

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

ADDRESS

Department of Civil, Environmental, and Architectural Engineering
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POSITION (University of Kansas)

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

State of Kansas (2000). License No. 15844.

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

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

AWARDS AND HONORS (CONTINUED)

- 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.

PROFESSIONAL ACTIVITIES

Wall Design Competition Chair. ASCE GeoInstitute 2011 GeoFrontiers Conference. Dallas.
Deep Foundations Institute 2009 Annual Meeting Planning Committee and Scholarship Chair
Transportation Research Board Representative for the University of Kansas
Transportation Research Board, Committee on Cementitious Stabilization (AFS80) (2001-2010)
Transportation Research Board, Committee on Chemical and Mechanical Stabilization (AFS90)
General Chairman - Kansas Asphalt Paving Conference (2002 – Current)
GeoShanghai 2006 Technical Committee Member and Proceedings Editor
ASCE Student Chapter Advisor (2005 - Current)

JOURNAL PUBLICATIONS

- 2012 Lin, C., Bennett, C., Han, J., Parsons, R.L. “Integrated analysis of the performance of pile-supported bridges under scoured conditions”. *Engineering Structures*, v36, p 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*, v 32, p 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*, 29, 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.

JOURNAL PUBLICATIONS (CONTINUED)

- 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*. 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*. 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*. 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.

JOURNAL PUBLICATIONS (CONTINUED)

- 2007 Han, J., Huang, J., and Parsons, R.L. "Influence of Bedrock Inclination on Elastic Settlements of Flexible Shallow Strip Foundations". *Computers and Geotechnics*. 34(1). 53-56. Technical Communication.
- 2005 Parsons, R.L., and Kneebone, E. "Durability of Fly Ash Stabilized Subgrades". *Ground Improvement*. 9(1). 33-38.
- 2003 Parsons, R.L, Milburn, J.P. "Engineering Performance of Stabilized Soils." *Transportation Research Record: Journal of the Transportation Research Board*. No. 1837. National Research Council. Washington D.C. 20-29.
- 2002 Parsons, R.L. and Frost, J.D. "Evaluating Site Investigation Quality Using GIS and Geostatistics." *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE. 128(6). 451-461.
- 2001 Deaton, S.L., Frost, J.D., Luna, R., and Parsons, R.L. "GIS-Based Evaluation of Geotechnical Borehole Log Quality." *Transportation Research Record: Journal of the Transportation Research Board*. No. 1755. National Research Council. Washington D.C. 15-25.
- 2000 Parsons, R.L., Frost, J.D. "Interactive Analysis of Spatial Subsurface Data Using a GIS-Based Tool." *Journal of Computing in Civil Engineering*, ASCE. 14(4). 215-222.

MAJOR PUBLICATIONS – LEAD EDITOR

- 2006 *Foundation Analysis and Design, Innovative Methods*. ASCE Geotechnical Special Publication 153. Eds. Parsons, R.L., Zhang, L. Guo, W.D., Phoon, K.K., and Yang, M. 346 pp.

PATENTS

- 2010 Parsons, R.L. and Schuler, M.L. *Breakaway Casing Connection*. Rights held by the KU Center for Technology Commercialization. Patent Pending. Docket No. 16994.45.1.

MAJOR CONFERENCE PUBLICATIONS

- 2011 Pierson, M.C., Parsons, R.L., Han, J., Brennan, J.J. "Influence of geogrid stiffness on shaft lateral capacities and deflections behind an MSE wall". *Geo-Frontiers 2011: Advances in Geotechnical Engineering - Proceedings of the Geo-Frontiers 2011 Conference*. ASCE Geotechnical Special Publication 211. 3756-3765.
- 2011 Thakur, J.K., Han, J., Leshchinsky, D., Halahmi, I., and Parsons, R.L. "Creep deformation of unreinforced and geocell-reinforced recycled asphalt pavements." *Geo-Frontiers 2011: Advances in Geotechnical Engineering - Proceedings of the Geo-Frontiers 2011 Conference*. ASCE Geotechnical Special Publication 211. 4723-4732.

