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## Member Surveys Coming: Heads Up!

*By Paul Green, HFES President*

What is your favorite color? (Easy for me.)

For how many computers are you responsible?

Do you drive a foreign car?

Have you ever had a conversation with a being from another planet?

Well, we will not be asking you these questions, but you will be asked other ones soon... This is just a presidential heads-up (but you should look at your computer, not upward) that several surveys will be coming your way this year. Various HFES committees are working very hard to be responsive to member needs and will be asking for your input. Carrying out these surveys is not pro forma, and decisions that matter to members will be made based on the responses, so your cooperation in completing them is appreciated. Typically, we would not distribute so many surveys in one year, but discussions in various groups have been under way for some time, and it just so happens that they have reached the data collection phase at the same time.

Upcoming surveys include the following:

To many members, HFES means publications and the annual meeting, so it is important that both be done well. Shortly after the annual meeting, HFES surveys attendees to collect immediate reactions to sessions, the hotel, tours, and other aspects of the meeting. We also need something more strategic to provide a big-picture sense of what you think the meeting should accomplish. The Technical Program Committee is working on a survey for that purpose, with Marc Resnick leading the effort.

The Scientific Publications and Communications Domain is developing a survey to gather data about our publications and Web site. We will be asking for your impressions of the usefulness and usability of existing publications, new publications/communications areas you think should be explored, and other pubs issues.

That should cover the top two for most members, but wait – there’s more! Even though the economy is lousy, some people are still being hired, and others are looking for jobs. It’s useful for potential employees and employers to have a yardstick (or, given our global reach, a meter stick) for assessing their compensation. Staff, the Publications Committee, and an outside consultant (the latter in accordance with anti-trust laws) are developing a salary

*continued on page 3*

## The Art and Science of Product Design: An Interview with Terri Laurenceau

*By Pamela A. Savage-Knepshild*

Although the disciplines of industrial design (ID) and human factors/ergonomics (HF/E) approach product design from different perspectives, they share a common goal: They both strive for the design of intuitive products that will solve the target users’ problem or meet their specific needs. Traditionally, industrial designers have applied their creative abilities and engineering skills to design by translating their visions into reality through the use of 3-D modeling and computer-aided design (CAD) tools, whereas HF/E practitioners have employed a more methodical approach to design through the application of experimental design and applied behavioral research methodologies.

Through collaborative efforts, interdisciplinary teams can combine their strengths to create better product designs, but in order to do so they need a firm understanding of each other’s design culture and philosophy, tools, techniques, and processes. We asked HFES member Terri Laurenceau, academic director of Industrial and Entertainment Design at the Art Institute of Pittsburgh, to provide us with a seasoned design veteran’s view on topics such as the relationship between HF/E and industrial design and how HF/E practitioners can better partner with industrial designers.

### **What are the major tenets of your design philosophy?**

I believe design is about solving problems. Trying to identify all of the problems is perhaps the most difficult part of the design process for industrial designers. The designer must understand the user and the user’s potential characteristics to fully address the needs and desires of the target audience. The design process can change in complexity depending on overall objectives, but I believe that any human interaction or interface with or within products, systems, or environments requires HF/E research. For example, in an environmental design zoo project, we realized the importance of the safety and well-being not only of the visitors but also of the animals.

### **What do you see as the relationship between HF/E and industrial design?**

As an industrial designer, I was fortunate to have professors

*continued on next page*

who taught the value of HF/E in the design process. The relationship is most important but often misunderstood. The approaches to the practical design work of human factors engineers and industrial designers are different but often converge to represent a common goal in problem solving. The human factors engineer's approach involves applying rigorous scientific methods. The industrial designer's approach to practical design work and problem solving is in a creative capacity. ID methods from research to concept development may include research techniques borrowed from the social and behavioral sciences, but they tend to be less rigorous than those employed by HF/E specialists. It is difficult for a typical industrial designer in a design firm, having basic knowledge of HF/E principles, to bring the same level of support to a product design challenge that a trained HF/E specialist would bring. Both are essential to the design development process. My involvement in past projects has given me the opportunity to understand and appreciate what HF/E can contribute to ID projects.

#### **What design issues have you uncovered as a result of focusing on HF/E issues?**

A design issue from my perspective is trying to convince clients of the need for serious research in HF/E, which sometimes can increase the length of the design development phase. The drive for a competitive lead in the marketplace can also contribute to poor design and recalls.

