The “Back Straight Boys”: From Observations to Invention

By Pamela Savage-Knepshield, Elizabeth Caplinger, Jessie Chen, Charlie Hernandez, & Courtney Savage

Driven by the desire to understand how things work—and how to correct them when they don’t—Sean Colford (15), Michael Walsh (16), Ethan Epstein (15), and Brandon Loye (16) joined forces to investigate the cause of discomfort when they used computer workstations at school. By observing themselves and fellow students using the workstations at their middle school in San Diego, California, the group, who later called themselves the Back Straight Boys, quickly realized that one source of discomfort was the inability to adjust their workstations to accommodate their varied heights. Brandon, 15 inches taller than Ethan, had to hunch forward to see his monitor, whereas Ethan had to sit on his legs. The boys also noticed that after sitting at a workstation for about five minutes, they tended to lean toward the monitor. They believed that holding this posture for extended periods could be contributing to their discomfort.

The investigation continued when the group visited the Better Back Store and found many types of seat cushions, lumbar supports, and chairs designed to bring comfort to a sore back. They also visited the office of a large communications company, where employees worked at ergonomic workstations and had been trained about good posture. But there, too, the boys observed people hunching forward to better see their monitors.

They wondered, what if a seated computer user could receive feedback when his or her posture became poorly aligned so it could be corrected? This premise sparked the invention of the Posture Pad. After building and testing their first prototype, the Back Straight Boys were surprised at how well it worked to alleviate their discomfort. The group’s accomplishment was so unique that they became possibly the youngest authors ever to have a poster accepted for an HFES Annual Meeting. (They displayed their Posture Pad at the 2011 Annual Meeting in Las Vegas.)

The Back Straight Boys (l. to r.): Sean Colford, Michael Walsh, Ethan Epstein, and Brandon Loye.Inset: The Posture Pad.

The boys have been working steadily since 2009 to promote correct posture for computer users. Winning a $25,000 grant from the Christopher Columbus Awards and collaborating with students at the University of California, San Diego, enabled them to refine an early Posture Pad prototype and incorporate advanced technology, including sensors and micro-computers. They are currently working with their mentor, Karen Jacobs (Boston U.), to develop a pilot project to test the effectiveness of their latest prototype.
Last year, when the boys demonstrated the Posture Pad at the Annual Meeting, we were so impressed with their enthusiasm and single-minded determination to improve the human condition that we asked for an interview to learn more about the boys and their vision.

Q. How did you operationally define good posture for the purpose of your study?
A. [BSB] For the sake of our study, we defined “good” posture as occurring when a person sits with feet flat on the floor or footstool, the back in an erect position, demonstrating the spine’s natural S-shaped curve, and the head looking forward. This means that there should be no hunching forward, which creates a C-shaped curve in the back, and the neck should not be craning forward or angled up or down.
A. [Rhonda Epstein, mother of Ethan Epstein] The boys do understand that the best, or “correct,” posture is more than just upright sitting, so they had a difficult time identifying what good posture is and explains why they limited their description to the S-shaped rather than the C-shaped curve. This means that a person can exhibit this posture sitting straight up but also in some reclined positions.

Q. Where did you get the idea to use feedback, as opposed to a simple back pad, as others have done? [When connected to a computer, the Posture Pad provides visual and/or audio feedback to a user when poor posture is detected; visit the Back Straight Boys’ Web site at http://backstraightboys.com for more details.]
A. [Sean Colford] When we visited the office that had ergonomic workstations and where every employee had been trained to use good posture, we noticed that most of the employees were still slouching. We realized that even if you had training and equipment, it would still be very easy to slouch. When we started using feedback, people generally sat with better posture.

Q. Who was the first “guinea pig” to test your first prototype when it was developed? What was the experience like when you realized that your invention actually worked?
A. [Brandon Loye] The first “guinea pigs” for our chair were actually four of our group members. We were excited that it worked so well. We haven’t yet conducted any formal clinical studies on our newer prototype but would like to do so in the future. Our feelings when we realized that we had created a viable product that could be put on the market to help millions of people were indescribable. Realizing that we were able to take our pad and set it up on any computer at any time for a test or demonstration was just as amazing.

Q. What was the most interesting part of your user testing?
A. [Michael Walsh] I found it interesting that, of the few people who did sit correctly, a large percentage of them were piano players. There was a very strong correlation between their ability to play piano and their good posture habits.
A. [Sean] Even when some of [The Back Straight Boys] were being tested, we would revert from good to bad posture in about 5 minutes, and we knew we were being tested. Once we had tested ourselves many times, we got much better at sitting correctly. It really helped prove the point that even if you know how to sit correctly it is very easy to revert to bad posture without feedback.