- 2011 Thakur, S.C., Han, J., Chong, W.K., and Parsons, R.L. "Comparison of RAP Aggregates Extracted by Ignition and Centrifuge Methods." *Geo-Frontiers 2011: Advances in Geotechnical Engineering - Proceedings of the Geo-Frontiers 2011 Conference*. ASCE Geotechnical Special Publication Geotechnical Special Publication 211. 4525-4534.

MAJOR CONFERENCE PUBLICATIONS (CONTINUED)

- 2011 Qian, Y., Han, J., Pokharel, S.K., and Parsons, R.L. "Determination of resilient modulus of subgrade using a cyclic plate loading test." *Geo-Frontiers 2011: Advances in Geotechnical Engineering - Proceedings of the Geo-Frontiers 2011 Conference*. ASCE Geotechnical Special Publication 211. 4743-4751.
- 2011 Bhandari, A., Han, J. and Parsons, R.L. "DEM analysis of geotextile-soil interaction under wheel loading". *Characterization and Behavior of Interfaces*. J.D. Frost (Ed.). IOS Press. Washington, D.C. 99-106.
- 2010 Lin, C., Bennett, C., Parsons, R.L., and Han, J. "Analysis of Bridge Response Considering Water-soil-pile-structure Interaction under a Scoured Condition". *Deep Foundations and Geotechnical In Situ Testing*. ASCE Geotechnical Special Publication 205. 73-81.
- 2010 Lin, C., Bennett, C., Han, J., and Parsons, R.L. "p-y Based Approach for Buckling Analysis of Axially Loaded Piles under Scoured Conditions". 2010 Structures Congress. ASCE. 110-120.
- 2010 Thakur, S.C., Han, J., Chong, W.K., Parsons, R.L. "Laboratory Evaluation of Physical and Mechanical Properties of Recycled Asphalt Pavement". *Paving Materials and Pavement Analysis*. ASCE Geotechnical Special Publication 203. 255-263.
- 2010 Han, J. Pokharel, S.K., and Parsons, R.L. "Effect of infill material on the performance of geocell-reinforced bases." *Proceedings of the 9th International Conference on Geosynthetics*. Brazil. 1503-1506.
- 2010 Qian, Y., Han, J., Pokharel, S.K., and Parsons, R.L. "Experimental study on triaxial geogrid-reinforced bases over weak subgrade under cyclic loading." *Proceedings of ASCE Geo-Institute GeoFlorida 2010*, West Palm Beach, Florida, February 20 to 24.
- 2010 Lin, C., Bennett, C.R., Parsons, R.L., and Han, J. (2010). "Analysis of bridge response considering water-soil-pile-structure interaction under a scoured condition." *Proceedings of the GeoShanghai International Conference 2010*, June 3 to 5, Shanghai, China.
- 2009 Parsons, R. L., Pierson, M., Han, J., and Brennan, J.J., and Brown, D.A. "Lateral load capacity of cast-in-place shafts behind an MSE wall." *Contemporary Topics in In Situ Testing, Analysis, and Reliability of Foundations*. ASCE Geotechnical Special Publication 186. 560-567.
- 2009 Pierson, M., Parsons, R. L., Han, J., Brennan, J.J., and Vulova, C. "Instrumentation of an MSE wall containing laterally loaded drilled shafts." *Contemporary Topics in Ground Modification, Problem Soils, and Geo-Support*. ASCE Geotechnical Special Publication 187. 352-361.
- 2009 Liang, F.-Y., Bennett, C.R., Parsons, R.L., and Han, J. "A literature review on behavior of scoured piles under bridges." *Contemporary Topics in In Situ Testing, Analysis, and Reliability of Foundations*. ASCE Geotechnical Special Publication 186. 482-489.
- 2009 Han, J., Yang, X.M., Parsons, R.L., and Henthorne, R. "Side resistance factor for serviceability-based design of drilled shafts in weak rock calibrated using O-cell test data." *Contemporary*

Topics in In Situ Testing, Analysis, and Reliability of Foundations. ASCE Geotechnical Special Publication 186. 292-299.

