Hao Wang, Ph.D.
Professor, Graduate Program Director
Department of Civil and Environmental Engineering
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EDUCATION

PhD Department of Civil and Environmental Engineering, University of Illinois at Urbana-Champaign, Urbana, 2006-2011
MS Department of Civil Engineering, Virginia Tech, Blacksburg, VA, 2004-2006
MS Department of Civil Engineering, Southeast University, Nanjing, China, 2001- 2004
BS Department of Civil Engineering, Southeast University, Nanjing, China, 1997- 2001

ACADEMIC WORK HISTORY

- Professor, Department of Civil and Environmental Engineering, Rutgers, The State University of New Jersey, Jul. 2023 – present
- Graduate Program Director, Department of Civil and Environmental Engineering, Rutgers, The State University of New Jersey, Oct. 2017 – present
- Associate Professor, Department of Civil and Environmental Engineering, Rutgers, The State University of New Jersey, Jul. 2017 – Jun. 2023
- Assistant Professor, Department of Civil and Environmental Engineering, Rutgers, The State University of New Jersey, Jul. 2011 – Jun. 2017

RESEARCH AREAS

Served as Principal Investigator (PI) or Co-PI for more than 50 projects sponsored by federal and state agencies in U.S. in the following areas:

- Sustainable, resilient, and smart pavement system
- Advanced modeling and characterization of pavement materials
- Preservation and maintenance of transportation infrastructure (highway, airport, railway, pipeline)
- Life-cycle cost analysis and life-cycle assessment

HONORS & AWARDS

1. New Jersey DOT Research Implementation Award, 2023
2. NSF CORE Institute Fellow, 2023
3. Fellow of Engineering Mechanics Institute (EMI), ASCE, 2023
4. Researcher of The Year Award, ASCE New Jersey Section Central Jersey Branch, 2023
5. Walter L. Huber Civil Engineering Research Prize, ASCE, 2022
6. New Jersey DOT Research Implementation Award, 2021
7. Emerging Outstanding Academic, Academy of Pavement Science and Engineering (APSE), 2021
8. Applied Energy Highly Cited Paper Awards, 2020
9. Theodore von Karman Fellowship, RWTH Aachen University, Germany, 2020
10. Best Paper Award, World Transportation Congress, 2018 and 2019
11. Educator of The Year Award, ASCE New Jersey Section, 2019
12. Distinguished Research Award, Rutgers ASCE Chapter, School of Engineering, 2017
13. Honorable Mention, ASCE Innovation Contest, 2017
14. AASHTO High Value Research Project Award as Principal Investigator, 2014
15. ASCE ExCEEd Fellowship for Faculty, ASCE, 2012

JOURNAL PUBLICATIONS (* Corresponding author)

