Xijun SHI, Ph.D., P.E.

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Research Group Startup Company Google Scholar

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BIOGRAPHY

Dr. Xijun (Jeff) Shi, P.E., is an Assistant Professor of Civil Engineering at Texas State University (TXST), USA. He received his Ph.D. and M.S. degrees in Civil Engineering from Texas A&M University (TAMU) and earned his undergraduate degree from the "Mao Yisheng" Honors Pavement Engineering Program at Southeast University, China. Following his doctoral studies, Dr. Shi served as an Assistant Research Scientist/Postdoctoral Researcher at the Center for Infrastructure Renewal (CIR) at TAMU and as a Postdoctoral Researcher at the Texas A&M Transportation Institute (TTI). Dr. Shi's research focuses on advancing sustainable and multifunctional infrastructure materials, with particular emphasis on innovative construction materials and pavement engineering. Since joining TXST in Fall 2020, he has secured over 20 internal and external research projects as PI or Co-PI, totaling more than $15 million, funded by agencies including the National Science Foundation (NSF), NASA, NCHRP, USDOT, ACI Foundation, NMDOT, and TxDOT. Dr. Shi is the recipient of a prestigious NSF CAREER Award in 2026, supporting his work on recyclable biopolymer-based composite materials for construction in resource-limited environments. He is also a Co-PI of TXST's USDOT Tier-1 University Transportation Center on infrastructure durability. Dr. Shi has authored more than 50 peer-reviewed publications, including over 20 as lead author in leading journals such as *Cement and Concrete Research*, *Cement and Concrete Composites*, and *Engineering Fracture Mechanics*. He is actively involved in professional service through organizations such as the American Concrete Institute (ACI), Transportation Research Board (TRB), and American Society of Civil Engineers (ASCE). He serves as Secretary of ACI 555 (Concrete with Recycled Materials) and Chair of ACI 555-A, and is a voting member of ACI 565 (Lunar Concrete) and ACI 221 (Aggregates). He also serves on the editorial boards of several international journals. Dr. Shi is engaged in technology innovation and commercialization. He is a co-inventor of a cost-effective, sustainable cementitious material, Plient Concrete, with a patent filed through TAMU. He won the 2021 TXST New Ventures Competition and received NSF I-Corps and PFI-TT funding to advance commercialization efforts. In 2022, he co-founded Circle Concrete Tech Inc. (https://buildwithcircle.com/), a startup company focused on innovations, like Plient Concrete, that significantly reduce the environmental impact of the concrete industry while enhancing both cost-effectiveness and material performance. The company has recently been awarded two SBIR Phase I projects, one from the EPA and the other from the NSF. Dr. Shi is a recipient of the 2021 USDA E. Kika De La Garza Fellowship and was selected for the ACI Class of 2022 Emerging Leaders. He also mentored the TXST CaerusCrete team to first place in the 2022 NASA MINDS Undergraduate Student Design Competition with a lunar geopolymer project.

EDUCATION

Texas A&M University, College Station, Texas, United States 2018
Doctor of Philosophy in Civil Engineering (Materials and Pavements)
- Dissertation: Evaluation of Portland Cement Concrete Containing Reclaimed Asphalt Pavement for Pavement Applications

Texas A&M University, College Station, Texas, United States 2014
Master of Science in Civil Engineering (Materials and Pavements)
- Thesis: Controlling Thermal Properties of Asphalt Concrete and Its Multifunctional Applications

Southeast University, Nanjing, Jiangsu, China 2012
Bachelor of Engineering in Transportation Engineering (Highway and Bridge Engineering)
- Graduated from the "Mao Yisheng Class", an Honors Program (selected from top 10%)

APPOINTMENT

- **Assistant Professor**, Ingram School of Engineering, Texas State University — Sep. 2020 – present
- **Co-Founder and Chief Technology Officer,** Circle Concrete Tech, Inc — Mar. 2022 – present
- **Assistant Research Scientist**, Center for Infrastructure Renewal, Texas A&M University — May 2020 – Aug. 2020
- **Postdoctoral Researcher**, Center for Infrastructure Renewal, Texas A&M University — Jun. 2018 – Apr. 2020
- **Postdoctoral Researcher**, Texas A&M Transportation Institute, Texas A&M University — Feb. 2018 – Jan. 2019
- **Graduate Research Assistant**, Texas A&M Transportation Institute, Texas A&M University — Mar. 2013 – Jan. 2018

RESEARCH INTEREST

- Cementitious Materials Containing Recycled Aggregates
- Multifunctional Construction Materials for Smart Infrastructure

- Alternative Cements
- Pavement Design, Evaluation, and Life Cycle Assessment
- Sustainable, High Performance Fiber Reinforced Construction Materials
- Extraterrestrial Construction Materials

GRANTS & CONTRACTS

Awarded Projects at Texas State University (2020 - present)

External Funding (totaling $2,364,113 as PI, and $12,836,789 as Co-PI)

