway Administration (FHWA) and Ohio Department of Transportation (ODOT), (\$193,853, 2015-2017). Role: Co-Principal Investigator. PI: Dr. Munir Nazzal of Ohio University and Co-PI: Dr. Sang-Soo Kim of Ohio University.
- “Tack Coat Performance and Materials Study,” Federal Highway Administration (FHWA) and Ohio Department of Transportation (ODOT), (\$296,700, 2015-2017). Role: Co-Principal Investigator. PI: Mr. Bryan Wilson of Texas A&M Transportation Institute and Co-PIs: Dr. Arif Chowdhury of Texas A&M Transportation Institute, Dr. Emad Kassem of Texas A&M Transportation Institute, Dr. Munir Nazzal of Ohio University, and Dr. Sang-Soo Kim of Ohio University.
- “Analysis of Ground Tire Rubber (GTR) in Mix Design on Local Roadways in Ohio,” Federal Highway Administration (FHWA) and Ohio Department of Transportation (ODOT), (\$176,289, 2014-2018). Role: Co-Principal Investigator. PI: Dr. Munir Nazzal of Ohio University and Co-PI: Dr. Sang-Soo Kim of Ohio University.
- “Evaluation of Winter Pothole Patching Methods,” Federal Highway Administration (FHWA) and Ohio Department of Transportation (ODOT), (\$146,597, 2012-2014). Role: Co-Principal Investigator. PI: Dr. Munir Nazzal of Ohio University and Co-PI: Dr. Sang-Soo Kim of Ohio University.
- “Evaluation of Low Temperature Cracking Resistance of WMA,” Federal Highway Administration (FHWA) and Ohio Department of Transportation (ODOT), (\$141,098, 2013-

2014). Role: Co-Principal Investigator. PI: Dr. Sang-Soo Kim of Ohio University and Co-PI: Dr. Munir Nazzal of Ohio University.

- “Assessment and Treatment of Sulfate-Bearing Soils in Ohio,” Federal Highway Administration (FHWA) and Ohio Department of Transportation (ODOT), (\$227,289, 2012-2014). Role: Co-Principal Investigator. PI: Dr. Teresa Cutright of the University of Akron and Co-PI: Dr. John Senko of the University of Akron.

BOOK PUBLICATION

- *Pavements and Materials: Modeling, Testing and Performance*, Geotechnical Special Publication No. 184 (ISBN 978-0-7844-1008-0), Geo-Institute, American Society of Civil Engineers, Editors: You, Z., **Abbas, A.**, and Wang, L. (2009).
- *Pavements and Materials: Characterization, Modeling and Simulation*, Geotechnical Special Publication No. 182 (ISBN10 # 0784409862 and ISBN13 # 9780784409862), Geo-Institute, American Society of Civil Engineers, Editors: You, Z., **Abbas, A.**, and Wang, L. (2008).

TECHNICAL REPORTS

- Nazzal, M., Kim, S., **Abbas, A.**, Obaid, A., Quasem, T., and Iqbal, T. (2018). *Analysis of Ground Tire Rubber (GTR) in Mix Design on Local Roadways in Ohio – Phase 2*, Federal Highway Administration/ Ohio Department of Transportation, Columbus, OH.
- Nazzal, M., Kim, S. and **Abbas, A.** (2018). *Optimizing the Effective Use of RAP in Local roads – Phase I*, Federal Highway Administration/ Ohio Department of Transportation, Columbus, OH.
- Wilson, B., Choudry, A., Hu, A., Kim, S. S., Nazzal, M., and **Abbas, A.** (2017). *Tack Coat Performance and Materials Study*, Ohio Department of Transportation (ODOT), Report No. FHWA/OH-2017/33.
- Nazzal, M. D., Kim, S. S., **Abbas, A.**, AbuQtaish, L., Holcombe, E., and AbuHassan, Y. (2017). *Fundamental Evaluation of the Interaction between RAS/RAP and Virgin Asphalt Binders*, Ohio Department of Transportation (ODOT), Report No. FHWA/OH-2017/24.
- **Abbas, A. R.**, Quasem, T., Smadi, O., and Hawkins, N. (2016). *Development of a Pavement Marking Material Matrix for ODOT District 11*, Ohio Department of Transportation (ODOT), Report No. FHWA/OH-2016/19.
- **Abbas, A. R.**, Nazzal, M., Subedi, B., and Quasem, T. (2016). *Optimization of Patching for Spray Injection Equipment*, Ohio Department of Transportation (ODOT), Report No. FHWA/OH-2016/9.
- Kim, S. S., Nazzal, M., **Abbas, A. R.**, Akentuna, M., and Arefin, M. S. (2015). *Evaluation of Low Temperature Cracking Resistance of WMA*, Ohio Department of Transportation (ODOT), Report No. FHWA/OH-2015/11.
- Cutright, T. J., **Abbas, A. R.**, and Senko, J. (2015). *Assessment and Treatment Sulfate Bearing Soils in Ohio*, Ohio Department of Transportation (ODOT), Report No. FHWA/OH-2015/6.
- **Abbas, A. R.**, Nazzal, M., Kaya, S., Akinbowale, S., Subedi, B., AbuQtaish, L., and Arefin, M. S. (2014). *Influence of Warm Mix Asphalt on Aging of Asphalt Binders*, Ohio Department of Transportation (ODOT), Report No. FHWA/OH-2014/13.
- Nazzal, M., Kim, S. S., and **Abbas, A. R.** (2014). *Evaluation of Winter Pothole Patching Methods*, Ohio Department of Transportation (ODOT), Report No. FHWA/OH-2014/2.

