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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**

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

## **HONORS & AWARDS**

1. AASHTO High Value Research Project Award as project PI, 2014; 2024
2. Outstanding Engineering Faculty Award, Rutgers University, 2023
3. New Jersey DOT Research Implementation Award, 2021; 2023
4. ***Fellow of Engineering Mechanics Institute (EMI), ASCE, 2023***
5. Researcher of The Year Award, ASCE New Jersey Section Central Jersey Branch, 2023
6. ***Walter L. Huber Civil Engineering Research Prize, ASCE, 2022***
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; 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

## **SCHOLARLY PUBLICATIONS**

***Google Scholar Citations: 13,367, h-index: 64***

**Referred Journal Papers (\* Corresponding author)**

**2024**

1. Xie, P.Y. and **H. Wang\***, Prognosis of Reflective Pavement Cracking Development with Bayesian Updating and Surrogate Models, *International Journal of Pavement Engineering*, 2024, Vol. 25, No. 1, 2420255.

2. Shen, K.R. and **H. Wang\***, Development of High-Efficient Flexible Pavement Modeling Software for Digital Twin Application, *Advances in Engineering Software*, 2024, Vol. 198, 103786
3. Xie, P.Y. and **H. Wang\***, Mechanistic Analysis of Reflective Cracking Potential in Electrified Pavement with Composite Layers, *Materials*, 2024, Vol. 17, 4282
4. Wan, Z. and **H. Wang\***, Retroreflectivity-Based Service Life and Life-Cycle Cost Analysis of Airfield Pavement Markings, *Transportation Research Record* (Published online)
5. Chen, X. and **H. Wang\***, Impact of Sea Level Rise Induced Hazards on Airfield Pavement Performance: A Simulation Study, *Transportation Research Record* (Published online)
6. Clemmensen, A. and **H. Wang\***, Airfield Pavement Performance Prediction Using Clustered Markov Chain Models, *Road Materials and Pavement Design* (Published online)
7. Huang, W. and **H. Wang\***, Comprehensive Assessment of Engineering and Environmental Attributes of Geopolymer Pervious Concrete with Natural and Recycled Aggregate, *Journal of Cleaner Production*, 2024, Vol. 468, 143138
8. Chen, X., and **H. Wang\***, Comparative Study of Moisture and Stress Dependent Unbound Material Modulus for Flexile Pavement Modeling, *Transportation Geotechnics*, Vol. 47, 2024, 101292.
9. Wu, C.Y., Y.Y. Duan, and **H. Wang\***, Signal Denoising of Traffic Speed Deflectometer Measurement Based on Partial Swarm Optimization–Variational Mode Decomposition Method, *Sensors*, 2024, 24(12), 3708.
10. Huang, W. and **H. Wang\***, Optimization of Geopolymer Pervious Concrete Design Using Multi-Phase Discrete Element Modeling, *Construction and Building Materials*, 2024, Vol. 438, 137034
11. Yu, S.J., J.Q. Chen, **H. Wang\***, and Q.B. Xie, Multi-Scale Characterization and Modelling Concrete of Permeability Containing Recycled Steel Slag Aggregate, *Construction and Building Materials*, 2024, Vol. 436, 137018
12. Zhao, J.N. and **H. Wang\***, Machine Learning Based Pavement Performance Prediction for Data-Driven Decision of Asphalt Pavement Overlay, *Structure and Infrastructure Engineering* (Published online).
13. Chen, X. and **H. Wang\***, Analysis of Pore Water Pressure Effect in Asphalt Patch Failure: An Integrated Modelling and Experiment Study, *Transportation Research Record* (Published online).
14. Chen, X. and **H. Wang\***, Evaluation of Pavement Resiliency to Flooding with Inverted Pavement Structure, *Road Materials and Pavement Design* (Published online).
15. Cui, B.Y. and **H. Wang\***, Pipeline Corrosion Prediction and Analysis with an Ensemble Bayesian Neural Network Approach, *Process Safety and Environmental Protection*, 2024, Vol. 187, pp. 483-494.
16. **Wang, H.**, J. Shah, S. El-Hawwat, Q.D. Huang, and A. Khatami, A Comprehensive Review of Polyethylene Pipes: Failure Mechanisms, Performance Models, Inspection Methods, and Repair Solutions, *Journal of Pipeline Science and Engineering*, Vol. 4, No. 2, 2024, 100174.
17. Shah, J., **H. Wang\***, and S. El-Hawwat, Detection of Internal Crack Growth in Polyethylene Pipe Using Guided Wave Ultrasonic Testing, *Earthquake Engineering and Engineering Vibrations*, Vol. 23, 2024, pp. 319-329.
18. Cui, B.Y. and **H. Wang\***, Cross-Scale Analysis of Asphalt Binder Tensile Failure Behavior Using Molecular Dynamics Simulation, *Construction and Building Materials*, Vol. 426, 2024, 136200.
19. Clemmensen A. and **H. Wang\***, Airfield Pavement Condition Prediction with Machine Learning Models for Life-Cycle Cost Analysis, *International Journal of Pavement Engineering*, Vol. 25, No. 1, 2024, pp. 2322529.

20. Chen, X. and **H. Wang\***, Post-Flooding Pavement Condition Assessment and Decision Making for Roadway Operation, *Journal of Transportation Engineering, Part B: Pavements*, Vol. 150, No. 1, 2024, 04023035
21. Chen, X. and **H. Wang\***, Asphalt Pavement Pothole Repair with Recycled Material and Preheating: Laboratory and Field Evaluation, *Journal of Cleaner Production*, Vol. 434, 140410.
22. Huang, W. and **H. Wang\***, Formulation Development of Metakaolin Geopolymer with Good Workability for Strength Improvement and Shrinkage Reduction, *Journal of Cleaner Production*, Vol. 434, 2024, 140431.
23. Chen, Z.T. and **H. Wang\***, Total Cost of Ownership Analysis of Fuel Cell Electric Bus with Different Hydrogen Supply Alternatives, *Sustainability*, 2024, 16(1), 259.
24. Shen, K.R. and **H. Wang\***, Prediction of Critical Strains of Flexible Pavement from Traffic Speed Deflectometer Measurements, *Construction and Building Materials*, Vol. 411, 2024, 134770.
25. Chen, X. and **H. Wang\***, Hydro-Mechanical Analysis of Water-Induced Pothole Patch Failure in Asphalt Pavement, *Construction and Building Materials*, Vol. 413, 2024, 134767.
26. Guo, L.K. and **H. Wang\***, Optimization and Validation of Piezoelectric Cantilever Designs for Energy Harvesting from Bridge Vibrations, *Transportation Research Record*, Vol. 2678(2), 2024, pp. 251-265
27. Soares, L. and **H. Wang\***, Design Study and Potential Implementation of Photovoltaic Noise Barrier for Sustainable Highway, *Transportation Research Record*, Vol. 2678(3), 2024, pp. 855-864
28. Su, L.P., X. Xin, M. Liang\*, J.J. Wang, X. H. Luan, **H. Wang\***, Y.P. Jiao, Y.F. Zhang, and Z.Y. Yao\*, Electric field-tunable Self-Sensing Nanocomposites with Aligned CNTs for In-Situ Pavement Health Monitoring: Electrodynamic Alignment, Sensor Development, and Performance Validation, *Chemical Engineering Journal*, Vol. 481, 2024, 148300.
29. Su, L.P., Y. Jiao, J. Wang, Y. Zhang, M. Liang\*, X. Xin, X. Luan, **H. Wang\***, Z. Chen, L. Chen, and Z. Yao\*, Ultra-Low Detection Limit Self-Sensing Nanocomposites with Self-Assembled Conductive Microsphere Arrays for Asphalt Pavement Health Monitoring, *Construction and Building Materials*, Vol. 427, 2024, 136279.
30. Farahani, E.M., Q.D. Huang, and **H. Wang**, A Probabilistic Framework for External Pitting Corrosion Growth Modelling for Buried Steel Pipelines Considering Soil Properties, *International Journal of Pressure Vessels and Piping*, 2024, Vol. 210, 105234
31. Lu, Y.J., B.Y. Cui, **H. Wang**, and R. Hajj, Experimental and Simulation-Based Engineering of Calcium Alginate Self-Healing Asphalt Capsules, *Chemical Engineering Journal*, 2024, Vol. 499, 156212
32. Chen, J.Q., Q.L. Wu, **H. Wang**, Z.Q. Quan, and H.C. Dan, Modeling and Analysis of Ice Condensation on Bridge Deck Pavement Surface Based on Heat Transfer Theory and Finite Element Method, *Applied Thermal Engineering*, Vol. 241, 2024, 122344.
33. Yu, S.J. J.Q. Chen, **H. Wang**, and Y.C. Qu, Computational Renormalization for Thermal Conductivity of Porous Asphalt Concrete Based on Hybrid Finite Element-Neural Network Method, *Construction and Building Materials*, 2024, Vol. 450, 138725
34. Shah, J., M. Majhi, A. Mukherjee, and **H. Wang**, Investigating Corrosion-Induced Deterioration in Bolted Steel Plate Joints Using Guided Wave Ultrasonic Inspection, *Journal of Civil Structural Health Monitoring* (published online)
35. Farahani, E.M., Y.H. Su, X. Chen, **H. Wang**, T.R. Laughorn, F. Onesto, Q.X. Zhou, and Q.D. Huang, AC Corrosion of Steel Pipeline Under Cathodic Protection: A State-of-the-Art Review, *Materials and Corrosion*, Vol. 75, 2024, pp. 290-314
36. Yang, Q., Z. Cao, L. Shen, F. Gu, J. Santos, Y. Qiao, **H. Wang**, J. Li, Y. Zhang, and C. Chu, Impacts of Climate Change on Environmental and Economic Sustainability of

