

ROBERT L. PARSONS, Ph.D., P.E.

ADDRESS

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POSITION (University of Kansas)

- 2014 - Director of Facilities and Special Projects for the School of Engineering
For this position I manage the school's space-related issues and coordinate special projects. See "Administrative Achievements" for more detail on accomplishments in this position.
- 2011 - Professor, Civil, Environmental, and Architectural Engineering
- 2004 - 2011 Associate Professor, Civil, Environmental, and Architectural Engineering
- 1998 - 2004 Assistant Professor, Civil, Environmental, and Architectural Engineering

EDUCATION

- 1995 - 1998 Ph.D., *Civil and Environmental Engineering*, Georgia Institute of Technology
- 1991 - 1992 M.S., *Geological Engineering*, Missouri University of Science and Technology
- 1987 - 1991 B.S., *Geological Engineering*, Missouri University of Science and Technology

PROFESSIONAL REGISTRATION

Professional Engineer, Kansas (2000). License No. 15844.

ADMINISTRATIVE ACHIEVEMENTS

LEEP2 Project. I was the School of Engineering's representative on the 80 million-dollar LEEP2 project, which included the construction of two new engineering buildings and renovation of a third, ultimately adding approximately 140,000 square feet of academic and research space. It was my responsibility to coordinate with the engineers, contractors, and other KU stakeholders to see that the needs of the engineering departments and engineering administration were effectively met. I was also responsible for interacting with and providing (several hundred) tours for elected officials, university system regents, alumni, and other special guests.

Space Management. I make recommendations to the Dean for space assignments in the 16 research labs in LEEP2, as well as in the shared maker space lab in the Structural Testing and Student Projects facility. I also make recommendations on behalf of the Dean for space swaps and mediate sharing arrangements for shared labs, and authorize expenditures as needed for the shared spaces. I manage graduate student swing spaces. To aid with these activities I led the development of an ArcGIS model of the engineering complex that enables us track all spaces and their relevant attributes.

Lab Renovations. I serve as the Dean's representative for lab renovations and space remodels for the 88 research labs and 25 classroom labs in the main engineering complex and west campus.

Classroom Development. I work with KU Facilities Planning and Design and the KUIT Technical Services Center to keep our teaching spaces up to date and develop plans for maintaining and improving the audio/visual technology in our 15 classrooms. For example, in 2021 we renovated a portion of Spahr Engineering Library to create a new 120-seat classroom.

Other Space or Facilities Related Issues. I work with other stakeholders on nearly all projects with a space or facilities impact, including the hosting of special events, moderating issues related to shared or common spaces, graduate student space management, KU Dining, the KU Fire Marshal, and other KU units.

Faculty Development. This activity involves recruiting speakers and organizing meetings for the untenured faculty to provide an opportunity for them to accelerate their professional development and develop relationships with their peers. Guest speakers have included three NSF CAREER Award winners, the Associate Dean for Diversity, Inclusion, Equity, and Belonging, the Associate Dean for Research, and the KU Director of Environmental Health and Safety.

Career Accelerator Lecture Series. I helped develop and am the host of the KU Engineering Career Accelerator Lecture Series, an initiative we began in the fall of 2020 in cooperation with our School of Engineering Advisory Board. The mission of the series is to help our students prepare for the professional environment by learning from alumni with senior positions throughout industry and government. It has been my pleasure to develop the schedule, coordinate arrangements with the speakers and host the series. These lectures are recorded and viewable on the KU School of Engineering YouTube page.

Alumni Development. My position requires meeting with alumni in several contexts, including tours of the engineering complex, recruiting and working with speakers for the Career Accelerator Lecture Series, and with other matters as requested by the Dean or KU Endowment.

Direct Reports. I supervise the Facility Manager for the engineering complex.

TEACHING PORTFOLIO (1998 –)

- CE 487 – Soil Mechanics
- CE 588 – Foundation Design
- CE 787 – Advanced Soil Mechanics
- CE 788 – Geotechnical Engineering Testing
- CE 791 – Waste Facility Siting and Design
- CE 885 – Advanced Foundation Engineering
- CE 887 – Earth Structures

AWARDS AND HONORS

- 2019 Chancellor's Club Teaching Professorship (through 2024)
- 2019 Miller Award - \$4,000 award from the KU School of Engineering for exceptional performance.

- 2016 Practice-Ready Paper Award, Design and Construction Group of the Transportation Research Board of the National Academies of Sciences, Engineering, and Medicine. "Effect of Aggregate Uniformity on Pullout Resistance of Steel Strip Reinforcement" by Mehari Weldu, Jie Han, Sayed Mustapha Rahmaninezhad, Robert L. Parsons, Jamal Kakrasul, and Yan Jiang.
- 2016 Selected by the Kansas Department of Transportation to represent KU by presenting the results of our research on the resistivity of aggregate backfill to the Kansas Secretary of Transportation and the KTRAN Research Program Council. September 6.
- 2015 Senior Administrative Fellow, University of Kansas
- 2015 Miller Award - \$4,000 award from the KU School of Engineering for exceptional performance.
- 2013 Miller Award - \$4,000 award from the KU School of Engineering for exceptional performance.
- 2012 Bellows Award - \$4,000 award from the KU School of Engineering for outstanding achievement in research and service.
- 2012 Selected by the Kansas Department of Transportation to represent KU by presenting the results of our soil nail wall research to the Kansas Secretary of Transportation and the KTRAN Research Program Council.
- 2009 Selected by the Kansas Department of Transportation to represent KU by presenting the results of our retaining wall research to the Kansas Secretary of Transportation and the KTRAN Research Program Council.
- 2007 Miller Award - \$4,000 award from the KU School of Engineering for exceptional performance.
- 2006 Miller Award - \$4,000 award from the KU School of Engineering for exceptional performance.
- 2004 Most Popular Presentation, CEAE Professional Development Series (approximately 140 attendees)
- 2003 Special Recognition Award- Asphalt Pavement Alliance
- 2003 Bellows Award - \$4,000 award from the KU School of Engineering for outstanding achievement in research and service.
- 2002 Miller Award - \$4,000 award from the KU School of Engineering for outstanding achievement in research and teaching.

DOCTOR OF PHILOSOPHY COMMITTEES (CHAired)

- 2021 Sarah L. Morton Rupert. *Seismic Surface Waves to Interpret Subsidence Features and Cavern Roof Failure Stages*
- 2020 Tanya N. Walkenbach. *Evaluation of Recycled Aggregate Base Courses Stabilized by Geosynthetics.* (with co-chair Jie Han)
- 2018 Shaymaa Kadhim. *Stability analysis of geotextile encased sand columns* (with co-chair Jie Han)
- 2018 Madan Neupane. *Load Distribution of Geosynthetic Stabilized Layers over Weak Subgrade* (with co-chair Jie Han)
- 2010 Matthew C. Pierson. *Modeling drilled shafts in MSE block walls*

I have also chaired the committees of 20 MSCE or MCE students.

