

Forensics Professional Group  
The Human Factors and Ergonomics Society

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## 60<sup>th</sup> HFES Annual Meeting Proposal Deadline

September 19-23, 2016, Washington, DC

The deadline for submitting proposals to the 60<sup>th</sup> HFES Annual Meeting is **Monday, February 8**.

Consult the HFES [Call for Proposals](#) for complete details about submitting your work.

Final proceedings papers are due at the end of May.

## FPG Officer Elections: Call for Nominations

The current FPG officers will step down at the annual HFES conference in Washington, DC. Now is the time to nominate candidates to fill our elected offices – **Chair, Secretary-Treasurer, and Program Chair**. Nominees must be a Full Member of the Society and a member of the technical group.

- **TG Chair** has overall responsibility to ensure that the group meets its minimum requirements. The Chair represents the TG as a member of the Council of Technical Groups.
- **Secretary-Treasurer** records meeting minutes. Together with the Chair, the ST is responsible for the TG's finances.
- **Program Chair** is responsible for overseeing the technical review of proposals submitted for the HFES Annual Meeting.

Please submit your nominations to Joseph Cohen at [joe@erroranalysis.com](mailto:joe@erroranalysis.com) on or before **March 15, 2016**. Self-nominations will be accepted.

FPG elections are slated for late April.

## Article: The Hitchhiker's Guide to Having Your Hand Run Over

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By Mack Smith, Jason Young, and Erin Potma ♦ Advantage Forensics, Toronto, Canada

Consider the following unique but actual forensic case scenario: you're walking through a supermarket parking lot carrying groceries, when you suddenly slip on a patch of ice and fall to the pavement. You roll over onto your front and prepare to pick yourself up when an inattentive motorist driving a pickup truck passes by and runs over the fingers of your outstretched hand on the pavement. Maybe the truck stops right on your fingers, or maybe the driver keeps going by and never sees you, but in either case, your instant reaction is that the two-and-a-half ton vehicle has surely crushed your fingers. As it turns out, that is likely not the case.

Based on published values for the bending strength and transverse compressive fracture stress of cortical bone, the distributed weight supported by one wheel of a pickup truck is insufficient to crush normal phalangeal bone with the palm facing downward. Even under the distributed load exerted by one wheel of a city bus, finger bones would be capable of resisting fracture in such a case. With no reaction by the pedestrian, the resulting damage would be limited to abrasions and nail damage from compression and friction against the pavement.

In fact, numerous YouTube videos are available demonstrating documented cases of people allowing their palm-down hands and feet to be intentionally run over by vehicles at low speed with no apparent fractures resulting.

Unfortunately, the 'knee-jerk' avoidance reaction that an unsuspecting person would experience in such cases can result in phalangeal fracture injuries that would otherwise be avoided. The first reflex reaction that a pedestrian would have to such a situation is to pull their hand away. The trapping force of the tire and pavement against the fingers hinders this natural reaction, which occurs with the wrist extended at nearly a right angle and the palm flat on the ground. As a result, the reflex motion transfers the extension angle to the interphalangeal (IP) and metacarpophalangeal (MCP) joints.

Unlike the MCP joints, tendons and ligaments around the IP joints cannot withstand 90 degrees of extension. As a result, the forced extension of IP joints causes tendons of flexor muscles to avulse from their phalangeal insertions and the IP joint capsule may be compromised. In all of the YouTube demonstrations, the willing test subject kept their hand still as it was run over.

So if you find yourself in the unfortunate position of having your hand or foot run over, and it is too late to move out of the way, remember these two words and you may escape injury: DON'T PANIC. Keeping your hand firmly on the ground and suppressing the urge to pull your hand away will likely avoid a fracture.

### In the Literature

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By Ken Nemire, H. Harvey Cohen, Dan Johnson, and Gary Sloan

Walkways are often built and maintained according to codes or standards that become outdated, or are not backed up by research. Such documents are created through consensus by committees based on a number of factors including historical precedence, common practice, cost, and, sometimes, empirical data.

Two recent publications examine many elements of common walkway codes and standards related to changes in level, stairways, stair handrails, lighting, slip resistance, and warnings and markings. The publications feature discussions about which elements are based on or supported by empirical data and which could benefit from additional scientific research.

These articles are:

Cohen, H.H., & Sloan, G.D. (2016). The science behind codes and standards for safe pedestrian walkways: Lighting and visual cues. *Applied Ergonomics*, 52, 112-119.

Nemire, K., Johnson, D., & Vidal, K. (2016). The science behind codes and standards for safe walkways: Level walkways, stairways, stair handrails and slip resistance. *Applied Ergonomics*, 52, 309-316.

## From the Newsletter Editor

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By Joe Cohen

This is an announcement to all FPG members that I will step down as the newsletter editor at the HFES Annual Meeting in DC. This issue of the FORVM is number 10 since Ken Nemire turned over the duties to me in 2010. Over the past six years, I have striven to produce an accurate, relevant, and timely publication for the membership. I have enjoyed getting to know many of you in this position, and look forward to the opportunity to serve the FPG again in another capacity sometime soon.

## Upcoming Events Calendar

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- **Annual International Conference of the Chartered Institute of Ergonomics & Human Factors**  
April 10-14, 2016, Daventry, United Kingdom
- **International Symposium on Human Factors and Ergonomics in Healthcare: Shaping the Future**  
April 13-16, 2016, San Diego, CA
- **ErgoX: An Extraordinary Ergonomics Event**  
June 6-8, 2016, Anaheim, CA

## HFES Awards Nominations Reminder

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Nominate a colleague for one of the eight society awards that honor individuals whose contributions merit special recognition. Nominees are not required to be HFES members, but only members may submit nominations **on or before March 31**.

The eight awards for which nominees are sought are as follows:

- Hal W. Hendrick Distinguished International Colleague Award
- Paul M. Fitts Education Award
- A. R. Lauer Safety Award
- Alexander C. Williams, Jr. Design Award
- Jack A. Kraft Innovator Award
- Oliver Keith Hansen Outreach Award
- William C. Howell Young Investigator Award
- Bentzi Karsh Early-Career Service Award



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 a professional forensics practice. The FPG 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.