From the Editor
By Joe Cohen

This issue of the FORVM begins with an overview of the FPG’s upcoming activities for the annual meeting in Boston. I think you will agree that program chair, Ken Nemire, has organized what are sure to be some informative and entertaining sessions. Also included in this issue of the FORVM is a ballot you can use to elect new FPG officers. Lastly, the FORVM is complete with an interesting case study by Alan Moore entitled, “The Second Driver.” Thanks for your submission, Alan.

As the annual meeting approaches, I remind you that the FPG is seeking a replacement newsletter editor. The FPG’s ongoing website makeover and the related webmaster duties now demand my attention. So, if you are interested in being appointed to the newsletter editor position, reach out to an FPG officer today.

I look forward to seeing many of you in Boston!

56th Annual Meeting, Westin Boston Waterfront, October 22-26, 2012

Online registration is now open for the annual meeting. Discounted registration fees for members and nonmembers are no longer available. See www hfes org / Web / HFESMeetings / 2012annualmeeting .html. The forensics sessions will be held on Tuesday, Wednesday, and Thursday. Wednesday, October 24, 2012 from 4:30 - 5:30 pm is the tentative schedule for the FPG annual business meeting according to the HFES website.

FPG Sessions at the 2012 Annual Meeting
By Ken Nemire, FPG Program Chair

FPG had a phenomenal number of proposal submissions this year. We have four sessions scheduled at the annual meeting in Boston, including one session jointly sponsored with the Surface Transportation TG. Please be sure to attend all four FPG sessions. Following is a list of the presentation titles and authors.
FP1 Lecture Session - Forensic Issues in Warnings, Products, and Falls  
Tuesday, October 23, 2012, 10:30 am-12:00 pm

1. **Most Natural and Propane (LP) Gas Service Users Report Not Having Electronic Gas Detectors**  
   Soyun Kim (North Carolina State University), Michael Wogalter (North Carolina State University)

2. **Case Study: Evaluating the Design and Warnings on a Tanning Bed**  
   Alison Vredenburgh (Vredenburgh & Associates, Inc.), Ilene Zackowitz (Vredenburgh & Associates, Inc.)

3. **Using Orange Traffic Cones to Warn of Pedestrian Hazards**  
   Kenneth Nemire (HFE Consulting LLC)

4. **Human Factors Related to Programmable Thermostats: Consumers Knowledge and Perceptions Related to Product Use and Hazards**  
   William Vigilante, Jr. (Robson Forensic, Inc.), Patrick Reeves (St. Joseph's University)

5. **Walking Backwards Without Looking: An Observational Study**  
   Kenneth Nemire (HFE Consulting LLC)

FP2 Discussion Panel - Factors Related to Perceiving the Relative Speed of Leading Vehicles in High-Speed Rear-End Crashes  
Tuesday, October 23, 2012, 03:30 pm-05:00 pm

Panel members:
- Michael Maddox (Sisyphus Associates, LLC)
- Greg Fitch (Virginia Tech Transportation Institute)
- Aaron Kiefer (Accident Research Specialists)
- Rudolf Mortimer (Consultant)
- Jeffrey Muttart (University of Massachusetts - Amherst)

FP3 Alternative Format - Examples of How to Present Human Factors Testimony to the Trier of Fact  
Wednesday, October 24, 2012, 08:30 am-10:00 am

Panel members:
- Gary Sloan (G David Sloan Inc.)
- Kenneth Nemire (HFE Consulting, Inc.)
- Joseph Cohen (Error Analysis, Inc.)
- Marc Resnick (Bentley University)
- Claudine Cloutier (KECHES LAW GROUP, P.C.)

FP4 Lecture Session - Forensic Issues in Transportation and Disabilities {Joint session with Surface Transportation TG}  
Thursday, October 25, 2012, 10:30 am-12:00 pm

1. **Looming Threshold Limits and Their Use in Forensic Practice**  
   Michael Maddox (Sisyphus Associates, LLC), Aaron Kiefer (Accident Research Specialists)

2. **Driver-Related Delay in Emergency Braking Response to a Laterally Incurring Hazard**  
   Kurt Ising (MEA Forensic), Jason Droll (MEA Forensic), Shannon Kroeker (MEA Forensic), Pamela D'Addario (MEA Forensic), Jean-Francois Goulet (MEA Forensic)

3. **How a Video Record of a Driver’s Forward View Made a Difference in the Human Factors Analysis of a Traffic Crash**  
   Rudolf Mortimer (Consultant)

4. **The Effects of Texting and Driving on Hazard Perception**  
   Rondell Burge (Wichita State University), Alex Chaparro (Wichita State University)

5. **When a Dog is Just a Dog? A Case Study Evaluating the ADA Service Animal Rules**  
   Alison Vredenburgh (Vredenburgh & Associates, Inc.), Ilene Zackowitz (Vredenburgh and Associates, Inc.)
FPG Officer Elections: Voting is Underway

It is time once again to elect new FPG officers. Place your vote by completing and signing the ballot attached to this newsletter. If returning by mail, send to Joe Cohen, 5173 Waring Road, Suite 157, San Diego, CA 92120. If returning by email, send to: joe@erroranalysis.com. Ballots are due Monday, October 1, 2012.