PROFESSIONAL ACTIVITIES

- Member, Transportation Research Board Committee, Stabilization of Geomaterials and Recycled Materials (AKG90) (2014 - 2022)
- Chair, Transportation Research Board Committee, *Stabilization of Geomaterials and Recycled Materials* (AKG90) (2014 - 2020)

Fellow, American Society of Civil Engineers
Chair, Wall Design Competition, ASCE GeoInstitute GeoFrontiers Conference (Dallas, 2011)
Planning Committee and Scholarship Chair, Deep Foundations Institute Annual Meeting (2009)
Director, Rural Water Board District 5, Douglas County, Kansas (2009-2012)
Transportation Research Board Representative for the University of Kansas (2007-2013)
Transportation Research Board, Committee on Cementitious Stabilization (2001-2010, 2013-)
Transportation Research Board, Committee on Chemical and Mechanical Stabilization (2004-2013)
GeoShanghai 2006 Technical Committee Member and Proceedings Editor

UNIVERSITY ACTIVITIES

University Committee for Assessment of Student Learning in General Education (2022 -)
Executive Council of Graduate Faculty (2019 -)
Faculty Success Design Team (2020 -)
School of Engineering Promotion and Tenure Committee (2020 -)
CEAE Curriculum Committee (2020 -)
General Chairman - Kansas Asphalt Paving Conference (2002 -)
CEAE Coordinator, Project Discovery (2014-)
KU Coordinator, NU Rail Affiliate University (2014-2019)
Chair, CEAE ABET Committee (Accreditation Committee) (2006 - 2019)
Chair, School of Engineering Sharp Teaching Professorship Selection Committee (2013)
University of Kansas Planning and Resources Committee (2005-2008, 2012)
School of Engineering Ad-Hoc Intellectual Property Committee (2013)
School of Engineering Ad-Hoc Computing Services Review Committee (2012)
ASCE Student Chapter Advisor (2005 - 2015)

JOURNAL PUBLICATIONS

- 2024 Kulesza, S., Parsons, R.L., and Han, J. What Are the Most Important Items to Inspect on a Mechanically Stabilized EarthWall? A Summary from 30 Experts. *Transportation Research Record; Journal of the Transportation Research Board*. DOI: 10.1177/03611981241230521.
- 2023 Liu, H., Han, J., and Parsons, R.L. Numerical analysis of geosynthetics to mitigate seasonal temperature change-induced problems for integral bridge abutment. *Acta Geotech.* 18(2). 673-693. <https://doi.org/10.1007/s11440-022-01614-5>.
- 2022 Liu, H., Han, J., and R.L. Parsons. Geosynthetic reinforcement of backfill behind integral abutments to mitigate approach slab distresses. *Engineering Structures*. Elsevier. v.269. doi.org/10.1016/j.engstruct.2022.114772.
- 2022 Liu, H., Han, J., Al-Naddaf, M., Parsons, R.L., and J.I. Kakrasul. Field monitoring of wicking geotextile to reduce soil moisture under a concrete pavement subjected to precipitations and temperature variations. *Geotextiles and Geomembranes*. 50(5). doi.org/10.1016/j.geotexmem.2022.07.001
- 2022 Liu, H., Han, J., and R.L. Parsons. Integral bridge abutments in response to seasonal temperature changes: State of knowledge and recent advances. *Frontiers in Built Environment*. 10.3389/fbuil.2022.916782. State of knowledge review.
- 2022 Liu, H., Han, J., and R.L. Parsons. Effects of seasonal temperature change-induced abutment movements on backfill surface settlements behind integral bridge abutments – Numerical analysis. *Computers and Geotechnics*. v.149. doi.org/10.1016/j.compgeo.2022.104884.
- 2022 Kakrasul, J.I., Parsons, R.L. and J. Han. Use of Lime Kiln Dust to Improve Properties of Pavement Subgrades. *International Journal of Geosynthetics and Ground Engineering*. Springer. 8(49).

- <https://doi.org/10.1007/s40891-022-00393-z>
- 2022 Kadhim, S.T., Parsons, R.L., and J. Han. Vertical stability of geotextile-encased sand columns without and with surrounding soil. *Geosynthetics International*. 29(4). doi.org/10.1680/jgein.21.00018a.
- 2022 Liu, H., Parsons, R.L., Han, J., Ye, Yuqui and Matt O'Reilly. Field Pullout Tests of Steel Strips in Lightweight Cellular Concrete Backfill. *Journal of Geotechnical and Geoenvironmental Engineering*. ASCE. 148(5). doi: 10.1061/(ASCE)GT.1943-5606.0002797.
- 2022 Liu, H., Han, J., and Parsons, R.L. Settlement and Horizontal Earth Pressure behind Model Integral Bridge Abutment Induced by Simulated Seasonal Temperature Change. *Journal of Geotechnical and Geoenvironmental Engineering*. ASCE. 148(6). doi: 10.1061/(ASCE)GT.1943-5606.0002812.
- 2022 Liu, H., Han, J., Jawad, S., Parsons, R.L. Effects of Traffic Loading on Seasonal Temperature Change-Induced Problems for Integral Bridge Approaches and Mitigation with Geosynthetic Reinforcement. *International Journal of Geomechanics*. ASCE. 22(6):4022082. DOI: 10.1061/(ASCE)GM.1943-5622.0002393.
- 2022 Ye, Y., Han, J., Liu, H., Rachford, S. M., Parsons, R. L., Dolton, B., O'Reilly, M. Pullout resistance of geogrid and steel reinforcement embedded in lightweight cellular concrete backfill. *Geotextiles and Geomembranes*. doi: 0.1016/j.geotexmem.2022.01.001.
- 2021 Liu, H., Han, J., Parsons, R. L., Mitigation of seasonal temperature change-induced problems with integral bridge abutments using EPS foam and geogrid. *Geotextiles and Geomembranes*. 49(5). 1380-1392. doi: 10.1016/j.geotexmem.2021.05.010.
- 2020 Puppala, A., Brennan, J., Nazarian, S., Fishman, K., Janusz, L., Habib, A., Nicks, J., Parsons, R. L., Anderson, S., & Jayaprakash, G. P. Geotechnical Engineering Section and Committees' Contributions to 100 Years of Transportation. Transportation Research Board, 24. <https://trbcentennial.nationalacademies.org/centennial-papers>.
- 2020 Jiang, Y., Han, J., & Parsons, R. L. Numerical evaluation of secondary reinforcement effect on geosynthetic-reinforced retaining walls. *Geotextiles and Geomembranes*, 48(1), 98-109. doi:10.1016/j.geotexmem.2019.103508.
- 2020 Rahmaninezhad, S. M., Han, J., Al-Naddaf, M., Jawad, S., Parsons, R. L., & Liu, H. Field evaluation of performance of corroded corrugated steel pipe before and after sliplining rehabilitation. *Tunneling and Underground Space Technology*, 102. <http://www.sciencedirect.com/science/article/pii/S0886779820303965> doi:10.1016/j.tust.2020.103442
- 2020 Morton, S. L., Miller, R. D., Ivanov, J., Peterie, S. L., & Parsons, R. L. Time-lapse monitoring of stress-field variations within the Lower Permian shales in Kansas. *The Leading Edge*, 39, 318-323. doi:10.1190/tle39050318.1
- 2020 Parsons, R. L., Brady, Z. A., Walkenbach, T. N., Han, J., Brennan, J. J., & Kulesza, S. Resistivity measurement of backfill for mechanically stabilized earth walls. *Journal of Materials in Civil Engineering*, 32(3), 1-11. doi:10.1061/(ASCE)MT.1943-5533.0003013.
- 2020 Wang, F., Han, J., Khatri, D. K., Parsons, R. L., & Corey, R. Time-dependent field performance of steel-reinforced high-density polyethylene pipes in soil. *Journal of Geotechnical and Geoenvironmental Engineering*, 146(1). doi:10.1061/(ASCE)GT.1943-5606.0002187.
- 2019 Rahmaninezhad, S. M., Han, J., Al-Naddaf, M., & Parsons, R.L. Behavior of sliplined corrugated steel pipes under parallel-plate loading. *Journal of Materials in Civil Engineering*. ASCE. 31(10), 04019242. doi:10.1061/(ASCE)MT.1943-5533.0002889.
- 2019 Wang, F., Han, J., Parsons, R.L., & Corey, R. Performance of steel-reinforced high-density polyethylene pipes in soil during installation: a numerical study. *Acta Geotechnica*, 12. doi:10.1007/s11440-019-00822-w.