Flexible Pavements across China, *Resource, Conservation and Recycling*, Vol. 206, 2024, 107589.

## 2023

37. Jiang, B.Y. and **H. Wang\***, An Analytical Solution for Friction Coefficients of Grooved Pavements Considering Tire Rubber-Groove Interaction, *Tribology International*. Vol. 190, 2023, 109052
38. Chen, X.J., H. Sathyanarayan, Y.B. Guo, **H. Wang\***, and J.G. Yi\*, Dynamic Tire/Road Friction Estimation with Embedded Flexible Force Sensors, *IEEE Sensors*, Vol. 23, No. 21, pp. 26608-26619
39. Chen, X. and **H. Wang\***, Analysis and Mitigation of Hydroplaning Risk Considering Spatial-Temporal Water Condition on Pavement Surface, *International Journal of Pavement Engineering*, Vol. 24, No. 2, 2023, 2036988
40. 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
41. Soares, L. and **H. Wang\***, Design Study and Potential Implementation of Photovoltaic Noise Barrier for Sustainable Highway, *Transportation Research Record* (Published Online)
42. 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
43. Guo, L.K. and **H. Wang\***, Optimization and Validation of Piezoelectric Cantilever Designs for Energy Harvesting from Bridge Vibrations, *Transportation Research Record* (Published Online)
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45. 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
46. Shen, K.R. and **H. Wang\***, Impact of Dynamic Loading on Pavement Deflection Measurements from Traffic Speed Deflectometer, *Measurement*, Vol. 217, 2023, 113086
47. Chen, X., **H. Wang\***, and G. Venkateela, Asphalt Pavement Pothole Repair Using Pre-Heating Method: An Integrated Experiment and Modeling Study, *Transportation Research Record*. Vol. 2677, No. 11, 2023, pp. 1-12.
48. 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
49. 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
50. 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
51. Guo, L.K., **H. Wang\***, J. Braley, and G. Venkateela, Field Evaluation of Piezoelectric Energy Harvesters on Bridge Structure, *Machines*, Vol. 11, No. 4, 2023, 462
52. 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
53. 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

54. 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
55. 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
56. Zha, J., G.Y. Liao, **H. Wang**, et al. Damage and responses of two asphalt pavement structures under blast loads: A numerical simulation, *Construction and Building Materials*, Vol. 409, 133919
57. Liao, G.Y., Y. Sheng, **H. Wang**, and et al., Polyurethane-Based Composite binder for Proelastic Road Surface: Composition, Preparation and Properties, *Construction and Building Materials*, Vol. 409, 134089
58. Chen, J.Q., S.J. Yang, W. Huang, and **H. Wang\***, Two-Dimensional Microstructure-Based Model for Evaluating Permeability Coefficient of Heterogeneous Construction Materials, *Materials*, 2023, 16(17), 5892.
59. 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
60. Bai, T., X. Huang, X. Zheng, **H. Wang**, and et al. Viscoelastic Parametric Conversions and Mechanical Response Analysis of Asphalt Mixtures, *Construction and Building Materials*, Vol. 390, 2023, 131777

## 2022

61. 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
62. 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
63. 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
64. 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
65. 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
66. Chen, X., **H. Wang\***, B.Y. Jiang, and G. Venkateela, 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
67. 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
68. 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
69. 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
70. 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

71. 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
72. 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.
73. 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
74. 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
75. 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
76. 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.
77. 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.
78. 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
79. 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
80. 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.
81. 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
82. Shen, K. R., **H. Wang**, H.Y. Zhang, J.S. Tong, and X.H. Chen, SAPAVE: An Improved Semi-Analytical FE Program for Dynamic Viscoelastic Analysis of Asphalt Pavement, *International Journal of Pavement Engineering*, Vol. 23, No. 9, 2022, pp. 3024-3035
83. Shen, K. R., H.Y. Zhang, J.S. Tong, **H. Wang**, and X.H. Chen, Dynamic Elastic Analysis of Flexible Pavements under Moving Vehicles: A Semi-Analytical Finite Element Treatment. *Road Materials and Pavement Design*, Vol. 23, No. 6, 2022, pp. 1440-1450
84. Cui, B.Y., **H. Wang**, X.Y. Gu, and D.L. Hu, Study of Inter-Diffusion Characteristics and Cracking Resistance of Virgin-Aged Asphalt Binders using Molecular Dynamics Simulation, *Construction and Building Materials*, Vol. 351, 2022, 128968
85. Cui, B.Y., X.Y. Gu, **H. Wang**, and D.L. Hu, Numerical and Experimental Evaluation of Adhesion Properties of Asphalt-Aggregate Interfaces Using Molecular Dynamics Simulation and Atomic Force Microscopy, *Road Materials and Pavement Design*, Vol. 23, No. 7, 2022, pp. 1564-1584
86. Fu, G.Z., **H. Wang**, Y.Q. Zhao, Z.Q. Yu, and Q. Li, Non-destructive Evaluation of Longitudinal Cracking in Semi-Rigid Asphalt Pavements Using FWD Deflection Data, *Structure Control and Health Monitoring*, Vol. 29, e3050
87. Liao, G.Y., C. Wang, **H. Wang**, P. Szary, Z.S. Zhang, and X.M. Huang, Characterization of Interlayer Mechanical Performance of Double-Layer Porous Asphalt Compacted by Three Methods: Simulations and Observations, *Construction and Building Materials*, Vol. 353, 129127.