I think that it would be beneficial to have more case studies targeted at designers and design organizations that clearly show how the concerns of industrial designers have been addressed through collaboration with HF/E professionals.

I have found that it is often challenging for designers to communicate the relevant HF/E information that will have significance in defining a design challenge. Taking HF/E into consideration in a design project may make it difficult to achieve some design goals – such as aesthetics, cost, and time to market.

#### **Which HF/E tools and practices do you believe are the most critical to the ID profession? How have these tools been used by industrial designers?**

In the ID process, performing the task and functional analyses are essential practices. The tools used for these analyses are based on the specific design objectives and criteria given for the design challenge. Basic anthropometric tools allow designers to acquire

measurements of the intended target audience. We now have the choice of using static-posture templates or digital human modeling (DHM) software packages, which have become more affordable. Three-dimensional anthropometric data integrated into the CAD environment helps efficiency. Extended analysis capabilities of some of these software packages are very valuable, in that they allow designers to predetermine certain design aspects before committing to physical prototyping. Digital scanners, motion capture equipment, FARO Arms, and cave automatic virtual environments (CAVE) are all very interesting technologies that can enhance and shorten design processes as well. Usability testing and performance and cognitive analyses are just a few of the many areas in which the HF/E specialist can provide a more extensive contribution.

Through my research and experience, I have been able to see the advantages of some of these technologies, and many industrial designers are now realizing their potential as well. These tools are often expensive and not yet accessible to small firms or consulting designers. The aerospace, transportation, medical, and fashion industries seem to be leading the way in their use.

#### **Which of these tools is your favorite and why?**

Motion capture, or MoCap, is really powerful, because data can be collected in real time, regardless of user characteristics. While I was engaged in research at Georgia Tech, I used motion capture studies to develop machine processes and assessment methodologies for new employees and people with such disabilities as missing limbs and spinal cord injuries to work in the computer numerical control (CNC) woodworking machine environment. MoCap helped us evaluate and collect comparison data on operators. Accessibility accommodations were defined that could be used to establish the proper fit or to allow us to see problems that might arise before going to the factory floor.

#### **What can HF/E practitioners learn from ID tools, techniques, and practices?**

There are a lot of computer-aided industrial design (CAID) software packages that HF/E specialists could become familiar with, such as Rhino 3D, Solidworks, Alias, and Form Z. Many of the CAID software programs enable you to establish more seamless design processes. They save time and allow you to move quickly to rapid prototyped evaluations and user testing. The DHM software packages could also prove useful to HF/E specialists.


#### **What have you found challenging when teaching HF/E to ID students?**

Not having enough practical examples to share with students that clearly show how HF/E data and the interdependence with ID may have been used to further design development and innovation.

#### **What HF/E activities might your students engage in during a design project?**

A current project is to evaluate ingress and egress for a full-size model of a sports car concept vehicle. A full-scale mockup was fabricated to further the study with a range of users. The goal will be to complete a full CAD evaluation as well.

Another project in a typical product design class is to design a



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# Bulletin

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## Member Surveys Coming...

(continued from page 1)

hand tool and correctly perform task and functional analysis with anthropometric considerations of user populations based on inclusive or universal design principles. The students employ anthropometric measuring techniques.

### What types of jobs are open to your graduates?

Our graduates start off as junior or staff designers in corporations or consulting firms. Some may venture into entrepreneurial pursuits. The scope of their training is broad. Those who go on to get graduate degrees may focus on particular areas such as user interface/interaction design, business/marketing, transportation, or medical devices.

Jobs open to graduates vary by region and school. Some schools are known for turning out graduates with a particular focus, such as research, technology, or business. At the Art Institute of Pittsburgh, our graduates are getting jobs in many sectors of the industry. Several students this year have been hired as corporate staff designers. Others are starting as entry-level designer/fabricators for architectural and exhibit design firms in our area. We recently established an internship with an out-of-state consulting firm doing heavy equipment and transportation design.

### What advice do you have for those interested in the fields of HF/E and ID?

In general, academic curricula in both ID and HF/E seem not to support the cross-pollination that could help to enhance awareness for both disciplines. I do believe that industrial designers should have a better understanding of HF/E; likewise, HF/E professionals should have an awareness of the role the industrial designer plays in design development. The two disciplines are both heading toward the same goal while taking different paths to get there.