MAJOR CONFERENCE PUBLICATIONS (CONTINUED)

- 2009 Pokharel, S.K., Han, J., Leshchinsky, D., Parsons, R.L., and Halahmi, I. "Behavior of geocell-reinforced granular bases under static and repeated loads." *Contemporary Topics in Ground Modification, Problem Soils, and Geo-Support*. ASCE Geotechnical Special Publication 187. 409-424.
- 2009 Parsons, R. L., Pierson, M., Han, J., Vulova, C. and Brennan, J.J. "Longer Term Monitoring of Strains In MSE Wall". Published in association with Geosynthetics 2009, Salt Lake City, UT, Feb 25-27, 2009. 300-308.
- 2009 Bennett, C.R., Lin, C. Parsons, R.L., and Han, J. "Evaluation of Behavior of a Laterally Loaded Bridge Pile Group under Scour Conditions. Structures 2009: Don't Mess with Structural Engineers. ASCE. 290-299.
- 2009 Han, J., Bhandari, A., and Parsons, R.L. (2009). "Influence of base course gradation on response of granular bases under cyclic loading: a micromechanical study." Proceedings of the 17th International Conference on Soil Mechanics and Geotechnical Engineering, Alexandria, Egypt. 5-9 October 2009, 893-896.
- 2009 Pokharel, S.K., Han, J., Parsons, R.L., Qian, Y., Leshchinsky, D., and Halahmi, I. (2009). "Experimental study on bearing capacity of geocell-reinforced bases." Proceedings of the 8th International Conference on the Bearing Capacity of Roads, Railways, and Airfields, Champaign, Illinois, June 29 to July 2.
- 2009 Bhandari, A., Han, J., and Parsons, R.L. "Discrete element method investigation of geogrid-aggregate interaction under a cyclic wheel load." Poster presentation and CD publication at the TRB 88th Annual Meeting, January 11 to 15, Washington, DC.
- 2009 Pokharel, S.K., Han, J., Leshchinsky, D., Parsons, R.L., and Halahmi, I. "Experimental evaluation of influence factors for single geocell-reinforced sand." Oral presentation and CD publication at the TRB 88th Annual Meeting, January 11 to 15, Washington, DC.
- 2008 Zhang, Y.Z., Han, J., and Parsons, R.L. "Experimental study of deformation effect on geosynthetic-soil interaction." Proceedings of the 4th International Symposium - Deformation Characteristics of Geomaterials, Burns, Mayne, and Santamarina (eds), 22-24 September, Atlanta, GA, 643-647.
- 2008 Han, J., Yang, X.M., Leshchinsky, D., Parsons, R.L., and Rosen, A. (2008). "Numerical Analysis for Mechanisms of a Geocell-Reinforced Base under a Vertical Load". *Proceedings of the 4th Asian Regional Conference on Geosynthetics*. Shanghai, China. 741-746.
- 2006 Parsons, R.L. Young, C.B., and Kneebone, E. "Storage and Analysis of Georeferenced Geotechnical and Pavements Data." *Geotechnical Engineering in the Information Technology Age*. Proceedings of GeoCongress 2006: Geotechnical Engineering in the Information Technology Age, February 26-March 1, 2006. p115 (link page on CD-ROM).

- 2006 Parsons, R.L., Young, C.B. and Kneebone, E. "Structuring a Comprehensive Georeferenced Subgrade Database". *Pavement Mechanics and Performance*. ASCE Geotechnical Special Publication 154. 173-179.