- **Abbas, A. R.**, Nazzal, M., Sargand, S., Ali, A., Roy, A., and Alhasan, A. (2013). *Determining the Limitations of Warm Mix Asphalt by Water Injection in Mix Design, Quality Control and Placement*, Ohio Department of Transportation (ODOT), Report No. FHWA/OH-2013/9.
- **Abbas, A. R.** and Frankhouser, A. (2012), *Improved Characterization of Truck Traffic Volumes and Axle Loads for Mechanistic-Empirical Pavement Design*, Ohio Department of Transportation (ODOT), Report No. FHWA/OH-2012/21.
- **Abbas, A. R.** and Sarker, P. (2012), *Nighttime Visibility of 3M AWP and 3M 380WR ES Durable Tape under Dry, Wet, and Rainy Conditions*, Ohio Department of Transportation (ODOT), Report No. FHWA/OH-2012/6.
- **Abbas, A. R.**, Liang, R. Y., Frankhouser, A., Cardina, J., and Cubick, K. L. (2011), *Green Noise Wall Construction and Evaluation*, Ohio Department of Transportation (ODOT), Report No. FHWA/OH-2011/17.
- **Abbas, A. R.** and Ali, A. W. (2011), *Mechanical Properties of Warm Mix Asphalt Prepared Using Foamed Asphalt Binders*, Ohio Department of Transportation (ODOT), Report No. FHWA/OH-2011/6.
- **Abbas, A. R.**, Mohi, A., and Butterfield, J. (2009), *Long Term Striping Alternatives for Bridge Decks*, Ohio Department of Transportation (ODOT), Report No. FHWA/OH-2008/13.

PAPERS IN REFEREED JOURNALS

1. Arefin, M., Quasem, T., Nazzal, M., Dessouky, S., and Abbas, A. R. (2018). "Accuracy of MEPDG Dynamic Modulus Predictions for Short-Term and Long-Term Aged Asphalt Mixtures," *ASCE Journal of Transportation Engineering, Part B: Pavements* (Accepted).
2. Nazzal, M., Mohammad, L., Kim, S., **Abbas, A.**, Biehl, E., and Ricciardi, R. (2018), "State of Practice on the Use of Tack Coats for Micro-Surfacing Applications: A Survey," *Journal of the Association of Asphalt Paving Technologists* (Accepted).
3. Obaid, A., Nazzal, M., Kim, S., **Abbas, A.**, and Arefin, M. (2018), "Field Evaluation of Terminal Blend GTR Mixes with RAP," *ASCE Journal of Transportation Engineering, Part B: Pavements* (Accepted).
4. Obaid A., Nazzal, M., Abu Qtaish, L., Kim, S., **Abbas, A.**, and Arefin, M. (2018), "Multi-Scale Evaluation of the Effect of RAP Source on the Performance of Asphalt Mixtures with High RAP Content," *ASCE Journal of Materials in Civil Engineering* (Accepted)
5. Nazzal, M., Holcombe, E., Kim, S. S., **Abbas, A.**, and Kaya, S. (2018), "Nanoscale and Macroscale Characterization of the Influence of RAP and RAS on Cracking Resistance of Asphalt Mixes," *ASCE Journal of Materials in Civil Engineering*, Vol. 30(12), 04018334.
6. Arefin, M. S., Quasem, T., Nazzal, M., **Abbas, A. R.**, and AbuHassan, Y. (2018), "Effect of Short-Term and Long-Term Aging on Dynamic Modulus of Foamed Warm Mix Asphalt," *International Journal of Pavement Engineering* (Accepted).
7. AbuHassan, Y., Alin, M., Iqbal, T., Nazzal, M., and **Abbas, A. R.** (2018), "Effect of Extraction Solvents on Rheological Properties of Recovered Asphalt Binders," *Journal of Transportation Engineering, Part B: Pavements* (Accepted).
8. Luo, Z., Karki, A., Pan, E., **Abbas, A. R.**, Arefin, M. S., and Hu, B. (2018), "Effect of Uncertain Material Property on System Reliability in Mechanistic-Empirical Pavement Design," *Construction and Building Materials*, Vol. 172, pp. 488-498.