Be prepared to considerably extend your education to become expert in both disciplines. Although this may not be the practical route for most, doing your research on universities and degree programs that may place more emphasis on HF/E within ID programs is a start. For HF/E students, getting involved in research and projects that explore the practical application of HF/E, while working alongside industrial designers in collaborative teams, is ideal.

### How can HF/E better partner with industrial designers?

Perhaps by developing more opportunities such as a competition that requires student teams of industrial designers and HF/E specialists to work side by side. Organizations such as the Industrial Designers Society of America and HFES should establish connections and share program time in conferences to show more case studies in which both disciplines can demonstrate how they have contributed to the overall success of a product design, user performance, user-centered design, and environmental enhancement. Close collaboration is a benefit to both disciplines.

*Terri Laurenceau is academic chair of the Industrial/Entertainment Design programs at the Art Institute of Pittsburgh. Previously she was an assistant professor of industrial design at Georgia Institute of Technology in Atlanta. Terri practiced for 23 years as a professional industrial designer prior to teaching. She received her BID (Bachelor of Industrial Design) from Pratt Institute and MA from Ohio State University with a focus on design education.*

and compensation survey. Believe it or not, if we collect and analyze the data, we could be open to accusations of price fixing. It is not an issue if someone else collects and analyzes it for us. Similar to past surveys (the last was published in 2005, see <http://www.hfes.org/Publications/ProductDetail.aspx?ProductId=70>), we will be seeking information from U.S. members (excluding students and Emeritus members) about benefits as well as salary to provide a more complete picture of compensation. A full report will be provided at no charge to members who participate in the salary survey (incentive to respond), and a summary article will be published in the *HFES Bulletin*. Sorry, we are out of Ginsu knives.

The Education and Training Committee is planning a follow-up to its 2003 member needs survey to ensure that annual meeting workshops and other activities are providing information and skills training that members require. One result of the last survey is the Educational Resources section of the HFES Web site (<http://www.hfes.org/Web/EducationalResources/educresourcesmain.html>). The 2009 survey will be lengthy and comprehensive, with sections addressed to different member populations.

There has been discussion of other surveys as well. The committees, with input from the domain leaders and staff, have worked hard to ensure that the surveys are focused, useful, and clearly written. Your feedback is extremely valuable, and I hope you will be responsive when your surveys arrive via e-mail.

A couple of final requests: Please, no Chicago-style voting ("vote early and often"). Dead members are requested to refrain from responding to surveys, but responses from living members are highly desired. Thank you!

## HUMAN FACTORS

## Papers Invited for *Human Factors* Special Section

*By Jamie C. Gorman, Nancy J. Cooke, & Eduardo Salas, Special Section Editors*

We welcome submissions for an upcoming *Human Factors* special section on collaboration, coordination, and adaptation in complex sociotechnical settings.

Sociotechnical systems comprise human and machine entities that, when functioning as an integrated, coordinated unit, can address a wide range of problems that are too complex to be handled by individuals or machines working alone. The poor response to recent events – including hurricane Katrina and the failed emergency communications at Virginia Tech, as well as disastrous friendly fire incidents and medical errors associated with lack of coordination – have highlighted the need for improved collaboration, coordination, and adaptation in complex sociotechnical systems. Although it may not always be possible to expect an anticipatory response in such situations, a well-coordinated, timely, and adaptive response is within reason.

Technological innovations have been proposed as solutions to

collaboration failures such as occurred in the aforementioned disasters (e.g., satellite radios, reverse 911), but it is clear that technology alone will not improve collaboration, coordination, and adaptation of these systems. Catastrophic failure in sociotechnical systems is often the result of failures in the social components of these systems (Weir, 2004).

Fortunately, human factors research is being conducted on sociotechnical architectures to address these issues. What are the theoretical, methodological, and empirical developments in this area that have implications for these very real and critical problems? What have we learned about the nature of coordination, collaboration, and adaptation in sociotechnical settings? What are the pressing gaps in this research area?

We invite theoretical, methodological, and empirical efforts that speak to improving collaboration, coordination, and adaptation in complex sociotechnical settings, particularly in cases of novel situations and unexpected events. We are especially interested in new and innovative work in emerging research areas, such as

- Adaptive and resilient systems
- Distributed teams
- Human-robot systems
- Modeling of coordinating and adaptive behavior
- Multicultural issues
- Neuroscience and collaboration issues
- Synthetic teammates
- Teams-of-teams
- Trust in collaboration and coordination

## “Submit Today; Get Published Tomorrow”

Did you know that *Human Factors* has achieved a remarkably fast manuscript turnaround time from submission to publication? It may not be “tomorrow,” as noted in the headline, but it’s fast!