88. Ren, Y.H., C.B. Ai, P. Lu, Z.Y. Dai, and **H. Wang**, An Automated Rail Extraction Framework for Low-density LiDAR Data without Sensor Configuration Information, *IEEE Sensor*, Vol. 22, No. 13, 2022, 13234
89. Liao, G.Y., X. Fang, J.Y. Hu, **H. Wang**, T. Xu, and J. Chen, Improving Mechanical Performance of Poroelastic Road Surface with Low Polyurethane Content through Surface Activation, *Construction and Building Materials*, Vol. 323, 2022, 126543
90. Li, Y.Y., J.Q. Chen, H.C. Dan, and **H. Wang**, Probability Prediction of Pavement Surface Low Temperature in Winter Based on Bayesian Structural Time Series and Neural Network, *Cold Region Science and Technology*, Vol. 194, 2022, 103434

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91. 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
92. **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
93. 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
94. 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
95. 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
96. 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
97. 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
98. 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
99. 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
100. 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
101. 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
102. 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
103. 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
104. 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

105. 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
106. Li, Y, **H. Wang**, J. Cai, and G. Song, Laboratory Measurement of Excavation Disturbance Effect Due to Trenchless Construction Using Distributed Strain Sensing, *Journal of Testing and Evaluation*, Vol. 49, No. 3, 2021, pp. 1914-1926
107. Liao, G.Y., L. Soares, **H. Wang**, and K.Q. Qi, Damage Evaluation of Poro-Elastic Road Surface with Low Polyurethane Content, *Journal of Testing and Evaluation*, Vol. 49, No. 1, 2021, pp. 134-146
108. Xia, W.J., S.W. Wang, **H. Wang**, and T. Xu, Inhibitory Effects of Developed Composite Flame Retardant on Bituminous Combustion and Volatile Emissions, *Journal of Cleaner Production*, Vol. 279, 2021, 123538.
109. Zhang, J.P., P. Wang, **H. Wang**, L. Soares, J.Z. Pei, and J.Y. Ge, Development and Verification of Integrated Photoelectric System for Non-Contact Detection of Pavement Ponding and Freezing, *Structure Control and Health Monitoring*, Vol. 28, No. 6, 2021, e2719
110. Xia, W.J., S.W. Wang, **H. Wang**, and T. Xu, Thermal Effects of Asphalt SARA Fractions, Kinetic Parameter Calculation Using Isoconversional Method and Distribution Models, *Journal of Thermal Analysis and Calorimetry*, Vol. 146, 2021, pp. 1577–1592

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111. **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
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15. **Wang, H.**, P.Y. Xie, and M.Y. Li, Airfield Pavement Response Analysis under Heavy Weight Deflectometer and Moving Load, Final Report of FAA-15-G004, Apr. 2019, 63p.
16. **Wang, H.**, M. Salemi, J.Q. Chen, P.N. Balaguru, J.H. Liang, and N. Xie, An Inorganic Composite Coating for Pipeline Rehabilitation and Corrosion Protection, Final Report, PHMSA DTPH56-15-H-CAP04, 2018, 52p.
17. **Wang, H.** and P.N. Balaguru, Low Solar Absorption Coating for Reducing Rail Temperature and Preventing Buckling, Federal Railroad Administration, DOT/FRA/ORD-18/28, 2018, 60p.
18. Nazari, R. and **H. Wang**, Road Weather Information Systems for Winter Road Maintenance, USDOT Region II University Transportation Center, Jul. 2018, 50p.

19. **Wang, H.**, M.Y. Li, and J.N. Zhao, High Aircraft Tire Pressure Effect on Airfield Pavement Response and Performance, Final Report of FAA-13-G016, May. 2018, 53p.
20. **Wang, H.** and Y.M. Ding, Prediction of Hydroplaning Risk of Truck on Roadways, CAIT-UTC-NC46, U.S. DOT National University Transportation Center, Jan. 2018, 39p.
21. Najm, H., **H. Wang**, A.M. Roda, R. Miskewitz, H.W. He, X.D. Chen, and J. Hencken, The Use of Porous Concrete for Sidewalks, FHWA-NJ-2018-001, New Jersey Department of Transportation, Nov. 2017, 105p.
22. Moon, F. L., A. Maher, N. Gucunski, **H. Wang**, J. Gong, and A. Roda, Development of Protocols and Instrumentation Plan for Accelerated Structural Testing Facility, CAIT-UTC-NC11, U.S. DOT National University Transportation Center, Jun. 2017, 21p.
23. Al-Qadi, I.L., Y.F. Ouyang, **H. Wang**, H. Meidani, O.E., Gungor, A. Petit, J.N. Zhao, and J.J. Qiu, Development of Overweight Vehicle Permit Fee Structure in Illinois, Final Report for FHWA-ICT-17-004, Illinois Department of Transportation, Feb. 2017, 153p.
24. Al-Qadi, I.L., H. Ozer, M.K. Senhaji, Q.W. Zhou, R. Yang, S. Kang, M. Thompson, J. Harvey, A. Saboori, A. Butt, **H. Wang**, X.D. Chen, A Life-Cycle Methodology for Energy Use by In-Place Pavement Recycle Techniques, Final Report for DTFH6114C00046, Federal Highway Administration, Sep. 1, 2017, 55p.
25. Maher, A., A. Safari, **H. Wang**, B. Basily, A. Roda, Prototype Development of a Piezo-Heating Array for Deicing Application on Bridges, CAIT-UTC-064, U.S. DOT National University Transportation Center, Dec. 2016, 28p.
26. Qin, X., Z.X. He, and **H. Wang**, Pavement Management System for City of Madison, Mountain Plains Consortium MPC 16-314, Nov. 2016, 146p.
27. **Wang, H.** and M.Y. Li, Nondestructive Evaluation of Pavement Structural Condition for Rehabilitation Design, USDOT Region II University Transportation Center, Jun. 2016, 32p.
28. **Wang, H.**, Environmental Assessment of Airport Pavement Design and Construction Alternatives, Port Authority of New York and New Jersey, Feb. 2016, 25p.
29. Ozbay, K., **H. Wang**, B. Bartin, and A. Kurkcu, Highway Repair Consolidation Feasibility, FHWA-NJ-2016-002, New Jersey Department of Transportation, Mar. 2016. 89p.
30. Al-Qadi, I., **H. Wang**, Y.F. Ouyang, K. Grimmelman, and J. Purdy, LTBP Program's Literature Review on Weigh-in-Motion Systems, FHWA-HRT-16-024, 2016, 46p.
31. Nassif, H., K. Ozbay, **H. Wang**, R. Noland, P. Lou, S. Demiroluk, J.N. Zhao, D. Su, C. Na, Impact of Freight on Highway Infrastructure in New Jersey, FHWA-NJ-2016-004, New Jersey Department of Transportation, Sep. 2015, 224p.
32. Vitillo, N., **H. Wang**, M. Boxer, B. Tobin, C. Rascoe, and D. Roberts, Appropriate Implementation of Pavement Preservation Treatments, FHWA-NJ-2015-011, New Jersey Department of Transportation, Apr. 2015, 61p.
33. **Wang, H.**, Z.L. Wang, T. Bennert, and R. Weed, HMA Pay Adjustment, FHWA-NJ-2015-007, New Jersey Department of Transportation, Jun. 2015, 126p.
34. Carrasco, C., C. Tirado, and **H. Wang**, Numerical Simulation of Intelligent Compaction Technology for Construction Quality Control, CAIT-UTC-029, USDOT Tie 1 University Transportation Center, Dec. 2014, 30p.
35. **Wang, H.**, Effectiveness-Based Pavement Preservation Selection Based on Statistical Analysis of Long Term Pavement Performance Data, Research Brief, USDOT Region II University Transportation Center, Jun. 2014.
36. **Wang, H.** and R. Gangaram, Life Cycle Assessment of Asphalt Pavement Maintenance, CAIT-UTC-013, USDOT Tie 1 University Transportation Center, Jan. 2014, 67p.
37. Maher, A., P. Szary, N. Vitillo, T. Bennert, N. Gucunski, **H. Wang**, and B.N. Tobin, Pavement Support Program 2012, New Jersey Department of Transportation, Dec. 2013, 32p.
38. **Wang, H.** and I.L. Al-Qadi, Effects of Wide-Base Super-Single Tires on Pavements, SD2012-01-F, South Dakota Department of Transportation, Jun. 2013, 78p.

