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Ballot Reform Gets an Airing

On March 16, HFES Past President David D. Woods testified at a congressional briefing, "The Mechanics of Election Reform: From Registration to Results." Woods was one of four invited speakers in the session, which was cosponsored by the American Political Science Association, American Psychological Association, and Consortium of Social Science Associations in support of the Decade of Behavior theme of Democracy.

The purpose of the briefing was to inform congressional staffers about research results on issues such as the human-machine interface in ballot technologies in order to help formulate solutions to the problems. It was organized to bring a psychology perspective to the issues in response to a number of competing bills submitted to the U.S. House and Senate. (All those bills have been referred to the Committee on Rules and Administration in the Senate and to various committees in the House.)

Woods explained that the human factors/ergonomics literature is replete with studies about how the human-machine/system interface in areas such as aviation, medicine, and space exploration can be improved. He noted the frequency with which the user is blamed when something goes wrong and that in some cases, the system allows no means by which the user can recover from the error. "We can make no productive progress if we do the blame game of either dumb users or poor design," he said. "Instead, we have to look at the integrated system of people interacting with a device to accomplish their goals."

Woods asserted that recent attention to the high rate of medical errors is leading to the rapid development of usability testing standards that may help prevent errors and that such troubleshooting systems could easily be applied to the mechanics of election reform. "We have techniques for usability testing . . . methods that are economically suited to fit the requirements of organizations under budget pressure."

But, he told the audience, "I don't want you to think about it simply as replacing antiquated technology. . . . A couple of things are absolutely critical. Give people feedback in their interactions so they can see the results of their actions. What does the machine think I voted for? . . . Second, [we need] a visible audit trail. The feedback does not just apply to the voter, it applies to the entire set of election officials who are involved in the tallying process and potentially the recounting process."


In a background piece coauthored with HFES Immediate Past President Peter Hancock, Woods identified at least three human factors-related issues that caused problems for Florida voters in the November 2000 election. The so-called butterfly ballot violated one cardinal design rule: Avoid mirror images in the layout

of options. Second, the alignment of arrows identifying which hole to punch for which candidate may have led to the parallax factor, or "angular displacement of two objects at different distances along (or near) the viewer's line of sight." A third issue concerned outside factors that may have affected people's ability to ask for help if they wanted to correct a mistake.

Woods concluded his testimony with a reminder "that technology alone is not sufficient. Our human intelligence, and how we wield and use that technology in the context of the democratic process, is what matters. . . . The research base is there. We just have to get to work and apply it to this particular context."

Also addressing the technological issues of voting at the briefing was Charles Stewart, professor of political science at the Massachusetts Institute of Technology. He and others from MIT, with researchers from the California Institute of Technology, are working on a joint project to develop an easy-to-use, reliable, and affordable voting machine. Following Woods' comments, Stewart echoed the need for better usability in existing devices. (The Cal Tech-MIT Voting Technology Project team evaluated a variety of voting devices used in the 1988, 1992, 1996, and 2000 presidential elections; a report can be found at <http://www.vote.caltech.edu>.)

According to Geoff Mumford, director of the American Psychological Association's Science Policy Office, it is hoped that the March 16 briefing will encourage those enacting election reform to "make every effort to understand why thousands of votes were shot down even where the technology appeared to be bullet-proof." Echoing that sentiment in a letter to the editor of the *Washington Post*, HFES President William Howell added, "More generally, we hope those responsible for making and implementing election reform policies understand that no matter how sophisticated the technology, voting requires an interaction of human with machine, and a poor fit will inevitably result in errors. Election reform leaders should recognize that there is a wealth of scientific knowledge available on how to achieve a good fit and minimize the disturbing error rates cited in the 2000 election."

Visit the Decade of Behavior's Web site, http://www.decadeofbehavior.org/er_main.html. 

HFES election ballots will be mailed in May. Please see the list of nominees on page 2. If you are a full member in good standing and have not received your ballot by the end of the month, please contact the central office at 310/394-1811 or membership@hfes.org.

HFES Election

This year's nomination ballots have been tallied, and the following candidates have agreed to run for office. Ballots will be mailed in May to all Members and Fellows in good standing.