Google Scholar total citations: 10087; h-index: 56

2023

1. Tang, J. and **H. Wang***, Compatibility and Self-Healing Properties of Asphalt Binder with Polyethylene Plastics: Observations from Coarse Grained Molecular Simulation, *Journal of Materials in Civil Engineering*, 2023, Vol. 35, No. 11, 04023412
2. Soares, L. and **H. Wang***, Design Study and Potential Implementation of Photovoltaic Noise Barrier for Sustainable Highway, *Transportation Research Record* (Published Online)
3. Jiang, B.Y., X. Chen, and **H. Wang***, Computational Analysis of Skid Resistance of Aircraft Tire on Wet Runway Pavement with Different Groove Depths, *Road Materials and Pavement Design*, 2023, Vol. 24, No. 7, pp. 1651-1668
4. Guo, L.K. and **H. Wang***, Optimization and Validation of Piezoelectric Cantilever Designs for Energy Harvesting from Bridge Vibrations, *Transportation Research Record* (Published Online)
5. Shah, J., S. El-Hawwat, and **H. Wang***, Guided Wave Ultrasonic Testing for Crack Detection in Plastic Pipe: Laboratory Experiments and Numerical Modeling, *Sensors*, 2023, 23(11), 5131
6. Cui, B.Y. and **H. Wang***, Analysis and Prediction of Pipeline Corrosion Defects Based on Data Analytics of In-Line Inspection, *Journal of Infrastructure Preservation and Resilience*, 2023, Vol. 4, Article number 14
7. Shen, K.R. and **H. Wang***, Impact of Dynamic Loading on Pavement Deflection Measurements from Traffic Speed Deflectometer, *Measurement*, Vol. 217, 2023, 113086
8. Chen, X., **H. Wang***, and G. Venkiteela, Asphalt Pavement Pothole Repair Using Pre-Heating Method: An Integrated Experiment and Modeling Study, *Transportation Research Record* (Published online)
9. Xie, P.Y. and **H. Wang***, Comparative Evaluation of Mitigation Methods for Traffic-Induced Reflective Cracking in Airport Pavement, *Construction and Building Materials*, Vol. 390, 2023, 131787
10. Jiang, B.Y. and **H. Wang***, An Integrated Analytical Model for Friction Characteristics of Aircraft Tire on Wet Runway Pavement, *Tribology International*, Vol. 185, 2023, 108501
11. Chen, X. and **H. Wang***, Impact of Sea Level Rise on Asphalt Pavement Responses Considering Seasonal Groundwater and Moisture Gradient in Subgrade, *Transportation Geotechnics*, Vol. 40, 2023, 100992
12. Guo, L.K., **H. Wang***, J. Braley, and G. Venkiteela, Field Evaluation of Piezoelectric Energy Harvesters on Bridge Structure, Machines, Vol. 11, No. 4, 2023, 462
13. Cui, B.Y. and **H. Wang***, Oxidative Aging Mechanism of Asphalt Binder Using Experiment-Derived Average Molecular Model and ReaxFF Molecular Dynamics Simulation, *Fuel*, Vol. 345, No. 1, 2023, 128192
14. Soares, L. and **H. Wang***, Multi-Criteria Analysis of Sustainability Impacts of Photovoltaic Noise Barriers with Different Design Configurations, *Transportation Research Part D: Transport and Environment*, Vol. 116, 2023, 103624
15. Guo, L.K. and **H. Wang***, Multi-Physics Modeling of Piezoelectric Energy Harvesters from Vibrations for Improved Cantilever Designs, *Energy*, Vol. 263 Part C, 2023, 125870
16. Zhao, J.N. and **H. Wang***, and P. Lu, Machine Learning Analysis of Overweight Traffic Impact on Survival Life of Asphalt Pavement, *Structure and Infrastructure Engineering*, Vol. 19, No. 5, 2023, pp. 606-619
17. Chen, J.Q., S.J. Yang, W. Huang, and **H. Wang***, Two-Dimensional Microstructure-Based Model for Evaluating the Permeability Coefficient of Heterogeneous Construction Materials, *Materials*, 2023, 16(17), 5892

18. Shi, S.M., B.Y. Jiang, S. Ludwig, L.Y. Xu, **H. Wang**, Y. Huang, and F. Yan, Optimization for Pipeline Corrosion Sensor Placement in Oil-Water Two-Phase Flow Using CFD Simulations and Genetic Algorithm, *Sensors*, 2023, 23(17), 7379
19. Bai, T., X. Huang, X. Zheng, **H. Wang**, Y. Cheng, B.Y. Cui, F. Xu, B. Mo, and Y. Li, Viscoelastic Parametric Conversions and Mechanical Response Analysis of Asphalt Mixtures, *Construction and Building Materials*, Vol. 390, 2023, 131777