39. Al-Qadi, I.L., J. Baek, Z. Leng, **H. Wang**, M. Doyen, J. Kern, S. Gillen, Short-term performance of Modified SMA Produced with Warm-Mix Additives, ICT-12-001, submitted to Illinois Tollway Authority, Jan. 2012, 57p.
40. **Wang, H.**, I.L. Al-Qadi, and I. Stanciulescu, Effect of Friction on Rolling Tire – Surface Interaction, USDOT/RITA NEXTRANS University Transportation Center, Nov. 2010, 40p.
41. Al-Qadi, I.L. and **H. Wang**, Pavement Damage Due to Different Tire and Loading Configurations on Secondary Roads, USDOT/RITA NEXTRANS University Transportation Center, Oct. 2009, 60p.
42. Al-Qadi, I.L. and **H. Wang**, Evaluation of Pavement Damage Due to New Tire Design, FHWA-ICT-09-048, Illinois Department of Transportation, May. 2009, 66p.

### **Keynote Presentations**

1. Toward Sustainable and Resilient Transport Infrastructure, 13th Asia Pacific Conference on Transportation and the Environment, Singapore, July 9, 2024
2. Advancing Sustainability and Carbon Reduction in Pavement Engineering, The 5th International Conference on Transportation Infrastructure, Aug. 12, 2022, Lima, Peru.
3. Towards Long-Lasting and Sustainable Pavement, The 33th Transportation Researching and Teaching National Association Congress, 10-14 Nov. 2019, Camboriu, Brazil.
4. Energy Harvesting from Roadway Using Innovative Piezoelectric Transducer Design, The Third International Conference on Transportation Infrastructure and Materials (ICTIM), Jun. 2, 2018, Tianjing, China.
5. Piezoelectric Energy Harvesting in Pavement, UK-Brazil Workshop - Pavements for Energy Harvesting and Dependable Low-Volume Roads, May 17, 2016, Porto Alegre, Brazil.

### **Invited Presentations**

1. Advanced Modeling and Analysis of Traffic Speed Deflectometer for Pavement Condition Evaluation, UNIVPM - Italy, Jul. 19, 2024
2. Toward Sustainable and Resilient Transportation Infrastructure, University of Buffalo, Feb. 23, 2024
3. Towards Sustainable and Resilient Roadways, Kent Seminar by Illinois Center for Transportation, Sep. 14, 2023.
4. Impact of Dynamic Loading on Pavement Response and Performance Prediction, Aston University, UK, Jul. 3, 2023.
5. New Design and Performance Evaluation of Energy Harvesting from Bridge Vibration, NJDOT Tech Talks (virtual event), Apr. 26, 2023.
6. Towards Sustainable Transportation, Mobility for All Conference by Middlesex County Regional Chamber of Commerce, Mar. 7, 2023.
7. How Keeping Roads in Good Shape Reduces Greenhouse Gas Emissions, World Bank Group, Washington D.C., Jan. 9, 2023.
8. Towards Sustainable and Resilient Roadway System, RWTH Aachen University, Germany, Nov. 25, 2022.
9. Multi-Scale Modeling and Analysis of Asphalt Mixture and Pavement, University of Nottingham, UK, May 23, 2022.
10. Asphalt Pavement Construction Quality Assurance and Pay Adjustment, 54th Mid-Atlantic Quality Assurance Workshop, Feb. 22, 2022.
11. Pavement Condition Assessment using In-situ Testing, Computational Modeling, and Data Analytics, Workshop of Smart pavement – vehicle monitoring, tools and technics for functional pavement, International Symposium on Frontiers of Road and Airport Engineering (iFRRAE), Virtual Event, Jul. 11, 2021.
12. Performance-Related Specification and Pay Adjustment for Asphalt Pavement Construction, ASCE Construction Institute Summit, Los Angeles, USA, Feb. 20-22, 2020.



13. Pavement Engineering and Management: An Overview, National University of Architecture and Construction of Armenia, Yerevan, Armenia, Apr. 19, 2018.
14. Asphalt Pavement Overlay Design using AASHTO Pavement ME, Workshop on Highway Engineering Specifications: Perspectives from China and U.S, Chang'an University, Xian, China, Dec. 12, 2017.
15. Multi-Scale Modeling of Asphalt Concrete and Vehicle-Road Interaction, University of Siegen, Germany, Jul. 6, 2016.
16. Multi-Scale Modeling of Asphalt Concrete: Insights from Molecular Dynamics Simulation, NSF Workshop on the Genome of Stone-based Civil Infrastructure Materials, Beijing, China, Jun. 8, 2016.
17. Multi-Scale Modeling of Asphalt Material and Pavement System for Long-Lasting Pavement Design, Temple University, Nov. 20, 2015.
18. Quantification of Environmental Impact of Asphalt Pavement Preservation, FHWA Sustainable Pavement Working Group Meeting, Minneapolis, MN, May. 9, 2014.
19. Environmental and Energy Impacts of Pavement Preservation and Maintenance, NSF Workshop on Sciences behind Sustainability Quantification for Building and Infrastructure Design, Engineering and Construction (S2QBIDEC), Fort Worth, TX, Nov. 7, 2012.
20. Towards Long-Lasting Pavement Design, Port Authority of New York and New Jersey, Newark, NJ, Jan. 11, 2012.
21. Analysis of Tire-Pavement Interaction and Pavement Responses using A Decoupled Modeling Approach, Mechanical Engineering Department, Purdue University at Calumet, Calumet, IN, Apr. 19, 2011.

#### **Book Editor**

Eco-efficient Pavement Construction Materials, ISBN: 9780128189818, Edited by F. Pacheco Torgal, Serji Amirkhanian, **Hao Wang**, and Erik Schlangen, ELSEIVER, 2020.

#### **Book Chapter**

1. Ghassemi, A., L. Soares, **H. Wang**, and Z.M. Xi, A Novel Mathematical Model for Infrastructure Planning of Dynamic Wireless Power Transfer Systems for Electric Vehicles, In Book: Handbook of Smart Energy Systems, 2022
2. Chen, X.D. and **H. Wang**, Chapter 6, Life-Cycle Assessment of Asphalt Pavement Recycling, In book: Eco-efficient Pavement Construction Materials, ISBN: 9780128189818, ELSEIVER, 2019
3. **Wang, H.** and A. Jasim, Chapter 14, Piezoelectric Energy Harvesting from Pavement, In book: Eco-efficient Pavement Construction Materials, ISBN: 9780128189818, ELSEIVER, 2019
4. **Wang, H.** and X.D. Chen, Chapter 25, Life-Cycle Analysis of Repair of Concrete Pavements, In book: Eco-Efficient Repair and Rehabilitation of Concrete Infrastructures, ISBN: 9780081021828, ELSEIVER, 2017

### **RESEARCH GRANTS**

**External Funding** (*Total \$15 million including \$12.1 million as PI and \$2.9 million share as co-PI*).

#### **Principal Investigator**

1. Probabilistic Modeling of Track-Caused Derailment Risk for Rail Safety Improvement, Federal Railroad Administration, 2024-2027, 533,808, Principal Investigator