- **Update Pavement Aggregate Quality Requirement/Specification Based on Performance,** *Texas Department of Transportation*
  PI: **Shi, X**; Co-PI: Hong, F., Prozzi, J $499,566, 2026 – 2028
- **NSF CAREER: Advancing Recyclable Biopolymer Composite Materials and Entrepreneurial Education for Construction in Resource-Limited Environments,** *National Science Foundation,*
  PI: **Shi, X** $611,453, 2026 – 2031
- **Aggregate Alkali-Silica-Reactivity and Mitigative Measures***, New Mexico Department of Transportation,*
  PI: **Shi, X;** Co-PI: Wan, Z., Aguayo, F., Torres, A. $399,451, 2024 – 2028
- **NCHRP IDEA: A Cost-effective, Sustainable Ultra-High Performance Concrete Material for Highway Bridge Applications**, *National Cooperative Highway Research Program*
  PI: **Shi, X;** Co-PI: Zhang. Q $140,623, 2025 – 2026
- **UTC Project: Cracking-resistant Concrete for Durable Coastal Structures**, *CREATE*
  PI: **Shi, X;** Co-PI: Torres, A., Moro, C. $132,061, 2024 – 2026
- **UTC Project: Bio-Waste Materials as Supplementary Cementitious Materials for Coastal Concrete Applications**, *CREATE*
  PI: **Shi, X** $104,619, 2023 – 2025
- **NSF PFI-TT: Eco-friendly Concrete for Cheaper and Safer Concrete Pipes**, National Science Foundation
  PI: **Shi, X;** Co-PI: Grasley, Z. $250,000, 2023 –2026
- **NASA M-STTR: Lunar Concrete for Additive Manufacturing Using Locally Available Resources on the Moon,** *National Aeronautics and Space Administration*
  PI: **Shi, X;** Co-I: Collins, K., Sharma, A. $49,924, 2022 – 2024
- **Multiscale Reinforcement of Hybrid Steel Fiber Reinforced Concrete,** *American Concrete Institute Foundation*
  PI: **Shi, X;** Co-PI: Grasley, Z. $57,500, 2022 – 2024
- **NSF I-Corps: High-performance Cementitious Materials,** *National Science Foundation*
  PI: **Shi, X**; Co-PI: Grasley, Z. $50,000, 2021 – 2024
- **Structural Test for Swole-Crete,** *TNSR Systems, Inc*
  PI: **Shi, X;** Co-PI: Dong, Y. $37,364, 2024 – 2026
- **NASA MINDS: Bobcat CaerusCrete Lunar Concrete Mixer,** *National Aeronautics and Space Administration*
  PI: **Shi, X.** $5,000, 2024 – 2025
- **NASA MINDS: Processing of Lunar Geopolymer Using In-Situ Resources,** *National Aeronautics and Space Administration*
  PI: **Shi, X.** $4,500, 2023 – 2024
- **NASA MINDS: Further Testing of Lunar Geopolymer,** *National Aeronautics and Space Administration*
  PI: **Shi, X.** $2,500, 2022 – 2023
- **NASA MINDS: Geopolymer for Future Lunar 3D Printing Construction,** *National Aeronautics and Space Administration*
  PI: **Shi, X.** $5,500, 2021 – 2022
- **NASA MINDS: Alternative Materials for Lunar and Martian Construction,** *National Aeronautics and Space Administration*
  PI: **Shi, X.** $2,500, 2020 – 2021
- **Microstructural Analysis for Concrete,** *Wiss, Janney, Elstner Associates Inc*
  PI: **Shi, X.** $6,552, 2022 – 2023
- **Concrete microstructural tests for ICON,** *ICON*
  PI: **Shi, X.** $5,000, 2025 – 2026
- **University Transportation Center: Coastal Research and Transportation Education (CREATE),** *U.S. Department of Transportation*
  PI: Kulesza, S; Co-PI: Wang, F., **Shi, X.** $10,000,000, 2022 – 2027
- **NSF SBIR Phase I: Plient Engineered Recycled Steel Fibers as Cheaper, Faster, Safer Concrete Reinforcement,** *National Science Foundation (Awarded to Circle Concrete Tech, Shi's Startup Company)*
  PI: Donnelly, C; Co-PI: **Gujar, P., (Gujar was Shi's postdoc and served as TXST PI on behalf of Shi with**

managed COI) $304,856, 2025 – 2025

- **EPA SBIR Phase I: Plient Recycled Steel Fiber Reinforcement to Achieve Ultra-Low Carbon Concrete Buildings,** *Environmental Protection Agency (Awarded to Circle Concrete Tech, Shi's Startup Company)*
  PI: Donnelly, C; Co-PI: **Shi, X., (TXST PI)** $100,000, 2025 – 2025
- **Developing a Performance-Based Concrete Overlay Mix Design for Improved Resistance to Early-Age Cracking and Increased Durability,** *Texas Department of Transportation*
  PI: Torres, A; Co-PI: Aguayo, F., **Shi, X.,** Moro, C., Espinoza, W. $956,067, 2023 – 2028
- **Low Carbon Footprint Plient Concrete for Sustainable, Affordable Drainage Structures,** *Texas A&M University Advancing Discoveries to Market Fund*
  PI: Grasley Z; Co-PI: **Shi, X.** $230,712, 2024 – 2025
- **Prototyping and Field Testing Plient Concrete Pipes,** *Texas A&M Innovation Translational Investment Fund*
  PI: Grasley Z; Co-PI: **Shi, X.** $44,000, 2024 – 2025
- **Acquisition of A Single Crystal X-ray Diffractometer to Advance Structural Analysis in Chemical, Biochemical, and Material Sciences at Texas State University**, *Natural Science Foundation*
  PI: Hundal, T; Co-PI: Kerwin, S; Peterson, R., **Shi, X.,** Schilter, D $485,000, 2024 – 2027
- **Acquisition of Wide Frequency Band Characterization System for Electronic Devices, Antennas, and Intelligent Materials**, *Department of Defense*
  PI: Chen, Y; Co-PI: Droopad, R; Stern, H., Stephen, K., Tate, J., Geerts, W., **Shi, X.** $548,700, 2022 – 2023
- **Professional Services and Studies on Green and Technology-Enhanced Infrastructure Management and Firefighter's Health**, *Hays County*
  PI: Hwang, S; Co-PI: Yeon, J., **Shi, X.,** Ozbakkaloglu, T., Kulesza, S., Carvallo, A. $167,454, 2023 – 2025

Internal Funding (totaling $215,662 as PI)

- **BobCatalyst POC Grant: BioStabrix™- Recyclable Biopolymer Construction Materials,** *Texas State University*
  PI: **Shi, X** $30,000, 2026 – 2026
- **Multidisciplinary Internal Research Grant Program: Utilization of Agricultural Wastes in Sustainable Concrete,** *Texas State University*
  PI: **Shi, X**; Co-PI: Drewery, M., Liu, X., Alkire, L. $29,980, 2022 – 2023
- **International Research Accelerator: Fostering Technology-enhanced Infrastructure Research with Panamanian Collaborators,** *Texas State University*
  PI: **Shi, X;** Co-PI: Torres, A. $30,000, 2022 – 2023
- **MARC Equipment Grant: Acquisition of a Flexural Fixture for Instron 5989 Test Instrument,** *Texas State University*
  PI: **Shi, X.** $59,848, 2022 – 2023
- **New Ventures 2021: Plient Concrete,** *Texas State University*
  PI: **Shi, X.** $20,000, 2021 – 2022
- **Multidisciplinary Internal Research Grant Program: Nondestructive Assessment of Additive Dispersion Quality in Conductive Concrete using Electromagnetic Waves,** *Texas State University*
  PI: **Shi, X**; Co-PI: Chen, M. $29,834, 2021 – 2022
- **Research Enhancement Program Project: Electrically Conductive Concrete by Adding Recycled Carbon Fibers,** *Texas State University*
  PI: **Shi, X.** $8,000, 2021 – 2022
- **TXST I-Corps: Plient: Super "Green", Highly Crack-resistant Cementitious Materials,** *Texas State University Site*
  PI: **Shi, X.** $8,000, 2021 – 2021

