



SurfTech



Volume 12, Issue 2 *The Newsletter of the Surface Transportation Technical Group* Dec. 2005

Driver's Seat **By Vicki L. Neale, STTG Chair**

Dear STTG Members:

As HF professionals, we all know that it is better to be proactive than reactive. An important part of being proactive is to have plans in place and rehearsed for emergencies. This hit home for me in a rather light-hearted way this past summer. One warm weekend afternoon while my family was at home, the fire alarm sounded and I heard my oldest daughter yell, "Fire, fire!" from the kitchen. My husband and I both ran to the kitchen to see smoke billowing in through the window. It turned out that my husband was burning our dinner on the grill outside. The only damage was a less than appealing dinner; however, when my husband and I called for the girls they did not reply. After a second or two we realized where they were – the girls had followed the fire evacuation plan we had rehearsed to get immediately out of the house and go to our meeting place. That was exactly where they were found. After my spouse and I had a good laugh about his "cooking" sending the kids running and screaming from the house, we talked about how nice it is to know that they can implement our plan if there ever is a fire.

Remembering this story, and knowing the reality of this past hurricane season, I am reminded of other types of emergency plans, specifically the emergency evacuation plans for my state. From meetings I have attended, I know that developing and updating the plans for hurricane evacuation is a major endeavor for the Virginia Department of Transportation. The task is difficult because the Eastern Shore of Virginia is densely populated and has traffic problems even on ordinary days.

There are a host of issues involved with trying to develop hurricane evacuation plans. Some of these are issues best left to meteorologists, such as tracking and updating storm conditions. Some issues are best left to emergency personnel, like predicting the storm impact and making the decision that it is best to evacuate. Some matters are handled by elected officials, such as giving a low income family the means to evacuate. Some of these issues require the skill of traffic simulation experts, such as how to best direct traffic to maximize efficiency.

Some of these issues require our skill. For example, what is the best way to affect a person's risk perception so they can be convinced to evacuate? What is the best way to convince someone to wait until called to evacuate to improve roadway throughput?

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Meetings of Interest

Applied Ergonomics Conference: March 6-9, 2006. Orlando, Florida. Visit <http://www.appliedergo.org/conference/> for more information.

Society of Automotive Engineers 2006 World Congress: April 3 – 7, 2006. Cobo Center. Detroit, Michigan. For more information visit <http://www.sae.org/congress/>

Intelligent Transportation Society of America 15th Annual Meeting and Exposition: May 7 – 9, 2006. Philadelphia, Pennsylvania. <http://www.itsa.org/annualmeeting.html>

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Driver's Seat (cont.)

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What is the best method for directing the traffic flow out of the area: static signs, variable message signs, radio announcements, a 511 system? What should the message be? What is the best method to convince someone to drive where directed when there are alternative routes? How can people be convinced to use public transit? What is the best method to get information out to the public?

These are only a few of the human factors issues that need to be addressed in any mass evacuation plan. With the issue of evacuation plans on the minds of our politicians, hopefully there will be resources directed to answering these questions. When funding is limited, some of you may be able to volunteer time through your local government council to help your community be prepared for an evacuation (or prepared if an evacuation is not possible). Regardless, the opportunity to use your hard earned skill is there for the taking.

On another note, we had another great turnout at the Human Factors and Ergonomics Society 49th Annual Meeting in Orlando. Thanks to all who participated in the September 28th STTG Meeting and to those who joined us at the Nascar Café for dinner. Your STTG officers are planning another social gathering for those of you who will be attending the Transportation Research Board Annual Meeting for 6:00pm, Sunday, January 22, 2005 at Medaterra, a Mediterranean-American restaurant. There is no scheduled agenda or speakers – just come for a good time with your peers. Appetizers will be provided courtesy of STTG. The address is 2614 Connecticut Avenue (across from the Marriot Wardman), in Washington, DC. I will send out an email after the New Year to get an RSVP. I hope to see you there.