Q. What unexpected results did you find during your user testing?
A. [Ethan Epstein] After preliminary testing of the first prototype, we realized that we could not be sure how much of the posture correction was due to having a more ergonomic seat and how much was due to the sensory feedback they were getting. To solve this problem, we decided to create a second prototype that gave silent feedback that only the observer could perceive.
A. [Michael] During user testing, we observed how poor the average person’s posture was, and that it could eventually harm them. The percentage of people sitting with poor posture was extremely high. Hardly anyone knew what good posture looked like.
A. [Sean] One of the main results that surprised us was how quickly the Posture Pad worked. Within a week of starting to use it, posture would improve dramatically. Your body adapts very quickly to sitting with good posture when it has an aid to keep it there.

Q. Does your study and invention consider only a single application—frequent desktop computer use in a classroom or office setting?
A. Our study was focused on this single application for testing purposes. We believe that our invention could be generalized to other things such as laptops, tablets, and gaming systems. It probably could also be used for other jobs where people are sitting at a desk for prolonged periods, such as a switchboard operator or a customer service rep. We plan to pursue this. It will be necessary to do further study with these devices to confirm positive use and to learn more.

Q. Can you provide details on how the system performs calibration?
A. In order for the calibration to work, the user needs to sit with correct posture for the several seconds that the calibration runs. The system uses the sensors in our invention along with a microprocessor to “read” where and how the person is sitting with good posture. It then averages these readings to come up with a numerical definition of good posture for that unique person. When we sell our invention, the manual will include a definition and picture of good posture.

Q. What are the baseline data for “good posture” that are programmed into the Posture Pad?
A. [Ethan] Because each person is a different size and shape, we could not just program in a set of parameters. Calibration should be performed at the beginning of each session to ensure accurate readings. Baseline data for each individual user are then be used to compare the user’s posture over time when using the Posture Pad.

Q. What are your career plans? What colleges or degrees interest you?
A. [Sean] I am not sure which colleges I would like to attend in the future. I would like to do something in the fields of math and science, because these subjects catch my attention at school. Something that I enjoy is music engineering. I am a big fan of almost any kind of music, and I think it would be great fun to be producing it.
A. [Brandon] I am interested in pursuing architecture. Designing and building things has always been an interest for me. I have a very vivid imagination and love creating things from my ideas. I would love to attend California Polytechnic in San Luis Obispo. I have always enjoyed coming up with solutions to problems and have always loved building things. Therefore, I am also thinking of going into an engineering career.
A. [Michael] I plan to attend a four-year college and hopefully medical school to become a doctor. I have always loved the TV show House. Every day, he is faced with a new patient to cure and a new problem to solve. Even though it may not be accurate, House has given me somewhat of an inspiration to become a doctor. I want to be the guy solving the problems and saving lives.

The Back Straight Boys also demonstrated their Posture Pad in the HFES booth at the 2nd Annual USA Science and Engineering Festival, held April 28–29 at the Walter E. Washington Convention Center in Washington, D.C.

Pamela Savage-Knepshield is chief of the Human Factors Integration Division at the Army Research Laboratory (ARL) Human Research and Engineering Directorate (HRED), Aberdeen Proving Ground, MD. Elizabeth Caplinger (Fort Leonard Wood, MO), Jessie Chen (Orlando, FL), and Charlie Hernandez (Fort Sill, OK) also work at ARL HRED. Courtney Savage is a graduate of Rutgers University, where she received a BS in exercise science and dietetics.
In Memoriam: William C. Howell

HFES Fellow and Past President William C. Howell, 79, died on April 14 following a two-year battle with cancer. At the time of his death, Howell held adjunct appointments at both Arizona State University and Rice University. He also maintained a number of active roles in HFES, the American Psychological Association (APA), and the APA Foundation. He was chair of the HFES Government Relations Committee, a position he had held since 2005, and also chaired the Jerome H. Ely Human Factors Article Award Committee. As HFES president in 2000–2001, Howell worked to streamline the Society’s organizational structure and to advance strategic planning through an examination of human factors/ergonomics itself, which he articulated in his presidential address (http://pro.sagepub.com/content/45/1/1.full.pdf+html).

