Editorial

Letter from the Editors - Fourth international symposium on naturalistic driving research

The *Journal of Safety Research* is pleased to present this collection of papers that were originally presented at the *Fourth International Symposium on Naturalistic Driving Research*. The symposium, hosted by the National Surface Transportation Safety Center for Excellence (NSTSCE) at Virginia Tech, was held in August 2014. From over 40 papers and posters exploring a wide range of naturalistic driving topics, these studies have been selected through our peer-reviewed process to be presented in this special issue.

Although all of the studies included in this special issue use naturalistic driving research methods, the topics explored and analysis methods used vary widely. Studies in this collection can be roughly categorized into three broad groups:

Novice driving:

- Naturalistic teenage driving study — Findings and lessons learn
- Using naturalistic driving data to examine drivers' seatbelt use behavior, comparison between teens and adults
- Personality and crash risk
- Conducting in-depth naturalistic riding study: examples from beginner motorcyclists

Distracted driving:

- Creation of the NEST distracted driving dataset
- Are cellular phone blocking applications effective for novice teen drivers?
- Drivers' visual behavior when using handheld and hands-free cell phones
- Examination of drivers' cell phone use behavior at intersections by using naturalistic driving data

Methodological papers exploring innovative techniques in data extraction and analysis:

- Population distributions of time to collision at brake application during car following from naturalistic driving data
- Evaluation of a video-based measurement of driver heart rate
- Drunk driving detection based on classification of multivariate time series
- Naturalistic drive cycle synthesis for pickup trucks
- Older driver fitness-to-drive evaluation using naturalistic driving data

We hope you find this collection of naturalistic driving research valuable. Through programs like SHRP 2 (see accompanying letter and articles in this issue) naturalistic driving research will become more prevalent in the years to come with the potential of revolutionizing our understanding of motor vehicle safety. However, all research methodologies have limitations, and no single methodology can fully explain the complex causal nature of crashes. The Journal invites all researchers conducting rigorous evidence-based investigations, regardless of the methods used or conclusions made, to consider submitting their studies. These studies add to the understanding of us all. Only through the publishing of findings in peer-reviewed journals and through the subsequent debate on the merits of the research can the field of motor vehicle safety research advance. In this light, the Journal invites thoughtful commentary on this collection of studies.

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Editorial

The 4th International Symposium on Naturalistic Driving Research

The Virginia Tech Transportation Institute is proud to have hosted the 4th International Symposium on Naturalistic Driving Research in August of 2014. The papers presented in this special issue are expanded versions of the papers and posters presented at that symposium, and they represent the first dedicated collection of papers in this new area of research. In the past 20 years, we have seen the field of naturalistic driving research expand in incredible fashion. Advances have occurred in all aspects: from vehicles with car trunks and truck cabs filled with analog recording equipment to state-of-the-art miniaturized data collection systems, from a few participants to thousands of participants per study, from manual coding of data using video tape players and spreadsheets to sophisticated data coding and extraction software, and from simple parametric statistical analysis to advanced statistical modeling techniques. Most importantly, naturalistic driving has progressed to the point that the methods, equipment, and data are now available to a wide variety of researchers.

This is what made the 4th Symposium so special: for the first time there were enough researchers doing work in the field that we were able to have a call for papers. By contrast, the three previous symposia were introductory in nature — introducing the methods, equipment, and analysis techniques to a new generation of researchers, with invited papers from those known to be working in the field.

We hope that you find the papers presented in this issue to be useful in your own research, and that you will consider adding the naturalistic driving techniques and data to your research portfolio. Most importantly, we hope that the research highlighted in this issue will provide the impetus to help save lives and improve transportation efficiency worldwide.

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