- 2019 Jiang, Y., Han, J., Zornberg, J., Parsons, R. L., Leschinsky, D., & Tanyu, B. Numerical Analysis of Field Geosynthetic-Reinforced Retaining Walls with Secondary Reinforcement. *Geotechnique*, 69(2), 122-132. doi:10.1680/jgeot.17.P.118.
- 2019 Al-Naddaf, M., Tannoury, G. A., Han, J., Parsons, R.L., & Zhang, C. Development of laboratory procedure for evaluating microcracking technology on Cement-Modified Soil (CMS) subgrade. In *Journal of Materials in Civil Engineering* (12th ed., Vol. 31, pp. 06019015-1 to 7). Reston, Virginia: ASCE. doi:10.1061/(ASCE)MT.1943-5533.0002982. Technical Note.
- 2018 Kadhim, S., Parsons, R.L., and Han, J. "Three-dimensional numerical analysis of geotextile-encased sand columns with surrounding weak soil." *Geotextiles and Geomembranes*. 46(6). 836-847.
- 2018 Sun, X., Han, J., Parsons, R.L., and Thakur, J. "Equivalent California bearing ratios of multi-axial geogrid-stabilized aggregates over weak subgrade." *Journal of Materials in Civil Engineering*. ASCE. 30(11): 04018284-1 to 10.
- 2018 Neupane, M., Parsons, R.L., Han, J., D.A. Parr, and J. Jacobe. "Evaluation of soil saver walls on aquatic organism passage through box culverts." *Journal of Testing and Evaluation*. ASTM International. 46(4). 1313-1320.
- 2018 Neupane, M., Parsons, R.L., and Han, J. "Rapid estimation of fouled railroad ballast mechanical properties" *Geotechnical Testing Journal*, ASTM International. 41(4). 777-786.
- 2018 Pokharel, S., Han, J, Leshchinsky, D., and Parsons, R.L. "Experimental evaluation of geocell-reinforced bases under repeated loading." *International Journal of Pavement Research and Technology*. Elsevier. 11(2). 114-127.
- 2018 Neupane, M., Parsons, R.L., and Han, J. "Rapid estimation of fouled railroad ballast mechanical properties". *Geotechnical Testing Journal*. ASTM International. 41(4). 777-786.
- 2017 Wang, F., Han, J., Corey, R., Parsons, R.L., and Sun, X. "Numerical modeling of installation of steel-reinforced high-density polyethylene pipes in soil". *Journal of Geotechnical and Geoenvironmental Engineering*. ASCE. 143(11). 04017084-1 to 9.
- 2017 Thakur, J.K., Han, J., and Parsons, R.L. "Factors influencing deformations of geocell-reinforced recycled asphalt pavement (RAP) bases under cyclic loading." *Journal of Materials in Civil Engineering*. ASCE. 29(3). 04016240.
- 2016 Jiang, Y., Han, J., Parsons, R.L., and Brennan, J.J. "Field instrumentation and evaluation of modular-block MSE walls with secondary geogrid layers." *Journal of Geotechnical and Geoenvironmental Engineering*. ASCE. 142(12). 05016002.
- 2016 Lin, C., Han, J., Bennett, C.R., and Parsons, R.L. "Analysis of laterally loaded piles in soft clay considering scour-hole dimensions." *Ocean Engineering*, 111, 461-470.
- 2016 Weldu, M.T., Han, J., Rahmaninezhad, S.M, Parsons, R.L., Kakrasul, J.I., and Jiang, Y. "Effect of aggregate uniformity on pullout resistance of steel strip reinforcement." *Journal of Transportation Research Record*, 2579, Vol. 2, 1-7, DOI: 10.3141/2579-01.
- 2016 Acharya, R., Han, J., Parsons, R.L., and Brennan, J.J. "Numerical Analysis of Low-Fill Box Culvert under Rigid Pavement Subjected to Static Traffic Loading." *International Journal of Geomechanics and Engineering*. ASCE. 16(5). Starting page number: 04016016.
- 2016 Wang, F., Han, J., Khatri, D., Parsons, R., Brennan, J., and Guo, J. "Field Installation Effect on Steel-Reinforced High-Density Polyethylene Pipes." *Journal of Pipeline Systems and Engineering Practice*. ASCE. PS.1949-1204.0000211. Reference number 04015013.
- 2015 Khatri, D.K., Han, J., Corey, R., Parsons, R.L., and Brennan, J.J. "Laboratory Evaluation of Installation of a Steel-Reinforced High-Density Polyethylene Pipe in Soil." *Tunneling and Underground Space Technology*. Elsevier. v49. 199-207.