TEACHING

- **Instructor***, CE 5341/CE 7341 Advanced Bituminous Materials,* graduate level*,* Ingram School of Engineering, Texas State University 2024 – present
- **Instructor***, CE 5340/CE 7340 Advanced Infrastructure Materials,* graduate level*,* Ingram School of Engineering, Texas State University 2022 – present
- **Instructor***, CE 2340 Infrastructure Materials,* undergraduate level*,* Ingram School of Engineering, Texas State University 2021 – present
- **Alternative Instructor***, CVEN 306 Materials Engineering for Civil Engineers,* undergraduate level, Zachry Department of Civil and Environmental Engineering, Texas A&M University Spring, 2020
- **Teaching Assistant**, *CVEN 653 Bituminous Materials*, undergraduate & graduate levels, Zachry Department of Civil Engineering, Texas A&M University Fall 2015, Fall 2016
- **CIRTL Associate-Fellow**, Center for Teaching Excellence, Texas A&M University 2018
- **ACUE Certificate**, Association of College and University Educators 2026

PUBLICATIONS

Journal Articles (* denotes corresponding author, "___" denotes current or former student/postdoc)

- *Uddin, M. N., Sajib, M. H., Arif, A., Ye, J., Majumder, A., **Shi, X**. "From mix to structure: a critical review of 3D printed fiber reinforced concrete (3DP-FRC). " *Journal of Building Engineering*, 115360.
- *Uddin, M. N., Mostazid, M. I., Faysal, M. A. M., **Shi, X.** (2025). "Developing a novel strength predictive modeling for 3D printable geopolymer concrete: An interpretable data-driven approach." *Structures*, 82, 110405.
- Chong, B. W., Gujar, P., ***Shi, X.,** Suraneni, P. (2025). "Valorization of waste eggshell as a limestone alternative for high-volume incorporation in portland cement." *ASCE Journal of Materials in Civil Engineering*, 38(3), 04025617.
- Gujar, P., Chong, B.W., Aduwenye, P., ***Shi, X.,** and Grasley, Z. (2025). "Hybrid steel fiber reinforced concrete for pavement overlays." *ACI Materials Journal*, 122(5), 43.
- Chong, B., Gujar, P., ***Shi, X.,** and Suraneni, P. (2024). "Assessment of waste eggshell powder as a limestone alternative in portland cement." *Materials and Structures,* 57(10), 219.
- Aduwenye, P., Chong, B. W., Gujar, P., and ***Shi, X**. (2024). Mechanical properties and durability of carbon fiber reinforced cementitious composites: a review. *Construction and Building Materials*, 452, 138822.
- Debbarma, D., ***Shi, X.,** Torres, A., and Nodehi, M. (2024). "Fiber-reinforced lunar geopolymers synthesized using lunar regolith simulants." *Acta Astronautica,* 214, 593-608.
- Chen, J., Zhao, C., ***Shi, X.,** and Wang, J. (2023). "Investigation of the effect of pavement albedo on urban temperature using computational fluid dynamics simulation" *ASCE Journal of Transportation Engineering, Part B: Pavements,* 149(4), 04023023.
- Chen, J., Zhao, C., *Liu, Q., **Shi, X.,** and Sun, Z. (2023). "Investigation on frost heaving stress (FHS) of porous cement concrete exposed to freeze-thaw cycles. " *Cold Regions Science and Technology*, 205, 103694.
- Chong, B. W., and ***Shi, X**. (2023). Meta-analysis on PET plastic as concrete aggregate using response surface methodology and regression analysis. *Journal of Infrastructure Preservation and Resilience*, 4(1), 1-15.
- *Huang, K., Sun, R., Wang, J., **Shi, X.,** and Lei, H. (2023). "Anti-condensation performance of a new superhydrophobic coating for pavements. " *Materials*, 16(17), 5793.
- Nodehi, M., Ren, J., ***Shi, X.,** Debbarma, S., and Ozbakkaloglu, T. (2023). " Experimental evaluation of alkali-activated and portland cement-based mortars prepared using waste glass powder in replacement of fly ash." *Construction and Building Materials,* 394, 132124.
- *Tavares, C., Skillen, K., **Shi, X.,** and Grasley, Z (2023). "Multi-criteria comparison tools to evaluate cost- and eco-efficiency of ultra-high-performance concrete". *Environmental Research: Infrastructure and Sustainability,* 3(2), 025010.
- *Chen, J., Sun, Z., Zhang, W., **Shi, X.,** and Yuan, J. (2022). "Performance of anti-icing stone mastic asphalt: laboratory and field investigation. " *International Journal of Pavement Engineering,* 1-10.
- Deng, Y., ***Shi, X.,** Kou, Y., Chen, J., Shi, Q. (2022) "Optimized design of asphalt concrete pavement containing phase change materials based on rutting performance." *Journal of Cleaner Production,* 134787.
- Hou, S., *Deng, Y., Jin, Rui., **Shi,** X., and Luo, X. (2022) "Relationships between physical, mechanical and acoustic properties of asphalt mixtures using ultrasonic testing." *Buildings*, 12(3), 306.
- Nodehi, M., *Ozbakkaloglu, T., Gholampour, A., Mohammed, T., and **Shi, X.** (2022). "The effect of curing regimes on physico-mechanical, microstructural and durability properties of alkali-activated materials: A review". *Construction and Building Materials*, 321, 126335.
- Saed, S. A., Karimi, H. R., Rad, S. M., *Aliha, M. R. M., **Shi, X.,** and Haghighatpour, P. J. (2022). "Full range I/II fracture behavior of asphalt mixtures containing RAP and rejuvenating agent using two different 3-point bend type configurations. " *Construction and Building Materials*, 314, 125590.
- Selvam, M., Debbarma, S., *Singh, S., and **Shi, X**. (2022). "Utilization of alternative aggregates for roller compacted concrete pavements–A state-of-the-art review. " *Construction and Building Materials*, 317, 125838.
- Deng, Y., ***Shi, X.,** *Yao, Z. (2021). "Determination of composite modulus of concrete containing reclaimed asphalt pavement using micromechanical modelling and soft computing techniques" *Journal of Cleaner Production*, 327. 129486.
- Deng, Y., ***Shi, X.,** Zhou, Y., and Chen, J. (2021). "Numerical modelling of rutting performance of asphalt concrete pavement containing phase change material." *Engineering with Computers*, https://doi.org/10.1007/s00366-021-01507-3.
- Deng, Y., *Zhang, Y., **Shi, X.,** Hou, S., and Lytton, R. (2021). " Stress–strain dependent rutting prediction models for multi-layer structures of asphalt mixtures." *International Journal of Pavement Engineering,* 23(8), 2728-2745.
- Huang, K., Liu, J., *Wang, J., and **Shi, X**. (2021). "Characterization and mechanism of a new superhydrophobic deicing coating used for road pavement. "*Crystals*, 11(11), 1304.
- Kuai, C., Chen, J., ***Shi, X.,** and Grasley, Z. (2021). "Regulating porous asphalt concrete temperature using PEG/SiO_2 phase change composite: experiment and simulation" *Construction and Building Materials,* 273, 122043.