2. Impact of Sea Level Rise on Flexible Pavement Damage of Coastal Roads and Recommendation of Mitigation Strategy, National Center for Infrastructure Transformation, 2024-2025, \$200,000, Principal Investigator
3. Surface Technology Research Program, New Jersey Transit, 2024-2026, \$2,190,000, Principal Investigator
4. Effectiveness Assessment of Pipeline Cathodic Protection System Using Remote Sensing, Advanced Modeling, and Data Analytics, USDOT Pipeline and Hazardous Materials Safety Administration, 2023-2026, \$999,742, Principal Investigator
5. Innovative Pothole Repair Techniques and Materials – Phase II, New Jersey Department of Transportation, 2024-2025, \$400,000, Principal Investigator
6. Environmental Impact and Lifecycle Costs of Electricity Charging and Hydrogen Refueling Stations to Support Future Advanced Vehicles, National Center for Infrastructure Transformation, 2023-2025, \$100,000, Institute Principal Investigator
7. Development of a Pavement Friction Management Program, Illinois Department of Transportation, 2023-2026, \$30,000, Institute Principal Investigator (Project partners: UIUC, Arora and Associates)
8. Low Carbon Concrete Program Task D and E, Porta Authority of New York and New Jersey, 2023-2025, \$195,521, Principal Investigator
9. Improve Sustainability of Asphalt Pavement Overlay in New Jersey, FHWA Climate Challenge, 2023-2024, \$120,000, Principal Investigator
10. Performance Evaluation and Risk Assessment of Excessive Cathodic Protection on Vintage Pipeline Coatings, USDOT Pipeline and Hazardous Materials Safety Administration, 2023-2025, \$85,000, Institute Principal Investigator (Project Partner: University of Akron)
11. Automating Variable Speed Limits Using Weather, Traffic and Friction Data, Aurora Pool Fund, \$103,138, 2023-2025, Institute Principal Investigator (Project Partners: National Center for Atmospheric Research and Montana State University)
12. Data Analysis of Airport Paint Projects, Federal Aviation Administration, 2022-2024, \$300,950, Principal Investigator
13. Regional Transportation Planning Fellowship Program, New York Metropolitan Transportation Council, 2022-2026, \$560,000, Principal Investigator
14. Impact of Sea Level Rise on Airport Pavement Performance in Coastal Areas, Airport Cooperative Research Program of Transportation Research Board, \$12,000, 2022-2023, Principal Investigator (Fellowship for student)
15. Zero Emissions Bus System Transition Planning and Design Study, New Jersey Transit, 2022-2023, \$553,140, Principal Investigator
16. Comparison Analysis of Charging System Designs for Battery Electric Bus, USDOT OST-R through Region II University Transportation Center, 2022-2023, \$81,000, Principal Investigator (Single PI)
17. Mitigation of Plastic Flow and Delamination at Airfield High-Speed Exits, National Asphalt Pavement Association and Federal Aviation Administration, 2022-2024, \$500,000, Principal Investigator
18. Grip Sensor Technology and Salt Application, Clear Roads Pool Fund, \$60,000, 2022-2023, Institute Principal Investigator (Project Partner: Montana State University)
19. Pipeline Risk Management Using Artificial Intelligence-Enabled Modeling and Decision Making, USDOT Pipeline and Hazardous Materials Safety Administration, 2021-2024, \$349,328, Principal Investigator
20. Smart Tire Sensors for Verifying Accuracy of Continuous Friction Measuring Equipment, Federal Aviation Administration, \$301,910, 2021-2024, Principal Investigator
21. Probabilistic Performance Evaluation of AC Corrosion on Cathodically Protected Pipeline, USDOT Pipeline and Hazardous Materials Safety Administration, 2020-2023, \$50,000, Institute Principal Investigator (Project Partner: University of Akron)

22. Probabilistic Performance Modeling and Optimum Maintenance Planning of Plastic Pipeline with Piezoelectric-Based NDE Updating, USDOT Pipeline and Hazardous Materials Safety Administration, 2020-2024, \$250,000, Principal Investigator
23. Climate Change Impact on Airfield Pavement Temperature and Pavement Performance, Airport Cooperative Research Program of Transportation Research Board, \$12,000, 2020-2021, Principal Investigator (Fellowship for student)
24. Evaluating the Impact of Anti-Icing Solutions on Concrete Durability, Wisconsin Highway Research Program, \$20,000, 2020-2022, Institutional Principal Investigator (Project Partner: University of Wisconsin – Platteville)
25. Economic Benefits of Truck Weight and Safety Enforcement Improvements, Minnesota Department of Transportation, \$80,000, 2020-2022, Institutional Principal Investigator (Project Partner: Texas A&M University)
26. Safety Analysis of Aircraft Tire on Grooved Runway Pavement, Federal Aviation Administration, \$652,387, 2020-2024, Principal Investigator
27. Durable and Electrified Pavement for Dynamic Wireless Charging of Electric Vehicle, USDOT OST-R through Region II University Transportation Center, 2019-2020, \$80,000, Principal Investigator
28. Feasibility Analysis of Electrified Infrastructure for Electric Ground Fleet in Airports (fellowship support for student), Airport Cooperative Research Program of Transportation Research Board, \$12,000, 2019-2020, Principal Investigator
29. Innovative Pothole Repair Techniques and Materials, New Jersey Department of Transportation, 2019-2023, \$549,789, Principal Investigator
30. Energy Harvesting from Roadways in New Jersey, New Jersey Department of Transportation, 2019-2021, \$350,000, Principal Investigator
31. Advanced Reinforced Concrete for Transportation Infrastructure, New Jersey Department of Transportation, 2019-2022, \$90,000, Institute Principal Investigator (Project Partner: New Jersey Institute of Technology)
32. Fluorescent Chemical Sensor Array for Detecting and Locating Pipeline Internal Corrosive Environment, USDOT Pipeline and Hazardous Materials Safety Administration, 2018-2021, \$40,000, Institute Principal Investigator (Project Partner: North Dakota State University)
33. Investigation of Piezoelectric Energy Harvesting Potential at Airport for Green Energy Solutions (fellowship support for student), Airport Cooperative Research Program of Transportation Research Board, \$12,000, 2018-2019, Principal Investigator
34. Airfield Pavement Management Framework using a Multi-Objective Decision Making Process, USDOT OST-R through Region II University Transportation Center, 2018-2019, \$80,000, Principal Investigator
35. Smart Transportation Infrastructure Research, NEC Labs America, 2018-2020, \$142,000, Principal Investigator (Donation)
36. Evaluation of Simulation Models for Road Weather Information System, OST-R through Region II University Transportation Research Center, 2016-2017, Institutional Principal Investigator, \$25,000 (Project Partner: Rowan University)
37. Evaluation of Airfield Pavement Responses under F/HWD and Moving Loading, USDOT Federal Aviation Administration, 2015-2018, \$254,745, Principal Investigator
38. An Inorganic Composite Coating for Pipeline Rehabilitation and Corrosion Protection, USDOT Pipeline and Hazardous Materials Safety Administration, 2015-2018, \$282,540, Principal Investigator
39. Piezoelectric Energy Harvesting in Airport Pavement, USDOT OST-R through National University Transportation Center, 2015-2018, \$114,422, Principal Investigator
40. Three-Dimensional Finite Element Modeling of High Tire Pressure Effect on Airport Pavement, USDOT Federal Aviation Administration, 2014-2018, \$293,139, Principal Investigator
41. Prediction of Hydroplaning Risk of Truck on Roadway, USDOT OST-R through National University Transportation Center, 2016-2017, \$75,000, Principal Investigator