9. Nazzal, M. D., Holcombe, E., Kim, S. S., **Abbas, A.**, and Kaya, S. (2018), "Multi-Scale Evaluation of the Effect of RAS on the Fracture Properties of Asphalt Mixtures," *Construction and Building Materials*, Vol. 175, pp. 126-133.
10. AbuQtaish, L., Nazzal, M. D., Kaya, S., Kim, S. S., **Abbas, A.**, and AbuHassan, Y. (2018), "AFM-Based Approach to Study Blending between RAP and Virgin Asphalt Binders," *ASCE Journal of Materials in Civil Engineering*, Vol. 30(3), 04017300.
11. AbuQtaish, L., Nazzal, M. D., **Abbas, A.**, Kaya, S., Akinbowale, S., Arefin, M. S., and Kim, S. S. (2018), "Micromechanical and Chemical Characterization of Foamed Warm-Mix Asphalt Aging," *ASCE Journal of Materials in Civil Engineering*, Vol. 30(9), 04018213.
12. Papagiannakis, A. T., Dessouky, S., Roshani, H., and **Abbas, A.** (2018), "Level-Up Pavement Patching: Survey of Texas Practice," *Journal of Transportation Engineering, Part B: Pavements*, Vol. 144(2), 06018001.
13. Nazzal, M. D., Iqbal, M. T., Kim, S. S., **Abbas, A.**, Quasem, T., and Mogawer, W. (2017), "Evaluating the Mechanical Properties of Terminal Blend Tire Rubber Mixtures Incorporating RAP," *Construction and Building Materials*, Vol. 138, pp. 427-433.
14. Akentuna, M., Kim, S. S., Nazzal, M., and **Abbas, A.** (2017), "Asphalt Mixture CTE Measurement and the Determination of Factors Affecting CTE," *ASCE Journal of Materials in Civil Engineering*, Vol. 29(6), 04017010.
15. Nazzal, M., AbuQtiash, L., Kaya, S., **Abbas, A.**, and Powers, D. (2017), "A Nano-Scale Approach to Study the Healing Phenomenon in Warm Mix Asphalt," *Journal of Testing and Evaluation (JTE), American Society of Testing and Materials (ASTM)*, Vol. 45(5), pp. 1662-1670.
16. Nazzal, M., Kim, S. S., and **Abbas, A. R.** (2017), "Field Evaluation of Infrared Asphalt Heater/Reclaimer Patching Method," *Journal of Testing and Evaluation (JTE), American Society of Testing and Materials (ASTM)*, Vol. 45(2), pp. 564-573.
17. **Abbas, A. R.**, Nazzal, M., Kaya, S., Akinbowale, S., Subedi, B., Arefin, M. S., and AbuQtaish, L. (2016), "Effect of Aging on Foamed Warm Mix Asphalt Produced by Water Injection," *ASCE Journal of Materials in Civil Engineering*, Vol. 28(11), 04016128.
18. Kim, S. S., Akentuna, M., Nazzal, M., and **Abbas, A.** (2016), "Effect of Asphalt Binder Grade and Type on Low Temperature Performance Determined Using Asphalt Concrete Cracking Device (ACCD)," *Journal of the Association of Asphalt Paving Technologists*, Vol. 85, pp. 641-658.
19. Freese, K., Jambor, K., **Abbas, A.R.**, Senko, J.M, and Cutright, T. (2016), "Origin and Formation of Sulfate in Soils from Three Ohio Counties," *Journal of Geotechnical and Geological Engineering*, Vol. 34(5), pp. 1327-1343.
20. Nazzal, M. D., Iqbal, M. T., Kim, S. S., **Abbas, A. R.**, Moses, A. and Quasem, T. (2016), "Evaluation of the Long-Term Performance and Life Cycle Costs of GTR Asphalt Pavements," *Construction & Building Materials*, Vol. 114, pp. 261-268.
21. Dessouky, S., Papagiannakis, A. T., and **Abbas, A.** (2016), "Practical Tool for Prioritizing Rehabilitation and Preventive Maintenance in Pavements," *Journal of the Transportation Research Board*, Record No. 2550, pp. 63-71.
22. Akentuna, M., Kim, S. S., Nazzal, M., **Abbas, A.**, and Arefin, M. S. (2016), "Study of the Thermal Stress Development of Asphalt Mixtures using the Asphalt Concrete Cracking Device (ACCD)," *Construction & Building Materials*, Vol. 114, pp. 416-422.
23. Mohn, D., Cutright, T. J., Senko, J., and **Abbas, A.** (2015), "Assessment of Sulfate Concentrations in Water Used During Chemical Stabilization and Its Potential Impact on