The average time from submission to first decision is just under two months. That means that if you are able to submit your revision two months after receiving the first decision, and no further major revisions are needed after the second decision, your paper could be published in as few as *six months*.

*Human Factors* welcomes submissions in all HF/E categories – whether cognitive or physical – including but not limited to anthropometry, automation, biomechanics, cognitive processes, communication and computer systems, displays and controls, health and medical systems, manufacturing and process control systems, psychological states, psychomotor processes, sensory and perceptual processes, simulation and virtual reality, surface transportation systems, and training and instructional systems.

Submit your work online at <http://mc.manuscriptcentral.com/humanfactors> today; get published...soon!

Empirical papers can be experimental or observational, causal or correlational, as long as they offer empirical grounding for theory or practice relevant to the coordination, collaboration, and adaptation of sociotechnical systems. We especially encourage data collected in field or synthetic task environments. Work on artificial laboratory tasks may be less relevant. Theoretical and methodological submissions relevant to this topic will also be considered.

Because of the short timeline for publication (12 months), this special section is most appropriate for complete (or nearly complete) work. Submissions are due **April 30, 2009**, and can be submitted to the special section editors via Manuscript Central (<http://mc.manuscriptcentral.com/humanfactors> – be sure to include the term “Collaboration, coordination” in the appropriate section during your submission). Please direct inquiries about the suitability of work to Jamie Gorman ([jgorman@cerici.org](mailto:jgorman@cerici.org)), Nancy Cooke ([ncooke@asu.edu](mailto:ncooke@asu.edu)), or Eduardo Salas ([esalas@ist.ucf.edu](mailto:esalas@ist.ucf.edu)).

### Reference

Weir, D. (2004). Catastrophic failure in complex socio-technical systems. *International Journal of Nuclear Knowledge Management*, 1, 120–130.

## REVIEWS OF HF/E

# Reviews of Human Factors and Ergonomics: A Status Report and Invitation

By Raymond S. Nickerson, Series Editor

With the publication of Volume 4, under the editorship of C. Melody Carswell, *Reviews of Human Factors and Ergonomics* now is a collection of 27 authoritative reviews of specific areas of research of particular interest to HF/E researchers and practitioners. Volumes 5 (Francis T. Durso, editor) and 6 (Douglas H. Harris, editor) are in process and on track for publication in 2009 and 2010, respectively.

To maximize accessibility of the information in *Reviews*, HFES has made the volumes available electronically as well as in print. Books can be purchased through the HFES Web site at <http://www.hfes.org/publications/>. Discount rates are provided for quantity purchases and for orders of the four-volume set. If your university, company, or government organization does not have *Reviews* in its library, this would be an opportune time to acquire the initial four volumes as a set.

Now that *Reviews* are in the HFES Digital Library, you can view abstracts and, if you’re a current member, download the full-text chapters of the older volumes, which are in the DL-Archive. To access the online content, be sure to register with IngentaConnect if you haven’t already done so. Registration is easy (I did it); instructions are in the members-only section of the HFES Web site.

Electronic viewing of abstracts has been increasing steadily over time: To date, abstracts from the first three volumes have been

viewed 1,800 times, and individual chapters from those volumes have been downloaded approximately 450 times.

Data on full-text downloads of individual chapters provide useful information regarding the relative interest the community attaches to the specific topics that have been covered in past *Reviews* volumes. To ensure that future volumes provide the coverage of the field that researchers and practitioners want, HFES needs explicit feedback from the community. We would like to know the extent to which the goals of *Reviews* are being realized and how to ensure that they will be realized in the future. We want to hear your suggestions for future *Reviews* topics, authors, and editors.

The purpose of the *Reviews* series is to provide up-to-date, in-depth reviews of research on topics of great interest to the HF/E community. Authorship of the chapters is by invitation. Potential chapter topics and authors, as well as volume editors, are identified by the series editor in consultation with an advisory committee that functions much like a journal editorial board.

