

4/01/22 - 9/30/22

Publications

1. Pan, Y., Zuo, L., and Ahmadian, M., A Half-wave Electromagnetic Energy-Harvesting Tie towards Safe and Intelligent Rail Transportation, *Applied Energy*, 313(4):118844, May 2022. (<https://doi.org/10.1016/j.apenergy.2022.118844>). (Virginia Tech)
2. Soufiane, K., Zarembski, A. M., and J. W. Palese, The Contribution of Crosstie Condition as Represented by Local Track Stiffness to the Wheel Load Distribution, submitted to *Journal of Transportation Infrastructure Geotechnology*, August 2022. (University of Delaware)
3. Mortazavian, E., Mobile 3D Printing of Rail Track Surface for Rapid Repair, Ph.D. Dissertation, Department of Mechanical Engineering, University of Nevada Las Vegas, August 2022. (University of Nevada Las Vegas)
4. Qiu, L., Development of UAV-Based Rail Track Geometry Irregularity Monitoring and Measuring Platform Empowered by Artificial Intelligence, Department of Electrical and Computer Engineering, University of Nevada, Las Vegas, May 2022. (University of Nevada Las Vegas)

Other publications, conference papers and presentations

1. Michael, M. and Ahmadian, M., Improving Trackside Inspection of Rolling Stock Using a Track Crawler Robot: A Step Toward Better Diagnosis and Prognosis of Railcars, *Railroad Infrastructure Diagnosis and Prognosis Symposium – RailTEAM UTC*, Roanoke, VA, May 2022. (Virginia Tech)
2. Radmehr, A. and Ahmadian, M., Early Diagnosis of Track Stability through Non-contact LiDAR Measurements and Unsupervised Machine Learning Algorithms, *Railroad Infrastructure Diagnosis and Prognosis Symposium – RailTEAM UTC*, Roanoke, VA, May 2022. (Virginia Tech)
3. Zarembski, A. M., Palese, J. W., and Nguyen, M., Forecasting Track Geometry Degradation Using GPR Based Ballast Condition, *American Society of Mechanical Engineers Joint Rail Conference 2022*, April 2022, Baltimore, MD. (University of Delaware)
4. Palese, J. W. and Zarembski, A. M., Predicting Rail Transverse Profile Shape Using 2D ARIMA Modeling, *American Railway Engineering and Maintenance of Way Association Annual Conference*, Denver, CO, August 2022. (University of Delaware)
5. Attoh-Okine, N., Theory Guided Data Science and Railway Informatics, *Railroad Infrastructure Diagnosis and Prognosis Symposium – RailTEAM UTC*, Roanoke, VA, May 2022. (University of Delaware)
6. Palese, J. W., A Data Driven Approach to Predicting Rail Transverse Profile Shape, *Railroad Infrastructure Diagnosis and Prognosis Symposium – RailTEAM UTC*, Roanoke, VA, May 2022. UTC support acknowledged (University of Delaware)
7. Zhiyong “John” Wang, 3D Printing Rail Surface for On-Site Repair, University of Nevada Las Vegas (UNLV), *Railroad Infrastructure Diagnosis and Prognosis Symposium – RailTEAM UTC*, Roanoke, VA, May 2022. (University of Nevada Las Vegas)
8. Kaseko, M. and Boyapati, K., Development of a Framework for Determination of Access Charges on a Shared High-Speed Rail (HSR) Corridor Using VISSIM Simulation, (University of Nevada Las Vegas)