During his long and distinguished career, Howell worked in academia, the government, and the nonprofit sector. His academic degrees, all in psychology, were from the University of Virginia: BA, 1954; MA, 1956; and PhD, 1958. In 1957, he became a research associate in Paul Fitts’s Aviation Psychology Laboratory (later, Human Performance Center) at The Ohio State University. His career at Ohio State’s Department of Psychology lasted until 1968, at which time he was a full professor and director of the Human Performance Center. Howell joined the psychology faculty at Rice University as a professor in 1968 and held that position until 1992, at which time he was chair of the department. From 1984 through 1992 he was Herbert S. Autrey Professor of Psychology at Rice, and from 1977 through 1992 he held a joint appointment as Professor of Administrative Science in Rice’s Jesse Jones Graduate School of Administration. At Rice and Ohio State, he served on more than 90 doctoral dissertation and master’s thesis committees and directed 22 doctoral dissertations and 20 master’s theses.

Howell took a leave from Rice between 1989 and 1992 to serve as Chief Scientist at the U.S. Air Force Human Resources Laboratory at Brooks Air Force Base. In 1992 he became the Executive Officer for Science at the American Psychological Association, a position he held until his retirement in 1998.

Howell’s professional areas of interest were human factors, human cognition and decision making, industrial/organizational psychology, and science policy. He was a member and Fellow of HFES, the Society for Industrial and Organizational Psychology, the American Psychological Society, and APA and its Divisions 3, 14, and 21. He was also a member of the Geselleschaft für Unenliche Versuche (GUV), Phi Beta Kappa, and Sigma XI. In 2005, Bill was the recipient of HFES’s Arnold M. Small Distinguished Service Award and in 2011 received the Oliver Keith Hansen Outreach Award, honoring his extensive advocacy activities in the federal government and its agencies. In 2012, APA awarded him the Raymond D. Fowler Award for Outstanding Contributions to APA, the highest award for service bestowed by that organization. He received the Franklin V. Taylor Award in 1979 from the Society of Engineering Psychologists. Other honors included the Distinguished Psychology in Management Award (1995).

The author and coauthor of more than 100 refereed journal articles, technical reports, and chapters, Howell published Essentials of Industrial and Organizational Psychology in 1976. Two succeeding editions, coauthored with R. L. Dipboye, were published in 1982 and 1986. In addition to coauthoring a number of other books, Howell was a columnist for the APA Monitor, wrote numerous articles for the HFES Bulletin, and contributed op-ed and other pieces for the popular media. He presented more than 200 papers at various professional meetings, offered colloquia at more than 80 universities, spoke before professional and civic groups, and testified before committees and subcommittees of the U.S. Congress. From 1958 through 1988 he was principal investigator or co-principal investigator on research grants and contracts totaling more than $3 million for such diverse organizations as ARPA, the Office of Naval Research, the National Science Foundation, the Texas Depart-
ment of Corrections, the Houston Lighting and Power Company, and the Fort Worth, Texas, Police Department.

Bill held numerous volunteer positions in professional organizations, chairing various committees and task forces within HFES, SIOP, APA, and APS. He was a member of the National Research Council’s Committee on Human Factors from 1985 to 2000 and served as its chair during the last two years of his tenure. He was editor of Human Factors from 1992 to 2000, and was consulting editor for Journal of Experimental Psychology, Journal of Applied Psychology, Journal of Organizational Behavior and Human Decision Processes, Human Performance, and Journal of Military Psychology. He was an associate editor of Human Factors from 1983 through 1991 and served the same role for Journal of Applied Psychology and American Psychologist.

Bill continued his professional service until very shortly before his death, during which time he worked on handing off his activities in a characteristically orderly and thorough manner. Upon receiving the Hansen Outreach Award at the 2011 HFES Annual Meeting, he articulated his philosophy of service, which he reiterated in a recent e-mail: “I would sum up my career with a simple philosophy: Do everything you commit to reliably and to the best of your ability without compromise, regardless of how significant and/or visible the task or job may seem to be at the time. Signing onto something—anything—should mean total commitment. There are no trivial tasks.”

Howell is survived by his wife, Patricia, and his children, Carol Howell Sevier, Karen Howell Toomey, Stephen Howell, and Stuart Howell, and their children. At this time, no memorial services are planned; however, the family has requested that donations be sent to:


ANNUAL MEETING

Celebrate User Experience Day at the Annual Meeting!

By Marc L. Resnick, Chair, 56th Annual Meeting Host Committee

It is with great pleasure that I extend an invitation to HFES members and nonmembers to attend User (UX) Experience Day in Boston on Wednesday, October 24, as part of the 2012 Annual Meeting. UX Day is a special program track that aims to bring together members of HFES and other organizations whose subject matter is related to user experience for an engaging day of technical and social events. Our mission is to attract UX professionals who may not typically attend HFES Annual Meetings, to showcase the informative and beneficial UX-related sessions that we offer each year. To achieve this mission, the Host Committee and the Society are planning a comprehensive publicity effort that includes outreach to members of CHI, IXDA, UPA, and other organizations.