President-Elect

- Barry H. Beith, president, HumanCentric Technologies, Inc., Cary, North Carolina
- Marvin J. Dainoff, professor, Psychology Department, Miami University, Oxford, Ohio
- Thomas J. Smith, research associate, Human Factors Laboratory, University of Minnesota, Minneapolis, Minnesota

Secretary-Treasurer-Elect

- David J. Cochran, professor, Department of Industrial Engineering, University of Nebraska, Lincoln, Nebraska
- Mica R. Endsley, president, SA Technologies, Marietta, Georgia
- Sheree Lee Gibson, engineer, Ergonomic Applications, Duncan, South Carolina

At-Large Executive Council Members

(Two to be elected)

- Thomas J. Albin, manager, Ergonomics Services, 3M Company, Minneapolis, Minnesota
- David C. Alexander, president, Auburn Engineers, Auburn, Alabama
- Oliver Keith Hansen, consultant, Villa Park, California
- Richard J. Hornick, president, Hornick & Associates, Dana Point, California
- Nancy Lee Johnson Larson, manager, Corporate Ergonomics, 3M Company, Minneapolis, Minnesota
- Carol Stuart-Buttle, consultant, Stuart-Buttle Ergonomics, Philadelphia, Pennsylvania

Bulletin

Volume 44, Number 5 May 2001

The *HFES Bulletin* (ISSN 1527-3660) is published monthly by the Human Factors and Ergonomics Society, 1124 Montana Ave., Suite B, Santa Monica, CA 90403 USA, <http://hfes.org>. Address inquiries and address changes to HFES, P.O. Box 1369, Santa Monica, CA 90406-1369 USA, 310/394-1811, fax 310/394-2410.

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Getting the Word Out

by Wendy Rogers

One of the stated objectives of the HFES Strategic Plan is to “promote the discipline to the outside world.” You might wonder how you can contribute to this mission. One way is to be willing to talk to the media about your research findings. The HFES central office is developing methods to help you do this. Let me tell you about a recent experience that Dan Fisk and I had dealing with the media.

We had an article in press in *Ergonomics in Design* entitled “Analysis of a ‘Simple’ Medical Device,” coauthored with Amy Mykityshyn and Regan Campbell. Lois Smith (communications director of HFES) believed that this article might attract some interest from the media. A couple of weeks before the issue was scheduled to be mailed, Lois sent me a brief paragraph about the article that she was going to distribute to an on-line press release service that features news from the fields of science, technology, and medicine. We had the opportunity to review this press release and ensure that it captured what we believed were the important results of our research. Just before publication, Lois distributed the press release and a copy of the article. We then waited for the media to express interest in the research and contact her – and they did.

The typical process was that a journalist would first contact Lois, who provided my e-mail address and phone number. She then alerted me to expect to be contacted by that journalist. This allowed me to know in advance who might be calling and from which outlet. Within one week, we had inquiries from WebMD.com, HealthScout.com, and *Time* magazine – all of which did a story on our research.

We also had a call from a person at the Science and Technology News Network, a nonprofit organization sponsored by the National Science Foundation that films science news stories for distribution to ABC affiliates nationwide. After coordinating with the Georgia Tech communications office, we scheduled a three-hour time block for filming in our laboratory. We brought in two older adults who had participated in our studies, and interviews were done with me, Dan Fisk, and Amy Mykityshyn (the story should be aired soon; go to <http://www.stn2.com> to view the video clip). In addition, Georgia Tech will receive a copy of the film, and the university's communication office will be using it for publicity in the future. (Many institutions have a communications office – you should get to know the staff at yours. They can assist you in the process of working with the media, and you can assist them by providing examples of important research that should be communicated to the media.)

Although you might have some doubts and fears about talking to the media, it is not really so bad. . . especially with Lois there to hold your hand. I probably called her four or five times within a two-day span to ask for her advice, and she was always very helpful. One issue about which I was uncertain had to do with talking to multiple media outlets who might be competing for a story. Lois coordinated with reporters to ensure that no one's story “scooped” another's.

Another question arose when the columnist from *Time* wanted me to tell him the specific brand name of the product we reviewed. He claimed that he would not be able to publish the column without this information. But I explained to him that it would not be appropriate to mention the brand because our findings were relevant to most available monitors, and he apparently understood my point (and the column ran; see *Time*, March 12, 2001).

So, when Lois or someone else from the HFES central office asks you to approve a press release about your research, please review it and, if possible, approve it. In addition, you should keep the folks at the central office apprised of your human factors/ergonomics activities, and they can help to publicize the work. It really is important for us to make the public aware of the research and application that we do and of the relevance of human factors/ergonomics to their lives. And, you might also have some fun in the process!