MAJOR CONFERENCE PUBLICATIONS (CONTINUED)

- 2005 Han, J., Parsons, R.L., Sheth, A.R., and Huang, J. (2005). Factors of safety against deep-seated failure of embankments over deep mixed columns. Deep Mixing '05, Proceedings of the Deep Mixing 2005 Conference, Sweden, May 23-25. 231-235.
- 2004 Parsons, R.L. Zhao, Y. Ramirez, G. and Schmitz, M.E. "Lateral Pressures on Bridge Abutments from CLSM." *Proceedings of the 83rd Annual Meeting, Transportation Research Board*. National Research Council. Washington D.C., January 11-16. CD-ROM.
- 2004 Parsons, R.L., and Kneebone, E. "Use of Cement Kiln Dust for the Stabilization of Soils." *Geotechnical Engineering For Transportation Projects*. ASCE Geotechnical Special Publication 126. 1124-1131.
- 2003 Parsons, R.L., and Milburn, J.P. "Monitoring Stabilized Soils Using the Soil Stiffness Gauge." *Proceedings of Soil Rock America 2003, 12th Panamerican Conference on Soil Mechanics and Geotechnical Engineering*, Cambridge, Massachusetts. pp 2709-2713.
- 2003 Parsons, R.L, Milburn, J.P. "Engineering Performance of Stabilized Soils." *Proceedings of the 82nd Annual Meeting, Transportation Research Board*. National Research Council. Washington D.C., January 12-16 (This paper was also published in the Transportation Research Record). CD-ROM.
- 2002 Cross, S.A., Parsons, R.L. "Evaluation of Expenditures on Kansas Rural Interstate Pavements." *Proceedings of the 81st Annual Meeting, Transportation Research Board*. National Research Council. Washington D.C., January 7-11. CD-ROM.
- 2000 Parsons, R.L., McDonnell, J.J. "Use of Electrical Conductivity to Determine the Location of Subsurface Coal Mining Activity." *Use of Geophysical Methods in Construction*. ASCE Geotechnical Special Publication 108. 170-186.
- 2001 Parsons, R.L., Johnson, C.J., and Cross, S.A. "Evaluation of Field Mixing and Construction Procedures for Lime Modified Subgrades." *Proceedings of the 80th Annual Meeting, Transportation Research Board*. National Research Council. Washington D.C., January 7-11. CD-ROM.
- 1998 Parsons, R.L., Frost, J.D., Chameau, J-L.A., Tsai, Y.C. "GIS-ASSESS: A Spatial Analysis Tool for Site Investigation Planning and Evaluation." *Proceedings of ISC '98, International Conference on Site Characterization*. pp 251-256. Atlanta, Georgia.

ADDITIONAL PUBLICATIONS

- 2012 Han, J., Acharya, B., Thakur, J.K., and Parsons, R.L. *Onsite Use of Recycled Asphalt Pavement Materials and Geocells to Reconstruct Pavements Damaged by Heavy Trucks*. Mid-America Transportation Center. University of Nebraska. MATC-KU: 462. Final Report. 121p.
- 2012 Parsons, R.L., Jowkar, M., and Han, J. *Performance of Geogrid Reinforced Ballast*

under Dynamic Loading. Mid-America Transportation Center. University of Nebraska. MATC-KU: 363. Final Report. 119p.

ADDITIONAL PUBLICATIONS (CONTINUED)