- *Liu, Y., Qian, Z., Hu, H. **Shi, X.** and Chen, L. (2021) "Developing a skid resistance prediction model for newly built pavement: application to a case study of steel bridge deck pavement." *Road Materials and Pavement Design,* 23(10), 2334-2352.
- *Liu, Y., Qian, Z., **Shi, X.**, Zhang, Y., and Ren, H. (2021) "Developing cold-mixed epoxy resin-based ultra-thin antiskid surface layer for steel bridge deck pavement." *Construction and Building Materials,* 291, 123366.
- ***Shi, X.,** Baranikumar, A., and Grasley, Z. (2021) "Estimating viscoelastic compliance of desiccating cementitious materials using drying prism tests." *Cement and Concrete Research*, 147, 106522
- *Chen, J., Zhang, W., ***Shi, X.,** Yao, C., and Kuai, C. (2020). "Use of PEG/SiO_2 phase change composite to control porous asphalt concrete temperature." *Construction and Building Materials,* 245, 118459.
- Deng, Y., *Luo, X., Zhang, Y., Cai, S., Huang, K., **Shi, X.,** and Lytton, R. (2020). "Determination of flexible pavement deterioration conditions using LTPP database and artificial intelligence-based finite element model updating." *Structural Control and Health Monitoring,* 28(2), e2671.
- ***Shi, X.,** Brescia, L., Tavares, C., and Grasley, Z. (2020) "Semicircular bending fracture test to evaluate fracture properties, ductility, and toughness of cement mortar reinforced by scrap tire recycled steel fiber." *Engineering Fracture Mechanics,* 236, 107228.
- ***Shi, X.,** Brescia, L., Grasley, Z., and Hogancamp, J. (2020). "Fracture properties and restrained shrinkage cracking resistance of cement mortar reinforced by recycled steel fiber from scrap tires. " *Transportation Research Record: Journal of the Transportation Research Board,* 2674(8), 581-590.
- ***Shi, X.,** Grasley, Z., Hogancamp, J., Brescia, L., Mukhopadhyay, A., and Zollinger, D. (2020)" Microstructural, mechanical, and shrinkage characteristics of cement mortar containing fine reclaimed asphalt pavement. "*Journal of Materials in Civil Engineering*, 32(4), 04020050.
- ***Shi, X.,** Park, P., Rew, Y., Huang, K., and Sim, C. (2020). "Constitutive behaviors of steel fiber reinforced concrete under uniaxial tension and compression." *Construction and Building Materials,* 233, 117316.
- ***Shi, X.,** Zollinger, D., and Mukhopadhyay, A. (2020). "Punchout study for continuously reinforced concrete pavement containing reclaimed asphalt pavement using pavement ME models." *International Journal of Pavement Engineering,* 21(10), 1199-1212.
- Zhang, Y., *Luo, X., Deng, Y., Hou, S., **Shi. X.,** and Lytton, R. (2020). "Evaluation of rutting potential of flexible pavement structures using energy-based pseudo variables." *Construction and Building Materials,* 247, 118391.
- Huang, K., ***Shi, X.,** Zollinger, D., Mirsayar, M., Wang, A., and Mo L. (2019). "Use of MgO expansion agent to compensate concrete shrinkage in jointed reinforced concrete pavement under high-altitude environmental conditions." *Construction and Building Materials,* 202, 528-536.
- *Mukhopadhyay, A., and **Shi, X.** (2019). "Utilization of reclaimed asphalt pavement aggregates in portland cement concrete for concrete pavement." *American Concrete Institute Special Publication,* 334, 13-32.
- *Mukhopadhyay, A., and **Shi, X.** (2019). "Microstructural characterization of portland cement concrete containing reclaimed asphalt pavement aggregates using conventional and advanced petrographic techniques." *Advances in Cement Analysis and Concrete Petrography, ASTM STP1613,* D. Cong and D. Broton, Eds., ASTM International, West Conshohocken, PA.
- *Sleiman, C., **Shi, X.,** and Zollinger, D. (2019). "An approach to characterize the wearability of concrete pavement surface treatments." *Transportation Research Record: Journal of the Transportation Research Board,* 2673(1), 230-239.
- ***Shi, X.,** Mirsayar, M., Mukhopadhyay, A., and Zollinger, D. (2019) " Characterization of two-parameter fracture properties of portland cement concrete containing reclaimed asphalt pavement aggregates by semicircular bending specimens." *Cement and Concrete Composites*, 95, 56-69.
- ***Shi, X.,** Mukhopadhyay, A., Zollinger, D., and Grasley, Z. (2019) "Economic input-output life cycle assessment of concrete pavement containing recycled concrete aggregate." *Journal of Cleaner Production,* 225, 414-425.
- **Shi, X.,** Rew, Y., Ivers, E., Shon, C.-S., Stenger, E. M., and *Park, P. (2019). "Effects of thermally modified asphalt concrete on pavement temperature." *International Journal of Pavement Engineering,* 20(6), 669-681.
- **Shi, X.,** *Mukhopadhyay, A., and Zollinger, D. (2019). "Long-term performance evaluation of concrete pavements containing recycled concrete aggregate in Oklahoma." *Transportation Research Record: Journal of the Transportation Research Board,* 2673(5), 429-442.
- ***Shi, X.,** Mukhopadhyay, A., Zollinger, D., and Huang, K. (2019). "Performance evaluation of jointed plain concrete pavement made with portland cement concrete containing reclaimed asphalt pavement." *Road Materials and Pavement Design,* 1-23. DOI: 10.1080/14680629.2019.1616604.
- Hou, S., ***Shi, X.,** Deng, Y., and Gu, F. (2018). "Evaluation of rutting and friction resistance of hot mix asphalt concrete using an innovative vertically loaded wheel tester." *Construction and Building Materials,* 176, 710-719.
- *Liu, K-W., Mukhopadhyay, A., **Shi, X.,** and Hus, J-L. (2018). "Chemical approaches to prevent alkali-silica reaction in concrete- a review." *Engineering Solid Mechanics,* 6(3), 201-208.
- Rew, Y., **Shi, X.,** Choi, K., and *Park, P. (2018). "Structural design and lifecycle assessment of heated pavement

using conductive asphalt." *Journal of Infrastructure Systems,* 24(3), 04018019.