42. Developing Pavement Management System for Small Communities, Mountain-Plains Consortium and City of Madison at South Dakota, 2014-2016, Institutional Principal Investigator, \$21,500 (Project Partner: South Dakota State University)
43. Non-Destructive Evaluation of Pavement Structural Condition for Pavement Rehabilitation, USDOT OST-R through Region II University Transportation Research Center, 2014-2015, \$20,000, Principal Investigator
44. Effectiveness-Based Pavement Preservation Selection Based on Statistical Analysis of Long Term Pavement Performance Data, USDOT OST-R through Region II University Transportation Research Center, 2013-2014, \$15,000, Principal Investigator
45. Effect of Wide-Base Single Tires on Pavements, South Dakota Department of Transportation, 2012-2013, \$59,691, Principal Investigator
46. Life Cycle Assessment of Asphalt Pavement Maintenance, USDOT OST-R Through Tier I University Transportation Center, 2012-2013, \$60,029, Principal Investigator
47. Catalyzing International Collaboration: Development of High Performance and Multifunctional Infrastructure Material, National Science Foundation, 2013-2016, \$12,818, Principal Investigator
48. In-Place Recycle Paving Methods: Energy Use Analysis, USDOT Federal Highway Administration, 2014-2017, \$35,000, Institute Principal Investigator (Project partner: UIUC)
49. Validation and Revision of Fees Charged for Oversize/Overweight Vehicle Permits, Illinois Department of Transportation, 2015-2016, \$67,500, Institute Principal Investigator (Project partners: UIUC)
50. Environmental Assessment of Airport Pavement Design and Construction Alternatives, Port Authority at New York & New Jersey (PANY&NJ) and USDOT OST-R through Tier I University Transportation Center, 2015-2016, \$145,000, Principal Investigator
51. Highway Repair Consolidation Feasibility, New Jersey Department of Transportation, 2012-2015, \$321,819, Principal Investigator
52. HMA Pay Adjustment, New Jersey Department of Transportation, 2012-2014, \$236,310, Principal Investigator

#### **Co-Principal Investigator**

1. Strengthening Transit Bus Charging Resilience: A Resilience Plan for New Jersey's Transit Electrification Transition, Joint Office of Energy and Transportation of US DOE and DOT, 2024-2026, \$1,500,000 (My share \$340,000), Co-Principal Investigator
2. Low Carbon Concrete Program Task A-C, Port Authority of New York and New Jersey, 2021-2022, \$142,646 (My share \$50,000), Co-Principal Investigator
3. Pavement Support Program, New Jersey Department of Transportation, 2021-2025, 12,500,000 (My share \$1,000,000), Co-Principal Investigator
4. Piezoelectric Energy Harvesting in UK's Road Infrastructure, International Exchange Grant of the Royal Society of UK, 2019-2021, \$14,400 (My share \$7,200), Co-Principal Investigator
5. Implementation of Porous Concrete in New Jersey, New Jersey Department of Transportation, 2019-2020, \$167,888 (My Share \$80,000), Co-Principal Investigator
6. Pavement Support Program, New Jersey Department of Transportation, 2016-2020, 7,500,000 (My share \$750,000), Co-Principal Investigator
7. Evaluation of Semi-Circular Bend Test for HMA Specialty Mixes, New Jersey Department of Transportation, 2017-2019, \$530,564 (My share \$100,000), Co-Principal Investigator
8. The Use of Porous Concrete for Sidewalks, New Jersey Department of Transportation, 2016-2017, \$161,192 (My Share \$80,000), Co-Principal Investigator
9. Pavement Support Program, New Jersey Department of Transportation, 2014-2015, \$3,000,000 (My share \$200,000), Co-Principal Investigator

10. Appropriate Implementation of Pavement Preservation Treatments, New Jersey Department of Transportation, 2013-2015, \$225,000 (My share \$100,000), Co-Principal Investigator
11. An Inorganic Composite Low Solar Absorption Rail Coating, USODT Federal Railroad Association, 2013-2015, \$142,230 (My Share \$70,000), Co-Principal Investigator
12. Numerical Simulation of Intelligent Compaction Technology for Construction Quality Control, USDOT OST-R through Tier I University Transportation Center, 2013-2014, \$43,700 (My share \$15000), Co-Principal Investigator
13. Impact of Freight on Highway Infrastructure in New Jersey, New Jersey Department of Transportation, 2012-2015, \$475,760 (My share \$150,000), Co-Principal Investigator

#### **Internal Funding – Principal Investigator**

1. Nexus of Extreme Heat and Human and Natural Community Health in Urban Areas, Rutgers Research Incubator in Climate and Health Seed Funding Initiative, 2023-2024, \$141,333 (My share \$61,333), Co-Principal Investigator
2. Sustainable Concrete Materials for Coastal Infrastructure and Marine Habitats, Rutgers International Collaborative Research Grant, 2023-2025, \$10,000, Principal Investigator
3. Green and High-Performance Concrete Repair Materials, Core Facility Utilization Grants 2021, Rutgers Office for Research, 2021-2022, \$5000, Principal Investigator
4. Advancing Sustainability through Electrified Infrastructure for Energy-Mobility Nexus, School of Engineering Team of Science Grant through Rutgers Chancellor's Strategic Fund, 2020-2021, \$120,000, Principle Investigator
5. Energy Harvesting in Transportation Infrastructure: Collaborative Research between Brazil, China, and US, Rutgers International Collaborative Research Grant, 2017-2018, \$5,000, Principal Investigator
6. Undergraduate Research Scholarship, Rutgers Aresty Research Assistant (RA) Program, 2014-2015, \$2000, Principal Investigator
7. Instrumentation for Nanotechnology-Based Infrastructure Material, Rutgers University Research Council Award, 2012-2013, \$5,625, Principal Investigator
8. Multi-Scale Modeling of Civil Infrastructure Material, School of Engineering, Rutgers University Start-up Fund, 2011-2017, \$200,000, Principal Investigator

#### **Consultant**

1. Climate Finance for Transport Infrastructure Resiliency, World Bank Group, 2024
2. Physics-based Predictive Modeling of Rail Failures due to Internal Defects, ENSCO, Inc. (Prime: Federal Railroad Administration), 2023
3. Asphalt Thematic Network (Rede Temática deAsfalto –RTA), PetroBras and Universidade Federal do Rio Grande do Sul (UFRGS), Brazil, 2019
4. NCHRP 1-59 Proposed Enhancements to Pavement ME Design: Improved Consideration of the Influence of Subgrade Soils Susceptible to Shrink/Swell and/or Frost Heave on Pavement Performance, 2019
5. Pavement and Tunnel Non-Destructive Testing Techniques, Federal Highway Administration, 2018

### **STUDENTS AND POSTDOC ADVISING**

#### **Current PhD Students**

1. Laura Soares, 2020 –
2. Binyan Cui, 2020 –
3. Kairen Shen, 2020 –

4. Xiaoyu Zhang, 2023 –
5. Xingsen Yang, 2024 –
6. Paula Yaghi, 2024 –
7. Zheng Wang, 2024 –

#### **Ph.D. Supervised with Dissertation**

1. Xiao Chen, Ph.D., Jan. 2025, Assessment and Enhancement of Asphalt Pavement Resilience to Flooding
2. Yongbin Gong, Ph.D., Oct. 2024, Modeling, Control, and Evaluation of Aircraft Tire-Runway Interactions (Co-advised with Jingang Yi from MAE)
3. Said El-Hawwat, Ph.D., Oct. 2024, Nondestructive Evaluation of Damage in Polyethylene Pipes using Ultrasonic Testing
4. Junyu Qian, Ph.D., May 2024, Improvement of Road and Runway Safety with Friction Modeling and Speed Limit Analysis
5. Baiyu Jiang, PhD, May 2024, Development and Integration of Models for Prediction and Analysis of Airport Pavement Friction
6. Wei Huang, PhD, Oct. 2023, Geopolymer Pervious Concrete with Improved Engineering Properties and Environmental Benefits
7. Pengyu Xie, PhD, May 2023, Reflective Cracking Prediction Modeling and Mitigation Strategy for Asphalt Overlay of Airport Pavement
8. Jin Tang, PhD, Oct. 2022, Coarse Grained Molecular Simulation of Thermodynamic Properties and Compatibility of Polymer and Plastic Modified Asphalt Binder
9. April Clemmensen, PhD, Oct. 2022, Machine Learning Based Data Analytics of Pavement Performance Prediction for Airport Pavement Management System
10. Wei Sun, PhD, Jan. 2022, Molecular Dynamics Study of Chemo-Mechanical Properties of Asphalt Binder
11. Xiaodan Chen, PhD, May. 2021, Life-Cycle Assessment of Roadway Pavement for Adaptation and Mitigation of Climate Change Impact
12. Jingnan Zhao, PhD, Oct. 2020, Traffic Loading Impact on Asphalt Pavement Performance: Vehicle-Tire-Pavement Interaction Modeling and Machine Learning Approach
13. Milad Salemi, PhD, Jan. 2020, Corrosion Protection and Composite Repair of Steel Components and Fatigue Life Prediction of Pipeline
14. Yangmin Ding, PhD, Oct. 2018, Numerical Simulation of Tire-Pavement Interaction for Noise, Safety, and Rolling Resistance
15. Abbas Jasim, PhD, May. 2018, Piezoelectric Energy Harvesting from Roadway
16. Israa Fadh Al-Saadi, PhD, May. 2018, Optimization of Pavement Preservation Strategy Considering Cost and Environmental Impacts
17. Maoyun Li, Ph.D., Oct. 2017, Pavement Response Analysis and Moduli Backcalculation for Highway and Airfield Flexible Pavements
18. Guangji Xu, Ph.D., May. 2017, Characterization of Asphalt Properties and Asphalt-Aggregate Interaction using Molecular Dynamics Simulation
19. Zilong Wang, PhD, May. 2016, Probabilistic Analysis of Flexible Pavement Overlay Performance and Performance-Related Pay Adjustment