- 2015 Corey, R., Han, J., Khatri, D.K., and Parsons, R.L. Closure to "Laboratory Study on Geosynthetic Protection of Buried Steel-Reinforced HDPE Pipes from Static Loading." *Journal of Geotechnical and Geoenvironmental Engineering*. ASCE. 141(7). 07015012-1.
- 2015 Sun, X.H., Han, J., Wayne, M.H., Parsons, R.L., and Kwon, J. "Determination of Load Equivalency for Unpaved Roads." *Transportation Research Record, Journal of the Transportation Research Board, No. 2473*. Transportation Research Board of the National Academies. Washington, D.C. 233-241.
- 2015 Guo, J., Han, J., Schrock, S.D., and Parsons, R.L. "Field Evaluation of Vegetation Growth in Geocell-Reinforced Unpaved Shoulders." *Geotextiles and Geomembranes*, 43(5). 403-411.
- 2015 Sun, X.H., Han, J., Wayne, M.H., Parsons, R.L., and Kwon, J. "Radial Stresses and Resilient Deformations of Geogrid-Stabilized Unpaved Roads under Cyclic Plate Loading Tests." *Geotextiles and Geomembranes*, 43(5). 440-449.
- 2015 Bhandari, A., Han, J., and Parsons, R.L. "Two-dimensional DEM analysis of behavior of geogrid-reinforced uniform granular bases under a vertical cyclic load." *Acta Geotechnica* (Springer) 10(4). 469-480. doi:10.1007/s11440-013-0299-3.
- 2014 Parsons, R.L., Rahman, A.J., Han, J., and Glavinich, T.E. "Track Ballast Fouling and Permeability Characterization by Using Resistivity." *Transportation Research Record, Journal of the Transportation Research Board. No. 2448*. Transportation Research Board of the National Academies. Washington, D.C. 133-141.
- 2014 Corey, R., Han, J., Khatri, D.K., and Parsons, R.L. "Laboratory Study on Geosynthetic Protection of Buried Steel-Reinforced HDPE Pipes from Static Loading." *Journal of Geotechnical and Geoenvironmental Engineering*. ASCE. 140(6). 04014019-1 to 10.
- 2014 Lin, C., Han, J., Bennett, C.R., and Parsons, R.L. "Analysis of Laterally-Loaded Piles in Sand Considering Scour Hole Dimensions." *Journal of Geotechnical and Geoenvironmental Engineering*. ASCE. 140(6). 04014024-1 to 13.
- 2014 Lin, C., Han, J., Bennett, C.R., and Parsons, R.L. "Behavior of Laterally-Loaded Piles Under Scour Conditions Considering Stress History of Undrained Soft Clay." Technical note. *Journal of Geotechnical and Geoenvironmental Engineering*. ASCE. 06014005-1 to 6.
- 2014 Lin, C., Bennett, C.R., Han, J., and Parsons, R.L. "Effect of Soil Stress History on Scour Evaluation of Pile-Supported Bridges." *Journal of Performance of Constructed Facilities*. ASCE. 04014178-1 to 11.
- 2014 Acharya, R., Han, J., Brennan, J.J., Parsons, R.L., and Khatri, D.K. "Structural Response of a Low-Fill Box Culvert Under Static and Traffic Loading." *Journal of Performance of Constructed Facilities*. ASCE. 04014184-1 to 7.
- 2013 Thakur, J.K., Han, J., Parsons, R.L. "Creep Behavior of Geocell-Reinforced Recycled Asphalt Pavement Bases". *Journal of Materials in Civil Engineering*. ASCE. 25(10). 1533-1542.
- 2013 Qian, Y., Han, J., Pokharel, S.K., Parsons, R.L. "Performance of Triangular Aperture Geogrid-Reinforced Base Courses over Weak Subgrade under Cyclic Loading". *Journal of Materials in Civil Engineering*. ASCE. 25(8). 1013-1022.
- 2013 Yang, X., Han, J., Leshchinsky, D., and Parsons, R.L. "A Three-Dimensional Mechanistic-Empirical Model for Geocell-Reinforced Unpaved Roads." *Acta Geotechnica*. 8(2). 201-213.
- 2013 Huang, J., Han, J., Parsons, R.L., and Pierson, M. "Refined Numerical Modeling of a Laterally-Loaded Drilled Shaft in an MSE Wall." *Geotextiles and Geomembranes*. (37). 61-73.
- 2013 Khatri, D.K., Han, J., Parsons, R.L., Young, B., Brennan, J.J., and Corey, R. "Laboratory Evaluation of Deformations of Steel-Reinforced High-Density Polyethylene Pipes Under Static Loads." *Journal of Materials in Civil Engineering*. ASCE. 25(12). 1964-1969.
- 2012 Lin, C., Bennett, C., Han, J., Parsons, R.L. "Integrated Analysis of the Performance of Pile-Supported Bridges Under Scoured Conditions". *Engineering Structures*. Elsevier. v36. 27-38.

- 2012 Thakur, J.K., Han, J., Pokharel, S., and Parsons R.L. "Performance of Geocell-Reinforced Recycled Asphalt Pavement (RAP) Bases Over Weak Subgrade Under Cyclic Plate Loading." *Geotextiles and Geomembranes*. 35(2012). Elsevier. 14-24.
- 2012 Yang, X., Han, J., Pokharel, S.K., Manandhar, C., Parsons, R.L. "Accelerated Pavement Testing of Unpaved Roads with Geocell-Reinforced Sand Bases". *Geotextiles and Geomembranes*. Elsevier. v32. 95-103.
- 2011 Han, J., Pokharel, S. K., Yang, X., Manandhar, C., Leshchinsky, D., Halahmi, I., Parsons, R.L. "Performance of Geocell-Reinforced Rap Bases Over Weak Subgrade Under Full-Scale Moving Wheel Loads." *Journal of Materials in Civil Engineering*. ASCE. 23(11). 1525-1534.
- 2011 Pierson, M.C., Parsons, R.L., Han, J., and Brennan, J.J. "Laterally Loaded Shaft Group Capacities and Deflections Behind an MSE Wall". *Journal of Geotechnical and Geoenvironmental Engineering*. ASCE. 137(10). 882-889.
- 2011 Qian, Y., Han, J., Pokharel, S., Parsons, R.L. "Stress Analysis on Triangular-Aperture Geogrid-Reinforced Bases Over Weak Subgrade Under Cyclic Loading". *Transportation Research Record, Journal of the Transportation Research Board*. No 2204. National Research Council. Washington D.C. 83-91.
- 2011 Parsons, R.L., Pierson, M.C., Willems, I., Han, J., and Brennan, J.J. "Lateral Resistance of Short Rock Sockets In Weak Rock". *Transportation Research Record, Journal of the Transportation Research Board*. No 2212. National Research Council. Washington D.C. 34-41.
- 2011 Huang, J., Parsons, R.L., Han, J., and Pierson, M.C. "Numerical Analysis of a Laterally-Loaded Shaft Constructed Within an MSE Wall." *Geotextiles and Geomembranes*. Elsevier. 29(3). 233-241.
- 2011 Han, J., Zhang, Y.Z., and Parsons, R.L. "Experimentally Quantifying the Influence of Geosynthetics on Performance of Reinforced Granular Bases." *Journal of Geotechnical Engineering*. Southeast Asian Geotechnical Society. 42(1). 74-83.
- 2011 Schrock, S., Parsons, R.L., Zeng, H. "Estimation of Safety Effectiveness of Widening Shoulders and Adding Passing Lanes on Rural Two-Lane Roads". *Transportation Research Record, Journal of the Transportation Research Board*. No 2203. National Research Council. Washington D.C. 57-63.
- 2011 Qian, Y., Han, J., Pokharel, S., Parsons, R.L. "Stress Analysis on Triangular-Aperture Geogrid-Reinforced Bases Over Weak Subgrade Under Cyclic Loading". *Transportation Research Record, Journal of the Transportation Research Board*. No 2204. National Research Council. Washington D.C. 83-91.
- 2011 Pokharel, S., Han, J., Chandra, M., Yang, X., Leshchinsky, D., Izhar, H., and Parsons, R.L. "Accelerated Pavement Testing of Geocell-Reinforced Unpaved Roads Over Weak Subgrade". *Transportation Research Record, Journal of the Transportation Research Board*. No 2204. National Research Council. Washington D.C. 67-75.
- 2010 Lin, C., Bennett, C.R; Han, J., Parsons, R.L. (2010). "Scour Effects on the Response of Laterally Loaded Piles Considering Stress History of Sand". *Computers and Geotechnics*. Elsevier. 37(7-8). 1008-1014.
- 2010 Pokharel, S.K., Han, J. Leshchinsky, D., Parsons, R.L. Halami, I. "Investigation of Factors Influencing Behavior of Single Geocell-Reinforced Bases Under Static Loading". *Geotextiles and Geomembranes*. Elsevier. 28(6). 570-578.
- 2010 Yang, X.M., Han, J., Parsons, R.L., and Leschinsky, D. "Three-Dimensional Numerical Modeling of Single Geocell Reinforced Sand". *Frontiers of Architecture and Civil Engineering in China*. 4(2). 233-240.
- 2009 Parsons, R.L., Johnson, R.M., Brown, D.A., Dapp, S., Brennan, J.J. "Characterization of Loess for Deep Foundations". *Deep Foundations Institute Journal*, Deep Foundations Institute. Hawthorne,