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20. Zhao, J.N., **H. Wang***, Y.H. Chen, and M.F. Huang, Detection of Road Surface Anomaly Using Distributed Fiber Optic Sensing, *IEEE Intelligent Transportation System*, Vol. 23, No. 11, 2022, pp. 22127-22134
21. Chen, X.D. and **H. Wang***, Impact of Warming Temperature on Asphalt Pavement Overlay Performance and Cost: Case Studies in New Jersey, *Road Materials and Pavement Design*, Vol. 23, No. 12, 2022, pp. 2886-2899
22. Zhao, J.N., **H. Wang*,** and P. Lu, Impact Analysis of Traffic Loading on Pavement Performance Using Support Vector Regression Model, *International Journal of Pavement Engineering*, Vol. 23, No. 11, 2022, pp. 3716-3728
23. Cui, B.Y. and **H. Wang***, Molecular Modeling of Asphalt-Aggregate Debonding Potential under Moisture Environment and Interface Defect, *Applied Surface Science*, Vol. 606, 2022, 154858
24. Liao, G.Y., X. Fang, **H. Wang***, J. Tang, P. Szary, and J. Chen, Durability Improvement of Poroelastic Road Surface with Treated Rubber: Molecular Dynamics Simulation and Experimental Observations, *Journal of Cleaner Production*, Vol. 369, 2022, 133334
25. Chen, X., **H. Wang***, B.Y. Jiang, and G. Venkiteela, Evaluation of Microwave Heating for Potential Applications in Hot In-place Recycling of Asphalt Pavement, *Transportation Research Record*, Vol. 2676, No. 9, 2022, pp. 256-268
26. Huang, W. and **H. Wang***, Multi-Aspect Engineering Properties and Sustainability Impacts of Geopolymer Pervious Concrete, *Composites Part B: Engineering*, 2022, Vol. 242, 2022, 110035
27. Tang, J. **H. Wang*,** and M. Liang, Molecular Simulation and Experimental Analysis of Interaction and Compatibility between Asphalt Binder and Styrene-Butadiene-Styrene, *Construction and Building Material*, Vol. 342 (Part A), 2022, 128028
28. Zhao, J.N. and **H. Wang***, Dynamic Pavement Response Analysis under Wide-Base Tire Considering Vehicle-Tire-Pavement Interaction, *Road Materials and Pavement Design*, Vol. 23, No. 7, 2022, pp. 1650-1666
29. Sun, W. and **H, Wang***, Chemo-Mechanics of Nanovoid Formation in Asphalt Binder with Different SARA Fractions, *Molecular Simulation*, Vol. 48, No. 9, 2022, pp. 789-800
30. Xie, P.Y. and **H. Wang***, Finite Element Analysis of Thermal-Induced Reflective Cracking in Composite Pavement with Mitigation Strategies, *Engineering Fracture Mechanics*, Vol. 266, 2022, 108396
31. Chen, X., **H. Wang***, C. Li, W.G. Zhang, and G.J. Xu, Computational Investigation of Surface Water Distribution and Ultimate Permeability of Porous Asphalt Pavement, *International Journal of Pavement Engineering*, Vol. 23, No. 4, 2022, pp. 1226-1238.
32. Soares, L. and **H. Wang***, A Study on Renewed Perspectives of Electrified Road for Wireless Power Transfer of Electric Vehicles, *Renewable and Sustainable Energy Reviews*, Vol. 158, 2022, 112110
33. Guo, L.K. and **H. Wang***, Non-Intrusive Movable Energy Harvesting Devices: Materials, Designs, and Their Prospective Uses on Transportation Infrastructures, *Renewable and Sustainable Energy Reviews*, Vol. 160, 2022, 112340
34. Guo, L.K. and **H. Wang*,** A Novel Design of Partially Magnetized Pavement for Wireless Power Transfer to Electric Vehicles with Improved Efficiency and Cost Saving, *Energy Conversion and Management*, Vol. 252, 2022, 115080

35. Guo, L.K., **H. Wang***, L. Soares, Q. Lu, and L. Brito, Multi-Physics Modeling of Piezoelectric Pavement System for Energy Harvesting under Traffic Loading, *International Journal of Pavement Engineering*, Vol. 23, No. 10, 2022, pp. 3647-366.
36. Tang, J. and **H. Wang***, Coarse Grained Modeling of Nanostructure and Asphaltene Aggregation in Asphalt Binder Using Dissipative Particle Dynamics, *Construction and Building Materials*, Vol. 314 (Part A), 2022, 125605.
37. Cui, B.Y. and **H. Wang***, Molecular Interaction of Asphalt-Aggregate Interface Modified by Silane Coupling Agents at Dry and Wet Conditions, *Applied Surface Science*, Vol. 572, 2022, 151365
38. Chen, X.D. and **H. Wang***, Life-Cycle Assessment and Multi-Criteria Performance Evaluation of Pervious Concrete Pavement with Fly Ash, *Resource, Conservation and Recycling*, Vol. 177, 2022, 105969
39. Zhao, J.N., **H. Wang***, P. Lu, and J.Q. Chen, Mechanistic–Empirical Analysis of Pavement Performance Considering Dynamic Axle Load Spectra Due to Longitudinal Unevenness, *Applied Science*, Vol. 12, No. 5, 2022, 2600.
40. Dan, H.C., L.S. Gao, **H. Wang***, and J. Tang, Discrete Element Modeling of Mean Texture Depth and Wearing Behavior of Asphalt Mixture, *Journal of Materials in Civil Engineering*, Vol. 34, No. 4, 2022, 04022027