UX Day 2012 is shaping up to be a day full of high-quality programming, including the following:

- A keynote speaker
- A panel discussion titled “Integrating User Experience in Agile Development”
• UX Day at the Mentor-Mentee Luncheons, sponsored by Bentley University’s Human Factors and Information Design Master of Science Program
• A combined Internet Technical Group/Computer Systems TG Best Paper Competition, sponsored by CSTG
• Future Leaders Speed Networking, sponsored by the Design and Usability Center of Waltham, MA
• A UX Day happy hour, sponsored by Emerson Process Management of St. Louis, MO.

For more information, please contact me at mresnick@bentley.edu. I look forward to seeing you in Boston!

Proceedings Author’s Kit Available in May

The author’s kit containing instructions for preparing and uploading final proceedings papers will be available by the end of May. If your paper is accepted, you will receive an acceptance notification from the program chair of the technical group to which you submitted your proposal.

Production-ready papers are due no later than 11:59 p.m. Pacific Daylight Time on Monday, July 16. The author’s kit will include formatting and layout instructions, page limits, graphics-embedding guidelines, copyright and other clearance requirements, and uploading instructions. Information about the Alphonse Chapanis Best Student Paper Award, presentation time limits, a form for requesting additional audiovisual equipment, and information for student volunteers will also be included.

INSIDE HFES

E-Voting Comes to HFES
By Kermit G. Davis, Chair, Nominations and Elections Committee

Last year, HFES voting members approved Bylaws changes to allow nominations and elections of HFES Society-wide offices using means other than printed ballots sent by fax and postal mail. During 2012, members will be able to nominate candidates through traditional means and also via e-mail. Our election of officers will be conducted mostly via an online process.

Nomination ballots will be distributed by postal mail and e-mail to all members on May 15. This mailing will also include a prominent notice regarding future distribution of nomination and election ballots. The default for all members will be to receive all future nomination and election ballots via e-mail.

Nomination ballots may be returned via postal mail, fax, or e-mail. If a member chooses the latter, he or she will be directed to a dedicated e-mail address for return of the ballot. Members who prefer postal mail for future ballots will need to return an “opt-out” form to HFES indicating that they will participate by mail ballot only.

For the election of officers, members will be directed to a secure online site hosted by VoteNet Solutions, Inc., a third-party supplier of election services to professional organizations. VoteNet will also supervise the return of ballots sent via postal mail. More information and instructions will be provided in advance of the election, which will open on July 27 and close on August 27.

Please be sure that your member record includes your current e-mail address by logging on at www.hfes.org. If you are unsure of your user name or password, please contact HFES at membership@hfes.org or by calling 310/394-1811.
Submit Your Product Design Research for the 2012 Human Factors Prize

HFES welcomes your submission for the 2012 Human Factors Prize: Recognizing Excellence in Human Factors/Ergonomics Research. The prize winner will receive $10,000 and publication in the Society’s flagship journal, Human Factors. Plan to submit your work between June 1 and July 1, 2012.

The 2012 topic is the human factors/ergonomics science behind product design. Articles are invited that describe HF/E research that strengthens the understanding of the human-product interface, usability, and safety. More details about the 2012 topic are available on the FAQ page (http://www.hfes.org/web/pubpages/hfprizefaq.html).

Eligibility requirements are as follows:

- Any researcher is eligible to submit relevant work; membership in HFES is not required.
- Submissions must cover original, unpublished research in the topic and comply with the requirements in the Instructions for Authors, found online at http://www.hfes.org/web/pubpages/hfauthorinfo.html.
- Review articles and brief reports are not eligible.
- Submissions must be received no sooner than June 1 and no later than July 1.

The winner will be announced on August 15 and invited to make a presentation about the work during a session at the HFES 56th Annual Meeting, to be held October 22–26 in Boston.

For more information, visit the Human Factors Prize Web page at http://www.hfes.org/web/pubpages/hfprize.html.

Entries Invited for 2012 User-Centered Product Design Award

The Product Design Technical Group (PDTG) welcomes submissions for its 11th Annual Stanley H. Caplan User-Centered Product Design Award. The award emphasizes innovative and user-centered approaches to HF/E and industrial design. For the past 10 years, PDTG has recognized outstanding product design and the methods used to specify and achieve that design, and the group invites you to help celebrate its 11th anniversary.

This year’s winning product or system will be recognized during the HFES 2012 Annual Meeting in Boston. The winner will receive a $1,000 honorarium and make a presentation on the product and the development methodology during the PDTG’s award session.

The deadline for submitting award nominations is May 25. Submit details, as specified on the PDTG Web site (http://tg.hfes.org/pdtg/), via e-mail to cochair Dianne McMullin at dianne.l.mcmullin@boeing.com. Judges will announce a winner the latter part of July and may also identify submissions for honorable mention.