- Sulfate Induced Heave,” *Journal of Geotechnical and Geological Engineering*, Vol. 34, pp. 285-296.
24. Freese, K., **Abbas, A.**, Senko, J., and Cutright, T. J. (2015), “Assessment of Process Variables that Can Impact Results of Soluble Sulfate Evaluated by the Tex-145E Method,” *American Society of Testing and Materials (ASTM) Journal of Testing and Evaluation (JTE)*, Vol. 43, No. 6, pp. 1-7.
 25. Alhasan, A. A., **Abbas, A. R.**, Nazzal, M., Dessouky, S., Ali, A., Kim, S. S., and Powers, D. (2014), “Low Temperature Characterization of Foamed Warm Mix Asphalt Produced by Water Injection,” *Journal of the Transportation Research Board*, Record No. 2445, pp. 1-11.
 26. **Abbas, A. R.**, Frankhouser, A., and Papagiannakis, A. T. (2014), “Effect of Traffic Load Input Level on Mechanistic-Empirical Pavement Design,” *Journal of the Transportation Research Board*, Record No. 2443, pp. 63-77.
 27. Zelelew, H., Khasawneh, M., and **Abbas, A.** (2014), “Wavelet-Based Characterization of Asphalt Pavement Surface Texture,” *Road Materials and Pavement Design*, Volume 15, Issue 3, pp. 622-641.
 28. **Abbas, A. R.**, Frankhouser, A., and Papagiannakis, A. T. (2014), “Comparison Between Alternative Methods for Estimating the Vehicle Class Distribution Input to Pavement Design,” *ASCE Journal of Transportation Engineering*, 140(4), 04014004.
 29. Ali, A., **Abbas, A.**, Nazzal, M., Alhasan, A., Roy, A., and Powers, D. (2014), “Workability Evaluation of Foamed Warm Mix Asphalt,” *ASCE Journal of Materials in Civil Engineering*, 26(6), 04014011.
 30. **Abbas, A.**, Sarker, P., and Frankhouser, A. (2014), “Performance Evaluation of Wet Pavement Markings in Ohio,” *Public Works Management & Policy*, Vol. 19(2), pp. 180-197.
 31. Sturges, T. R., Frankhouser, A., and **Abbas, A. R.** (2013), “Evaluation of Dowel Bar Alignment from a Two-Step Dowel Bar Inserter,” *International Journal of Pavement Engineering*, Vol. 15(5), pp. 438-448.
 32. Ali, A., **Abbas, A.**, Nazzal, M., Alhasan, A., Roy, A., and Powers, D. (2013), “Effects of Production Temperature, Foaming Water Content, and Aggregate Moisture Content on Performance of Foamed Warm Mix Asphalt,” *Construction and Building Materials*, Vol. 48, pp. 1058-1066.
 33. **Abbas, A. R.**, Mannan, A., and Dessouky, S. (2013), “Effect of Recycled Asphalt Shingles on Physical and Chemical Properties of Virgin Asphalt Binders,” *Construction and Building Materials*, Vol. 45, pp. 162-172.
 34. Ali, A. W., **Abbas, A. R.**, Nazzal, M., and Sett, K. (2013), “Incorporation of Subgrade Modulus Spatial Variability in Performance Prediction of Flexible Pavements,” *International Journal of Pavement Research and Technology*, Vol. 6(2), pp. 136-140.
 35. Dessouky, S., Contreras, D., Sanchez, J., Papagiannakis, A. T., **Abbas, A.** (2013), “Influence of Hindered Phenol Additives on the Rheology of Aged Polymer-Modified Bitumen,” *Construction and Building Materials*, Vol. 38, pp. 214-223.
 36. Mbarki, R., Kutay, M. E., Gibson, N., and **Abbas, A. R.** (2012), “Comparison between Fatigue Performance of Horizontal Cores from Different Asphalt Pavement Depths and Laboratory Specimens,” *Road Materials and Pavement Design*, Vol. 13(3), pp. 422-432.

37. Nazzal, M., **Abbas, A.R.**, Ali, A.W., and Roy, A. (2012), "Investigation of Foamed Warm Mix Asphalt Performance using the MEPDG," *ASCE Geotechnical Special Publication No. 225*, Geo-Institute, Reston, VA, pp. 1601-1611.
38. Ali, A.W., **Abbas, A.R.**, Nazzal, M., and Powers, D. (2012), "Laboratory Evaluation of Foamed Warm Mix Asphalt," *International Journal of Pavement Research and Technology*, Vol. 5(2), pp. 93-101.
39. Kutay, M. E., Ozturk, H. I., **Abbas, A. R.**, and Hu, C. (2011), "Comparison of 2D and 3D Image-Based Aggregate Morphological Indices," *International Journal of Pavement Engineering*, Volume 12, Issue 4, pp. 421-431.
40. Ali, A. W., **Abbas, A. R.**, and Sett, K. (2011), "Effect of Spatial Variations in Subgrade Stiffness on Pavement Performance," *ASCE Geotechnical Special Publication No. 211*, Geo-Institute, Reston, VA, pp. 4802-4811.
41. **Abbas, A. R.** (2008), "Simulating the Deformation Behavior of Hot Mix Asphalt in the Indirect Tension Test," *ASCE Geotechnical Special Publication No. 182*, Geo-Institute, Reston VA, pp. 16-23.
42. Tanesi, J., Kutay, M. E., **Abbas, A.**, and Meininger, R. (2007), "Effect of CTE Variability on Concrete Pavement Performance as Predicted using the Mechanistic-Empirical Pavement Design Guide," *Journal of the Transportation Research Board*, Record No. 2020, pp. 40-44.
43. Masad, E., Arambula, E., Ketcham, R. A., **Abbas, A. R.**, and Epps Martin, A. (2007), "Nondestructive Measurements of Moisture Transport in Asphalt Mixtures," *Journal of the Association of Asphalt Paving Technologists*, Vol. 76, pp. 919-952.
44. **Abbas, A.**, Kutay, M. E., Azari, H., and Rasmussen, R. (2007), "Three-Dimensional Surface Texture Characterization of Portland Cement Concrete Pavements," *Computer-Aided Civil and Infrastructure Engineering*, Vol. 22, pp. 197-209.
45. **Abbas, A.**, Masad, E., Papagiannakis, T., and Harman, T. (2007), "Micromechanical Modeling of the Viscoelastic Behavior of Asphalt Mixtures Using the Discrete Element Method," *International Journal of Geomechanics*, ASCE, Vol. 7, Issue 2, pp. 131-139.
46. **Abbas, A. R.**, Papagiannakis, A. T., and Masad, E. A. (2005), "Micromechanical Simulation of Asphaltic Materials Using the Discrete Element Method," *ASCE Geotechnical Special Publication No. 146*, Geo-Institute, Reston, VA, pp. 1-11.
47. **Abbas, A.**, Masad, E., Papagiannakis, T., and Shenoy, A. (2005), "Modeling Asphalt Mastic Stiffness Using Discrete Element Analysis and Micromechanics-Based Models," *International Journal of Pavement Engineering*, Vol. 16, pp. 137-144.
48. Mallela, J., **Abbas, A.**, Harman, T., Rao, C., Liu, R., and Darter, M. I. (2005), "Measurement and Significance of Coefficient of Thermal Expansion of Concrete in Rigid Pavement Design," *Journal of the Transportation Research Board*, Record No. 1919, pp. 38-46.
49. **Abbas, A.**, Papagiannakis, A. T., and Masad, E. (2004), "Linear and Non-Linear Viscoelastic Analysis of the Microstructure of Asphalt Concretes," *ASCE Journal of Materials in Civil Engineering*, Vol. 16, pp. 133-139.
50. **Abbas, A. R.**, Papagiannakis, A. T., and Masad, E. A. (2003), "Microstructural Analysis of the Constitutive Behavior of Asphalt Concretes," *ASCE Geotechnical Special Publication No. 123*, Geo-Institute, Reston VA, pp. 102-110.
51. Saadeh, S., Masad, E., Stuart, K., **Abbas, A.**, Papagiannakis, T., and Al-Khateeb, G. (2003), "Comparative Analysis of Axial and Shear Moduli of Asphalt Mixes," *Journal of the Association of Asphalt Paving Technologists*, Vol. 72, pp. 122-153.