New Jersey. 3(2). 11-21.

- 2009 Pierson, M., Parsons, R. L., Han, J., Brennan. "Capacities and Deflections of Laterally Loaded Shafts behind an MSE Wall". *Transportation Research Record, Journal of the Transportation Research Board. No 2116*. National Research Council. Washington D.C. 62-69.
- 2008 Yang, X., Han, J., Parsons, R.L., and Henthorne, R.W., "Resistance Factors for Drilled Shafts in Weak Rock Based on O-Cell Test Data". *Soil Mechanics: Transportation Research Record No. 2045*. Journal of the Transportation Research Board. National Research Council. Washington D.C. 62-67. (Best Paper Award Winner for its Section)
- 2008 Han, J., Yang, X., Leshchinsky, D., and Parsons, R.L. "Behavior of Geocell-Reinforced Sand Under a Vertical Load". *Soil Mechanics: Transportation Research Record No. 2045*. Journal of the Transportation Research Board. National Research Council. Washington D.C. 95-101.
- 2007 Han, J., Oztoprak, S., Parsons, R. L., and Huang, J. "Numerical Analysis of Foundation Columns to Support Widening of Embankments." *Computers and Geotechnics*. Elsevier. 34(6). 435-448.
- 2007 Parsons, R.L., O'Connor, M.S. and Cross, S.A. "Mixing Efficiency for Stabilized Subgrades for Low Volume Roads". *Low Volume Roads: Transportation Research Record No. 1989*. Journal of the Transportation Research Board. National Research Council. Washington D.C. v2. 27-35.
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- 2002 Parsons, R.L., Foster, D.H., and Cross, S.A. *Compaction and Settlement of Existing Embankments*. Kansas Department of Transportation. US DOT Publication ID: 00924258. 145p.
- 2001 Cross, S.A, and Parsons, R.L. *Evaluation of Expenditures for Kansas Rural Interstate Pavements-Final Report*. Kansas University Transportation Center. Sponsored by the Kansas Asphalt Pavement Association. 81p.
- 2001 Parsons, R.L. *Recipe for a Stable Subgrade*. KUTC Newsletter. University of Kansas Transportation Center. Winter, 2001.
- 2002 Parsons, R.L., Johnson, C.P., and Cross, S.A. *Evaluation of Soil Modification Mixing Procedures*. Kansas Department of Transportation. US DOT Publication ID: 00812526. 83p.
- 1999 Parsons, R.L. and Cross, S.A. *Performance of Fly Ash as a Modification/Stabilization Agent in Clay Soils*. Research Report for Fly Ash Management. 8p.
- 1996 Saunders, M.F., Jones, A.J., Parsons, R.L., and Tsai, Y.C.; *Policy Analysis for the Design and Use of Intelligent Environmental Site Assessment Programs*. Report produced for the U.S. Army under contract DACA88-94-D-0025. 42p.

TECHNICAL PRESENTATIONS

- 2023 Panel Member. TRN Leadership and Management Team Meeting. April 25, 2023. Lawrence, Kansas.
- 2022 *Corrosion of Metallic Reinforcement for Mechanically Stabilized Earth Walls in Kansas*. KU Geotechnical Conference. November 10, 2022.
- 2022 *KDOT Research: Corrosion Potential Variations in MSE Backfill*. Southwest Geotechnical Engineering Conference. With Bryan Pope of the Kansas Department of Transportation. June 21, 2022. Virtual.
- 2021 *Cellular Concrete as Retaining Wall Backfill Test Section*. Lightweight Fill Conference. Virtual. October 21, 2021.
- 2021 *Panel Retaining Wall with Cellular Concrete Backfill*. Use and Design of Low-Density Cellular Concrete, a Transportation Research Board Webinar. August 19, 2021. Invited Speaker.
- 2021 *Field Investigation of Corrosion of Buried Metallic Reinforcement Behind Retaining Walls*. Laboratory and Field Geotechnical Characterization for Improved Steel Corrosion Modeling: A Virtual Workshop. Sponsored by National Academies of Sciences, Engineering, and Medicine. March 9, 2021. Invited Speaker.
- 2021 *Panel Wall with Cellular Concrete Backfill*. Presentation to TRB Committee AKG50 TRB Annual Meeting. January 13, 2021.
- 2021 *Investigation of Corrosion of MSE Wall Reinforcement*. Presentation to the Association for Mechanically Stabilized Earth. January 21, 2021. Invited Speaker.
- 2019 *Investigation of Variations In Corrosion Potential in Mechanically Stabilized Earth Backfill due to Migration of Fines*. Kansas Secretary of Transportation and the Research Program Council Annual Meeting, Topeka, Kansas. September 25, 2019.
- 2018 *Evaluation of Lime Kiln Dust for Soil Stabilization*. ASCE GeoCongress 2018. Orlando, Florida. March 7-9, 2018.
- 2018 *Evaluation of Lime Kiln Dust for Soil Stabilization*. Presentation to the Kansas Secretary of Transportation and the Research Program Council as the KU representative. Topeka, Kansas. February 16. Invited Speaker.
- 2017 *Geomaterials and Recycled Materials for Sustainable Infrastructure*. 30th Annual Rhode Island Transportation Forum. Providence, Rhode Island. October 27. Keynote Speaker.
- 2017 *Soil Saver Walls and Aquatic Organism Passage*. Kansas Transportation Engineering Conference. Manhattan, Kansas. April 12. Invited Speaker.
- 2016 *Laboratory Measurement of the Resistivity of Aggregate Backfill*. KU Geotechnical Conference. Lawrence, Kansas. November 10. Invited Speaker.
- 2016 *Laboratory Measurement of the Resistivity of Aggregate Backfill*. Meeting of the Association for Mechanically Stabilized Earth. Kansas City, Missouri. September 13. Invited Speaker.
- 2016 *Laboratory Measurement of the Resistivity of Aggregate Backfill*. Presentation to the Kansas Secretary of Transportation and the Research Program Council as the KU representative. Topeka, Kansas. September 6. Invited Speaker.
- 2015 *Performance of Geogrid Reinforced Ballast under Dynamic Loading*. 2015 Annual Kansas City Geotechnical Conference. Overland Park, Kansas. April 23, 2015. Invited Speaker.
- 2014 *Geotechnical Research at the University of Kansas*. Union Pacific Railroad Corporate Office. Omaha, Nebraska. May 21, 2014. Invited Speaker.
- 2014 *Stabilization of Subgrade Soils*. KU Civil and Environmental Engineering Professional Development Series, Overland Park, Kansas. Invited Speaker. Feb 24, 2014.
- 2013 *Soil Stabilization Training for Field Engineers and Technicians*. Kansas Transportation Engineering Conference. Kansas State University, Manhattan, Kansas. April 9-10, 2013. Invited Speaker.