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41. Huang, W. and **H. Wang***, Geopolymer Pervious Concrete Modified with Granulated Blast Furnace Slag: Microscale Characterization and Mechanical Strength, *Journal of Cleaner Production*, Vol. 328, 2021, 129469
42. **Wang, H.***, P.Y. Xie, R. Ji, and J. Gagon, Prediction of Airfield Pavement Responses from Surface Deflections: Comparison between Soft Computing Method and Traditional Backcalculation Approach, *Road Materials and Pavement Design*, 2021, Vol. 22, No. 9, 2021, pp. 1930-1945
43. Soares, L. and **H. Wang***, Economic Feasibility Analysis of Charging Infrastructure for Electric Ground Fleet in Airports, *Transportation Research Record*, Vol. 2675, No. 12, 2021, pp. 1-12
44. Al-Saadi, I., **H. Wang***, X. D. Chen, P. Lu, and A. Jasim, Multi-Objective Optimization of Pavement Preservation Strategy Considering Agency Cost and Environmental Impact, *International Journal of Sustainable Transportation*, Vol. 15, No. 11, 2021, pp. 826-836
45. Ding, Y.M. **H. Wang***, J.Y. Qian, and H.C. Zhou, Evaluation of Tire Rolling Resistance from Tire-Deformable Pavement Interaction Modeling, *Journal of Transportation Engineering, Part B: Pavement*, Vol. 147, No. 3, 2021, 04021041
46. Xie, P.Y. and **H. Wang***, Potential Benefit of Photovoltaic Pavement for Mitigation of Urban Heat Island Effect, *Applied Thermal Engineering*, Vol. 191, 2021, 116883
47. Zhao, J. N. and **H. Wang***, Mechanistic-Empirical Analysis of Asphalt Pavement Fatigue Cracking Under Vehicular Dynamic Loads, *Construction and Building Materials*, Vol. 284, 2021, 122877
48. Chen, J.Q., L.C. Zhang, Y.F. Du, **H. Wang***, and H.C. Dan, Three-dimensional Microstructure Based model for Evaluating the Coefficient of Thermal Expansion and Contraction of Asphalt Concrete, *Construction and Building Materials*, Vol. 284, 2021, 122764
49. Chen, J.Q., **H. Wang***, M. Salemi, and P.N. Balaguru, Finite Element Analysis of Composite Repair for Damaged Steel Pipeline, *Coatings*, 11(3), 2021, 11030301
50. Chen, X.D., **H. Wang***, R. Horton, and J. DeFlorio, Life-Cycle Assessment of Climate Change Impact on Time-Dependent Carbon Footprint of Asphalt Pavement, *Transportation Research Part D: Transport and Environment.* Vol. 91, 2021, 102697
51. Guo, L.K., **H. Wang***, and J. Gagnon, Comparison Analysis of Airfield Pavement Life Estimated from Different Pavement Condition Indexes, *Journal of Transportation Engineering, Part B: Pavements*, Vol. 147, No. 2, 2021, 04021002