- ***Shi, X.,** Mukhopadhyay, A., and Zollinger, D. (2018). "Sustainability assessment for portland cement concrete pavement containing reclaimed asphalt pavement aggregates." *Journal of Cleaner Production,* 192, 569-581.
- *Mirsayar, M., **Shi, X.,** and Zollinger, D. (2017). "Evaluation of interfacial bond strength between Portland cement concrete and asphalt concrete layers using bi-material SCB test specimen." *Engineering Solid Mechanics,* 5(4), 293-306
- **Shi, X.,** *Mukhopadhyay, A., and Liu, K.-W. (2017). "Mix design formulation and evaluation of portland cement concrete paving mixtures containing reclaimed asphalt pavement." *Construction and Building Materials,* 152, 756-768.

Conference Papers

- Stark, M., Tavares, C., Gujar, P., **Shi, X.,** and Skillen K. (2023). "Predicting early-age fracture pattern of UHPC cylinders using categorical performance density diagrams " *Proc., International Interactive Symposium on Ultra-High Performance Concrete,* Wilmington, Delaware.
- **Shi, X.,** and Grasley, Z. (2020)."Determining fracture properties of the two-parameter fracture model using semi-circular bending fracture test for reclaimed asphalt pavement based cement mortar. " *Proc., Advances in Materials and Pavement Performance Prediction,* San Antonio, Texas.
- **Shi, X.,** Mukhopadhyay, A, and Zollinger, D. (2020). "Evaluation of reclaimed asphalt pavement based portland cement concrete for pavement applications. " *Proc., 12th International Conference on Concrete Pavements,* Minneapolis, Minnesota, accepted.
- **Shi, X.,** Grasley, Z., Mukhopadhyay, and Zollinger, D. (2020). "Use of recycled aggregates in concrete pavement: pavement design and life cycle assessment." *Proc., International Symposium on Pavement, Roadway, and Bridge Life Cycle Assessment 2020*, Sacramento, California.
- **Shi, X.,** and Mukhopadhyay, A. (2018). "Use of reclaimed asphalt pavement aggregates in portland cement concrete for pavement application: a critical overview." *Proc., Transportation Research Board 97th Annual Meeting,* Washington D.C.
- **Shi, X.,** Rew, Y., Shon, C.-S., and Park, P. (2015). "Controlling thermal properties of asphalt concrete and their effects on pavement surface temperature." *Proc., Transportation Research Board 94th Annual Meeting,* Washington D.C.
- Chen, J., and **Shi, X.** (2021). "Utilization of PEG/SiO_2 phase change composite to regulate open-graded friction course temperature. " *Proc., International Symposium on Frontiers of Road and Airport Engineering 2021 Delft*, Online.
- Mirsayar, M., **Shi, X.,** and Zollinger, D. (2017). "Evaluation of interfacial bond strength between portland cement concrete and asphalt concrete layers using bimaterial semicircular bend test specimen. " *Proc., Transportation Research Board 96th Annual Meeting,* Washington D.C.
- Huang, K., Zollinger, D., **Shi, X.,** and Sun, P. (2016). "A developed method of analyzing temperature and moisture profiles in rigid pavement slabs." *Proc., 11th International Conference on Concrete Pavement,* San Antonio, Texas.
- Rew, Y., **Shi, X.,** and Park, P. (2015). "Graphite added heated pavement for deicing." *Proc., US-Korea conference*, Atlanta, Georgia.

Technical Reports

- Gujar, P., **Shi, X.,** Grasley, Z. (2024). "Multiscale reinforcement of hybrid steel fiber reinforced concrete." *ACIF P0061,* American Concrete Institute Foundation, Farmington Hills, Michigan.
- Mukhopadhyay, A., **Shi, X.,** Zollinger D. (2018). "Recycling and reuse of materials in transportation projects—current status and potential opportunities including evaluation of RCA concrete pavements along an Oklahoma interstate highway." *FHWA-OK-18/04,* U.S. Dep. of Transportation, Oklahoma.
- Mukhopadhyay, A., and **Shi, X.** (2017). "Validation of RAP and/or RAS in hydraulic cement concrete: technical report." *FHWA/TX-17/0-6855-1,* U.S. Dep. of Transportation, Texas.
- Birely, A., Park, P., McMahon, J., **Shi, X.,** and Rew Y. (2018) "Fiber reinforced concrete for improved performance of transportation infrastructure." *FHWA/AZ-MPD 069-14,* U.S. Dep. of Transportation, Arizona.
- Park, P., Rew, Y., and **Shi, X.** (2014). "Pilot study on conductive paving materials using graphite." *Korea Institute of Civil Engineering and Building Technology*, Texas A&M Transportation Institute, College Station, Texas.

PRESENTATIONS & POSTERS

Presentations

- **Shi, X.** "Plient fibers: transforming concrete reinforcement with a cost effective and green solution." *The 16th IACIP Annual Workshop,* Washington D.C, 11 January 2026 ***(Lectern Session Presenter).***
- Donnelly, C., **Shi, X.,** Grasley, Z., Gujar, P., Parsaei, B. " Prototype field implementation of recycled steel fiber-reinforced concrete for slab-on-grade applications." *Transportation Research Board 105th Annual Meeting*, Washington D.C., 11-15 January 2026 ***(Lectern Session).***