- 2013 *Performance of Geogrid Reinforced Recycled Ballast under Dynamic Loading*. Transportation Research Board Annual Meeting. Washington, D.C. January 11-17, 2013.
- 2013 *University of Kansas Track Substructure Research*. Track Substructure Workshop, 18th Annual American Association of Railroads Research Review. Pueblo, Colorado. March 5-6, 2013.
- 2012 *Flexible Facing for Soil Nail Walls*. Presentation to the Kansas Secretary of Transportation and the Research Program Council as the KU representative. Topeka, Kansas. April 6, 2012. Invited Speaker.
- 2012 *Lateral Load Testing at the University of Kansas*. Specialty Seminar on load testing sponsored by the Kansas City ASCE Geotechnical Group. January 20. Invited Speaker.
- 2011 *Lateral Resistance of Short Rock Sockets in Weak Rock: a Case History*. Transportation Research Board Annual Meeting. Washington, D.C. January 24-27.
- 2011 *Subgrade Stabilization*. Presentation to AFS80, Committee on Cementitious Stabilization. Transportation Research Board Annual Meeting. Washington, D.C. January 24-27.
- 2009 *Capacity of Laterally Loaded Shafts Constructed Behind the Face of a Mechanically Stabilized Earth Block Wall*. Presentation to the Kansas Secretary of Transportation and the Research Program Council as the KU representative. Topeka, Kansas. April 1. Invited Speaker.
- 2009 *Lateral Load Capacity of Cast-in-Place Shafts behind an MSE Wall*. International Foundation Congress & Equipment Expo 09. ASCE. Orlando, Florida, March 15-19.
- 2009 *Longer Term Monitoring of Strains in MSE Wall*. Geosynthetics 2009. Salt Lake City, Utah. February 25-27, 2009.
- 2009 *Capacities and Deflections of Laterally Loaded Shafts behind an MSE Wall*. Transportation Research Board Annual Meeting. Washington, D.C. January 11-15.
- 2008 *Capacities and Deflections of Laterally Loaded Shafts behind an MSE Wall*. KDOT Construction Conference. September 30, Salina Kansas. Invited Speaker.
- 2007 *P-Y design curves for laterally loaded drilled shafts in loess*. Southwest Geotechnical Conference. Kansas City. April 25, 2007.
- 2007 *Mixing Efficiency for Stabilized Subgrades for Low Volume Roads*. Low Volume Roads Conference, sponsored by the Transportation Research Board. Austin, Texas. June 25, 2007.
- 2007 *P-Y curves for Drilled Shafts in Loess*. Presentation to AFS30 Committee Meeting, Transportation Research Board Annual Meeting, Washington, D.C. January 21-24, 2007.
- 2006 *Structuring a Comprehensive Georeferenced Subgrade Database*. GeoShanghai International Conference, Shanghai, China. June 6-8, 2006.
- 2006 *Storage and Analysis of Georeferenced Geotechnical and Pavements Data*. GeoCongress 2006: Geotechnical Engineering in the Information Technology Age, February 26-March 1, 2006.
- 2004 *Use of Cement Kiln Dust for the Stabilization of Soils*. GeoTrans 2004 July 27-31, 2004. Los Angeles, California.
- 2004 *Design of Segmental Retaining Walls*. KU CEAE Professional Development Series. Kansas City, Missouri.
- 2003 *Monitoring Stabilized Soils Using the Soil Stiffness Gauge*. Soil Rock America 2003, 12th Pan-American Conference on Soil Mechanics and Geotechnical Engineering. Cambridge, Massachusetts.
- 2003 *Performance of Soil Stabilization Agents*. 85th Annual Kansas Transportation Engineering Conference. Invited Speaker.
- 2003 *Field Performance of Stabilized Subgrades*. Soil and Base Stabilization with Fly Ash Conference. Overland Park, Kansas. Invited Speaker.
- 2003 *Engineering Behavior of Stabilized Soils*. 82nd Annual Meeting, Transportation Research Board. National Research Council. Washington D.C., January 12-16.

- 2002 *Stabilization of Subgrade Soils*. Professional Development Series. KU CEAE Professional Development Series, Overland Park, Kansas. Invited Speaker.
- 2002 *Evaluation of Expenditures for Kansas Rural Interstate Pavements*. Asphalt Recycling and Reclaiming Association, National Meeting. Tampa, Florida. Invited Speaker.
- 2002 *Evaluation of Expenditures on Kansas Rural Interstate Pavements*. 81st Annual Meeting, Transportation Research Board. National Research Council. Washington D.C., January 7-11.
- 2001 *Evaluation of Expenditures for Kansas Rural Interstate Pavements*. Asphalt Pavement Alliance, National Meeting. Austin, Texas. Invited Speaker.
- 2001 *Subgrade Modifiers*. 21st Annual Portland Cement Concrete Paving Conference. American Concrete Pavement Association, Missouri/Kansas Chapter. Kansas City, Missouri. March 6-8. Invited Speaker.
- 2001 *Evaluation of Field Mixing and Construction Procedures for Lime Modified Subgrades*. 80th Annual Meeting, Transportation Research Board. National Research Council. Washington D.C., January 7-11.
- 2000 *Use of Electrical Conductivity to Determine the Location of Subsurface Coal Mining Activity*. GeoDenver 2000 Conference, ASCE. Denver, Colorado. August 3-8, 2000.
- 2000 *Evaluation of Lime-Soil Mixing Procedures*. Universidad Autonoma de Guadalajara, Guadalajara, Mexico. Invited Speaker.
- 2000 *Evaluation of Mixing Procedures for Lime Stabilized Subgrades*. 79th Annual Meeting, Transportation Research Board. A2J01 Annual Committee Meeting. National Research Council. Washington D.C.
- 1999 *Use of GIS for Geotechnical Applications*. KU Civil and Environmental Engineering Professional Development Series, Overland Park, Kansas. Invited Speaker.
- 1998 *Development and Implementation of a Spatial Analysis Tool for Site Investigation Evaluation and Optimization*. Joint meeting of the ASCE Geotechnical Section and AEG Section of Kansas City, Missouri. Invited Speaker.
- 1998 *Geotechnical Engineering at the University of Kansas*. United States Universities Council on Geotechnical Engineering Research Workshop. Sponsored by NSF. Newport, Rhode Island.
- 1997 *Optimizing Site Characterization Activities*. Computer Aided Site Representation Session. First ASCE Geo-Institute Conference (GeoLogan). Logan, Utah.
- 1994 *Landfill Construction Above a Room and Pillar Mine*. Association of Engineering Geologists, National Meeting. Williamsburg, Virginia.