Ideas and suggestions regarding future volumes can be sent to HFES Communications Director Lois Smith at [lois@hfes.org](mailto:lois@hfes.org), or Doug Harris at [dharris@anacapasciences.com](mailto:dharris@anacapasciences.com). Doug, I am delighted to say, has agreed to be the series editor starting with Volume 7. Comments regarding the first 6 volumes can be sent to Lois, or to me at [r.nickerson@tufts.edu](mailto:r.nickerson@tufts.edu).

Many thanks to all who have helped make *Reviews* a success!

**IEA**

## IEA Collaborates with the Foundation for Professional Ergonomics

*By Hal W. Hendrick*

The Foundation for Professional Ergonomics (FPE) has entered into a joint project with the International Ergonomics Association (IEA) to assist ergonomists in industrially developing countries (IDCs). Under this project, the FPE offers professional consultant services to ergonomics societies and groups in IDCs. The IEA's role is to use various means of communication to ensure that ergonomists in IDCs are aware of this service and how to avail themselves of it.

The FPE was founded by a group of senior ergonomists who formerly served as directors of the Board of Certification in Professional Ergonomics, including three of its past presidents. The purpose of this independent foundation is to promote professionalism in ergonomics.

The FPE offers its services through two means. First, if the FPE receives a request for information or advice from an ergonomist or ergonomics group in an IDC, it will identify one or more experts in the same technical area and have them contact the requesting party. The expert provides the requested information or advice at no cost.

Second, if an individual or group in an IDC requests an expert to conduct a seminar or workshop, the FPE will assist in identifying someone with appropriate expertise to provide the seminar or workshop at no cost other than coverage of the expert's expenses.

To date, the FPE has assisted several IDC ergonomics associations in identifying experts for providing technical information, presenting conference keynote addresses, and speaking at workshops.

Anyone in an IDC who would like to request the FPE services may contact me at [hhendrick@aol.com](mailto:hhendrick@aol.com). Anyone wishing to volunteer to serve as an expert at no charge also should contact me. More information about the FPE and its activities can be found at its Web site, <http://www.ergofoundation.org>.

*Hal W. Hendrick is a past president of HFES, IEA, and FPE and currently heads this joint IEA-FPE project.*

**EDUCATION AND TRAINING**

## Watch for the Education and Training Survey

*By Patricia R. DeLucia, E&T Committee Chair*

The HFES Education and Training Committee will soon distribute a survey for the purpose of assessing and prioritizing the education and training needs of members. The survey will be Web-based, and the URL will be broadcast via e-mail. The purpose of the survey is to determine how best to meet *your* education and training needs.

Our last survey was conducted in 2003 and led to several initiatives, including the Educational Resources Web site, which provides free resources, tips, and links to aid members and non-members in educating and training themselves and others (<http://www.hfes.org/web/EducationalResources/educresourcesmain.html>). The committee also cosponsors annual meeting workshops that address needs identified by members. The results of the 2003 survey were summarized in the April 2004 issue of the *HFES Bulletin* (<http://www.hfes.org/Web/BulletinPdf/bulletin0404.pdf>).

We urge all members to complete the survey.

**TECHNICAL GROUPS**

## 8th Annual User-Centered Product Design Award

*By Stan Caplan and Dianne McMullin*

The Product Design Technical Group (PDTG) invites submissions for the 8th Annual User-Centered Product Design Award. This award recognizes outstanding product design and the methods used to specify and achieve the design. Emphasis is placed on

innovative and user-centered approaches to human factors/ergonomics and industrial design.

Submissions may address products, software, or systems that are purchased for use in the home, in the workplace, or while mobile. They may include consumer, commercial, and medical products but exclude military equipment or systems. The product or system being nominated must be operational and capable of being marketed with no more than minimal changes. Products already on the market for more than three years will not be considered.

Submit nominations for your own work or that of others. The nominee must be a member of HFES but does not have to be a member of the PDTG. If a team is nominated, at least one person from the team must be an HFES member.

Nominations should be submitted in electronic form. Complete submission requirements are available at the PDTG Web site: <http://www.hfes.org/pdtg/>. Submissions must include descriptions of how the product or process meets the following judging criteria:

- **Functional obviousness:** On first impression, does the design speak to the user in a way that makes the product appealing and apparently easy to use?
- **Ease of operation:** How easy is it to learn and perform tasks in various applicable usage modes (e.g., setup, normal use, failure recovery)?
- **Creativity/innovation:** How is this product unique compared with similar products? How do usability and styling take advantage of product technology?
- **Concept development:** How was new user input created or past user data applied to influence the product or system concept?
- **Design:** How were user data generated or used for specifying design parameters or making design decisions?
- **Evaluation:** What was done to assess the usability of the product design and the need for improvement? This could include iterative assessments made during the design process or feedback obtained in the market that could be used for subsequent versions of the product.