Meetings of Interest

16th World Congress on Ergonomics. July 10-14, 2006 Maastricht, Netherlands. The IEA-2006 Organizers cordially invite all interested in ergonomics and human factors or working in any related area of interest to propose a presentation. This invitation includes practitioners and students as well to present their findings. For more information visit <http://www.iea2006.org/index.asp?impf=05>

Human Factors and Ergonomics Society 50th Annual Meeting: October 16—20, 2006. San Francisco, California. Visit <http://www.hfes.org/web/HFESMeetings/06annualmeeting.html> for more information.

Transportation Research Board International Visualization in Transportation Symposium and Workshop: April 24—28, 2006, Denver, CO. Visit <http://trbvis.org/> for more information.

The 85th Transportation Research Board Annual Meeting: January 22—26, 2006, Washington D.C. Visit <http://www.trb.org/> for more information. The following is a schedule of sessions for the Transportation Research Board's Annual Meeting that may be of interest to STTG members.

TRB HFES STTG Dinner: January 22, 2006, Washington, D.C. Sunday at 6:00pm at Medaterra, a Mediterranean-American restaurant 2614 Connecticut Avenue (across from the Marriot Wardman), in Washington, DC.

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Meetings of Interest continued

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Human Factors Related Sessions at TRB

| <i>No.</i> | <i>Function Title</i> | <i>Location</i> | <i>Time</i> |
|------------|--|-----------------|----------------------------|
| 223 | Health and Transportation | H | Monday, 8:00 AM–9:45 AM |
| 227 | Probing Travel Behavioral Decision Processes: Experiments and Findings | H | Monday, 8:00 AM–9:45 AM |
| 257 | Older Person Driving Safety, Behavior, and Policy Research | M | Monday, 10:15 AM–12:00 PM |
| 345 | Traffic Sign Research | M | Monday, 3:45 PM–5:30 PM |
| 377 | Nighttime Safety Belt Enforcement: Means for Reducing Alcohol-Related and Unrestrained Fatalities? | M | Monday, 7:30 PM–9:30 PM |
| 408 | Pedestrian Issues at Highway-Rail Grade Crossings | M | Tuesday, 8:00 AM–9:45 AM |
| 412 | Young Driver Safety Issues | M | Tuesday, 8:00 AM–9:45 AM |
| 485 | Driver Performance Assessment Using Simulators | M | Tuesday, 1:30 PM–3:15 PM |
| 491 | Pavement Marking: Visibility and Durability | M | Tuesday, 1:30 PM–3:15 PM |
| 622 | From the Board Room to the Nursery: Women's Travel Behavior and Safety | H | Wednesday, 8:00 AM–9:45 AM |

H = Hilton, M = Marriot

Workshops at TRB

Complete Streets: Balancing User Needs In Suburban Design 158

1:30pm- 5:00pm, Shoreham, Blue Room

In this workshop, leaders will explore methods to systematically design for “Complete Streets” – roads that accommodate all users. It will include a special focus on the suburban setting. This workshop will explore how to evaluate the various suburban user needs in combination to create a design solution. The challenge is how to weigh the benefits for one user versus a benefit to another user, and how to do so on each project. A panel of complete streets specialists will help attendees better understand the basic complete streets principle. The attendees will also learn to use tools available for routinely designing streets for many types of users. Planners from Charlotte, North Carolina will present their new system for evaluating and planning for all modes as an interactive case study. The attendees will break into groups to work on a sample scenario using the principles developed in the case study community before being presented the conclusion to the case

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Meetings of Interest continued

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study. This workshop will consider various transportation modes and community groups including but not limited to: motorized vehicles, bicycles, pedestrians, bus transit, older persons, land development & planning, and access management.

Wayfinding: Research, Regulations, and Reality--Geometric Design to Optimize Usability for Pedestrians Who Are Blind or Have Low Vision 144

9:00am- 5:00pm, Marriott, Maryland A

Motivated by the US Access Board's 2002 publication of draft accessibility guidelines for the public right-of-way, researchers and practitioners are turning their attention to understanding the effects of geometric design on wayfinding among pedestrians who have vision loss. Key geometric design issues include sidewalk design and location criteria; curb ramp directionality; crossing location; directional cuing within the crossing, and information about interruptions in the travel route. This session will present orientation and mobility techniques, findings from current research, and present the recommendations of an ITE workshop (Fall 2004) on wayfinding -- a series of standard intersection design templates based upon curb radius for attached and separated walkways at both signalized and unsignalized crossings. This background will set the stage for an on-the-street exercise in the afternoon led by Janet Barlow, COMS.