2012 Health-Care Symposium Presentations Now Online

HFES thanks those who attended the 2012 Symposium on Human Factors and Ergonomics in Health Care: “Bridging the Gap.” In case you were not able to attend, or there were some sessions you missed, a number of PowerPoint presentation slides and posters are
available online. Go to http://www.hfes.org/web/HFESmeetings/2012hcsprogram.html and choose any of the hyperlinked session titles. Proceedings papers will be online free of charge in mid-May.

Because of the success of this event, HFES will offer it again next year. Be sure to save the date for the 2013 Symposium on Human Factors and Ergonomics in Health Care: “Advancing the Cause,” to be held March 11–13 at the Baltimore Marriott Waterfront, Baltimore, MD, USA. Details will be posted on the HFES Web site (http://www.hfes.org/Web/HFESMeetings/HealthCareSymposium.html) as they are finalized.

Papers Invited for Human Factors Special Section on Epidemiological Studies of MSDs

By Arun Garg, Special Section Editor

Original research papers describing recent work in the area of workplace musculoskeletal disorders (MSDs) are sought for a special section of Human Factors. Workplace musculoskeletal disorders are broadly defined as those injuries, illnesses, and disorders of the muscles, nerves, tendons, ligaments, joints, cartilage, and spinal disks that occur in the workplace. Suitable topics for this special section on epidemiological studies of MSDs include but are not limited to low-back pain or low-back disorders, carpal tunnel syndrome, epicondylitis, tendinitis, and rotator cuff syndrome.

To be eligible for consideration, submissions must contain original, unpublished research in the topic. Authors must also comply with the Human Factors Instructions for Authors (http://www.hfes.org/Web/PubPages/hfauthorinfo.html). Review articles or brief reports are not eligible for this special section. Any researcher may submit relevant work; membership in HFES is not required.

Submissions must be uploaded to the Human Factors Manuscript Central site (http://mc.manuscriptcentral.com/humanfactors) by November 30, 2012. The special section is tentatively scheduled for publication in Spring 2013. Questions may be addressed to Arun Garg at arun@uwm.edu. We look forward to receiving your submissions!

JCEDM Invites Special Issue Submissions on Humans and Automation

By Amy R. Pritchett, Editor in Chief

JCEDM welcomes submissions for a special issue on integrative approaches to the design and implementation of effective human-automation systems. More than 50 years have passed since the earliest investigations into the consequences of introducing automated systems into the workplace. Since then, human factors/ergonomics professionals have produced a wealth of research studies that have examined many effects of automation on the predicament of humans at work.

Automation has been shown to affect the rises and falls in people’s workload, how they direct their attention, the level of their awareness of their surroundings, and the knowledge and skills that they acquire and retain. Other studies have tracked attitudes toward, trust in, and reliance on the technology workers use and the ways in which it affects their performance. Some of the effects of automation were anticipated, others were counterintuitive, and sometimes results have been paradoxical. Although past research has identified many HF/E issues related to automation use, often the studies focused on one or a few of these issues in isolation and were difficult to translate in the context of the complexities of designing and implementing automation in complex work environments.

For this issue, we are seeking papers that help to define the next generation of automa-
tion HF/E research. We encourage submissions that take an integrative approach to topics that promise to further the interests of designers, evaluators, policymakers, and workers. We are interested in papers that consider novel ways of coupling people and automation, ways to better integrate cognitive engineering into the design of both automation interfaces and automation’s underlying functionality, new approaches to selecting or training people to work with automation, potential outcomes of the increasing complexity of automation, the impact of automation on performance, the relationship between culture and automation use, and case studies of cognitive engineering in real-world design that look beyond the optimization of isolated aspects of human performance.

Following the broader mission of *JCEDM*, submissions will be evaluated on the basis of these criteria:

- Contribution to a target domain (Does the research tackle a real problem, no matter how messy, and value ecological and task validity in its research methods?)
- Contribution to other domains (Does the research contribute to understanding the human contribution to complex work domains and to demonstrating rigorous, repeatable methods in one domain that others can apply to other domains?)
- Contribution to theory underlying work in complex environments (Does the research demonstrate a reasonable understanding of all the relevant aspects of human performance and identify gaps requiring further research?)

There is no numerical formula for weighting these three contributions when evaluating submissions; authors are urged to articulate their submissions’ specific contributions to the research, design, and operational communities.