52. Wang, S.S., **H. Wang***, P.Y. Xie, X.D. Chen, Life-Cycle Assessment of Carbon Footprint of Bike-Share and Bus Systems in Campus Transit, *Sustainability*, Vol. 13, No. 1, 2021, 158
53. Li, N.*, B. Ma, **H. Wang***, J. Tang, X.W. Wang, and Z.S. Shao, Influence of Loading Frequency on Mechanical Properties of Unbound Granular Materials via Repeated Load Tests, *Construction and Building Materials*, Vol. 301, 2021, 124098
54. Liu, Z.Z.*, Y.S. Cao, A.M. Sha, **H. Wang***, L.K. Guo, and Y.Z. Hao, Energy Harvesting Array Materials with Thin Piezoelectric Plates for Traffic Data Monitoring, *Construction and Building Materials*, Vol. 302, 2021, 124147
55. Li, N., B. Ma, and **H. Wang***, Strains Comparisons of Unbound Base/Subbase Layer Using Three Elasto-Plastic Models under Repeated Loads, *Applied Science*, Vol. 11, No. 19, 2021, 9251

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56. **Wang, H.***, J.N. Zhao, X.D. Hu, and X.M. Zhang, Flexible Pavement Response Analysis under Dynamic Loads with Non-Uniform Tire Contact Stresses at Different Speeds and Surface Roughness, *Journal of Transportation Engineering Part B: Pavements*, Vol. 146, No. 3, 2020, 04020040
57. **Wang, H.***, M.Y. Li, N. Garg, and J.N. Zhao, Multi-Wheel Gear Loading Effect on Load-Induced Failure Potential of Airfield Flexible Pavement, *International Journal of Pavement Engineering*, Vol. 21, No. 6, 2020, pp. 805-816
58. **Wang, H.***, I.F. Al-Saadi, P. Lu, and A. Jasim, Quantification of Environmental Impact of Pavement Preservation at Construction and Usage Stages, *International Journal of Sustainable Transportation*, Vol. 14, No. 1, 2020, pp. 25-34
59. **Wang, H.***, Z.L. Wang, J.N. Zhao, and J.Y. Qian, Life-Cycle Cost Analysis for Pay Adjustment of Initial International Roughness Index, *Journal of Testing and Evaluation*, Vol. 48, No. 2, 2020, pp. 1350-1364
60. Wu, C.Y., **H. Wang***, J.N. Zhao, X. Jiang, Y.J. Qiu, Asphalt Pavement Modulus Backcalculation Using Surface Deflections Measured Under Moving Loads, *Computer-Aided Civil and Infrastructure Engineering*, Vol. 35, 2020, pp. 1246-1260
61. Xie, P.Y. and **H. Wang***, Analysis of Temperature Variation and Thermal-Induced Reflective Cracking Potential in Composite Pavements, *Transportation Research Record*, Vol. 2674, No. 10, 2020, pp. 177-188
62. Zhao, J.N. and **H. Wang***, Piezoelectric Energy Harvesting Potential at Airport Pavement: Mechanistic Modeling and Economic Analysis, *Transportation Research Record*, Vol. 2674, No. 11, 2020, pp. 64-75
63. Sun, W., and **H. Wang***, Self-Healing of Asphalt Binder with Cohesive Failure: Insights from Molecular Dynamics Simulation, *Construction and Building Materials*, Vol. 262, 2020, 120538
64. Sun, W. and **H. Wang***, Molecular Dynamics Simulation of Diffusion Coefficients of Different Rejuvenators with Aged Asphalt Binder, *International Journal of Pavement Engineering*, Vol. 21, No. 8, pp. 966-976
65. Zhao, J.N. and **H. Wang***, Dynamic Pavement Response Analysis Under Moving Truck Loads with Random Amplitudes, *Journal of Transportation Engineering Part B: Pavements*, 2020. Vol. 146, No. 2, 04020020
66. Ding, Y.M. and **H. Wang***, Computational Investigation of Hydroplaning Risk of Wide-Base Truck Tires on Roadway, *International Journal of Pavement Engineering*, 2020, Vol. 21, No. 1, pp. 122-133
67. Wu, C.Y., **H. Wang***, J.N. Zhao, X. Jiang, Y.J. Qiu, and B. Yusupov, Prediction of Viscoelastic Pavement Responses under Moving Load and Different Tire Contact Stresses with 2.5-D Finite Element Method, *Mathematical Problems in Engineering*, 2020, Vol. 2020, Article ID 1029089
68. Sun, W. and **H. Wang***, Moisture Effect on Nanostructure and Adhesion Energy of Asphalt on Aggregate Surface: A Molecular Dynamics Study, *Applied Surface Science*, 2020, Vol. 510, 145435