New Frontiers in Visibility Technology 142

9:00am- 5:00pm, Marriott

This session will explore recent developments in signing, markings, lighting and vision enhancing systems for drivers. The application, costs and benefits of these developments will be discussed. Their value from human factors, safety, traffic operations, maintenance and ease of application will be examined. The situational characteristics pointing to successful application of the various systems will be noted. Participants will have ample time to share experiences with these systems and discuss implementation issues.

Building Transit Ridership 116

8:30am-12:00pm, Hilton, Georgetown East

The workshop will present an overview of the topic and several key subjects: Transit Cooperative Research Program Project H-32 on ridership; federal perspective and initiatives; federal focus on high ridership, including the Innovative Ridership Strategies Website; external and internal factors affecting ridership, and their relative impacts on ridership; identification of service needs and opportunities; and, successful examples of transit agency ridership strategies.

Danger, People Working: Multi-modal Lessons on Improving Safety Through Work Process Observations and Process Improvement Methods 139

9:00am- 5:00pm, Marriott

Human factors research in safety has traditionally focused on individual and work site factors that contribute to human error. Recently it has broadened to include organizational factors as well. With this development work process observations and process improvement have received interest. Work process observations (aka behavior based safety) methods use observation and feedback to foster safe practices. Process improvement methods provide a systems view of root causes and help ensure follow through on corrective actions. This workshop session will explore how to combine these two methods to achieve significant improvements in

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Meetings of Interest continued

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safety levels and culture. Case studies from three transportation modes will present their objective results and lessons learned. All presenters will report on documented objective measures of effectiveness and implementation best practices.

- Carlos Comperatore will describe "Crew Endurance Management", a program that uses confidential observations and coaching to improve endurance in maritime settings.
- Jeff Hickman will describe a case study where truckers used self-observations to increase their safety levels.
- Peter Hall and John Falaris from Amtrak will report on a peer-to-peer observation/coaching and process improvement process entitled "Employee Alliance for Great Levels of Excellence in Safety" implemented with baggage handlers. They were able to achieve success in spite of a significant company downsizing occurring at the same time.
- Mark Ricci will report on freight rail efforts to apply peer observations as well as the correlation between observations and injuries/accidents. In addition, he looked at attitudes of participants in the highly bounded craft railroad work groups.

Fatigue in Transportation: Issues and Countermeasures for the Operators of Trucks, Trains and Automobiles 140

9:00am- 5:00pm, Marriott

In all modes of transportation, operator fatigue poses serious safety concerns that have garnered much political and public attention, and subsequently, publicly funded research. Yet, despite these research efforts, the scope of the problem is still unclear. For example, epidemiological studies with light vehicles indicate that fatigue is a contributing factor in 2 to 4 percent of crashes; however, recent naturalistic studies indicate that fully 12 percent of all crashes are fatigue-related. In the commercial vehicle domain, research finds that this percentage may be over 20 percent, and may be much higher for certain types of crashes (fatal single vehicle roadway departure crashes). Rail industry research has yet to be able to reliably estimate this percentage given current constraints in its data surveillance systems. However, researchers strongly believe that fatigue is a much greater factor in rail incidents than the one or two reported annually. In this workshop, participants will explore the role of fatigue in operator safety for three transportation domains: heavy trucks, rail, and passenger vehicles. The participants will interactively discuss the implications of recent operator fatigue research and the effectiveness of mitigating approaches. Mini-tutorials on fatigue countermeasures being developed will also be presented. The workshop will focus on current research activity and to identify future research needs and opportunities.

