

# Aging Technical Group Newsletter



Spring 2015

## Message from the Chair

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Spring greetings from your Chair! I hope that you are enjoying the better weather and that you all have terrific plans for summer research (and vacation). We have received many wonderful papers for the fall conference and I am looking forward to hearing them and seeing everyone from the group.

I also wanted to give you a heads up about some events/elections that will be happening during the summer. During June, HFES will hold its first Ergo X conference in Anaheim, California. It's meant to be a conference for practitioners, and the speakers/topics are very interesting. You can see the program at: <https://www.hfes.org/Web/HFESMeetings/ergoX.html>. We will also be having elections for the Aging Technical Group during the summer. Look for more info in a few months, but think about running for an office. It's not a huge time commitment and you have the opportunity to work with many talented colleagues. In addition, we will also be asking for submissions for the student research scholarship (thanks to a generous donor, we awarded the first one last year).



Diana Schwerha

Best regards,

Diana J. Schwerha, PhD

## Charness Appointed as First Director of the Institute for Successful Longevity

Neil Charness, Ph.D., was named the first director for Florida State University's Institute for Successful Longevity in February 2015. Florida State University formed the Institute for Successful Longevity as a part of its overall commitment to studying and promoting a healthy, active life for people at and past retirement age. The institute relies on the collaborations of researchers from all areas of the campus and has affiliates from the Colleges of Arts and Sciences, Business, Communications and Information, Education, Engineering, Human Sciences, Law, Medicine, Music, Nursing, Social Sciences and Public Policy, Social Work, Fine Arts and the Claude Pepper Center. The university founded the institute in late 2013, and Charness initially served as the interim director.

The institute has also hosted a number of brown bag lunches where faculty members from different disciplines have explained their research areas and explored possible partnerships. Charness has also brought in nationally recognized experts on the subject of promoting successful longevity to speak at the university.

Charness joined the Florida State Department of Psychology in 1994, having previously taught at Wilfrid Laurier University in Ontario and the University of Waterloo, also in Ontario. He received his doctorate from Carnegie Mellon University.

He is a member of the editorial boards for the Journals of Gerontology: Psychological Sciences, Psychology and Aging, and Gerontechnology. He is a fellow of the Canadian Psychological Association, the Gerontological Society of America, the American Psychological Association and the Association of Psychological Science. He has been a visiting scholar at the VA Outpatient Clinic in Boston, the University of Victoria in Canada and the Max Planck Institute for Human Development and Education in Berlin.

He can be reached at [charness@psy.fsu.edu](mailto:charness@psy.fsu.edu).

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## Announcing the 2015 Human Factors Prize Topic: Human Factors and Ergonomics Research in Sustainability/Resilience

The topic for the 2015 Human Factors Prize is HF/E Research in Sustainability/Resilience. We seek articles that describe research pertaining to sustainable development that goes beyond a single human lifespan and instead focuses on future generations. Consideration should be given to the interaction between humans and systems over the course of the next few decades and beyond.

Sustainability/resilience is broadly defined as a branch of study that focuses on long-term preservation of vital global resources with the goal of reducing consumption to protect the needs of future generations. It is the ability for a complex system to adapt and thrive in the face of constant change and uncertainty. Current research in this area includes energy, transportation, agriculture, and climate change.

Papers are invited that, among other things, identify the impact of HF/E in sustainable systems and processes; develop and test strategies, models, and design protocols that combine HF/E with sustainability/resilience; take a global resilience perspective; describe innovative and proactive safety in resilience; and/or demonstrate HF/E influence on organizational or community resilience.

Suitable sample HF/E research topics may include, but are not limited to:

- Automation and robotics
- Biomechanical systems/tools
- Building/facility design
- Climate change
- Consumer product design

Emergency response  
Energy generation/distribution  
Environmental design  
Food production  
Health care/medicine  
Information architecture/dissemination  
Infrastructure resilience  
Macroergonomics and the environment  
Manufacturing systems  
Simulation  
Surface, sea, and space systems/transportation  
Software systems/services (e.g., finance, security)  
Water distribution/use  
Waste reduction/management

Exemplar articles from previous issues of Human Factors include the following:

Risk, Human Error, and System Resilience: Fundamental Ideas, Thomas B. Sheridan, June 2008, Volume 50, Number 3, pp. 418-426

With Eloquence and Humanity? Human Factors/Ergonomics in Sustainable Human Development, Dave Moore and Tim Barnard, December 2012, Volume 54, Number 6, pp. 940-951

Water and Coffee: A Systems Approach to Improving Coffee Harvesting Work in Nicaragua, Barbara A. Silverstein, Stephen S. Bao, Steven Russell, and Kate Stewart, December 2012, Volume 54, Number 6, pp. 925-939

We are not seeking examples that describe how HF/E or usability research has been applied to the design of sustainable or resilient systems or processes, which may be more suitable for a venue such as Ergonomics in Design.