Forensic Case Study: The Second Driver

By Alan Moore, P.E., ACTAR

Frequently, a forensic investigator is tasked to determine why one vehicle driver succeeded in avoiding a collision, but a following driver was not. Laypersons can be tempted to assume that if one driver was able to avoid, others should also. In fact, several factors can cause different responses.

Of two vehicles approaching a hazard, one can be described as the lead vehicle and the other as the following vehicle. The lead vehicle driver has an earlier view of the hazard ahead. His view is (in arguendo) not obstructed by another vehicle. In contrast, the following vehicle has a possible sight obstruction created by the lead vehicle, reducing the following vehicle driver's ability to perceive the hazard.

The following vehicle also has different information than the lead vehicle; in particular, the hazard may be in a different location than it was at the time the lead vehicle approached it (for example, a pedestrian may have ventured further across the road). The following vehicle has the additional cognitive load of assessing not only the hazard, but also the presence of the lead vehicle.

A case study demonstrating this phenomenon involves a pickup truck that was disabled in the left lane of a dark expressway. The first vehicle (a tractor-trailer) to approach the unlit pickup truck swerved to the right and avoided impact. The tractor-trailer then stopped on the right shoulder of the road, approximately 600 feet past the pickup truck.

The second vehicle, also a tractor-trailer, swerved onto the left shoulder to avoid the pickup truck. It was unable to avoid impact with either the pickup truck or the driver, who was standing on the shoulder. The forensic task was to determine why the following vehicle was not able to avoid a hazard that the lead driver successfully maneuvered past. Assuming that both drivers and vehicles were of similar characteristics, the difference in response to the hazard was due to the difference in information available to each driver.

The lead driver stated that no other vehicles were on the roadway, and that the right lane and right shoulder were unoccupied. So, the lead driver’s task was solely to avoid the disabled pickup truck (see Figure 1). He was able to do so by swerving to the right, at which point he had the width of a lane plus the shoulder to steer left after the swerve.

In contrast, the following tractor-trailer driver was presented with multiple hazards. The pickup truck presented the same hazard as the lead driver. But the presence of the lead tractor-trailer stopped on the shoulder required the following driver to assess whether adequate distance existed to swerve right around the pickup truck yet subsequently steer left to avoid contact with the lead tractor-trailer (see Figure 2). On the unlit road, the following driver may or may not have been aware that the lead vehicle was on the shoulder, not in the travel lane. The following driver also testified that a vehicle was in the right lane an unknown distance behind the following tractor-trailer. The perception-decision-reaction model most often used to describe a driver's response when presented with an immediate hazard does not allow an extended period of time to assess the available gap in front of a vehicle in a neighboring lane for a lane change, unless that information was available prior to the decision phase.
Figure 2. Daytime photograph of the following driver’s view of vehicles ahead.

The following factors applied to the two drivers as they assessed the hazard:

<table>
<thead>
<tr>
<th>Lead Driver</th>
<th>Following Driver</th>
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<tr>
<td>1. Time &amp; distance to swerve around hazard</td>
<td>1. Time &amp; distance to swerve around hazard</td>
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<tr>
<td>2. Time &amp; distance to regain lane position after the swerve</td>
<td>2. Time &amp; distance to regain lane position after the swerve</td>
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<tr>
<td>3. Time &amp; distance to avoid lead vehicle parked on the shoulder</td>
<td>4. Time &amp; distance to assess lead vehicle’s position on the shoulder or in the travel lane</td>
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<td>5. Assessment of gap forward of the vehicle in the right lane</td>
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Given the difference in factors each driver had to consider, and the limited amount of time in which to complete the decision process, it would be expected that the following driver would execute a difference avoidance maneuver than the lead driver.
The FORVM is a publication of the Forensics Professional Group (FPG) of the Human Factors and Ergonomics Society. Membership in the FPG is open to all people interested in the application of human factors and ergonomics to professional forensics practice. Membership in the Human Factors and Ergonomics Society is not required for membership in the FPG. For further information, contact the Central Office of the HFES: P.O. Box 1369, Santa Monica, CA 90406-1369, Phone: (310) 394-1811.
BALLOT FOR 2012 ELECTION OF FORENSIC PROFESSIONAL GROUP OFFICERS

Please vote for one person below by placing an X in the box to the right of the candidate’s name.

If you provide a “write-in” vote, keep in mind that they must be HFES and FPG members, and that they must be prepared to take on the responsibilities of the position.

Do not vote for more than one candidate per position.

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<thead>
<tr>
<th>Position:</th>
<th>Name of Candidate:</th>
<th>Vote</th>
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<tr>
<td>Chair</td>
<td>David Lenorovitz</td>
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<td>Program Chair</td>
<td>Ilene Zackowitz</td>
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<td>Treasurer/Secretary</td>
<td>Soyun Kim</td>
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To ensure there is only one vote per person, you must print and sign your name below, and mail or email this ballot to one of the addresses below before October 1, 2012:

Name: ______________________________ Signature: ______________________________

If returning by mail, send to: Joe Cohen, 5173 Waring Road, Suite 157, San Diego, CA 92120.

If returning by email, send to: joe@erroranalysis.com