Applied Human Factors Principles in Emerging Methods for Safety 137

9:00am- 5:00pm, Marriott

The session will explore new approaches to the integration of human factors and explicit safety, with emphasis on: basing design on standards of empirical human factors studies; diagnosis of crash causes through human factors approaches and crash investigations; and identification and selection of cost effective safety measures through the quantification of expected safety effects. The application of these approaches will provide designers with a better understanding of the road user's needs and limitations when design future roads and improving existing ones. The explicit consideration of safety means that planners

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Meetings of Interest continued

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and designers will strive to quantify the impact of their planning and design decisions in terms of the the future safety of a given road, and by doing so, they will form better decisions than they would if assuming safety were always implicitly considered in our policies and guidelines.

Cause, Effect and Intervention: Present and Future Directions in Road Safety Research 126

8:30am- 5:00pm, Marriott, North Carolina

The purpose of this workshop is to be a forum for discussing present road safety research approaches, assessing their strengths and weaknesses and suggesting promising future directions. The workshop should be of interest to researchers, those who manage and fund road safety research programmes, and those who make use of road safety research results.

Community Mobility and Supportive Transportation: Special Considerations for Dementia and Other Functional Impairments Among Older Drivers 138

9:00am- 5:00pm, Marriott

Community mobility for older adults involves balancing two major, often competing, outcomes--public safety and autonomy. When driving impairments emerge, community mobility options become paramount in transitioning driver to passenger. A new paradigm is needed that include both senior- and dementia-friendly criteria for meeting the transportation needs of an aging society. This workshop will focus on several issues:

- Assessment of visual, cognitive, and motor function plus sensitivity of tools in assessing the driving skills of persons with dementia and other functional impairments
- Ethical and legal reporting issues
- Importance of counseling on driving cessation and referral to supportive transportation options
- Defining what might be considered “supportive transportation,” why it is needed, and who is doing it
- Strategies for enhancing existing systems by including elements of supportive transportation
- Recommendations for transportation providers on better meeting the needs of older adults with dementia and other functional impairments and resources necessary to implement them

How Do I Prove My Program Works--Understanding the Science of Evaluating Older Driver and Mobility Programs 141

9:00am- 5:00pm, Marriott

A variety of efforts have been developed in recent years to promote safe driving practices and reduce crash risk among older adults who have higher rates of crash involvement per mile driven than most other age groups. Older driver and mobility initiatives have ranged from self-assessment tools, public information and social marketing, behavior modification, and treatment interventions, to alternative transportation service models designed to maintain mobility among non-drivers. With an increased focus in the transportation field on implementing evidence-based practices, the science of identifying “best practices” should be more uniformly and widely applied. This workshop will focus on topics that include: a review and update of scientific methodology of evaluating driver and mobility programs; the design, analysis, and interpretation of findings ranging from program implementation to safety outcomes such as crash rates; and recommendations for implementing evidence based safety and mobility programs within local communities.

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Meetings of Interest continued

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Medical Disorders and Vehicle Operator Performance Workshop 127

8:30am- 5:00pm, Marriott, South Carolina

This workshop examines how medical conditions affect vehicle operator performance. The workshop focuses on automobile driving, but discussions will be relevant to commercial drivers, and to railroad, aircraft and marine operators.

New Frontiers in Visibility Technology 142

9:00am- 5:00pm, Marriott

This session will explore recent developments in signing, markings, lighting and vision enhancing systems for drivers. The application, costs and benefits of these developments will be discussed. Their value from human factors, safety, traffic operations, maintenance and ease of application will be examined. The situational characteristics pointing to successful application of the various systems will be noted. Participants will have ample time to share experiences with these systems and discuss implementation issues.