FUNDED RESEARCH ACTIVITIES AND OTHER GRANTS

- 2021 *Development of a Geotechnical Asset Management System for KDOT-Joint Research Project w/ Texas State University*. Kansas Department of Transportation. \$100,803. PI with J. Han and in partnership with Dr. Stacey Kulesza of Texas State.
- 2020 *Pullout Resistance of Reinforcement of Lightweight Cellular Concrete Fill*. Kansas Department of Transportation. \$67,753. Co-PI with J. Han (PI).
- 2020 *Experimental Study of Lightweight Cellular Fill for MSE Walls*. Mixonsite USA Inc. \$91,000. Co-PI with J. Han (PI) and M. O'Reilly.
- 2020 *MSE Wall Survey of Corrosion Progress – Joint Project with KSU*. Kansas Department of Transportation. \$68,343. PI with J. Han.
- 2020 *Evaluation of Lightweight Cellular Concrete Fill as Backfill*. Kansas Department of Transportation. \$87,800. PI with J. Han.
- 2019 *Determination of Micropile Connection Flexural Resistance*. Kansas Department of Transportation. \$69,982. Co-PI with W. Collins, C. Bennett, and J. Han.

- 2019 *Benchmarks for Teaching Effectiveness Project*. KU Center for Teaching Excellence / NSF. \$5,000. PI with C. Bennett, J. Roundy, E. Sutley, A. Kondyli, M. Medina, J. Li, B. Lines, R. Lequesne, and M. McVey.
- 2018 *Fines Content and Corrosion Potential in MSE Aggregate*. Kansas Department of Transportation. \$59,951. PI with J. Han.
- 2017 *University Transportation Centers Open Competition 2016*. US Department of Transportation. \$2,325,000. Co-I with S. Schrock (PI) and 10 others.
- 2017 *Investigation of Variations in Corrosion Potential in Mechanically Stabilized Earth Backfill due to Migration of Fines*. Kansas Department of Transportation. \$64,617. PI with J. Han.
- 2017 *Evaluation of Cement Modified Soil (CMS) with Micro-cracking*. Terracon. \$48,317. Co-PI with J. Han (PI) and C. Zhang.
- 2017 *Evaluation of Cement Modified Soil (CMS) with Micro-cracking*. Kansas Department of Transportation. \$32,700. Co-PI with J. Han (PI) and C. Zhang.
- 2016 *Use of Lime Kiln Dust for Treated Subgrades*. Kansas Department of Transportation. \$62,792. PI with J. Han.
- 2016 *Grouting Effects on Performance of Lined, Corroded Steel Pipes*. Kansas Department of Transportation. \$89,764. Co-PI with J. Han (PI).
- 2016 *Large Box Study on Granular Base Options for Portland Cement Concrete Pavements*. Kansas Department of Transportation. \$143,927. Co-PI with J. Han (PI).
- 2016 KCA Grant. \$3,000. PI.
- 2015 *Development of a Load Distribution Program for Design and Load Rating of Buried Box Culverts*. Kansas Department of Transportation. \$46,073. Co-PI with J. Han (PI).
- 2015 *Practical Design Guidelines for Low-Water Stream Crossings in Kansas*. Federal Highway Administration and Kansas Department of Transportation (pooled fund). \$165,086. Co-PI with B. McEnroe (PI), J. Han, and B. Young.
- 2015 KCA Equipment Grant. \$4,500. PI.
- 2014 *Testing Aggregate Backfill for Corrosion Potential*. Kansas Department of Transportation. \$59,000. PI with J. Han.
- 2014 KCA Equipment Grant. \$6,000. PI.
- 2013 *Alternatives to Soil Saver Walls (Phase 1)*. Kansas Department of Transportation. \$57,000. PI with J. Han and D. Parr.
- 2013 *Stabilization of Unpaved Shoulders over Weak Subgrade Using Geosynthetics*. Kansas Department of Transportation. \$68,000. Co-PI with J. Han (PI) and Schrock.
- 2013 *Pavement Deterioration Due to Horizontal Fracturing and Wind Farm Development in Kansas*. Kansas Department of Transportation. \$56,000. Co-PI with Schrock (PI) and Han.
- 2013 *Field Monitoring Of MSE Walls to Investigate Secondary Reinforcement Effects*. Kansas Department of Transportation. \$90,000. Co-PI with J. Han (PI) and Cai.
- 2013 *Pullout Resistance of MSE Wall Strip Reinforcement In Uniform Aggregate*. Kansas Department of Transportation. \$58,000. Co-PI with J. Han (PI).
- 2013 *Establishing a Design Procedure for Buried Steel-reinforced HDPE Plastic Pipes – A field study (Phase II)*. Kansas Department of Transportation. \$82,000. Co-PI with J. Han (PI).
- 2013 KCA Equipment Grant. \$6,800. PI.
- 2012 *Methods for Field Identification of Fouled Railroad Ballast*. Mid-America Transportation Center. \$60,000. PI with J. Han.
- 2012 *Calibrating Mechanistic–Empirical Pavement Design Guide for Kansas*. Kansas Department of Transportation. \$55,000. Co-PI with J. Han (PI) and Misra.
- 2012 *Development of Resistance Factors for Piles from PDA Data*. Kansas Department of Transportation. \$58,000. PI with J. Han.