52. Papagiannakis, A. T., **Abbas, A. R.**, and Masad, E. A. (2002), "Micromechanical Analysis of Viscoelastic Properties of Asphalt Concretes," *Journal of the Transportation Research Board*, Record No. 1789, pp. 113-120.
53. **Abbas, A.**, Choi, B. C., Masad, E., and Papagiannakis, T. (2002), "The Influence of Laboratory Aging Method on the Rheological Properties of Asphalt Binders," *Journal of Testing and Evaluation (JTE)*, *American Society of Testing and Materials (ASTM)*, Vol. 30, No. 2, pp. 171-176.

CONFERENCE PROCEEDINGS

1. **Abbas, A. R.**, Nazzal, M., Subedi, B., and Quasem T. (2019), "Compatibility Evaluation of Asphalt Emulsion and Aggregate Materials," *Proceedings of the 98th Transportation Research Board (TRB) Annual Meeting*, Washington, DC, January 13-17.
2. **Abbas, A.**, Nazzal, M., Ali, A., Roy, A., and Dessouky, S. (2018), "Laboratory Evaluation of Foamed Warm Mix Asphalt," *Proceedings of the Advances in Materials and Pavement Performance Prediction (AM3P) Conference*, Doha, Qatar, April 16-18.
3. Khoeini, S., Dessouky, S., Papagiannakis, A.T., Walubita, L., and **Abbas, A.** (2018), "Laboratory Evaluation of Polymer-Based Mixes," *Proceedings of the Advances in Materials and Pavement Performance Prediction (AM3P) Conference*, Doha, Qatar, April 16-18.
4. Nazzal, M., Holcombe, E., Kim, S., **Abbas, A.**, and Kaya, S. (2018) "Using AFM to Study the Interaction between Recycled Asphalt Materials and Virgin Asphalt Binders," *Proceedings of the 97th Transportation Research Board (TRB) Annual Meeting*, Washington, DC, January 7-11.
5. Iqbal, M. T., Nazzal, M. D., Kim, S. S., **Abbas, A.**, Quasem, T., and Mogawer, W. (2016), "Laboratory Evaluation of Mixtures Incorporating GTR and RAP," *Proceedings of Geo-Chicago 2016: Sustainability, Energy, and the Geoenvironment*, Chicago, Illinois, August 14-18.
6. **Abbas, A. R.**, Nazzal, M., Kaya, S., Akinbowale, S., Subedi, B., and AbuQtaish, L. (2015), "Effect of Warm Mix Asphalt on Aging of Asphalt Binders," *Proceedings of the Mediterranean Materials Congress on Energy and Infrastructure Systems (MEMA 2015)*, Doha, Qatar, January 11-14.
7. **Abbas, A. R.**, Frankhouser, A., Cubick, K., Liang, R., and Cardina, J. (2013), "Past Experience with Green Noise Barriers," *Proceedings of the 92nd Transportation Research Board (TRB) Annual Meeting*, Washington, DC, January 13-17.
8. **Abbas, A. R.** and Mohi, A. (2010), "Pavement Marking Selection for Portland Cement Concrete Bridge Decks," *Proceedings of the 89th Transportation Research Board (TRB) Annual Meeting*, Washington, DC, January 10-14.
9. Tanesi, J., Meininger, R., Nicolaescu, M., Kutay, E., and **Abbas, A.** (2007), "Measurement of the Coefficient of Thermal Expansion for Use in Concrete Pavement Design," *Proceedings of the International Conference on Advanced Characterization of Pavement and Soil Engineering*, Athens, Greece, June 20-22. Editors: Andreas Loizos, Tom Scarpas, and Imad L Al-Qadi.
10. **Abbas, A.**, Masad, E., and Papagiannakis, A. T. (2005), "DEM Modeling of HMA Viscoelastic and Indirect Tensile Behavior," *Proceedings of the International Workshop on Moisture Induced Damage of Asphaltic Mixes: Characterization, Visualization, and Simulation of the*

Fundamental Processes, Delft University of Technology, Delft, The Netherlands, November 23-25. ISBN-13: 978-90-816396-1-1. Editors: N. Kringos and A. Scarpas.