Road Safety in Developing Countries 168

1:30pm- 5:00pm, Hilton, Military

Each year, 1.2 million people worldwide are killed in traffic accidents and 50 million are injured, and most of these casualties occur in less-developed countries. The problem is increasing as (motorized) mobility grows rapidly in developing countries. Currently, road safety costs these countries 1 to 2% of their gross national product, which is 1.5 times greater than what these countries receive in foreign aid. Traffic accidents are a primary cause of deaths among active-age populations in these countries. The World Health Organization (WHO) and the World Bank have made addressing road safety a key priority in their programs worldwide. This workshop presents the findings of recent studies carried out by WHO, the World Bank, and others on the impacts of the road safety problem and what can be done to improve the situation. The focus will be on: -The social cost of road crashes -The road safety dimension of sustainable transport in urban contexts -Investing in road safety as a development priority: scaling up initiatives

Standardized Driving Simulator Performance Measures 143

9:00am- 5:00pm, Marriott, Wilson C

Considering the rapidly increasing use of simulators for transportation research as well as growth in the use of simulation technology for training, assessment, and driver advisement, standardization of measures has become increasingly important. This workshop will build upon a successful workshop held at last year's TRB meeting, to focus on the definition of simulation scenarios from the standpoint of the intended performance measures. Whereas the implementation strategy and fidelity of the simulation are equally important in comparing and ultimately standardizing scenarios, they are secondary factors to the performance measures. The approach of the workshop will be to first categorize performance measures in groups based on the fundamental attributes they seek to evaluate, and then define measurement techniques for each group. Measurement techniques can eventually be linked into actions involved in driving.

These actions, in turn, can lead into driving situations that can be converted into driving simulation scenarios, with device specific tools. Related to this is also how simulator fidelity can affect measurement, which if quantified, can lead to useful comparisons between scenarios on different devices. The key difference from last year's simulator standards workshop is that we will focus on performance measures, not implementation, as a way of comparing scenarios. We also plan to build on our prior workshop by extending the work that was done there.

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Meetings of Interest continued

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Why Crashes Happen--Factors Associated with Crash Causation--Human Factors Insights from In-Depth Investigations 145

9:00am- 5:00pm, Marriott, Wilson B

The first major US study of the causes of crashes was conducted by Indiana University in the 1970s (Tri-Level Study of the Causes of Traffic Accidents). What impact did it have on our understanding of crash causation? On highway safety? And on follow-up research? How did the Large Truck Crash Causation Study (LTCCS) evolve from this and how did this develop into the National Motor Vehicle Crash Causation Survey (NMVCCS)? What types of data are collected—what type of human factors data are available in the LTCCS and NMVCCS? What types of data are not collected, and possibly should be? What questions need to be answered about the involvement of human factors in precipitating crash events and what can and can't be collected about human factors from in-depth investigations? What are some challenges of after-the-fact investigations? What types of data analyses can be performed on this data? What new insights have already been obtained? Can our insights be supplemented by other types of crash causation studies? Suggestions for additional data needs, data collection, and possible data analyses will be discussed.

Fatigue in Transportation: Issues and Countermeasures for the Operators of Trucks, Trains and Automobiles 140

9:00am- 5:00pm, Marriott

In all modes of transportation, operator fatigue poses serious safety concerns that have garnered much political and public attention, and subsequently, publicly funded research. Yet, despite these research efforts, the scope of the problem is still unclear. For example, epidemiological studies with light vehicles indicate that fatigue is a contributing factor in 2 to 4 percent of crashes; however, recent naturalistic studies indicate that fully 12 percent of all crashes are fatigue-related. In the commercial vehicle domain, research finds that this percentage may be over 20 percent, and may be much higher for certain types of crashes (fatal single vehicle roadway departure crashes). Rail industry research has yet to be able to reliably estimate this percentage given current constraints in its data surveillance systems. However, researchers strongly believe that fatigue is a much greater factor in rail incidents than the one or two reported annually. In this workshop, participants will explore the role of fatigue in operator safety for three transportation domains: heavy trucks, rail, and passenger vehicles. The participants will interactively discuss the implications of recent operator fatigue research and the effectiveness of mitigating approaches. Mini-tutorials on fatigue countermeasures being developed will also be presented. The workshop will focus on current research activity and to identify future research needs and opportunities.

Voice of the Customer 171

1:30pm- 5:00pm, Hilton, Jefferson West

Customer satisfaction research is relatively new to the transportation industry. Measuring customer satisfaction is more than putting out a simple "report card." Even more, how agencies handle satisfaction data is critical to success. Today's business enterprises deal more and more with "Voice of the Customer (VOC)," a process of learning and understanding. What part does VOC process play in measurement?

