

Shannon C. Roberts

Professional Preparation

Massachusetts Institute of Technology, Cambridge, MA
University of Wisconsin – Madison, Madison, WI
University of Wisconsin – Madison, Madison, WI

Mechanical Engineering BS, 2009
Industrial Engineering MS, 2011
Industrial Engineering PhD, 2014

Appointments

University of Massachusetts – Amherst, Mechanical and Industrial Engineering Department
Assistant Professor
September 2016 – present

MIT Lincoln Laboratory, Cyber Analytics and Decision Systems Group
Technical Staff
August 2014 – August 2016

Publications (closely related)

Roberts, S. C., Smith-Doerr, L., Zilberstein, S., Renski, H., Branch, E. H., & Wilkerson, T. (2019). Automation, work, and racial equity: How human systems engineering can shape the future of work. In R. D. Roscoe, E. K. Chiou, & A. R. Wooldridge (Eds.), *Advancing Diversity, Inclusion, and Social Justice through Human Systems Engineering* (pp. 191-214). Boca Raton, FL: CRC Press.

Zhang, F., Mehrotra, S., Roberts, S. C. (2019). Driving distracted with friends: Effect of passengers and driver distraction on young drivers' behavior. *Accident Analysis & Prevention*, 132.

Ebadi, Y., Fisher, D., & Roberts, S. C. (2019). Impact of cognitive distractions on drivers' hazard anticipation behavior in complex scenarios. *Transportation Research Record*, 2673 (9), 440-451.

Roberts, S. C., Horrey, W. J., & Liang, Y. (2016). Measurement of driver calibration and the impact of feedback on drivers' estimates of performance. *Accident Analysis & Prevention*, 88, 150-158.

Roberts, S. C., Ghazizadeh, M., & Lee, J. D. (2012). Warn me now or inform me later: Drivers' acceptance of real-time and post-drive mitigation systems. *International Journal of Human-Computer Studies*, 70(12), 967-979.

Publications (other)

Fournier, N., Bakhtiari, S., Valluru, K. D., Campbell, N., Roberts, S. C., Christofa E., & Knodler, M. K. (2020). Accounting for bicycling frequency and familiarity with bicycle infrastructure treatments when evaluating safety. *Accident Analysis & Prevention*, 137.

Zhang, F., Russo, L., Landry, S., Sharma, P., Roberts, S. C., Seppelt, B., & Reimer, B. (2020). Perceptions of automated driver assistance systems (ADAS): Using text mining to uncover insights from drivers with real-world ADAS experience. In *Proceedings of the Transportation Research Board 99th Annual Meeting 2020*.

Zhang, F., Petit, J., & Roberts, S. C. (2019). A Simulator Study on Drivers' Response and Perception Towards Vehicle Cyberattacks. *Human Factors and Ergonomics Society Annual Meeting Proceedings*, 63, 1498–1502.

Mehrotra, S., Zhang, F., & Roberts, S. C. (2018). Evaluation and Validation of Distraction Detection Algorithms on Multiple Data Sources. *Human Factors and Ergonomics Society Annual Meeting Proceedings*, 62, 1949-1953

Lee, J., Roberts, S. C., Reimer, B., & Mehler, B. (2017). Does Order Matter? Investigating the Effect of Sequence on Glance Duration during On-road Driving. *PLOS ONE*, 12(2).

Synergistic Activities

Research Mentoring Activities – Dr. Roberts is a thesis advisor to 3 doctoral students majoring in Industrial Engineering and an academic advisor to 16 undergraduates. She has supervised research projects undertaken by undergraduate and graduate students at UMass, Smith College, and the University of Virginia.

Broadening Participation of Groups Underrepresented in STEM – Dr. Roberts engages with underrepresented students in grades K-12 in hopes of increasing their awareness of STEM disciplines. Most recently, this was achieved through her interactions with students through programs such as the UMass Summer Engineering Institute (where she gave an interactive tutorial on her research to high school students), Girls, Inc. Eureka! Program (where she designed and implemented interactive activities to introduce Industrial Engineering and Human Factors to middle school girls), and UMass Science and Engineering Saturday Seminars (where she introduced Industrial Engineering and network modeling to middle and high school teachers).

Service to the Scientific/Engineering Community – Dr. Roberts serves as a technical paper reviewer for the following conferences and journals: Automotive User Interfaces and Interactive Vehicular Applications Conference, Human Factors and Ergonomics Society Annual Meeting, the Transportation Research Board Annual Meeting, Ergonomics in Design, and the Human Factors Journal.

Improving National Security – Dr. Roberts spent two years as a Technical Staff Member at MIT Lincoln Laboratory, a federally funded research and development center that focuses on solving critical issues related to national security. One of her former cyber security projects was published and presented at the IEEE Security and Privacy Conference.

Increasing Partnerships between Academia and Industry – Dr. Roberts has worked on numerous collaborative research projects that have involved both academic and industry partners. These projects have resulted in 11 peer reviewed conference and journal publications.