The submission deadline is **September 15, 2012**. Please direct any inquiries to special issue editor Steve Casner at stephen.casner@nasa.gov. Prior to submitting your work, be sure to consult the *JCEDM* instructions for authors (http://www.hfes.org/web/pubpages/jcedminsauthors.html). Manuscripts should be submitted electronically via Manuscript Central (http://mc.manuscriptcentral.com/jcedm).

**William Moroney Presents May 24 Webinar on Questionnaire Design**

Registration is now open for the May 24 webinar by William F. Moroney, “Designing Questionnaires: How Hard Can That Be?” Members can register at https://www2.gotomeeting.com/register/665726218. The webinar will be held at the following times:

- 9:30–11:00 a.m. Pacific
- 10:30 a.m.–12:00 noon Mountain
- 11:30 a.m.–1:00 p.m. Central
- 12:30–2:00 p.m. Eastern
- 5:30–7:00 p.m. GMT

**About the Webinar**

Surveys are one of the most commonly used tools for human factors professionals and ergonomists, yet survey design and use is rarely taught. According to a survey of HFES members, slightly more than 85% of respondents reported that survey construction is important in their work, and about 55% reported that they need education and training in survey construction. This webinar will focus on only one facet of the questionnaire “iceberg”: developing the requirements document needed to design a successful questionnaire.
In this webinar, Moroney will

- define a questionnaire (it’s more than what you think it is),
- describe when questionnaires are appropriate and inappropriate,
- enumerate the limitations of questionnaires,
- detail similarities between questionnaire development and product/system development,
- propose a strategy for defining the requirements for designing questionnaires, and
- briefly describe new platforms and media for collecting HF/E data.

About the Presenter
William F. Moroney, an emeritus professor at the University of Dayton, has provided workshops on questionnaire design at HFES Annual Meetings and at conferences of other professional societies since 1995. Moroney, an HFES Fellow, served as an aerospace experimental psychologist in the U.S. Navy for more than 22 years. He is a senior editor of Ergonomics in Design and has authored publications dealing with topics as diverse as motion sickness, helmet-mounted displays, laser designator systems, simulation, and selection and training. He supported the development and upgrading of a variety of advanced aircraft and systems. Moroney taught at the Naval Postgraduate School, the Naval Aviation Safety School, and the Navy Test Pilot School. He is a founding member of the Department of Defense Human Factors Engineering Technical Advisory Group for Test and Evaluation.

In 1990, Moroney joined the Department of Psychology at the University of Dayton as an associate professor. He conducted research in the areas of ergonomics, survey design, simulation, workload, cockpit design, displays, and anthropometry. He retired from the university in 2008.

Register Today
HFES webinars are free for members. Nonmember registration is available for $125, and nonmember student registration is available for $40. Both nonmember groups can register at https://www.hfes.org/Web/EventDetails.aspx?EventID=19. Please bookmark and check the HFES Webinars home page (http://www.hfes.org/Web/Webinars/WebinarsMain.html) for updates on this and future 2012 webinars!

Mark Your Calendar for Other 2012 Webinars

HFES Immediate Past President Anthony D. (Tony) Andre has lined up an impressive series of webinars for the year. Here are the upcoming events. Note that all webinars take place at the following times, except where noted:

9:30–11:00 a.m. Pacific
10:30 a.m.–12:00 noon Mountain
11:30 a.m.–1:00 p.m. Central
12:30–2:00 p.m. Eastern
5:30–7:00 p.m. GMT

June 19: Human Factors Research on Adaptive Automation
David B. Kaber, Professor and Director of the Human Factors and Ergonomics Program, Edward P. Fitts Department of Industrial & Systems Engineering, North Carolina State University

July 30: Weather Forecaster Decision Making and Tornado Warning Communication
Ellen J. Bass, Associate Professor, University of Virginia
First Episode of JCEDM Podcast Series Features Insights From Gary Klein

By Amy R. Pritchett, Editor in Chief

The Journal of Cognitive Engineering and Decision Making has just launched a podcast series consisting of author “Q&A” and discussions as an opportunity to illuminate the personal side of material published in the journal. Authors will discuss, among other topics, the spark that ignited their interest in their research area and what they learned along the way. We will also use monthly podcasts to highlight papers as they are published and discuss upcoming special issues in more detail.

The inaugural podcast, now online at http://edm.sagepub.com/site/misc/Index/Podcasts.xhtml, features a conversation I had with Gary Klein (MacroCognition LLC) about his paper “A Naturalistic Study of Insight.” Gary discusses how he has extended his research interests from studying intuitive decision making to studying how people gain insights, and how different these constructs can be. The paper was originally published in the December 2011 issue of JCEDM (see the abstract at http://edm.sagepub.com/content/5/4/335.abstract). Members: To access the paper at no cost, first log in at hfes.org with your member username and password, and click the JCEDM link under the “Access Member Benefits” section on the Welcome page.