Wendy Rogers is an associate professor of engineering and experimental psychology at the Georgia Institute of Technology. Her research interests include technology training and design, cognitive aging, attention, and skill acquisition.

Dealing with the Media

by Lois Smith, Communications Director

As Wendy Rogers can probably tell you (see the article on page 2), dealing with the media can be both rewarding and frustrating – rewarding if your work is covered in a news story and frustrating if you have unrealistic expectations or are not prepared.

Following are some tips that you might find helpful the next time you need to talk with a media representative.

Reporters are looking for a good news story and may have an angle or approach in mind before contacting you. Make sure you understand what that angle is so you can target your responses. If you think there is another angle that is more interesting or newsworthy, ask if the reporter is open to suggestions.

Media reps may contact you because of a referral from someone else. Make sure they know what your areas of expertise are. If you're not the right person for their story, try to refer them to someone who has knowledge suitable for responding to the topic.

Reporters are usually working on tight deadlines and may have only one or two days to compile all the information for their story. However, don't let this pressure you to respond without taking sufficient time to think about your answers. Make sure you understand the question and its context, then respond clearly and concisely. If you think that additional information would help to give some context to your comments, offer to provide it.

There is no guarantee that the information you provide will make it into the news story. Conversely, *anything* you say may appear, perhaps somewhat out of the original context, or statements you may have thought you were giving "off the record." There is no such thing as "off the record" in the news media.

If an interview is set for a future time, try to anticipate some of the questions that might be asked – questions that might raise both positive and negative aspects of the subject. Are you expecting any queries about sensitive issues? Do you need to "bone up" on some aspect of the topic? What are some good questions that

a reporter might ask? (If they don't ask those questions, suggest that they do.)

Don't be afraid to say "I don't know" if you get a question you can't answer authoritatively. In addition, don't feel you need to answer every question put to you. Sometimes reporters are looking for sensational or controversial "sound bites." Consider saying, "I have no opinion on that issue," or try to deflect the conversation to an area that you're willing to discuss.

Find out, if you don't already know, if your employer has restrictions or requirements concerning your interaction with reporters.

This may seem obvious, but be sure the reporter has your full name, job title, affiliation, and expertise areas.

Although dealing with the media may seem daunting, remember that you do have considerable control – over your attitude and words. The reporter wants a good story, and you have a good story to tell. Think of it as a cooperative activity.

Thanks to the National League of Cities and Julie Emmett for source materials for this article.

HFES Welcomes New Staff Member

Carlos de Falla joined the HFES staff in late March as the new director of Member Services. Carlos is replacing Diane de Mailly, who moved on to pursue her home-based business. Carlos comes to HFES after his successful tenure with the Society of Critical Care Medicine. He is a member of the HFES management team and is responsible for leading the staff and administering the budget, programs, and activities of the Member Services Center. Carlos can be reached at carlos@hfes.org.

ANNUAL MEETING

Items Wanted for Daily Newsletter

The HFES 2001 newsletter/on-site information editors are now accepting items for publication in the annual meeting newsletter, *HFES2001News*. Send your submissions to us at HFES2001News@hfes.org.

Topics may include descriptions of demonstrations, previews of panels, TG special session information, invited speakers, "Birds of a Feather" gatherings, recommendations for "Web Site of the Day" (resources to explore after the meeting), upcoming events, and other announcements.

The first issue is being assembled, and e-mail submissions are encouraged. If you would like to submit an article or help with the newsletter, send e-mail to HFES2001News@hfes.org. For other newsletter questions, please contact Newsletter Chair Jeff Lewin at Seagate Technology, 7840 Computer Avenue S., Bloomington, MN 55435; 952/844-8649; fax 952/844-5980; Jeffrey.E.Lewin@Seagate.com. Electronic submissions are preferred. If faxing, please use large sans serif fonts.

If you are interested in advertising in the newsletter, please contact HFES Communications Director Lois Smith at 310/394-1811; lois@hfes.org.

Follow-Up on Ergonomics Standard

by Carol Stuart-Buttle, Chair
HFES Outreach Advisory Committee

During the course of debate in both the House and Senate, several Republicans and Democrats clearly stated that they supported disapproving OSHA's Ergonomics Program Standard on the assumption that OSHA could issue a new ergonomics rule. The Congressional Review Act (CRA) has been widely believed to prevent any similar rules ever being issued; however, the CRA states, "a rule that does not take effect (or does not continue) . . . may not be reissued in substantially the same form, and a new rule that is substantially the same as such a rule may not be issued, unless the reissued or new rule is specifically authorized by a law enacted after the date of the joint resolution disapproving the original rule."