11. **Abbas, A.**, Papagiannakis, A. T., Masad, E., and Harman, T. (2004), "Viscoelastic Analysis of Asphalt Concretes Using the Discrete Element Method," *Proceedings of the 17th ASCE Engineering Mechanics Conference (EM2004)*, University of Delaware, Newark, DE, June 13-16.
12. Papagiannakis, A. T., **Abbas, A.**, and Masad, E. (2002), "Numerical Modeling of the Viscoelastic Properties of Asphalt Concretes," *Proceedings of the 5th European Conference on Numerical Methods in Geotechnical Engineering*, Paris, Fr., Sep 4-6.
13. **Abbas, A.**, Papagiannakis, A. T., and Masad, E. (2002), "Microstructural Analysis of the Constitutive Behavior of Asphalt Concretes," *Proceedings of the 15th ASCE Engineering Mechanics Conference (EM2002)*, Columbia University, New York, June 2-5.

CONFERENCE AND PROFESSIONAL PRESENTATIONS

1. **Abbas, A. R.**, Nazzal, M., Subedi, B., and Quasem T. (2019), "Compatibility Evaluation of Asphalt Emulsion and Aggregate Materials," Presented at the *98th Transportation Research Board (TRB) Annual Meeting*, Washington, DC, January 13-17.
2. Nazzal, M. D., Holcombe, E., Kim, S. S., **Abbas, A.**, and Kaya, S. (2018), "Using AFM to Study the Interaction Between Recycled Asphalt Materials and Virgin Asphalt Binders," Presented at the *97th Transportation Research Board (TRB) Annual Meeting*, Washington, DC, January 7-11.
3. Akentuna, M, Kim, S. S., Nazzal, M., and **Abbas, A.** (2017), "Study of Low-Temperature Performance of Asphalt Mixtures Using Asphalt Concrete Cracking Device," *Presented at the 96th Transportation Research Board (TRB) Annual Meeting*, Washington, DC, January 8-12.
4. AbuQtaish, L., Nazzal, M., Kim, S. S., **Abbas, A.**, and AbuHassan, Y. (2017), "Nanoscale Evaluation of Blending Zone Properties Between RAP and Virgin Asphalt Binders," *Presented at the 96th Transportation Research Board (TRB) Annual Meeting*, Washington, DC, January 8-12.
5. Freese, K., Jambor, K., **Abbas, A.**, Senko, J., and Cutright, T. (2016), "Origin and Formation of Sulfate in Ohio Soils," *Presented at the 95th Transportation Research Board (TRB) Annual Meeting*, Washington, DC, January 10-14.
6. Nazzal, M., Kim, Sang-Soo, and **Abbas, A.** (2015), "Developing Affordable GTR Asphalt Mixes for Local Roadways," *Presented at the Ohio Transportation Engineering Conference (OTEC)*, Columbus, Ohio, October 27-28.
7. **Abbas, A. R.**, Akinbowale, S., Subedi, B., Arefin, M. S., Nazzal, M., Kaya, S., and AbuQtaish, L. (2015), "Effect of Foamed Warm Mix Asphalt on Binder Aging," *Presented at the Ohio Asphalt Paving Conference (OAPC)*, Columbus, Ohio, February 3.
8. Nazzal, M., Kim, S. S., and **Abbas, A.** (2015), "Evaluation of the Use of Infrared Asphalt Heater/Reclaimer System for Winter Pothole Patching," *Presented at the 94st Transportation Research Board (TRB) Annual Meeting*, Washington, DC, January 11-15.
9. **Abbas, A.** (2014), "Limitations of Foamed Warm Mix Asphalt Produced by Water Injection," *Presented at the Ohio Asphalt Paving Conference*, Columbus, Ohio, February 5.
10. Alhasan, A. A., **Abbas, A. R.**, Nazzal, M., Dessouky, S., Ali, A., Kim, S. S., and Powers, D. (2014), "Low Temperature Characterization of Foamed Warm Mix Asphalt Produced