Stay tuned for announcements about upcoming JCEDM podcasts!

ODU and VT Student Chapters Collaborate on Site Tour

By Alex Proaps, President, Old Dominion University Student Chapter

Every year the Virginia Tech Transportation Institute (VTTI) holds an open house for members of the community. This year, members of the Old Dominion University (ODU) and Virginia Tech (VT) Student Chapters visited VTTI’s Open House. This article briefly describes highlights of the visit.
ODU was fortunate to meet with Justin Morgan for a tour of the Commercial Training and Prototyping (CTAP) Simulator. The simulator offers commercial motor vehicle training for organizations and enables researchers to obtain driving-performance data. ODU Student Chapter members also participated in tasks of simulated commercial truck and military tank driving. A highlight of this session was learning how to double-clutch!

Following the CTAP tour, Morgan provided an in-depth review of VTTI’s current research. He then led a tour of the Smart Road and instrumented-vehicle fleet. The Smart Road is a 2.2-mile, two-lane road that features “weather-making capabilities, a variable lighting test bed, pavement markings, an on-site data acquisition system, road weather information systems, differential GPS system, road access and surveillance, and a signalized intersection.” The Smart Road Bridge is the tallest bridge in Virginia, and at 450 feet, it is three times longer than most highway bridges. Various weather conditions can be simulated via 75 towers that can rotate and tilt to create rain, sleet, and fog. Researchers who use the Smart Road investigate driving performance, green tire technology, and road surface materials.

One of the highlights of this tour involved going inside the Smart Road Bridge, where students could see the physical infrastructure, an opportunity afforded to only about 200 people. Chapter members also toured garages with some of VTTI’s instrumented-vehicle fleet, which record real-time, naturalistic driving data using sensors and cameras located inside the vehicles.

ODU and VT Student Chapter members enjoyed getting to know one another during an evening social activity, where they learned more about human factors research within each of the programs. Overall, it was an exciting and educational field trip. The chapters encourage other student chapters to participate in next year’s open house; dates for next year will be posted on the Virginia Tech University Relations Web page (http://univrelations.unirel.vt.edu/openhouse/index.php). To learn more about VTTI’s research, visit the Web site at http://www.vtti.vt.edu.

Alex Proaps is a human factors doctoral student at Old Dominion University and is president of ODU’s Student Chapter.

Directory & Yearbook Coming in June

The HFES 2012–2013 Directory & Yearbook will be mailed in June to all members in good standing who opted to receive it in print. For the most up-to-date member contact information, access the online member directory by logging in at www.hfes.org with your username and password, then click “Search the online member directory.”

Major sections of the 2012–2013 Directory & Yearbook will be available in PDF format after you sign in. After the latest Directory is released, click “Access major sections of the current Directory & Yearbook” to view PDF files containing the committee, chapter, and technical group reports; lists of officers and committee chairs; award recipients; and more.
If you prefer to receive the printed directory and have not yet opted to do so, please contact the Member Services Department at 310/394-1811, membership@hfes.org.

**OTHER NEWS**

**A Jewel in Our Crown**  
*By Peter A. Hancock*

Every April, I eagerly anticipate one of the “small jewels in the crown” of human factors/ergonomics: the Human Factors and Applied Psychology Student Conference. Held in Daytona Beach, Florida, under the auspices of Embry-Riddle Aeronautical University (ERAU), it is a meeting for students run by students, and they do it very well. In association with ERAU faculty, especially Associate Professor Beth Blickensderfer, this year’s conference was spearheaded by Antoine Juhel. The conference began with a coffee break and initial poster session, which enabled attendees to “kick-start” their day and tour the morning’s offerings at the same time.

Papers are all authored by students from a variety of Florida schools, but in the past there have been contributors from several adjacent states as well as a contingent from the U.S. Military Academy at West Point. This year, most of the work featured individuals from ERAU, the University of Central Florida, and Florida Institute of Technology, among others.

Some initial posters covered topics on interface design issues such as e-book effectiveness, designing for interfaces in extreme stress, and haptic input. Especially interesting was the poster on selection of the mission crew for Mars; I hope someone of this generation will fulfill that human dream. The first presented papers were featured in three sessions: aviation and space, cognition, and a “potpourri.” I attended the cognition session, where I learned about the stress of beginning “free-fall” skydivers, the visual illusions of Disney theme parks, the problems of vection, and whether physiological measures can be used to assess trust in human-machine interaction.

