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**Education**

2013-2016 **Doctor of Philosophy** – August 2016

Industrial and Systems Engineering (Major), Statistics (Minor)

Mississippi State University

*Dissertation title*: Driver Acceptance of Advanced Driver Assistance Systems and Semi-Autonomous Driving Systems (*Advisor*: Lesley Strawderman)

2011-2013 **Master of Science** – May 2013

Industrial & Management Engineering

Montana State University

2004-2009  **Bachelor of Science** – October 2009

Industrial and Production Engineering

Bangladesh University of Engineering & Technology

**Employment**

**November 2016 – present:** Regular Fellow at the Division of Safety Research, National Institute for Occupational Safety and Health. Major responsibilities include conducting research associated with occupational driver safety.

**October 2009 - July 2011:** OE/HES (Operational Excellence/Health Environment and Safety) Specialist at Chevron Bangladesh Ltd. Responsibilities included monitoring and maintaining employee compliance on Occupational Health, Environment and Safety related rules and regulations.

**Research Experience**

**2011 – 2013** (at Montana State University)

* *Connected vehicle integration research and design guidelines development.* This project used driving simulator to study driver information requirement and developed design guidelines for connected vehicles.
* *A simulation study of an outpatient cancer clinic*. This study examined the patient flow in an outpatient cancer clinic, simulated the patient flow in FlexSim HC, and assessed several system improvement options to reduce patient wait time and improve employee utilization.
* *Enhancing the quality of care in an outpatient cancer clinic*. This project studied the patient care system of an outpatient cancer clinic and proposed and implemented several strategies to improve employee utilization and the quality of patient care.

**2013 – 2016** (at Mississippi State University)

* *Work zone sign design for increased driver compliance and worker safety.* This study used simulated driving to investigate the impact of sign content, frame refresh rate, and sign placement of dynamic message signs on driver speed reduction, compliance, and eye movements.
* *Driver speed limit compliance in school zone.* This study investigated the effect of the number of nearby school zones on driver behavior and accident frequency. This study also examined the speeding behavior in school zones for different time of the day and day of the week.
* *A survey study to determine transportation alternative preferences of the aging population.* A nationwide survey was conducted to examine older adults’ perceptions and preferences for five transportation alternatives. This study also investigated the effects of location, driving status, and familiarity with elderly transportation options on transportation alternative selection.

**May 2015 – August 2015** (at Liberty Mutual Research Institute for Safety)

* *Driver acceptance of advanced driver assistance systems*. Collaborated with the institute researchers to design and conduct a part of my dissertation research.

**2016 – Present** (atNational Institute for Occupational Safety and Health)

* *Occupational driver safety at intersections*. Working on a project that is focused on exploring the driving behavior of professional drivers (e.g. emergency vehicle drivers) and associated risks at intersections.
* *Occupational driver situation awareness and vehicle automation*. Developed a project proposal to study the effect of vehicle automation on occupational driver situation awareness and road safety. The purpose of the study is to determine the minimum time required to safely transfer control of level 2/3 autonomous heavy trucks from the automated system to the driver, should the automation fail or reach its functional limit. National Institute for Occupational Safety and Health has accepted the research proposal and awarded a grant of $200,000 to conduct the study.

**Teaching Experience**

Fall 2015 - Course instructor for *Systems Engineering and Analysis* (IE 4753/6753) at Mississippi State University. Class size was 39 students with 3 distant graduate students, average course evaluation score was 4.6 out of 5.0

Others - Graduate teaching assistant and lab instructor for several courses at Montana State University and Mississippi State University including Ergonomics & Human Factors Engineering, Work Design and Analysis, Principles of Operations Research, and Engineering Economy.