- Mukhopadhyay, A., **Shi, X.** " Mixture design formulation and evaluation of portland cement concrete paving mixtures containing reclaimed asphalt pavement." *Transportation Research Board 105th Annual Meeting*, Washington D.C., 11-15 January 2026 ***(Lectern Session).***
- Chong. BW, Gujar, P., **Shi, X.,** Suraneni, P. " Waste eggshell valorization as limestone alternative for portland cement." *The C3 Symposium,* Chicago, IL, 2-5 October 2025 ***(Lectern Session, PhD student Chong was the presenter).***
- Chong. BW, Gujar, P., **Shi, X.,** Suraneni, P. " Utilization of waste eggshell as a limestone alternative for high-volume incorporation in portland cement." *15th Advances in Cement-Based Materials,* Boulder, CO, 11-13 June 2025 ***(Lectern Session, PhD student Chong was the presenter).***
- Cavallo, R., Nuckols, T., Ely, J., and **Shi, X.** " Bobcat CaerusCrete lunar concrete mixer."*2025 NASA MINDS Undergraduate Research Competition*, online ***(Invited Project Presentation, Undergraduate Student Cavallo was the lead presenter).***
- **Shi, X.** " Assessment of waste eggshell powder as a limestone alternative in portland cement." *The 15th IACIP Annual Workshop*, Washington D.C, 5 January 2025 ***(Lectern Session Presenter).***
- **Shi, X.**" Recycled concrete aggregate in concrete pavement: pavement design and life cycle assessment." *American Concrete Institute 2024 Fall Convention*, Philadelphia, PA, 3-6, November 2024 ***(Lectern Session Presenter).***
- **Shi, X.,** Grasley, Z. " Field testing of recycled steel fiber (Plient fiber) reinforced concrete." *ASCE Texas CECON 2024*, Frisco, TX, 19 September 2024 ***(Lectern Session Presenter).***
- **Shi, X.** " Utilization of recycled materials in concrete to promote sustainability." *ACI Central Texas Chapter Monthly Meeting*, Austin, TX, 09 September 2024 ***(Seminar Presenter).***
- **Shi, X.** " Estimating viscoelastic compliance of desiccating cementitious materials using drying prism tests." *The International Conference of Atomistic Simulation of Cementitious Materials*, Singapore, 22-24 July 2024 ***(Lectern Session Presenter).***
- **Shi, X.** " Utilization of recycled materials in concrete to promote sustainability." *The University of Santiago*, Santiago, Chile, 29 May 2024 ***(Seminar Presenter).***
- **Shi, X.** " Field testing of recycled steel fiber (Plient fiber) reinforced concrete." *The University of Santiago*, Santiago, Chile, 29 May 2024 ***(Seminar Presenter).***
- Depew, D., Ely, J., and **Shi, X.** "Processing of lunar geopolymer using in-situ resources. "*2024 NASA MINDS Undergraduate Research Competition*, online ***(Invited Project Presentation, Undergraduate Student Depew was the lead presenter).***
- **Shi, X.** " Utilization of recycled materials in concrete to promote sustainability." *The University of Arizona CEE Department Seminar*, online, 26 April 2024 ***(Online Seminar Presenter).***
- **Shi, X.** " Fiber-reinforced lunar geopolymer for future lunar construction." *Earth & Space 2024*, Miami, FL, 15-18 April 2024 ***(Lectern Session Presenter).***
- **Shi, X.** " Utilization of hybrid recycled and manufactured steel fibers to achieve multiscale fiber reinforcement in concrete." *The 14th IACIP Annual Workshop*, Washington D.C, 7 January 2024 ***(Lectern Session Presenter).***
- **Shi, X.** " Utilization of recycled materials in concrete to promote sustainability." *WASCON2023*, Hong Kong, China, 13-16 December 2023 ***(Lectern Session Presenter).***
- **Shi, X.** " Utilization of hybrid recycled and manufactured steel fibers to achieve multi-scale fiber reinforcement in concrete." *American Concrete Institute 2023 Fall Convention*, Boston, MA, 29 October-2 November 2023 ***(Lectern Session Presenter).***
- **Shi, X.** " Utilization of recycled materials in concrete to promote sustainability." *ASCE Texas CECON 2023*, San Marcos, TX, 20-22 September 2023 ***(Lectern Session Presenter).***
- Stark, M., Tavares, C., Gujar, P., **Shi, X.,** and Skillen K. "Predicting early-age fracture pattern of UHPC cylinders using categorical performance density diagrams " *International Interactive Symposium on Ultra-High Performance Concrete,* Wilmington, Delaware, 4-7 June 2023.
- Chong. BW, **Shi, X.** " Meta-analysis on PET plastic as concrete aggregate using RSM and regression analysis." *Transportation Research Board 102nd Annual Meeting*, Washington D.C., 8-12 January 2023 ***(Lectern Session, PhD student Chong was the presenter).***
- **Shi, X.** " Utilization of recycled materials in concrete to promote sustainability. " *Transportation Research Board 102nd Annual Meeting*, Washington D.C., 8-12 January 2023 (***Lectern Session Presenter***).
- **Shi, X.** "Utilization of Recycled Materials in Concrete to Promote Sustainability. " *TriDurLE 2022 Annual Symposium*, Honolulu, HI, 9-11 November 2022 ***(Lectern Session Presenter).***
- **Shi, X.,** and Nodehi, M. "Mechanical properties and cracking potential of portland cement based – and alkali-activated materials containing waste glass powder. " *American Concrete Institute 2022 Fall Convention*, Dallas, TX, 23-27 October 2022 (***Lectern Session Presenter***).
- **Shi, X.** "Semicircular bending fracture test for cementitious materials " *2022 Society of Engineering Science Annual Technical Meeting*, College Station, TX, 16-19 October 2022 ***(Lectern Session Presenter).***