If you are not certain your topic relates to the theme of the 2015 Human Factors Prize, please contact Lois Smith.

Submissions (research articles or extended multi-phase studies are welcome) must adhere to the policies of general submissions of Human Factors. This includes length restrictions, originality, and formatting.

### **Eligibility**

Submissions must cover original (unpublished) research in the topical area and comply with the requirements in the Human Factors Instructions for Authors. Review articles are not eligible for the Prize.

Any researcher is eligible to submit relevant work; membership in HFES is not required.

The winning submission, along with other acceptable submissions, will be published in Human Factors.

### **Where to Submit**

All submissions must be uploaded to the Human Factors Manuscripts site.

### **Deadline for Submissions**

Submissions must be received beginning on Monday, June 1, and no later than 11:59 p.m. Eastern time on Wednesday, July 1, 2015.

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## Alarming Old and Young Drivers

An in-car alarm that sounds when sensors on the vehicle detect an imminent crash could cut crash rates from 1 in 5 to 1 in 10 for drivers over the age of 60 suffering tiredness on long journeys, according to a study published in the *International Journal of Human Factors and Ergonomics*.

Psychologist Carryl Baldwin of George Mason University in Fairfax, Virginia, USA, and colleagues there and at the Sentara Norfolk General Sleep Center, emphasize how fatigue poses a persistent threat to transportation safety. Alarms that sound when a vehicle senses an imminent collision or when a driver deviates from their lane have already been tested and shown to work with alert drivers. Baldwin and colleagues wanted to know whether an alarm would reduce the accident rate in older and younger drivers who were suffering from fatigue.

Two volunteer groups, one aged 18-29 years and the second 65-85 years were each split into two groups, four groups in all. They had each group of volunteer drivers take control of a car simulator for one and a half hours to induce driver fatigue and assessed this based on faltering lane discipline among the drivers. They were then tested to see how well they would respond when a single imminent collision event was simulated. Half the young drivers and half the older drivers were given an audible alarm when the collision was about to occur and the other half of each group, the controls had to try and avoid the collision with no auditory warning.

The team found that almost 18% of the drivers not given an auditory warning crashed in the simulated collision. However, only about 11% had a collision if the alarm was sounded. Auditory warnings were most effective in the older group with only one driver over the age of 60 being unable to avoid a collision despite hearing the alarm. Disappointingly, the team says, the auditory warning had little impact on crash rates in drivers under the age of 35. An additional finding, not reported in the paper for statistical reasons is that young female drivers also responded safely when the alarm sound but young males did not.

The team points out that average following distance and speed were fairly constant across the alarm and the control groups for each age range, although the over-60s tended to drive at a much greater following distance than the youngsters. Despite this, no auditory warnings meant even the older drivers, with presumably longer reaction times, than the younger drivers, had approximately the same collision rate.

The team suggests that an in-car collision alarm could be a useful safety device for vehicles. They also point out that the rate of fatigue-induced accidents in which drivers deviate from their lane or the road entirely might just as readily be reduced if alarms for those situations were part of such a safety device's repertoire too, although the simulations are yet to be done for that type of accident. They do warn that as with all vehicle safety features, they must also be assessed for over-reliance to avoid drivers becoming complacent and ignoring the signs of tiredness.

The team has more recently been testing drivers' reactions to different types of auditory and multimodal alarms.

For more information, please visit <http://psychology.gmu.edu/people/cbaldwi4> or contact Carryl Baldwin, Ph.D., at [cbaldwi4@gmu.edu](mailto:cbaldwi4@gmu.edu).

References can be found on Page 5.

## References

**Baldwin, C.L., May, J.F. and Parasuraman, R.** (2014) 'Auditory forward collision warnings reduce crashes associated with task-induced fatigue in young and older drivers', *Int. J. Human Factors and Ergonomics*, Vol. 3, No. 2, pp.107-121.