#### **M.S. Supervised with Thesis**

1. Scott Brody, M.S., May 2022, Improvement of Roadway Design for Sustainable Communities
2. Ashiwarya, M.S., Jan. 2021, Pavement Condition Evaluation Using Field Data of Surface Deflection and Tire-Pavement Noise
3. Laura Soares, M.S., Oct. 2020, Economic Feasibility and Environmental Impact of Wireless Charging Techniques for Electric Ground Fleet in Airports
4. Apidaj Sakulneya, M.S., Oct. 2019, Analysis of Backcalculated Moduli and Joint Load Transfer Efficiency of Airfield Rigid Pavement

5. Emily Hennessy, M.S., Jan. 2019 Bypass Road Feasibility: A Case Study of Environmental Impact, Economic Cost and Flood Risk
6. Pengyu Xie, M.S., Oct. 2017, Evaluation of Thermal Properties and Characteristics of Air Voids of Porous Concrete
7. Chinmay Thakkar, M.S., Jan. 2016, Development of Life-Cycle Assessment Tool for Pavement Sustainability Analysis
8. Jian Wang, M.S., Jan. 2015, Fracture Modeling of Asphalt Concrete with Heterogeneous Microstructure
9. Jingnan Zhao, M.S., Jan. 2015, Development of Overweight Permit Fee Using Mechanistic Empirical Pavement Design and Life-Cycle Cost Analysis Data
10. Rashmi Gangaram, M.S. Jan. 2014; Energy and Environmental Impact of Pavement Preservation Using Life Cycle
11. Zilong Wang, M.S., Jan. 2013, Analysis of Effectiveness of Pavement Preservation Using Long-Term Pavement Performance Data

### **M.S. Supervised with Special Project**

1. Sadequl, Sudeh, May. 2023, Performance Investigation and Sensitivity Analysis over Rubblization and Full Depth Reclamation Techniques with AASHTOWare Pavement ME Software
2. James Zembur, Jan. 2023, Review of Sustainable Concrete and Cement Materials
3. Zhizhi Xue, Oct. 2022, Deployment Experiences and Technical Standards of Zero Emission Buses
4. Dylan Skinner, Oct. 2021, Adapting Coastal Roadways to Sea Level Rise - A Cost Benefit Analysis for Elevating Flexible Pavement
5. Rajat Baul, M.S., May. 2021, The Integration of Autonomous & Connected Vehicles and Infrastructure
6. Sebastian Roszkowski, M.S., Oct. 2020, Enterprise Asset Management and Its Application and Implementation within The Port Authority of New York and New Jersey
7. Yash Chaurasia, May 2019, Traffic Speed Deflectometer for Pavement Condition Assessment: Literature Review and Preliminary Analysis
8. Gabriel Parada, M.S., May 2018, Comparison Study Between Field Compaction Control Devices of Unbound Materials
9. Jinhao Liang, M.S., May 2017, Pipeline Rehabilitation and Integrity Management System
10. Samuka Konneh, M.S., May 2014, Review of WIM System and Analysis Pavement Responses under Axle Loading
11. Jiao Nie, M.S., Oct. 2013, Influence of Heavy Load Truck on Pavement Damage and Life Cycle Cost
12. Abhinay Kunchakarra, M.S., May 2012, A Case Study of Life Cycle Assessment for Different Pavement Alternatives

### **Postdoc Researchers Supervised**

1. Dr. Tianjie Zhang, 2024 – present, Conduct research on AI-enabled material design and infrastructure condition assessment
2. Dr. Pengyu Xie, 2023 - 2024, Conduct research on mechanistic-empirical pavement design and urban heat island.
3. Dr. Wei Huang, 2023- 2024, Conduct research on low-carbon concrete and life-cycle assessment.
4. Dr. Jay Shah, 2022 - present, Conduct research on nondestructive testing and bio-concrete.
5. Dr. Zhe Wan, 2022 - 2023 Conduct research on pavement marking, rigid pavement modeling, and resilient pavement system.

6. Dr. Jingnan Zhao, 2020-2022, Conduct research on machine learning analysis of pavement performance data and economic benefits of weight and safety enforcement facilities.
7. Dr. Lukai Guo, 2019-2022, Conduct research on energy harvesting from roadway, electrified roadway, and plastic pipeline crack detection and modeling.
8. Dr. Jiaqi Chen, 2016-2018, Conduct research on multi-scale modeling of asphalt mixture, thermos-mechanical modeling of pavement, and pipeline composite repair.
9. Dr. Enqiang Lin, 2014 Conduct research on molecular dynamics modeling of asphalt and aggregate interface behavior.

## **PROFESSIONAL SERVICE**

### **Editorial Board**

Special Issue Editor, Sustainable Pavements and Circular Economy, Resource Conservation and Recycling, 2023

Special Issue Editor, Advanced Modeling and Characterization of Civil Infrastructure Materials, Journal of Engineering Mechanics, 2019

Special Issue Editor, Sustainable Transportation Infrastructure and Material, Journal of Testing and Evaluation, 46(4), Jul. 2018

Associate Editor, Journal of Transportation Engineering, Part B: Pavements, ASCE, 2016 - present

Editorial Board Member, Journal of Testing and Evaluation, ASTM, 2014 - present

Editorial Board Member, Transportation Research Part D: Transport and Environment, ELSEVIER, 2017 - 2023

Editorial Board Member, Coatings, MDPI, 2021 - present

### **Conference/Workshop Organization with Leadership Role**

1. Co-Chair, Session on Digital Twins of Pipeline System, Annual Conference of Association for Materials Protection and Performance (AMPP), Nashville, TN, April 6-10, 2025
2. Co-Chair, Paper Review Committee, The 13th Asia-Pacific Conference on Transport and Environment, Singapore, Jul. 8-10, 2024
3. Chair, Organizing Committee, The 6<sup>th</sup> International Conference on Transportation Infrastructure and Material (TIM), Beijing, Jul. 18-20, 2023
4. Co-Chair, Mini-Symposium (MS 809), Mechanics of Sustainable Alternative Pavement Materials, ASCE Engineering Mechanics Institute Conference Atlanta, Jun. 6-9, 2023
5. 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
6. Co-Chair, Mini-Symposium (MS 207): Durable Infrastructure Materials Through Experimental and Computational Material Design, ASCE Engineering Mechanics Institute Conference, New York, May 25-28, 2021
7. Chair, Mini-Symposium (MS 260): Mechanics of Multi-Functional Pavement Material and Structure, ASCE Engineering Mechanics Institute Conference, New York, May 25-28, 2021
8. Chair of Organizing Committee, 15th Annual Inter-University Symposium on Infrastructure Management (AISIM), May 11, 2019
9. 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
10. Chair of Organizing Committee, 2018 Annual Workshop of International Association of Chinese Infrastructure Professionals (IACIP), Jan. 7, 2018, Washington DC