STTG Announcements

HFES STUDENT AWARD

The 2005 STTG Best Student Paper winner is Zhonghai Li of the University of Toronto. His paper, "An Empirical Investigation of a Dynamic Brake Light Concept for Reduction of Rear-End Collision Accidents During Emergency Braking" with co-author Paul Milgrim was judged to have the most insight and original thinking, solid scientific rigor, and clean presentation. Congratulations Zhonghai for a fantastic effort. If you would like to contact Zhonghai please use the following information:

Zhonghai Li
University of Toronto
5 King's Colloge Road, Toronto, Ontario, Canada, M5S 3G8
1-416-978-3776
<mailto:zhonghai@etclab.mie.utoronto.ca>

STTG WEBSITE

You are invited to peruse the HFES Surface Transportation Technical Group's website at <http://sttg.hfes.org>. The site contains an abundance of great information including previous STTG newsletters, STTG officers, and more.

STTG PAPER REVIEWERS NEEDED FOR HFES 2006

The call for papers will be released on January 6 and the submission deadline for the 2006 HFES Conference is March 1, 2006. Chris Monk, the 2006 Technical Program Chair, is looking for volunteers to review submissions. The goal is to have enough reviewers so that no one reviews more than two papers. This is also a good time to begin developing ideas for innovative, cosponsored, or special presentations/sessions to ensure that complete proposals will be ready for the March 1 submission deadline. Please contact him at <mailto:gmonk@gmu.edu> if you would like to volunteer or have an idea for alternative presentations or session ideas.

AWARDS NOMINATION

Do you know of someone who has made a significant contribution in the area of surface transportation? Would you like to see them formally acknowledged for their service or professional efforts? Each year HFES accepts nominations for several awards designed to acknowledge the service or professional contributions of members within HFES. Please help us gain recognition for surface transportation members within HFES by identifying and nominating a person for the following awards. All applications are due March 30, 2006 so please act quickly.

The Surface Transportation Technical Group is also seeking one to two volunteers to put together nominations packets for one or more of the Society's Awards. The work would take place between January - March 2005 and would consist of soliciting letters of support, filling out the HFES forms, and submitting the completed package on time. This is not a long-term commitment and would greatly help the STTG. If you are a student looking to expand your network and meet more of your peers this is an excellent opportunity as there is no need to be a full member of HFES to coordinate this activity.

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STTG Announcements continued

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If you would like to nominate an individual or volunteer, please contact Vicki Neal as soon as possible at <mailto:vicki@vti.vt.edu>

The title of HFES Fellow recognizes contributions to the Society in terms of service and professional activities. Nominations are due March 30, 2006.

Distinguished International Colleague Award: This award recognizes a non-U.S. citizen who has made outstanding contributions to the human factors/ergonomics field (Application is due 3/30/2006).

Paul M. Fitts Education Award: This award identifies a person who has made exceptional contributions to the education and training of human factors specialists. Candidates considered for this award should include persons currently or previously engaged in college or university teaching of human factors material and/or those who have written significant textbooks in the human factors field (Application is due 3/30/2006).

A. R. Lauer Safety Award: This award recognizes a person for outstanding contributions to human factors aspects in the broad area of safety. This includes human factors work that has led to reduced accidents and injuries in industry, aviation, surface transportation, and consumer products, among others (Application is due 3/30/2006).

Alexander C. Williams, Jr., Design Award: This award is intended to recognize those who have made outstanding contributions to the conception or design of any product, service, or system that has had a significant impact on users and exemplifies the excellent use of empirical human factors design principles (Application is due 3/30/2006).

Jack A. Kraft Innovator Award: This award honors a person for significant efforts to extend or diversify the application of human factors principles and methods to new areas of endeavor (Application is due 3/30/2006).

The O. Keith Hansen Outreach Award: This award was established in 2003 to recognize members and nonmembers who engage in significant activities that broaden awareness of the existence of the human factors/ergonomics profession and the benefits it brings to humankind (Application is due 3/30/2005).