69. Chen, J.Q., **H. Wang***, and P.Y. Xie, Finite Element Modeling of Mechanical Responses of Concrete Pavement with Partial Depth Repair, *Construction and Building Materials*, 2020, Vol. 240, 117960
70. Li, N., B. Ma, **H. Wang***, and W. Sun, Development of Elasto-Plastic Constitutive Model for Unbound Granular Material under Repeated Loads, *Transportation Geotechnics*, 2020, Vol. 23, 100347
71. Salemi, M. and **H. Wang***, Fatigue Life Prediction of Pipeline with Equivalent Initial Flaw Size Using Bayesian Inference Method, *Journal of Infrastructure Preservation and Resilience*, 2020, Vol. 1, No.2
72. Bai, T., B.W. Liu, Y.G. Wu*, W. Huang, **H. Wang***, and Z.H. Xia, Mechanical Properties of Metakaolin-Based Geopolymer with Glass Fiber Reinforcement and Vibration Preparation, *Journal of Non-Crystalline Solids*, Vol. 544, 2020, 120173
73. Chen, J., J.P. Wang, **H. Wang***, P.Y. Xie, and L.K. Guo, Analysis of Pore Characteristics and Flow Pattern of Open Graded Asphalt Mixture in Different Directions, *Journal of Materials in Civil Engineering*, Vol. 32, No. 9, 04020256
74. Zhou, H.C., Z. Jiang, B.Y. Jiang, **H. Wang***, G.L. Wang, and H. Qian, Optimization of Tire Tread Pattern Based on Flow Characteristics to Improve Hydroplaning Performance, *Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering*, Vol. 234. No. 13, 2020, pp. 2961–2974

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75. **Wang, H.***, M.Y. Li, P. Szary, and X.D. Hu, Structural Assessment of Asphalt Pavement Layer Condition Using Backcalculated Modulus from Field Data, *Construction and Building Materials*, Vol. 211, 2019, pp. 943-951
76. **Wang, H.*** and Z.L. Wang, Deterministic and Probabilistic Life-Cycle Cost Analysis of Pavement Overlays Considering Different Pre-Overlay Conditions, *Road Materials and Pavement Design*, Vol. 20, 2019, pp. 58-73
77. Chen, X.D., **H. Wang***, H. Najm, G. Venkiteela, and J. Hencken, Evaluating Engineering Properties and Environmental Impact of Pervious Concrete with Fly Ash and Slag, *Journal of Cleaner Production*, Vol. 237, 2019, 117714
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81. Ding, Y.M. and **H. Wang***, FEM-BEM Analysis of Tire-Pavement Noise on Porous Asphalt Surfaces with Different Textures, *International Journal of Pavement Engineering*, Vol. 20, No. 9, 2019, pp. 1090-1097
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83. Li, M.Y. and **H. Wang***, Development of ANN-GA Program for Backcalculation of Pavement Moduli under FWD Loading with Viscoelastic and Nonlinear Parameters, *International Journal of Pavement Engineering*, Vol. 20, No. 4, 2019, pp. 490-498
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85. Chen, J.Q., **H. Wang***, and P.Y. Xie, Prediction of Pavement Temperature: Theoretical Models and Critical Affecting Factors, *Applied Thermal Engineering*, Vol. 158, 2019, 113755