11. Co-Chair, Mini-Symposium on Genome of Stone-based Civil Infrastructure Materials, ASCE Engineering Mechanics Institute Conference, San Diego, Jun. 5-7, 2017
12. Chair of Technical Committee, The Second International Conference on Transportation Infrastructure and Materials (ICTIM 2017), Qingdao, China, Jun. 9-12, 2017

#### **Scientific Committee Member for Conferences**

1. International Conference on Advances in Materials and Pavement Performance Prediction (AM3P), Vienna, May 7-9, 2025
2. International Conference on Nature-based Solutions for Urban Infrastructure, Hong Kong, April 25-26, 2024
3. The 9th International Symposium on Environmental Vibration and Transportation Geodynamics, Sapporo, Japan, March 6-8, 2024
4. The 3<sup>rd</sup> International Conference on Advances in Materials and Pavement Performance Prediction (AM3P), Hong Kong, May. 22-24, 2023
5. The 13th International Conference on Road and Airport Pavement Technology, Beijing, China, Jul. 4-6, 2023
6. ASCE International Airfield & Highway Pavements Conference, Austin, June 14-17, 2023
7. The 5th International Conference on Transportation Infrastructure (5-ICTI), Lima, Peru, Aug. 10-13, 2022
8. ASCE International Airfield & Highway Pavements Conference, Virtual Event, June 8-10, 2021
9. ASCE-LTPP Data Analysis Student Paper Contest, 2020
10. International Conference on Sustainable and Innovative Infrastructure, Taiwan, Oct. 22-24, 2020
11. ASCE International Conference on Transportation & Development (ICTD 2020), Seattle, USA, May. 26-29, 2020
12. 2020 International Conference on Advances in Materials and Pavement Performance Prediction (AM3P), San Antonio, USA, May. 27-29, 2020
13. International Symposium on Pavement, Roadways, and Bridges Life Cycle Assessment (LCA), Sacramento, USA, June 3-6, 2020
14. International Highway and Airfield Pavement Conference: Efficient and Sustainable Pavements, Chicago, Jul. 21-24, 2019
15. RILEM 252-CMB Symposium on Chemo-Mechanical Characterization of Bituminous Materials, Sep. 17-18, 2018, Braunschweig, Germany
16. 2018 International Conference on Advances in Materials and Pavement Performance Prediction (AM3P), Apr. 16-18, 2018, Doha, Qatar
17. The 8th International Symposium on Environmental Vibration (ISEV) and Transportation Geodynamics, Changsha, China, Oct. 27-28, 2018
18. The Third International Conference on Transportation Infrastructure and Materials (ICTIM 2018), Tianjin, China, Jun. 1-4, 2018
19. ASCE International Conference on Highway Pavements & Airfield Technology, Philadelphia, USA, Aug. 27-30, 2017
20. The 10th International Conference on Road and Airfield Pavement Technology (ICPT), Hong Kong, Aug. 8-10, 2017
21. Pavement Life-Cycle Assessment Symposium 2017, Champaign, IL, USA, Apr. 12-13, 2017
22. ASCE International Conference on Highway and Airport Pavement, Philadelphia, USA, Aug. 27-30, 2017
23. The 10th International Conference on Road and Airfield Pavement Technology (ICPT), Hong Kong, Aug. 8-10, 2017
24. ASCE International Conference on Transportation and Development, Houston, TX, June 26-29, 2016
25. The 4th International Chinese European Workshop (CEW) on Functional Pavement Design, Jun. 29 - Jul. 1, 2016, Delft, Netherlands

26. The 5th International Conference on Accelerated Pavement Testing, San Jose, Costa Rica, Sept. 19-21, 2016
27. International Symposium on Frontiers of Road and Airport Engineering (iFRAE), Tongji University, Shanghai, China, Oct. 26-28, 2015
28. The International Symposium on Systematic Approaches to Environmental Sustainability in Transportation (ISSAEST), University of Alaska Fairbanks, August 2-5, 2015
29. The 15th COTA International Conference of Transportation Professionals (CICTP 2015), Beijing, China, Jul. 25-27, 2015
30. Third International Conference on Geotechnical Engineering, Shanghai, China, May 26-28, 2014
31. Ninth International Conference on the Bearing Capacity of Roads, Railways and Airfields BCR2A 2013, Trondheim, Norway, June 25-27, 2013
32. Eighth International Conference on Road and Airfield Pavement Technology (ICPT), Taipei, Taiwan, July 14-17, 2013
33. 2013 Airfield & Highway Pavement Conference, ASCE, Los Angeles, CA, USA, June 9-12, 2013
34. International Chinese Transportation Professionals Association (ICTPA) 26th Annual Conference, Tampa, FL, May 24-26, 2013
35. Fourth International Conference on Accelerated Pavement Testing, Davis, CA, USA, September 19-21, 2012
36. Seventh RILEM International Conference on Cracking in Pavements, Delft, Netherlands, June 20-22, 2012
37. Eighth International Conference on the Bearing Capacity of Roads, Railways, and Airfields (BCR2A), Urbana, IL, USA, June 29-July 2, 2009
38. Sixth RILEM International Conference on Cracking in Pavements, Chicago, IL, USA, June 15-19, 2008

#### **Professional Leadership and Committee Membership**

1. Chair, Mechanics of Pavement Committee, Engineering Mechanics Institute, ASCE, 2018.10 – 2022.9
2. Technical Advisor, International Chinese Transportation Professionals Association - Northeast Chapter (ICTPA-USNE), 2016 - 2017
3. Member, TRB AKM40, Asphalt Mixture Evaluation and Performance, 2020 - present
4. Member, TRB AV070, Aircraft/Airport Compatibility, 2021 – present; paper review coordinator 2023
5. Member, TRB AFK40: Characteristics of Asphalt-Aggregate Combinations to Meet Surface Requirements, 2011-2020
6. Member, TRB AFD90: Surface Properties - Vehicle Interaction, 2007-2016
7. Member, Highway Pavement Committee, Transportation and Development Institute, ASCE, 2012- 2018
8. Member, Airfield Pavement Committee, Transportation and Development Institute, ASCE, 2012 - present
9. Member, Pavements Committee, GEO Institute, ASCE, 2013- present
10. Member, Bituminous Material Committee, Construction Institute, ASCE, 2013 – present
11. Member, Nanomechanics and Micromechanics Committee, Engineering Mechanics Institute, ASCE, 2017 – present

#### **University and Community Service**

1. SOE Appointments and Promotion Committee, 2023-2025
2. CEE Search Committee for Assistant Professor in Environmental Engineering, 2023
3. CEE Search Committee for Assistant Professor in Geotechnical Engineering, 2022
4. Member of Working Group on Transportation for President's Task Force on Carbon Neutrality and Climate Resilience, 2020
5. School of Engineering Committee on Committee, 2020.9 – 2024.6

6. CEE Search Committee for Associate Research Professor, 2018
7. CEE Search Committee for Professor of Practice, 2018
8. School of Engineering Scholastic Standing Committee, Rutgers University, 2012.9 – 2015.6
9. School of Engineering Course of Study Committee, Rutgers University, 2012.9 – 2016.9 (Chair since 2015.9)
10. School of Engineering China Committee, Rutgers University, 2012 – 2015
11. Academic Advisor of Rutgers Class of 2015
12. Reviewer, Rutgers Governor's School of Engineering and Technology Program, Mar. 2012
13. Judge, North Jersey Regional Science Fair, Mar. 2012