**Publications**

Journal Articles

*Published*

1. Deb, S., **Rahman, M. M**., Strawderman, L., & Garrison, T. (2018). Pedestrians’ receptivity toward fully automated vehicles: research review and roadmap for future research. *IEEE Transactions on Human-Machine Systems*, doi: [10.1109/THMS.2018.2799523](https://doi.org/10.1109/THMS.2018.2799523)
2. **Rahman, M. M.**, Lesch, M. F., Horrey, W. J., & Strawderman, L. (2017). Assessing the utility of TAM, TPB, and UTAUT for advanced driver assistance systems. *Accident Analysis & Prevention*, *108*, 361-373, doi: [10.1016/j.aap.2017.09.011](https://doi.org/10.1016/j.aap.2017.09.011)
3. **Rahman, M. M.**, Strawderman, L., Garrison, T., Eakin, D., & Williams, C. C. (2017). Work zone sign design for increased driver compliance and worker safety. *Accident Analysis and Prevention*, *106*, 67-75, doi: [10.1016/j.aap.2017.05.023](https://doi.org/10.1016/j.aap.2017.05.023)
4. **Rahman, M. M.**, Strawderman, L., Adams-Price, C., & Turner, J. (2016). Transportation alternative preferences of the aging population. *Travel Behaviour and Society*, *4*, 22-28, doi: [10.1016/j.tbs.2015.12.003](https://doi.org/10.1016/j.tbs.2015.12.003)
5. Strawderman, L., **Rahman, M. M.**, Huang, Y., & Nandi, A. (2015). Driver behavior and accident frequency in school zones: assessing the impact of sign saturation. *Accident Analysis and Prevention*,*82*, 118- 125, doi: [10.1016/j.aap.2015.05.026](https://doi.org/10.1016/j.aap.2015.05.026)
6. Huggins, A., **Rahman, M. M.**, Claudio, D., & Torma, L. M. (2014). Balancing nurses' workload to enhance the quality of care in an outpatient cancer clinic. *International Journal of Collaborative Enterprise*,*4*(1), 34-52, doi: [10.1504/IJCENT.2014.065045](http://doi.org/10.1504/IJCENT.2014.065045)

*Under Review*

1. **Rahman, M. M**., Strawderman, L., Horrey, W. J., Lesch, M. F., Babski-Reeves, K., & Garrison, T. (*under review*). Modelling driver acceptance of driver support systems. *Accident Analysis and Prevention*.
2. **Rahman, M. M.**, Deb, S., Strawderman, L., Burch, R., & Smith, B. (*under review*). How the older population perceives self-driving vehicles. *Travel Behaviour and Society*.

*In-preparation*

1. **Rahman, M. M.**, & Deb, S. (*in preparation*). Potential impact of self-driving vehicles on older adults' mobility and quality of life.
2. **Rahman, M. M.**, Strawderman, L., Lesch, M. F., & Horrey, W. J. (*in preparation*). Acceptance Assessment Scale: A tool to evaluate driver acceptance of driver support systems.
3. **Rahman, M. M.** (in preparation). Validation of driving simulators: a review of recent literature.
4. **Rahman, M. M.**, Strawderman, L., Garrison, T. & Carruth, D. W. (*in preparation*). Assessing the utility of TAM, TPB, UTAUT, and UMDA for advanced driver assistance systems.

Conference Proceedings

1. **Rahman, M. M.**, Strawderman, L., & Carruth, D. W. (2017). Effect of driving contexts on driver acceptance of advanced driver assistance systems. *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*, *61*(1), 1944-1948, doi: [10.1177/1541931213601965](https://doi.org/10.1177/1541931213601965)
2. Wright, T. J., Horrey, W. J., Lesch, M. F., & **Rahman, M. M.** (2016). Drivers’ trust in an autonomous system: exploring a covert video-based measure of trust. *Proceedings of the Human*

*Factors and Ergonomics Society Annual Meeting, 60*(1), 1334-1338, doi: [10.1177/1541931213601308](http://doi.org/10.1177/1541931213601308)

1. **Rahman, M. M.**, & Strawderman, L. (2015). The effect of sign saturation on driver speed limit compliance in school zones. *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*, *59*(1), 1612-1615, doi: [10.1177/1541931215591349](http://doi.org/10.1177/1541931215591349)
2. **Rahman, M. M.**, Huggins, A., & Claudio, D. (2013). A simulation study of an outpatient cancer clinic. In *2013 Industrial and Systems Engineering Research Conference, San Juan, Puerto Rico*.
3. Huggins, A., Lovejoy, M., Page, L., **Rahman, M.**, Lommatsch, G., Miller, A., Claudio, D., & Green, S. D. (2012). A complete methodology to simulate a complex healthcare system. In *2012 Industrial and Systems Engineering Research Conference, Orlando, FL*.