- by Water Injection,” *Presented at the 93th Transportation Research Board (TRB) Annual Meeting*, Washington, DC, January 12-16.
11. **Abbas, A. R.**, Frankhouser, A., and Papagiannakis, A. T. (2014), “Effect of Traffic Load Input Level on Mechanistic-Empirical Pavement Design,” *Presented at the 93th Transportation Research Board (TRB) Annual Meeting*, Washington, DC, January 12-16.
 12. **Abbas, A. R.**, Frankhouser, A., Cubick, K., Liang, R., and Cardina, J. (2012), “National and International Experience with Green Noise Barriers,” *Presented at the Transportation Research Board (TRB) Committee on Transportation-Related Noise and Vibration Summer Conference*, Asheville, North Carolina, July 22-25.
 13. **Abbas, A. R.**, Frankhouser, A., Cubick, K., Liang, R., and Cardina, J. (2012), “Ohio’s Green Noise Wall Research – Construction and Evaluation,” *Presented at the Transportation Research Board (TRB) Committee on Transportation-Related Noise and Vibration Summer Conference*, Asheville, North Carolina, July 22-25.
 14. Ali, A.W., **Abbas, A.R.**, Nazzal, M., and Sett, K. (2012), “Incorporation of Subgrade Modulus Spatial Variability in Performance Prediction of Flexible Pavements,” *Presented at the 17th Annual Great Lakes Geotechnical/Geoenvironmental Conference (GLGGC)*, Cleveland, Ohio, May 24.
 15. Sarker, P. **Abbas, A. R.**, Singh, P., and J. Roth (2012), “Wet Night Performance of Pavement Markings in Ohio” *Presented at the 91st Transportation Research Board (TRB) Annual Meeting*, Washington, DC, January 22-26.
 16. Sturges, T. R., Frankhouser, A., and **Abbas, A. R.** (2012), “Dowel Bar Misalignment in Two-Step Dowel Bar Inserters,” *Presented at the 91st Transportation Research Board (TRB) Annual Meeting*, Washington, DC, January 22-26.
 17. Ali, A.W., Abbas, A.R., Nazzal, M., and Powers, D. (2012), “Laboratory Evaluation of Foamed Warm Mix Asphalt,” *Presented at the 91st Transportation Research Board (TRB) Annual Meeting*, Washington, DC, January 22-26.
 18. **Abbas, A.R.** and Ali, A.W. (2011), “Update on WMA Lab Foaming Research,” *Presented at the 2011 Ohio Asphalt Paving & North Central Asphalt User Producer Group Combined Conference*, Columbus, OH, February 2-3.
 19. Ali, A. W., **Abbas, A. R.**, and Nazzal, M. (2011), “Laboratory Evaluation of Foamed Warm Mix Asphalt Produced by Water Injection,” *Presented at the 90th Transportation Research Board (TRB) Annual Meeting*, Washington, DC, January 23-27.
 20. Mbarki, R., Kutay, M. E., Gibson, N., and **Abbas, A. R.** (2010), “Fatigue Analysis of Different Pavement Layers Using VECD and Push-Pull Tests,” *Presented at the 1st Meeting and Technical Conference of the Middle East Society of Asphalt Technologists (MESAT)*, Beirut, Lebanon, July 5-8.
 21. **Abbas, A. R.** (2009), “Pavement Marking Alternatives for Concrete Bridge Decks,” *Ohio Bridge Conference*, Columbus, OH, August 12-13.
 22. **Abbas, A.** (2007), “Simulating the Deformation Behavior of Hot Mix Asphalt as Tested in the Indirect Tension Test,” *Presented at the 2007 Engineering Mechanics Division Conference*, Virginia Tech, Blacksburg, VA, June 3-6.
 23. **Abbas, A.** (2006), “A Perspective on the Effect of Pavement Surface Texture on Tire Wear and Tire Damage,” *Presented at Goodyear Tire and Rubber Company, Akron, Ohio*, August 24.
 24. **Abbas, A.**, Masad, E., and Papagiannakis, A.T. (2005), “Simulation of the Micromechanical Behavior of Asphalt Mixtures Using the Discrete Element Method,” *Presented at the 2005*

Joint ASME/ASCE/SES Conference on Mechanics and Materials (McMat 2005), Louisiana State University, Baton Rouge, LA, June 1-3.

25. **Abbas, A.**, Papagiannakis, T., and Masad, E. (2001), "Relating the Microstructure of Asphalt Mixes to their Constitutive Behavior," *Presented at the 2001 ASCE-ASME-SES Joint Applied Mechanics and Materials Summer Conference*, University of California, San Diego, La Jolla, CA, June 27-29.

GRADUATE STUDENT ADVISING

Ph.D. Students

- Mahmoud Alzioud (Expected August 2020)
- Tanvir Quasem (Expected August 2020)
- Mir Shahnewaz Arefin (May 2019)
Evaluation of the Reliability Analysis Approach in the Mechanistic-Empirical Pavement Design Guide
- Ahmed El Ghriany (May 2015)*
Investigating Correlations of Pavement Conditions with Crash Rates on In-Service U.S. Highways
- Ayman Ali (August 2013)
Performance Evaluation of Foamed Warm Mix Asphalt Produced by Water Injection

*Co-Advisor

Master's Students (Thesis Option)

- Ala' Hudaib (Expected May 2021)
- Saif Nassar (Expected May 2020)
- Mustafa Mansour (Expected May 2020)
- Maishah Alin (May 2018)
Effect of Rejuvenators on Rheological Properties of Asphalt Binders
- Bimal Thapa (August 2017)
Laboratory Evaluation of Interface Bond Strength between Asphalt Layers
- Yazeed Abuhassan (August 2016)
Effect of Chemical Solvents on Rheological Properties of Recovered Asphalt Binders
- Tanvir Quasem (August 2016)
Development of a Pavement Marking Striping Strategy for ODOT District 11
- Bijay Subedi (December 2015)
Material Selection for Spray Injection Patching Method
- Mir Shahnewaz Arefin (August 2015)
Aging Characterization of Foamed Warm Mix Asphalt
- Sunday Akinbowale (August 2014)
Influence of Aging on Foamed Warm Mix Asphalt
- Ahmad Alhasan (August 2013)
Low Temperature Characterization of Foamed Warm Mix Asphalt
- Andrew Frankhouser (May 2013)
Characterization of Ohio Traffic Data for Integration into the Mechanistic-Empirical Pavement Design

- Umme Amina Mannan (August 2012)
Effect of Recycled Asphalt Shingles (RAS) on Physical and Chemical Properties of Asphalt Binders
- Priyanka Sarker (August 2012)
Nighttime Visibility of Pavement Marking Materials under Service Conditions
- Ayman Ali (August 2010)
Laboratory Evaluation of Warm Mix Asphalt Prepared Using Foamed Asphalt Binders
- Songquan Wang (May 2010)
Comparative Analysis of NTPEP Pavement Marking Performance Evaluation Results
- Amal Mohi (May 2009)
Performance Evaluation of Pavement Markings on Portland Cement Concrete Bridge Decks

Master's Students (Non-Thesis Option)