Therefore, Senator John Breaux (D-LA) will almost certainly introduce legislation in the near future that will clarify that the

passage of the CRA resolution on ergonomics does not block the Department of Labor from working on a new ergonomics standard. Senator Breaux's legislation is expected to set forth three basic criteria that a new rule would have to meet: It must clarify that employer obligations must be directly related to workplace injuries; employers should receive "certificates of compliance;" and it cannot expand the application of worker compensation laws.

Secretary of Labor Elaine Chao stated in a press release that if the rule was overturned, her department would pursue a "comprehensive approach to ergonomics, which may include new rulemaking, that addresses the concerns levied against the current standard." A Labor Department spokesperson further stated that a variety of options exist, including drafting a new rule, issuing voluntary guidelines, or continuing to enforce ergonomics hazards under the general duty clause of the Occupational Safety and Health Act. In an April 27 article in *The Wall Street Journal*, the Labor Department was said to be giving serious consideration to issuing voluntary guidelines. ☒

CHAPTER NEWS

Connecting Experiences: An Internship Evaluation

by Jamie Estock

Every year graduate students seek out internship opportunities through the Internet, faculty connections, and job postings. However, the most informative leads are often the most difficult to follow – getting in touch with other students who have held internships in the past. Fellow graduate students and alumni who have held summer jobs in organizations all over the country are a potential wealth of information. Yet there seems to be a communication gap between current internship-seeking students and those who have gone before.

As president of the HFES George Mason University (GMU) Student Chapter, I wanted to find a solution to this problem and decided to develop a Web-based questionnaire that captured students' internship experiences and made them available to future internship seekers.

The goal of this questionnaire is to help other GMU students find internship opportunities that match their interests. After

completing an internship, students will be asked to fill out an anonymous questionnaire. The information gathered through this questionnaire will be imported into a database. In order to protect students' privacy and to encourage honest responses about their experiences, this database will be accessible only to other GMU students. By logging into the database, a student could search for such topics as general information about the organization, experience or coursework needed, application deadlines, and anonymous overall opinions about the intern's experience.

This questionnaire will also provide chapter members with an opportunity to be involved in the development of the survey. A draft of the questionnaire will be distributed to the students, asking them to add questions they consider important when researching internships. After the final format is determined, we will transfer the questionnaire to an on-line form. Finally, those individuals who have already completed internships will be asked to fill out the questionnaire, providing the first records for the database. Our goal is to have this Web questionnaire and database up and running in a few months.

The GMU student chapter welcomes comments and suggestions regarding this project. Please contact Jamie Estock at jestock@gmu.edu. ☒

JOURNAL

Human Factors Seeks Reviewers

HFES is seeking occasional reviewers for *Human Factors*. Reviewers provide invaluable service to the journal and the Society by evaluating new and revised manuscripts and offering thoughtful and constructive comments to authors. Consistently excellent performance will be rewarded with consideration for

the Editorial Board. We invite any interested members and non-members, regardless of expertise area(s), to apply.

Reviewers can expect to review 2–6 manuscripts per year, depending on the number of submissions received in their topic areas. Generally, reviews are expected within four weeks. To apply, or for more information, please send a letter and curriculum vitae to Ellen Murphy, Communications Associate, HFES, P.O. Box 1369, Santa Monica, CA 90406-1369; fax 310/394-2410; e-mail ellen@hfes.org. ☒

NSC Position on Phone Use in Cars

On March 21, the National Safety Council issued a position statement advising against the use of electronic devices, including cell phones, while driving. It stated its support of "restrictions that prohibit all non-emergency use of electronic devices including cell phones by teenage drivers during their graduated licensing period.... When on the road, drivers shall concentrate on safe and defensive driving and not on making or receiving phone calls, delivery of faxes, using computers, navigation systems, or other distracting influences. When a driver decides that it is safe to use such a device while driving, it should be with the understanding that negligent drivers be held accountable when distracted driving results in the injury or death of others."

The full text of the brief statement can be found at <http://www.nsc.org/news/policy/multitasking.htm>.

PEOPLE

Bradley L. Allen (formerly with Crown Equipment), **Heather Jane Barnes** (formerly a private consultant), and **Robert A. Faerber** (formerly with Rockwell-Collins) have joined the technical staff at HumanCentric Technologies. All can be reached at 111 James Jackson Parkway, Suite 211, Cary, NC 27513; 919/481-0565.