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89. Liang, M., X, Xin, W.Y. Fan, **H. Wang***, and W. Sun, Phase Field Simulation and Microscopic Observation of Phase Separation and Thermal Stability of Polymer Modified Asphalt, *Construction and Building Materials*, Vol. 204, 2019, pp. 132-143
90. Liang, M., X. Xin, W.Y. Fan, **H. Wang***, H.G. Jiang, J.Z. Zhang, Z.Y. Yao, Experimental and Simulation Study of Phase Microstructure and Storage Stability of Asphalt Modified with Ethylene-Vinyl Acetate, *Journal of Materials in Civil Engineering*, Vol. 31, No. 12, 2019, 04019288
91. Liu, Z.Z., X.N. Huang, A.M. Sha, **H. Wang***, J.Q. Chen, and C. Li, Improvement of Asphalt-Aggregate Adhesion Using Plant Ash Byproduct, *Materials*, Vol. 12, No. 4, 2019, 605
92. Lu, P., **H. Wang***, and D. Tolliver, An Ordinal Logistic Regression Model for Predicting Condition Ratings of Bridge Components, *Mathematical Problems in Engineering*, 2019, Article ID 9797584

2018

93. **Wang, H.***, A. Jasim, and X.D. Chen, Energy Harvesting Technologies in Roadway and Bridge for Different Applications – A Comprehensive Review, *Applied Energy*, Vol. 212, 2018, pp. 1083-1094 ***(Highly Cited Paper Award)***
94. **Wang, H.***, J. Wang, and J.Q. Chen, Fracture Modeling of Asphalt Concrete with Random Aggregate Microstructure, *Road Materials and Pavement Design*, Vol. 17, No. 9, 2018, pp. 1674-1691
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97. Xu, G.J. and **H. Wang***, Diffusion and Interaction Mechanism between Rejuvenating Agent and Virgin and Recycled Asphalt Binder: A Molecular Dynamics Study, *Molecular Simulation*, Vol. 44, No. 17, 2018, pp. 1433-1443
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102. Salemi, M. and **H. Wang***, Image-Aided Random Aggregate Packing for Computational Modeling Asphalt Concrete Microstructure, *Construction and Building Materials*, Vol. 177. 2018, pp. 467-476

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105. Cao, X.X., **H. Wang***, X.J. Cao, W. Sun, H.Z. Zhu, and B.M. Tang, Investigation of Rheological and Chemical Properties of Asphalt Binder Rejuvenated with Waste Vegetable Oil, *Construction and Building Materials*, Vol. 180, 2018, pp. 455-463
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11. Member, Nanomechanics and Micromechanics Committee, Engineering Mechanics Institute, ASCE, 2017 – present

Conference/Workshop Organization

1. Chair, Organizing Committee, The 6th International Conference on Transportation Infrastructure and Material (TIM), Beijing, Jul. 18-20, 2023
2. Co-Chair, Mini-Symposium (MS 809), Mechanics of Sustainable Alternative Pavement Materials, ASCE Engineering Mechanics Institute Conference Atlanta, Jun. 6-9, 2023
3. Chair, Mini-Symposium (MS 804), Chemo-Mechanics of Asphalt Materials: Experimental Characterization and Numerical Modeling, ASCE Engineering Mechanics Institute Conference, Baltimore, May 31 – Jun. 3, 2022
4. Co-Chair, Mini-Symposium (MS 207): Durable Infrastructure Materials Though Experimental and Computational Material Design, ASCE Engineering Mechanics Institute Conference, New York, May 25-28, 2021
5. Chair, Mini-Symposium (MS 260): Mechanics of Multi-Functional Pavement Material and Structure, ASCE Engineering Mechanics Institute Conference, New York, May 25-28, 2021
6. Chair of Organizing Committee, 15th Annual Inter-University Symposium on Infrastructure Management (AISIM), May 11, 2019
7. Co-Chair, Symposium on Ecofriendly Geopolymer and Geopolymer-Developed Ceramics, The 11th International Conference on High-Performance Ceramics (CICC), Kunming, China, May 25-29, 2019
8. Chair of Organizing Committee, 2018 Annual Workshop of International Association of Chinese Infrastructure Professionals (IACIP), Jan. 7, 2018, Washington DC
9. Co-Chair, Mini-Symposium on Genome of Stone-based Civil Infrastructure Materials, ASCE Engineering Mechanics Institute Conference, San Diego, Jun. 5-7, 2017
10. Chair of Technical Committee, The Second International Conference on Transportation Infrastructure and Materials (ICTIM 2017), Qingdao, China, Jun. 9-12, 2017