Following lunch was the exception to the student presentation rule—the keynote address. In a characteristically insightful and charismatic presentation, John Flach (Wright State U.) emphasized the necessarily situated nature of human-machine interaction. He explained articulately how interfaces not only need to present status and projection but also must illustrate the world with respect to the overall goal of the task.

In the afternoon I had the chance to see talks on serious games, a presentation from my own group on the topic of when driving becomes the secondary task, and a pair of papers on sensemaking. In fact, the entire conference made sense for me in that it is reinvigorating to see the enthusiastic next generation producing insightful contributions.

The academic agenda for the day was completed by a panel of senior professional experts drawn from industry, the military, and academe who commented on the challenges of interface design for coming aviation systems. It was a most appropriate way to complete what was a very satisfying experience and one I would strongly encourage for wider participation across the country.

One element that differed this year from previous years was the quality of the reception. Here ERAU hosted in a wonderful flight-line facility for the awards ceremony, in which the winners of the best undergraduate, best graduate, and best overall contributions were recognized. Alongside our annual HFES meeting, I can say that this is consistently one of the most enjoyable HF/E events I attend. I hope my words encourage others to consider attending this meeting of what must be our most hopeful future.

*Peter A. Hancock is Provost Distinguished Research Professor and Pegasus Professor at the University of Central Florida, where he directs the Minds in Technology, Machines in Thought Laboratory. He is a past president and Fellow of HFES and a Fellow of IEA.*
Applications Invited for 2012 IEA/Liberty Mutual Award

Instituted in 1998, the IEA/Liberty Mutual Award in Occupational Safety and Ergonomics recognizes outstanding original research leading to the reduction or mitigation of work-related injuries and/or to the advancement of theory, understanding, and development of occupational safety research. The award includes a $10,000 cash prize. Submissions for the 2012 award are invited.

Applicants need not belong to the IEA or any of its constituent groups. Relevant disciplines include ergonomics, epidemiology, biomechanics, cognitive and behavioral psychology, design, physiology, medical sciences, and engineering.

The deadline for applications is May 31, 2012, and details are available at http://www.iea.cc/05_awards/Liberty%20Mutual%20Medal.html. Applicants will be notified of the results in mid-July and the winner announced on August 31, 2012.

NRC Report on Disability and Rehabilitation Grantmaking

A recent report of the National Research Council—Review of Disability and Rehabilitation Research: NIDRR Grantmaking Processes and Products—presented the results of an evaluation of the National Institute on Disability and Rehabilitation Research (NIDRR), one of multiple federal agencies that support research and development designed to improve the lives of persons with disabilities.

As part of an effort to assess and improve its performance, NIDRR asked the National Research Council to evaluate the processes by which it establishes priorities and awards and monitors grants, and to examine the quality of a sample of publications, devices, and other “outputs” produced by NIDRR-funded researchers. To conduct the evaluation, the committee reviewed legislation and NIDRR’s policies and procedures; interviewed the agency’s managers; surveyed NIDRR staff, stakeholder organizations, principal investigators, and peer reviewers; and developed a method for assessing the quality of outputs.

The committee determined that NIDRR generally uses effective processes and produces outputs of good quality. However, the committee also identified improvements NIDRR could make and offered recommendations to assist NIDRR in doing so. The report is available for no cost at the National Academies Press Web site (http://www.nap.edu/catalog.php?record_id=13285).
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Ergonomics & Human Factors 2013
15-18 April 2013, Cambridge, UK

Topics
The scope of the conference includes, but is not limited to, the following topics:

- Industrial accidents
- Nuclear industry
- Human Factors Integration
- Education
- Advances in transport
- Training and competence
- Military equipment and defence
- Future technologies
- Healthcare and patient safety
- Work and ageing
- Green issues
- Safety culture
- Systems approach
- Accessibility and usability
- Methods and tools
- Innovation and creativity
- Complex systems control
- Design techniques and approaches

Submission of papers
All papers should be submitted online on the conference website at www.ehf2013.org.uk. Please note that there is no abstract stage, we are just accepting papers, so please bear this in mind when considering the submission date.

Paper submission closes 1st October 2012.
Authors will be notified of reviewers’ decisions by 9th November 2012.
A provisional programme will be published in November 2012.
Final formatted full papers are due by 10th December 2012.
All accepted full papers, short papers and poster papers will be published in ‘Contemporary Ergonomics & Human Factors 2013’.

Best Paper Award
Papers recommended by the reviewers will be considered by the Programme Committee for the Best Paper Award and will be highlighted in the programme and proceedings.

Further information
If you have any queries or need further information, please contact Sue Hull, IEHF Conference Manager, telephone +44 1509 234904, email s.hull@ergonomics.org.uk, or visit the conference website at www.ehf2013.org.uk.

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