- **Shi, X.,** and Grasley, Z. "Semicircular bending fracture test for cementitious materials " *12th Advances in Cement-Based Materials (ACerS annual meeting)*, Irvine, CA, 11-13 July 2022 ***(Lectern Session Presenter).***
- **Shi, X.** "Utilization of phase change materials to control asphalt pavement temperature and rutting." *National Center for Asphalt Technology at Auburn University,* Auburn, AL, 6 June 2022 ***(Invited Talk).***
- **Shi, X.,** and Grasley, Z. "Semicircular bending fracture test for cementitious materials " *12th Advances in Cement-Based Materials (ACerS annual meeting)*, Irvine, CA, 11-13 July 2022 ***(Lectern Session Presenter).***
- Gopal, D., Castillo, R., **Shi, X.**, and Torres, A. " Use of lunar regolith simulants to synthesize geopolymer for lunar construction. "*2022 NASA MINDS Undergraduate Research Competition*, online ***(Invited Project Presentation, Undergraduate Student Gopal was the presenter)***
- **Shi, X.** "Utilization of phase change materials to control asphalt pavement temperature and rutting." *The 12th IACIP Annual Workshop,* Online, 16 January 2022 ***(Lectern Session Presenter).***
- Debbarma, S., and **Shi, X.** " Effect of supplementary cementitious materials on roller compacted concrete pavements containing reclaimed asphalt pavement aggregates: a critical overview." Transportation Research Board 101st Annual Meeting, Washington D.C., 9-13 January 2022 ***(Lectern Session, Postdoc Debbarma was the presenter).***
- **Shi, X.** " Semicircular bending fracture test for cementitious materials." Transportation Research Congress 2021, online, 5 November 2021 (***Lectern Session Presente****r*).
- Chen, J., and **Shi, X.** " Utilization of PEG/SiO_2 phase change composite to regulate open-graded friction course temperature." *The 5th International Symposium on Frontiers of Road and Airport Engineering*, online, 12-14 July 2021 (***Lectern Session Presenter***).
- **Shi, X.,** Mukhopadhyay, A., and Zollinger, D. "Long-term performance evaluation of concrete pavements containing recycled concrete aggregate in Oklahoma." *ASCE International Airfield & Highway Pavements Conference*, online, 8-10 June 2021 (***Lectern Session Presenter***).
- **Shi, X.,** Grasley, Z., Mukhopadhyay, A., and Zollinger, D. "Use of recycled aggregates in concrete pavement: pavement design and life cycle assessment. "*LCA2020*, online, 12-15 January 2021 (***Lectern Session Presenter***).
- **Shi, X.,** Brescia, L., Grasley, Z., and Hogancamp, J. "Fracture properties and restrained shrinkage cracking resistance of cement mortar reinforced by recycled steel fiber from scrap tires. " *American Concrete Institute 2020 Fall Convention*, online, 25-29 October 2020 (***Lectern Session Presenter***).
- **Shi, X.,** and Grasley, Z. "Semicircular bending test to evaluate cementitious materials fracture properties. "*Advances in Materials and Pavement Performance Prediction,* Online, 03-07 August 2020 (***Lectern Session Presenter***).
- **Shi, X.,** Brescia, L., Grasley, Z., and Hogancamp, J. "Fracture properties and restrained shrinkage cracking resistance of cement mortar reinforced by recycled steel fiber from scrap tires. " *Transportation Research Board 99th Annual Meeting,* Washington D.C., 12-16 January 2020 (***Lectern Session Presenter***).
- **Shi, X.** "Evaluation of reclaimed asphalt pavement based cementitious materials." *The 10th International Association of Chinese Infrastructure Professionals Annual Workshop*, Washington D.C. 12 January 2020 (***Lectern Session Presenter***).
- **Shi, X.** "Evaluation of reclaimed asphalt pavement based cementitious materials." *American Concrete Institute 2019 Fall Convention,* Cincinnati, OH, 20-24 October 2019 (***Mini Session Presenter***).
- **Shi, X.** "Evaluation of portland cement concrete containing recycled aggregates." *Seminars Held at Five Different Chinese Universities, Including Southeast University, Hohai University, Nanjing Forestry University, Nanjing Tech University, and Jinan University,* Nanjing & Jinan, China, 19 March-26 March 2019 (***Seminar Speaker***).
- **Shi, X.** "Mix design formation and evaluation of portland cement mixtures containing reclaimed asphalt pavement." *International Workshop on 3D Printing Technology & Materials Design for Intelligent Infrastructure,* Beijing, China, 10 March 2019 (***Lectern Session Presenter***).
- **Shi, X.,** Mukhopadhyay, A., and Zollinger, D. "Long-term performance evaluation of concrete pavements containing recycled concrete aggregate in Oklahoma." *Transportation Research Board 98th Annual Meeting,* Washington D.C. 13-17 January 2019 (***Lectern Session Presenter***).
- **Shi, X.,** and Mukhopadhyay, A. "Use of reclaimed asphalt pavement aggregates in portland cement concrete for pavement application: a critical overview." *Transportation Research Board 97th Annual Meeting,* Washington D.C. 07-11 January 2018 (***Lectern Session Presenter***).
- **Shi, X.,** Mukhopadhyay, A., and Liu, K-W. "Mechanical characteristics of concrete containing RAP as coarse aggregate replacement for pavement application." *Transportation Research Board 96th Annual Meeting,* Washington D.C. 08-12 January 2017 (***Lectern Session Presenter***).

Posters

- Chong, B., Gujar, P., **Shi, X.,** Suraneni, P. " Waste Eggshell Powder as a Sustainable Calcite Filler for Blended Cement. " *Advanced Materials for Sustainable Infrastructure Development, Gordon Research Conference*, Lucca, Italy, 15-20 February 2026.
- Aduwenye, P., Ye, Y., **Shi, X.,** Zhang, Q." A cost-effective, sustainable ultra-high performance concrete material for highway bridge applications." *Transportation Research Board 105th Annual Meeting*, Washington D.C., 11-15

January 2026.

