

Steven Mark Chrismer, P.E., PhD

229 Ashford Drive

Douglassville, PA 19518

EDUCATION

Ph.D. in Civil Engineering specializing in Geotechnology, University of Massachusetts, Amherst, MA, Dissertation: “Mechanics-Based Model to Predict Ballast-Related Maintenance Timing and Costs”, 1994, Advisor: Dr. Ernest T. Selig

MSCE, Pennsylvania State University, University Park, PA, Thesis: “Evaluation of Tests for Characterizing the Stiffening Potential of Baghouse Dust in Asphalt Mixes”, 1984

BSCE, Pennsylvania State University, University Park, PA, 1980

EXPERIENCE

- Principal Engineer – Track Geometry and Roadbed Improvement, Amtrak, 30th Street Station, Philadelphia, PA. (2009 to Present). Duties include analyzing condition of track geometry, track structure and its substructure. Develop technologies such as Ground Penetrating Radar (GPR) to assess substructure condition and maintenance needs for high speed rail.
 - Senior Mechanical Engineer, LTK Engineering, 100 West Butler Avenue, Ambler, PA. (1998 to 2009). Duties included assessment of vehicle dynamics, vehicle-track dynamic interaction, wheel/rail interaction and improved methods of track geometry evaluation.
 - Senior Engineer - Track Research, Association of American Railroads, 3140 South Federal St., Chicago, IL. (1982 to 1998). Main duty was the investigation of causes and remediation methods for track substructure problems under heavy axle freight car loading. Developed improved and longer-lasting maintenance methods, life cycle costing model for ballast, and non-destructive evaluation methods for ballast and subgrade.
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PROFESSIONAL MEMBERSHIP

- American Railway Engineering and Maintenance-of-Way Association (AREMA), Currently Chair of AREMA High Speed Rail Systems, Committee 17
 - Transportation Research Board
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LICENSES

- Professional Engineer, Pennsylvania

PUBLICATIONS

Chrismer, S. and Richardson, G., "In-Track Performance of Geotextiles at Caldwell, Texas", Journal of Transportation Research Board, Volume 1071, Washington D. C., 1986.

Read, D., Chrismer, S., Ebersöhn, W., Selig, E., "Track Modulus Measurements at the Pueblo Soft Subgrade Site", Transportation Research Record 1470, TRB, National Research Council, Washington D.C. 1994.

Chrismer, S. and Li, D., "Considerations in Slab Track Foundation Design", Proceedings, Roadbed Stabilization and Ballast Symposium, American Railway Engineering and Maintenance of Way Association, St. Louis, MO, Nov. 8-9, 2000.

Klauder, L., Chrismer, S., and Elkins, J., "Improved Spiral Geometry for High Speed Rail and Predicted Vehicle Response", Journal of Transportation Research Board, Volume 1785, Washington D. C., 2002.

Chrismer, S., "Analysis of Lateral Track Strength for High Speed Rail", Proceedings of IMECE2005, ASME International Mechanical Engineering Congress, Orlando, FL, 2005.

Davis, D., and Chrismer, S., "Track Differential Settlement Model", Proceedings of the ASME/IEEE 2007 Joint Rail Conference, Pueblo, CO, 2007.

Chrismer, S., and Wnek, J., "A Method to Characterize Cyclic Error in the Track Geometry Waveform", Proceedings of the ASME/ASCE/IEEE 2011 Joint Rail Conference, Pueblo, CO, 2011.

Wnek, J., and Chrismer, S., "Comparing Geometry Correction Capability of AGGS and TGCS Tamper Control Systems on Amtrak's Northeast Corridor", Proceedings of the ASME/ASCE/IEEE 2012 Joint Rail Conference Philadelphia, PA, 2012

Hyslip, J., Chrismer, S., LaValley, M., and Wnek, J., "Track Quality from the Ground Up", AREMA Conference Proceedings, Chicago, IL, 2012.

Chrismer S., Hyslip, J., "Innovations in High Speed Railway Geotechnology on Amtrak", International Symposium of Geotechnical Engineering for High-Speed Transportation Infrastructure, Keynote Address, Zhejiang University, Hangzhou, China, October 2012.

Huang, H., and Chrismer, S., "A Dynamic Track-Train Interaction Model to Study Track Performance Under Critical Speed", Transportation Research Board, Paper presented at 92nd Annual Meeting, Washington, D. C., January, 2013.

Staplin, D., Harding, C, Pagano, W., and Chrismer, S., “Designing Durable Track Support for Higher-Speed Trains Using Track Geotechnology”, AREMA Conference Proceedings, Indianapolis, IN, 2013.

Gnatek, D, Ho, C., Huang, H., Hyslip, J., and Chrismer, S., “Field Measurement of Ground Accelerations Resulting from High Speed Trains on Soft Soil”, Transportation Research Board, Paper presented at 93rd Annual Meeting, Washington, D. C., January, 2014,

Books

Li, D, Hyslip, J., Sussmann, T., and Chrismer, S., "Railway Geotechnics" CRC Press, Taylor & Francis Group, Park Square, Milton Park, Abingdon, Oxford OX14 4RN, UK (to be published late 2014)