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STTG Announcements continued

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FHWA WHITE PAPER CONTRIBUTIONS REQUESTED

Barry Kantowitz is working on a white paper for FHWA concerning the use of driving simulators for design and roadways. A major goal of the paper is to increase awareness among states of this simulator application. While he has found several European examples, it has been difficult to locate U.S. studies. If you are involved in such research, please send him a description at <mailto:barrykan@umich.edu>.

RELOCATION

Bill Horrey finished his Ph.D. and has accepted a position at Liberty Mutual Research Institute for Safety. His new contact information is:

William Horrey, Ph.D.
Research Scientist
71 Franklin Road
Hopkinton, MA 01748

Phone: 508.497.0237 Fax: 508.435.0482
Email: william_horrey@libertymutual.com
Liberty Mutual Research Institute for Safety



General Announcements of Interest to the STTG

2006 MEETING OF THE HUMAN FACTORS AND ERGONOMICS SOCIETY

The next annual meeting of the Human Factors and Ergonomics Society (HFES) will take place **October 16—20, 2006** in San Francisco, California.

Presentation Types

Numerous presentation formats are available (see table below), including a newer tutorial format aimed at providing practical “how-to” advice for those new to the profession. Alternative formats (on-site experiments, simulations, etc.) are also encouraged. For a detailed description of the various presentation types and submission requirements, please refer to the formal HFES “Call for Proposals” which will be available soon on the HFES website soon <http://www.hfes.org/web/HFESMeetings/06annualmeeting.html>.

- Colloquia
- Debates
- Tutorials (NEW!)
- Alternative Formats
- Demonstrations
- Lectures
- Posters
- Panels
- Symposia
- Workshops

Where to Submit

Submissions and reviews will occur on-line this year. You must have e-mail access to have a proposal considered. When available all submissions must be uploaded to the HFES 2006 submission web site. Technical proposals require a 150 word abstract, and a 2000-word summary. Do not send proposals to the program chairs. Contact Tina Sayer or Chris Monk (Surface Transportation Program Chairs) if you have questions, and/or would like to serve as a proposal reviewer.

Important Dates

| | |
|--|-----------------|
| Call for proposals issues on HFES website: | January 6, 2006 |
| Proposals due: | March 1, 2006 |
| Acceptance/Rejection notification: | April 18, 2006 |
| Proceedings papers due: | June 26, 2006 |

Contact

Surface Transportation Technical Group Program Chair:

Chris Monk
Assistant Professor of Psychology
Human Factors and Applied Cognition Program
George Mason University
4400 University Drive, MS 3F5
Fairfax, VA 22030-4444
Email: <mailto:cmonk@gmu.edu>

SurfTech Thoughts

SurfTech Thoughts is a segment within the newsletter that poses an open ended question to STTG members in order to explore some broader issues within the purview of our activities and to gain insight from a broad spectrum of our group. At least one member (student or professional) is asked to furnish an approximately 500 word response to the central question.

In light of the historical context of in-vehicle technologies, are current in-vehicle technologies revolutionary or evolutionary?

Janet Creaser, HumanFIRST Program, ITS Institute, University of Minnesota

Long gone are the days of lounging on a mattress in the back your parents' station wagon on road trips. Children are harnessed and wired up to the DVD player. Dad doesn't need to stop for directions anymore because his in-vehicle navigation system knows exactly where he needs to go even if he doesn't (thus also preventing marital strife). The adaptive cruise control not only prevents leg cramps on long drives but reduces the frustration associated with the normal ebb and flow of traffic, which may reduce the desire to speed and the resulting consequences of that behavioral choice. In the near future, systems will warn of unsafe behaviors and potential collisions through auditory, visual and haptic feedback as an onboard system receives and sends information to other vehicles and the road infrastructure. In the distant future, segments of automated highway could relieve drivers of all burdens associated with driving.