- Uddin, MN, Bari, MK., Majumder, A., Debnath, PK., **Shi, X.** "An interpretable machine learning technique to predict size effect and fracture behavior of concrete." *The C³ Symposium,* Chicago, IL, 2-5 October 2025.
- Chong, B., Majumder, A., **Shi, X.** "Biowaste as sustainable supplementary cementitious materials in portland cement concrete. " *14th Advances in Cement-Based Materials*, Rolla, MO, 19-21 June 2024.
- Aduwenye, P., Jiang, P., Chong, B., **Shi, X.,** Liu, J. "Reduction of heat absorption of a pavement surface. " *2024 TriDurLE Annual Symposium*, College Station, TX, 25-27 February 2024.
- Gujar, P., Chong, BW., Aduwenye, P., **Shi, X.,** Grasley, Z. "Mechanical behavior of hybrid fiber reinforced concrete with recycled and manufactured steel fibers. " *Transportation Research Board 103rd Annual Meeting,* Washington D.C., 7-11 January 2024**.**
- **Shi, X.,** Deng, Y., Chen, J., and Grasley, Z. " Utilization of phase change materials to control asphalt pavement temperature and rutting. " *International Airfield & Highway Pavements Conference*, Austin, TX, 14-17 June 2023.
- Chong. BW, **Shi, X.** " Meta-analysis on PET plastic as concrete aggregate using RSM and regression analysis." *The 13th IACIP Annual Conference*, Online, 14, January 2023.
- Aduwenye, P., **Shi. X.** " Electrically conductive concrete by adding recycled carbon fibers " *2022 Society of Engineering Science Annual Technical Meeting*, College Station, TX, 16-19 October 2022.
- Ghadami, M., **Shi. X.,** McLean, R. "Application of microbially induced calcium carbonate precipitation in bio mortar. " *2022 Society of Engineering Science Annual Technical Meeting*, College Station, TX, 16-19 October 2022.
- **Shi, X.** " Evaluation of reclaimed asphalt pavement based cementitious materials." *The Corvallis Workshops and Doctoral Short Course,* Corvallis, OR, 20-24 June 2022.
- Deng, Y., **Shi, X.**, Kou, Y., Shi, Q., and Chen, J. " Parametric analysis and optimized design of asphalt concrete pavement containing phase change materials based on rutting performance." *Transportation Research Board 101st Annual Meeting, Washington D.C.,* 9-13 January 2022**.**
- She, C., Lefranc, B., Soliz, J., Castillo, R., Majumder, A. and **Shi, X.**, " Pervious concrete cylinders utilizing waste oyster shells." *Transportation Research Board 101st Annual Meeting,* Washington D.C., 9-13 January 2022**.**
- **Shi, X.,** Grasley, Z., Mukhopadhyay, A., and Zollinger, D. "Evaluation of Reclaimed Asphalt Pavement Based Cementitious Materials." *Gordon Research Conference & Gordon Research Seminar: Advanced Materials for Sustainable Infrastructure Development 2020,* Venture, California, 22 February- 28 February 2020.
- **Shi, X.,** Mukhopadhyay, A., and Zollinger, D. " Use of reclaimed asphalt pavement aggregates in portland cement concrete: a feasibility study for pavement applications." *The 8th IACIP Annual Workshop,* Washington D.C. 7 January 2018
- **Shi, X.,** and Mukhopadhyay, A. "Use of reclaimed asphalt pavement aggregates in portland cement concrete: a feasibility study for pavement applications." *2017 Oklahoma Transportation Research Day,* Oklahoma City, Oklahoma. 17 October 2017
- **Shi, X.,** Rew, Y., Shon, C.-S., and Park, P. "Controlling thermal properties of asphalt concrete and their effects on pavement surface temperature." *Transportation Research Board 94th Annual Meeting,* Washington D.C. 11-15 January 2015.
- Mirsayar, M., **Shi, X.,** and Zollinger, D. (2017). "Evaluation of Interfacial Bond Strength between Portland Cement Concrete and Asphalt Concrete Layers using Bimaterial Semicircular Bend Test Specimen." *Transportation Research Board 96th Annual Meeting,* Washington D.C. 08-12 January 2017.
- Huang, K., Zollinger, D., **Shi, X.,** and Sun, P. "A developed method of analyzing temperature and moisture profiles in rigid pavement slabs." *The 11th International Conference on Concrete Pavement,* San Antonio, Texas, 28 August- 01 September 2016.
- Rew, Y., **Shi, X.,** and Park, P. "Graphite added heated pavement for deicing." *US-Korea conference,* Atlanta, Georgia, 29 July-01 August 2015.

COMMERCIALIZATION

- **Shi, X.,** McLean, R., Chong, B., Li, L. Wang, L., Ghadami, M. *Biopolymer Based Non-Cementitious Binders to Achieve High Mechanical Performance*. (A US patent application was filed on March 12, 2025, 19/077,221).
- **Shi, X.,** Grasley, Z., and Mukhopadhyay, A. *Eco-Friendly, Crack-Resistant Cementitious Materials*. (A US patent application was filed on Dec 4, 2020, PCT/US2020/063295).
- **Shi, X.**, Grasley, Z., and Kruse, D. co-founded Circle Concrete Tech Inc , an Austin TX based startup company centered upon innovation that markedly reduces the tremendous environmental impacts of the concrete industry.

MEMBERSHIP

American Concrete Institute (ACI)

- ACI 555 Concrete with Recycled Materials (Secretary and Voting Member)

    - ACI 555-A Development of ACI 555-1R Technical Report (Chair)
- ACI 565 Lunar Concrete (Voting Member)
- ACI 221 Aggregates (Voting Member)
- ACI 236 Material Science of Concrete (Associate Member)

American Society of Civil Engineers (ASCE)
- Member

American Society for Testing and Materials (ASTM)
- Mather Scholarship Committee (Member)

World Transport Convention (WTC)
- Co-chair, Concrete Pavements Committee

International Association of Chinese Infrastructure Professionals (IACIP)
- Vice Chair of Academic Committee
- Co-chair of the Organizing Committee for the 11th IACIP Annual Workshop
- Organizing Committee (Co-chair of the Presentation Planning Subcommittee) for the 10th IACIP Annual Workshop

Transportation Research Congress (TRC)
- Young Members Technical Committee (Member)

ADDITIONAL QUALIFICATION

- Professional Engineer, **Texas #138609**
- Business Management Certificate, **Mays Business School, Texas A&M University**
- Professor Training Course, **National Center for Asphalt Technology at Auburn University**
- X-ray CT Short Course, **High-Resolution X-ray CT Facility, University of Texas at Austin**

AWARDS & SERVICE

Awards
- 2026 NSF CAREER Award
- 2025 "Research Millionaire" Award
- 2024 Presidential Distinction Award for Scholarship Activity
- 2024 "Research Millionaire" Award
- 2025 NASA MINDS Run-up at the Senior Level
- 2024 NASA MINDS Run-up at the Underclass Level
- 2024 NASA MINDS 1st Place in Technical Paper
- 2022 NASA MINDS Grand Champion at the Underclass Level
- 2021 USDA E. Kika De La Garza Fellow
- 2021 Texas State New Ventures Winner, Plient Concrete ($20,000 in non-dilutive startup funding)
- Selected as one of the six young professionals to represent ACI to attend the 2022 Emerging Leaders Alliance Program
- 2017 International Association of Chinese Infrastructure Professionals Outstanding Graduate Student Award

Editing Board & Reviewers
- Associate Editor for *International Journal of Pavement Engineering*
- Early Career Editorial Board Member for *Case Studies in Construction Materials*
- Junior Editor for *Journal of Infrastructure Preservation and Resilience*
- Guest Associate Editor for *Frontiers in Built Environment*
- Editor for *Engineering Solid Mechanics*
- Reviewed over 200 journal papers for *Cement and Concrete Composites*, *Transportation Research Record: Journal of the Transportation Research Board*, *Journal of Transportation Engineering Part B*, *Journal of Cleaner Production*, *Road Materials and Pavement Design*, *Construction and Building Materials*, *Resources, Conservation and Recycling, Materials, Infrastructures, and Heliyon.*

Student/Young Professional Mentoring
- Trained on postdoc who is now an Assistant Professor at Indian Institute of Technology Bombay
- Graduated one PhD student and nine MS students
- Currently advising one MS students, six PhD students, and one postdoc