- 2012 *Properties of Fouled Recycled Ballast (Phase II)*. Mid-America Transportation Center. \$61,490. PI with J. Han.
- 2012 *Geosynthetic Reinforcement to Protect Underground Pipes Against Damage from Construction and Traffic*. Mid-America Transportation Center. \$60,279. Co-PI with J. Han (PI).
- 2012 KCA Equipment Grant. \$5,500. PI.
- 2011 *Mechanical and Hydraulic Properties of Railroad Ballast*. Mid-America Transportation Center. \$15,000. PI with J. Han.
- 2011 KCA Equipment Grant. \$3,900. PI.
- 2010 *Establishing a Design Procedure for Buried Steel Reinforced HDPE Plastic Pipes*. Kansas Department of Transportation. \$73,000. Co-PI with J. Han (PI).
- 2010 *Improved Load Rating Factors for Low-fill Box Structure*. Kansas Department of Transportation. \$65,000. Co-PI with J. Han (PI).
- 2010 *On-site Use of Recycled Asphalt with Geocells*. Mid-America Transportation Center. \$66,412. Co-PI with J. Han (PI).
- 2010 *Capacity of Scour Damaged Bridges (Part II)*. Kansas Department of Transportation. \$67,500. Co-PI with C. Bennett (PI), J. Han, and D. Parr.
- 2010 KCA Equipment Grant. \$4,500. PI.
- 2009 *Enhanced Sustainability of Railroad Ballast*. Mid-America Transportation Center. \$79,650. PI with J. Han.
- 2009 *Development of Enhanced T-LINK Calculator Software*. Kansas Department of Transportation. \$57,000. PI with S. Schrock.
- 2009 *Substitute Flexible Facing for Shotcrete Facing on Soil Nail Walls*. Kansas Department of Transportation. \$54,000. PI with J. Han.
- 2009 KCA Equipment Grant. \$6,000. PI.
- 2008 *Evaluation of Data for MSE Walls Containing Close Proximity Laterally Loaded Drilled Shafts*. \$48,000. PI with J. Han.
- 2008 *Slope Reinforcement Using Helical Piles*. Earth Contact Products. \$1,800. PI with J. Han.
- 2008 *Lateral Load Capacity of Drilled Shaft Short Rock Sockets*. Kansas Department of Transportation. \$83,000. PI with J. Han.
- 2008 KCA Equipment Grant. \$10,000. PI.
- 2008 *Laboratory Study of Characteristics of Recycled Asphalt Pavement (RAP) in Kansas*. Kansas Department of Transportation. \$48,000. Co-PI with J. Han (PI) and O. Chong.
- 2008 *Experimental Study of Innovative Geogrid Products for Subgrade Improvement*. Tensar International. \$194,500. Co-PI with J. Han (PI). This includes project expansions added in 2009 and 2012.
- 2007 *Development of Design Guidelines for Laterally Loaded Drilled Shafts in MSE Walls*. Kansas Department of Transportation. \$280,990. PI with J. Han.
- 2007 *Development of Design Guidelines for Laterally Loaded Drilled Shafts in MSE Walls* (in-kind contribution to above project). Tensar International. \$35,000. PI with J. Han.
- 2007 KCA Equipment Grant. \$5,700. PI.
- 2007 *Development of 3-D Full Wave Field Seismic Imaging Technology for Transportation Infrastructure Projects*. TRI. \$54,967. Co-PI with G. Tsoflias (PI) and D. Steeples.
- 2007 *Capacity of Pile Founded Bridges Under Scoured Conditions*. Kansas Department of Transportation. \$94,000. Co-PI with C. Bennett (PI), J. Han, and D. Parr.
- 2007 *Evaluation of Performance of Geocell-Reinforced Bases*. \$132,700. Co-PI with J. Han (PI).
- 2007 *Evaluation of Performance of Geocell-Reinforced Bases*. TRI (Internal match). \$200,000. Co-PI with J. Han (PI).

- 2007 *Tolerable Strains for HMA Overlays over Concrete Pavements*. Kansas Department of Transportation. \$58,000. Co-PI with J. Han (PI).
- 2007 *Investigation of Geosynthetic-Soil Confinement using Asphalt Pavement Analyzer*. Tensar. \$29,009. Co-PI with J. Han (PI).
- 2006 *Development of a Soil Stabilization Training Manual*, Kansas Department of Transportation. \$36,000. PI with D. Parr.
- 2006 *Development of Recommended Skin Friction Values for Drilled Shafts in Intermediate Geomaterials Based on O-Cell Tests*. Kansas Department of Transportation. \$48,000. Co-PI with J. Han (PI).
- 2006 Mechanistic Analysis of Geocell-Reinforced Pavement Foundations, PRS Inc. \$40,000. Co-PI with J. Han (PI).
- 2006 Mechanistic Analysis of Geocell-Reinforced Pavement Foundations, TRI (Internal match). \$148,895. Co-PI with J. Han (PI).
- 2006 KCA Equipment Grant. \$7,500. PI.
- 2006 *Numerical Study of Geosynthetic-Aggregate Interaction Under Traffic Wheel Loading*. Tensar Earth Technologies. \$15,000. Co-PI with J. Han (PI).
- 2006 *Numerical Study of Geosynthetic-Aggregate Interaction Under Traffic Wheel Loading*. TRI (Internal match). \$50,000. Co-PI with J. Han (PI).
- 2005 *Development of a Handbook for Control of Channel Migration and Streambank Protection near Highway Structures*. Kansas Department of Transportation. \$39,000. PI with D. Parr.
- 2005 KCA Equipment Grant. \$8,000. PI.
- 2004 *Development of p-y Criteria for Drilled Shafts in Loess*. Kansas Department of Transportation. \$85,000. PI with J. Han.
- 2003 KCA Equipment Grant. \$7,000. PI.
- 2003 *Development of a System for the Retrieval and Analysis of Historical Subgrade Information*. Kansas Department of Transportation. \$46,000. PI with C.B. Young.
- 2002 *Evaluation of Cement Kiln Dust for Soil Modification and Stabilization*. Fly Ash Management (joint project with KDOT). \$15,000. PI with S. Cross.
- 2002 *Evaluation of Cement Kiln Dust for Soil Modification and Stabilization*. Kansas Department of Transportation (joint project with Fly Ash Management). \$4,700. PI with S. Cross.
- 2002 KCA Equipment Grant. \$7,650. PI.
- 2002 *Evaluation of Fly Ash Treated Subgrades*. City of Overland Park, \$29,500. PI with S. Cross.
- 2001 *Effect of Flowable Fill on Abutments*. Kansas Department of Transportation. \$55,000. PI with S. Cross.
- 2001 *Effect of Lime Application Methods on Subgrade Properties*. Kansas Department of Transportation. \$50,000. PI with S. Cross.
- 2001 KCA Equipment Grant. \$6,305. PI.
- 2000 *Evaluation of Performance-Based Admixture Criteria for Soil Modification/Stabilization*. Kansas Department of Transportation. \$78,000. PI with S. Cross.
- 2000 *Evaluation of the Feasibility of Measuring the Shear Wave Velocity of Hot Mix Asphalt Cores*. KU General Research Fund. \$11,758. Co-PI with G. Ramirez (PI).
- 2000 *Evaluation of the Feasibility of Estimating the Shear Modulus of Lime-Stabilized Soils Using Non-Destructive Methods*. New Faculty General Research Fund. \$5,400. PI.
- 2000 KCA Equipment Grant. \$5,000. Co-PI.
- 1999 *Evaluation of Modern Compaction Equipment and Visual QA/QC Procedures for Compaction Monitoring*. Kansas Department of Transportation. \$32,500. PI with S. Cross.
- 1999 *Field Determination of Soil Lime Content*. Kansas Department of Transportation. \$39,000. PI with S. Cross.

1999 KCA Equipment Grant. \$6,600. Co-PI.

1998 KCA Equipment Grant. \$10,000. PI.

ADDITIONAL PROFESSIONAL EXPERIENCE

1993 - 1995 Staff Engineer, American Disposal Services

Responsibilities for this position included the supervision of engineering and environmental activities and project management for landfills and hauling companies in Missouri, Kansas, and Oklahoma.