Dee H. Andrews was awarded the "British Silver Medal" from the Royal Aeronautical Society of the United Kingdom on December 7, 2000, in recognition of his considerable contribution to the field of warfighter training research and systems. He can be reached at 425 E. Melody Ln., Gilbert, AZ 85234; 480/926-3252.

Joseph H. Goldberg has left Penn State University to become principal research scientist, Advanced User Interface at Oracle Corporation. He will conduct research in visualization methods for database products and can be reached at 500 Oracle Parkway, Redwood Shores, CA 94065; 650/607-6020, fax 650/506-7430; joe.goldberg@oracle.com.

Frank Pitrella, a member of HFES for 32 years, died on February 26, 2001, after battling cancer. Frank earned a master's degree from Tilburg University in the Netherlands and worked as a human factors analyst at ITT Federal Labs and Nutley Company. He also worked for Grumman Aircraft; he was a research scientist at Matrix Corporation, a senior scientist at Dunlap and Associates, and a research associate at the traffic safety research group at the University of Uppsala in Sweden. From 1972 until 1999, Frank was a human-engineering scientist at the Research Institute for Applied Sciences in Wachtberg-Werthhoven, Germany, before retiring to Arizona. Frank was honored for his service to the HFES Europe Chapter and is listed in *Who's Who in Science and Engineering*, *Who's Who in America*, and *Who's Who in the World*. Frank is survived by his wife, Anke.

SHORT COURSES

Ergonomics in the Workplace (August 6–8, 2001) and **Ergonomics for Production Facilities** (August 8–10, 2001). North Carolina Occupational Safety and Health Education and Research Center, University of North Carolina at Chapel Hill, School of Public Health, 3300 Hwy. 54 W, CB# 8150, Chapel Hill, NC 27516; 919/962-2101, fax 919/966-7579; <http://www.sph.unc.edu/osherc/>.

Principles of Ergonomics (August 13–16, 2001). OSHA Training Education Center, UCSD North County Center, 15373 Innovation Dr., Suite 105, San Diego, CA 92128-3424; 858/451-7474, fax 858/451-7481; <http://osha.ucsd.edu>.

CALLS FOR PAPERS

Biomechanics and Biomedical Engineering

Submissions are welcome for the 5th International Symposium on Computer Methods in Biomechanics and Biomedical Engineering, to be held October 31–November 3 in Rome. Topics include medical device modeling and design, motion analysis and simulation, and computational methods in biomechanics. Abstracts are due *June 30, 2001*. Contact John Middleton, Biomechanics Research Unit, Cardiff Medicentre, Heath Park, Cardiff CF14 4UJ, Wales, UK; +44 29 20 682161; middletonj2@cardiff.ac.uk, <http://www.uwcm.ac.uk/biorome/>.

Occupational Risks in Construction

The 26th International Symposium of the International Section for the Prevention of Occupational Risks in the Construction Industry will be held December 12–14 in Paris. Abstracts are invited on topics relating to methods and tools for health and safety, practices and innovations, and the challenges of dynamic health and safety management. Abstracts are due *June 30, 2001*. Contact CRAMIF – Secrétariat du colloque AISS-BTP, 17–19, place de l'Argonne, F-75019 Paris, France; +33 1 40 05 38 02, fax +33 1 40 05 38 84; construction.issa@cramif.cnamts.fr; <http://www.cramif.fr>.

SAFE Association Symposium

Abstracts are invited for the SAFE Association's 39th Annual Symposium, to be held September 17–19 in Nashville, Tennessee. Topics of interest include occupant crash impact protection, technology transfer, testing methods and simulations, biodynamics and physiology, and accident investigation. Abstracts are due *July 6, 2001*. Contact SAFE Association, 107 Music City Circle, Suite 112, Nashville, TN 37214; 615/902-0056, fax 615/902-0077; safe@usit.net, <http://safeassociation.com>.

Bulletin

Volume 44, Number 5

May 2001

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818/992-0366

POSTMASTER:

Send address changes to the *HFES Bulletin*,
Human Factors and Ergonomics Society,
P.O. Box 1369, Santa Monica, CA 90406-1369 USA,
310/394-1811, fax 310/394-2410.

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**ANNUAL MEETING
DATES TO REMEMBER:**

**June 8
Author Kits Mailed**

**July 20
Registration Kits Mailed**

**October 8-12, 2001
HFES 45th Annual
Meeting in Minneapolis**



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