- 2011 Pokharel, S.K., Parsons, R.L., Pierson, M.C., Han, J., and Willems, I. *Use of Flexible Facing for Soil Nail Walls*. Kansas Department of Transportation. Contract KU-10-6. Final Report. USDOT TRIS Accession No. 01361008. 86p.
- 2011 Pierson, M.C., Parsons, R.L., and Han, J. *Modeling of Laterally Loaded Drilled Shafts Behind Mechanically Stabilized Earth Block Walls*. Kansas Department of Transportation. Contract KU-08-6. Final Report. USDOT TRIS Accession No. 01339675. 164p.
- 2010 Parsons, R.L., Willems, I., Pierson, M.C., and Han, J. *Lateral Capacity of Rock Sockets in Limestone under Cyclic and Repeated Loading*. Kansas Department of Transportation. Contract KU-09-6. Final Report. USDOT TRIS Accession No. 01173403. 50p.
- 2009 Pierson, M.C., Parsons, R.L., Han, J. Brown, D., and Thompson, W.R. *Capacity of Laterally Loaded Shafts Constructed Behind the Face of a Mechanically Stabilized Earth Block Wall*. Kansas Department of Transportation. Contract KU-07-6. Final Report. USDOT TRIS Accession No. 01127418. 237p.
- 2007 Parsons, R.L., Brown, D.A., Brennan, J.J., Johnson, R.M., and Schuler, L. "Designing Drilled Shafts in Loess". *Foundation Drilling*. ADSC, The International Association of Foundation Drilling. 28(6). 27-30.
- 2006 Johnson, R.M., Parsons, R.L., Dapp, S., and Brown, D.A. *Soil Characterization and P-Y Curve Development for Loess*. Kansas Department of Transportation. Final Report.
- 2006 O'Connor M. and Parsons, R.L. *Lime Application Methods*. Kansas Department of Transportation. Kansas Department of Transportation. Contract KU-02-2. Final Report. USDOT TRIS Accession No. 01027342. 92p.
- 2005 *Development of a Database of Historical Subgrade Information*. Kansas Department of Transportation. Final Report and User Guide. Contract KU-04-02. 21p.
- 2003 Milburn, J.P., Parsons, R.L. *Performance of Soil Stabilization Agents*. Kansas Department of Transportation. Contract KU-01-08. 117p. USDOT TRIS ID: 00974977.
- 2003 Schmitz, M., Parsons, R.L., Ramirez, G., Zhao, Y. (2003). *Use of Controlled Low-Strength Material as Abutment Backfill*. Kansas Department of Transportation. Contract KU-02-06. 76p. USDOT TRIS ID: 00978483.
- 2003 Parsons, R.L. and Frost, J.D. "Evaluating Site Investigation Quality Using GIS And Geostatistics" (Closure). *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE. 129(9). 867-868.
- 2002 Parsons, R.L. *Subgrade Improvement through Fly Ash Stabilization*. Kansas University Transportation Center, Sponsored by the City of Overland Park, Kansas. 16p.

- 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.

ADDITIONAL PUBLICATIONS (CONTINUED)

- 2001 Parsons, R.L. *Recipe for a Stable Subgrade*. KUTC Newsletter. University of Kansas Transportation Center. Winter, 2001.
- 2001 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

- 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 Presentation.
- 2012 *Lateral Load Testing at the University of Kansas*. Specialty Seminar on load testing sponsored by the Kansas City ASCE Geotechnical Group. Invited.
- 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, 2009. Invited Presentation.
- 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.

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.

TECHNICAL PRESENTATIONS (CONTINUED)

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.

TECHNICAL PRESENTATIONS (CONTINUED)

- 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

- 2011 Experimental Study of Innovative Geogrid Products for Subgrade Improvement. Tensar International. \$96,000. Co-PI with J.Han (PI).
- 2011 *Mechanical and Hydraulic Properties of Railroad Ballast.* Mid-America Transportation Center. \$15,000. PI.
- 2010 *Estabilishing 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. Browning (PI), J. Han, and D. Parr.
- 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.

FUNDED RESEARCH ACTIVITIES AND OTHER GRANTS (CONTINUED)

2009 *Substitute Flexible Facing for Shotcrete Facing on Soil Nail Walls.* Kansas Department of Transportation. \$54,000. PI. with J. Han.

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.

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. Browning (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).

FUNDED RESEARCH ACTIVITIES AND OTHER GRANTS (CONTINUED)

- 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.

FUNDED RESEARCH ACTIVITIES AND OTHER GRANTS (CONTINUED)

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.