**Presentations**

1. **Rahman, M. M.**, Strawderman, L., & Carruth, D. W. (2017). Effect of driving contexts on driver acceptance of advanced driver assistance systems. In *Human Factors and Ergonomics Society Annual Meeting October 2017.*
2. **Rahman, M. M.**, Strawderman, L. (2015). The effect of sign saturation on driver speed limit compliance in school zones. In *Human Factors and Ergonomics Society Annual Meeting September 2015*.
3. **Rahman, M. M.**, & Deb, S. (2014). The effect of load moment, working height and work condition on shoulder and neck muscles during overhead work. In *2014 NORA Symposium, Salt Lake City, Utah*.
4. **Rahman, M. M.**, Huggins, A., & Claudio, D. (2013). A Simulation study of an outpatient cancer clinic. In *2013 Industrial and Systems Engineering Research Conference, San Juan, Puerto Rico*.
5. **Rahman, M. M.** (2012). A simulation study of an outpatient cancer clinic. In *2012 INFORMS Annual Meeting, Phoenix, Arizona*.

# Honors and Awards

* *Graduate Teaching/Research Assistantship*: Montana State University (2011-2013) and Mississippi State University (2013-2016)
* *Outstanding PhD Student Award:* Recipient of the 2015 - 2016 J. Ron Walsh Outstanding Industrial Engineering PhD Student award.
* *2016 IIE/FlexSim Simulation Competition:* “Third Place Award” in the 2016 IIE/Flexsim Student Simulation Competition held on February 18, 2016 at the Healthcare Systems Process Improvement Conference in Houston, TX.
* *2015 Liberty Mutual Safety Research Fellowship*(May 2015 – August 2015): Recipient of the 2015 Liberty Mutual Safety Research Fellowship. The fellowship was sponsored by American Society of Safety Engineers (ASSE) Foundation and Liberty Mutual Research Institute for Safety (LMRIS). The fellowship provided the opportunity to work at LMRIS for 12 weeks.
* *2015 Annual Ergonomics Design Competition*: Honourable mention in the 9th Annual Ergonomics Design Competition for Student Teams sponsored by Auburn Engineers, Inc.
* *2015 IIE/FlexSim Simulation Competition*: “Third Place Award” in the IIE/FlexSim Student Simulation Competition held February 18-20, 2015 at the Healthcare Systems Process Improvement Conference in Orlando, FL.
* *Graduate Research Poster Competition*: “Meritorious Award” in the PhD category for a poster entitled “Transportation alternative preferences of the aging population” with co-authors Dr. Lesley Strawderman and Dr. Carolyn Adams-Price.
* *Graduate Ambassador*: Graduate Ambassador for the Graduate School of Montana State University - Bozeman. My role was to meet prospective US and international graduate students, introduce them to graduate school and graduate programs and motivate them to consider graduate school.

# Extramural Funding

* Effect of Vehicle Automation on Truck Driver Situation Awareness and Road Safety
  + Sponsor: National Institute of Occupational Safety and Health (NIOSH), PI M. Rahman
  + Budget: $200,000; Dates: 7/1/2018 - 6/30/2021
  + Role: Principal Investigator
* Transportation Safety at FedEx Express
  + Sponsor: FedEx Express, PI L. Strawderman;
  + Budget: $144, 201; Dates: 08/26/15 – 08/25/16
  + Role: Graduate Research Assistant.
* Work Zone Sign Design for Increased Driver Compliance and Worker Safety (R03)
  + Sponsor: National Institute of Occupational Safety and Health (NIOSH), PI L. Strawderman
  + Budget: $134,725; Dates: 09/01/2013 – 08/31/2016
  + Role: Graduate Research Assistant.
* Connected Vehicle Integration Research and Design Guidelines Development
  + PI N. Ward;
  + Dates: 09/23/11 – 09/22/13
  + Role: Graduate Research Assistant.

# Computer Skills

* Engineering Statistics – SAS, SPSS, R.
* Engineering Graphics- AutoCAD, Solidworks, 3ds Max.
* Simulation Software – ARENA, FLEXSIM HC
* Other packages – Unity.

# References

1. **Lesley Strawderman**, Ph.D., PE

International Paper Chair, Associate Professor, and Undergraduate Coordinator

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1. **William J. Horrey**

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