It sounds very revolutionary. "What nifty ideas!" the general public might declare as they pop open the navigation system for the first time and pacify their kids with a "Toy Story" DVD. However, some of the ideas are not so revolutionary in the historical context of vehicles. The heavily harnessed and buckled children are constrained by the descendants of the first seatbelt. Dad's navigation system is the snazzier version of our old friend "the map" and the auditory directions delivered by the system are merely the follow-up to the gas station attendant of the past. As for the kids' DVD player? Merely a solution to the age-old problem of "Don't make me pull over!" These items are evolutionary. Perhaps the first seatbelt was a revolutionary idea, but the subsequent systems to support keeping passengers in the car (child seats, airbags, etc) are evolutionary adaptations of the original seat belt.

The iterative design, development and implementation process for new technologies make the systems we eventually see in vehicles evolutionary by nature. However, certain ideas about in-vehicle technologies are revolutionary. Until now, the focus was primarily on preventing an individual driver from crashing or being injured or killed in a crash. The concept of networks of vehicles talking to each other and to the environment as proposed by IVI is revolutionary. It fundamentally changes the way drivers interact with their vehicles, with other road users and with the environment. No longer will the driver be solely responsible for intuiting the actions of other vehicles and fully responsible for integrating the complexities of the environment into their decision-making. Although these systems will ultimately attempt to prevent the crashes of individual drivers, they do so with a broader consideration of the integrated system of drivers, other road users, and the infrastructure. Perhaps it was inevitable that the "Eureka" moment for IVI would occur as research evolved from investigating single, isolated problems to a fuller examination of potential interactions. We started by looking at the individual driver, the individual vehicle, and the individual road and evolved those into a systems approach dedicated to understanding the associations between driver, environment and vehicle.

STTG Membership

The Surface Transportation Technical Group (STTG) of the Human Factors and Ergonomics Society provides a forum for people involved or interested in transportation human factors to exchange information, research methods, and ideas that are being developed and/or applied in the international surface transportation field. Surface transportation encompasses numerous mechanisms for conveying humans with information and other resources in areas such as:

- Passenger, commercial, and military vehicles
- Mass transit
- Maritime transportation
- Rail transit, including Vessel Traffic Services (VTS)
- Pedestrian and non-motorists
- Highway and infrastructure systems, including Intelligent Transportation Systems (ITS).

In essence, surface transportation refers to all forms of transit outside the aerospace sector.

Benefits of Membership in the Surface Transportation Technical Group

The STTG, like other technical groups within the Human Factors and Ergonomics Society, performs a variety of functions and services for its members. The group holds business meetings at least twice a year. These meetings usually take place during the Transportation Research Board Meeting in the winter and at the HFES Annual Meeting in the fall. In addition to sponsoring technical sessions at the HFES Annual Meeting, the STTG conducts special symposia on topics of interest to members. The group also sponsors guest speakers, arranges tours, and holds discussions on issues directly affecting its members. The member's listserve is a venue for discussion that encourages informal contact among members. A newsletter is sent to all members two to three times each year, providing Society news, job announcements, conference notices, company and organization reviews, Worldwide Web tips, etc.

Additional information on the Surface Transportation Technical Group can be obtained by contacting:

Carlos de Falla
Director of Member Services
Human Factors and Ergonomics Society
P.O. Box 1369
Santa Monica, CA 90406-1369 USA
310-394-1811, Fax 310-394-2410
<mailto:carlos@hfes.org>
<http://hfes.org>

Membership Renewals

If you are already a member, please don't forget to check the box for STTG (Surface Transportation) on the HFES Membership renewal form. If you're not a member of HFES, you can still be a member of the TG. To renew your TG membership, complete the renewal form by marking the STTG box and submitting \$5.00 directly to HFES. Please visit for the application

<http://www.hfes.org/web/TechnicalGroups/technical.html>

STTG Editor

Michael P. Manser, Ph.D.
Research Associate
HumanFIRST Program
Institute of Technology
University of Minnesota
1100 Mechanical Engineering
111 Church Street SE
Minneapolis, MN 55455
<http://www.humanfirst.umn.edu>



**HUMAN FACTORS *and*
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Surface Transportation Technical Group

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