- Shawn Smith (Expected August 2019)
- Alison Frye (May 2019)
Impact of High Plasticity Subgrade Percentage on Unconfined Compressive Strength in Full Depth Reclamation Mix Design
- Michael Russo (May 2014)
Drained Residual Friction Angle of Low Plasticity Cohesive Soils
- Ahmad Dalqamouni (May 2014)
Effect of Oven Aging on the Dynamic Modulus of Selected Types of Asphalt Mixtures
- Ehsan Shajiei Niaz Abadi (May 2011)
Moisture Induced Damage of Foamed Warm Asphalt Mixes
- Tim Sturges (May 2010)
Investigation into the Accuracy of the MIT-Scan 2 and the Evaluation of Two-Paver Dowel Bar Inserter Systems
- Srinath Badam (August 2009)
Sensitivity Analysis of the Mechanistic Empirical Pavement Design Guide (MEPDG) Results to Hot Mix Asphalt Dynamic Modulus

HONOR STUDENTS

- Jessica Fraser (May 2016)*
- Justin Cree (May 2012)
- Curtis "CJ" Kaufman, Jr. (May 2010)
- John G. Marchi (May 2009)

*Co-Advisor

AFFILIATIONS

- Transportation Research Board (TRB)
 - Friend, Standing Committee on Asphalt Binders (AFK20)
 - Friend, Standing Committee on Non-Binder Components of Asphalt Mixtures (AFK30)
 - Member, Standing Committee on Surface Requirements of Asphalt Mixtures (AFK40)
 - Member, Standing Committee on Structural Requirements of Asphalt Mixtures (AFK50)

- Friend, Standing Committee on Signing and Marking Materials (AHD55)
- Association of Asphalt Paving Technologists (AAPT)
- International Society of Asphalt Pavements (ISAP)
- American Society of Civil Engineers (ASCE)
- Geo-Institute (GI), American Society of Civil Engineers (ASCE)
- Pavement Committee, Geo-Institute (GI), American Society of Civil Engineers (ASCE)
- Transportation and Development Institute (T&DI) Highway Pavement Committee, American Society of Civil Engineers (ASCE)

SERVICES

National Service

- Member, Standing Committee on Characteristics of Asphalt-Aggregate Combinations to Meet Surface Requirements (AFK40), Transportation Research Board (TRB), 2008-Present.
- Member, Standing Committee on Characteristics of Asphalt Paving Mixtures to Meet Structural Requirements (AFK50), Transportation Research Board (TRB), 2006-Present.
- Chair of the “Modeling and Evaluation of Asphalt Materials” Session in the Transportation Research Board (TRB) 95th Annual Meeting, January 10-14, 2016, Washington, DC.
- Chair of the “Dynamic Modulus and Permanent Deformation of Asphalt Mixtures” Session in the Transportation Research Board (TRB) 91st Annual Meeting, January 22-26, 2012, Washington, DC.
- Chair of the “Measuring and Predicting Dynamic Modulus for Hot-Mix Asphalt” Session in the Transportation Research Board (TRB) 90th Annual Meeting, January 23-27, 2011, Washington, DC.
- Chair of the “Effect of Tack Coat Materials, Application Rates, and Pavement Surface Type on Interface Shear Strength” Session in the Transportation Research Board (TRB) 89th Annual Meeting, January 10-14, 2010, Washington, DC.
- Session Co-Chair in the Symposium of Pavement Mechanics and Materials, The 18th Engineering Mechanics Division (EMD) Conference of the American Society of Civil Engineers (ASCE), June 3-6, 2007, Virginia Polytechnic Institute and State University, Blacksburg, Virginia.
- Session Co-Chair in the Mechanics of Flexible Pavements Symposium Honoring R. L. Lytton, The 2005 Joint ASME/ASCE/SES Conference on Mechanics and Materials (McMat 2005), June 1-3, 2005, Louisiana State University, Baton Rouge, Louisiana.

Journal Reviewer

- Journal of the Transportation Research Board (TRB)
- Journal of the Association of Asphalt Paving Technologists (AAPT)
- International Journal of Pavement Engineering
- International Journal of Pavement Research and Technology
- Journal of Testing and Evaluation (JTE), American Society for Testing and Materials (ASTM)
- International Journal of Geomechanics, American Society of Civil Engineering (ASCE)
- Journal of Materials in Civil Engineering, American Society of Civil Engineering (ASCE)
- Journal of Transportation Engineering, American Society of Civil Engineering (ASCE)
- International Journal of Road Materials and Pavement Design

- Canadian Journal of Civil Engineering
- Computer Aided Civil and Infrastructure Engineering Journal (CACIE)
- International Journal of Neural Systems
- Construction and Building Materials (CBM)

The University of Akron

- Non-Honors Student Advisor (2005-2011, 2017-Present)
- Member, Merit Raise Committee (2005-2006, 2017-Present)
- Member, RTP Committee (2011-2017, 2018-Present)
- Member, Undergraduate Committee (2005-Present)
- Chair, Geotechnical Faculty Search Committee (2018-2019)
- Chair, Merit Raise Document Committee (2016-2017)
- Honors Student Advisor (2011-2017)
- Chair, RTP Committee (2017-2018)
- Chair, Space Allocation Committee (2016-2017)
- Member, Open Position Faculty Search Committee (2017-2018)
- Chair, Geotechnical Faculty Search Committee (2013-2014)
- Member, Water Resources Faculty Search Committee (2009-2010)
- Chair, Geotechnical Faculty Search Committee (2008-2009)
- Member, Graduate Committee (2005-2009)
- Member, RTP Document Committee (2007)