#### **Administration**

The deadline for submitting nominations for the award is **May 15, 2009**. Nominations should be submitted via e-mail to Dianne McMullin at [dianne.l.mcmullin@boeing.com](mailto:dianne.l.mcmullin@boeing.com).

Judges will declare a winner by early August and may also identify submissions for honorable mention. If none of the submissions is judged to be of sufficiently high quality, no winner will be announced.

The winning product or system will be recognized at the 2009 HFES Annual Meeting in San Antonio in October, and the award-ees will be asked to make a presentation on the product and the development methodology.

For more information or to volunteer to serve on the award selection committee, please contact Stan Caplan at [scaplan@usabilityassociates.com](mailto:scaplan@usabilityassociates.com).

Past award recipients can be found on the Product Design Technical Group's Web site at <http://www.hfes.org/pdtg/>.

## **VETG Announces Best Student Paper Awards**

*By Yingzi Lin, Chair*

The Virtual Environments Technical Group was pleased to present two Best Student Paper Awards during the VETG Business Meeting at the 52nd Annual Meeting in New York on September 23, 2008.

Jonathan Bakdash, a graduate student in psychology at the University of Virginia, received the award for his paper entitled "Comparing Decision-Making and Control for Learning in a Virtual Environment: Backseat Drivers Learn Where They Are Going." Ines Ann Heber, Dipl.-Psych. at the Universität Aachen, was recognized for her paper, "Attentional Asymmetries in Virtual Space." Both students received free registration at the Annual Meeting.

### **STANDARDS**

## **Ergonomics of the Environment: Experts Needed for ISO Standards**

*By Bruce Bradtmiller, HFES Institute Domain Leader*

HFES is responsible for the U.S. position on all ergonomics standards produced by the International Standardization Organization (ISO). We have well-functioning committees (Technical Advisory Groups, or TAGs) that carry out this important work, but the TAG on Ergonomics of the Physical Environment (ISO/TC 159/SC5) needs a new chair and vice-chair.

We are specifically looking for volunteers who have technical expertise in at least some of the domain areas in which SC5 is developing documents – for example, environmental air quality, thermal stress, environmental accessibility, auditory signals, and noise control – and are willing to assume a leadership role within the Society for this work.

The chair's tasks include distributing documents for comments, collecting and assembling comments, and submitting the U.S. vote. Documents come from ISO via e-mail and are distributed to the SC5 TAG through a list server maintained by HFES. The chair must follow some semiannual reporting requirements and attends the ISO/TC 159/SC5 plenary meetings. These meetings are held at various points around the globe, and HFES has a budget to cover travel expenses. The chair would also convene an annual meeting of the TAG, typically in conjunction with the HFES annual meeting.

The vice-chair convenes meetings in the chair's absence or

## STANDARDS, cont.

unavailability, acts as an informal sounding board for the chair, and may assist in assembling comments on documents.

The time commitment varies with the number of documents under consideration at any given time. The mean weekly commitment may be a half hour, but this occurs in a nonnormal distribution; many weeks may pass with no activity at all, whereas some weeks may require 3 or 4 hours. On the bright side, all ISO work is very deliberate, with deadlines known well in advance, so planning the work flow is fairly easy.

This is an opportunity to serve the Society as well as yourself. All those involved in ISO standards-making feel the experience is a positive one, and the opportunity to meet with international colleagues enhances your ability to do your "day job." For more information, please contact me at 937/767-7226 or [bruce@anthrotech.net](mailto:bruce@anthrotech.net).

## CALENDAR

*Announcement deadlines: First day of the month prior to the desired issue; for events or deadlines within the first three weeks of a month, send information at least two months in advance. Items are published according to space availability. The full Event Calendar is available at <http://hfes.org>.*

- ★ **Human Factors in Ship Design and Operation**, February 25–26, 2009, London, United Kingdom. Royal Institution of Naval Architects, <http://www.rina.org.uk/humanfactors09>.
- ★ **ASNE Human Systems Integration Symposium 2009**, March 17–19, 2009, Annapolis, MD. American Society of Naval Engineers, <http://www.navalengineers.org/Events/HSIS09.html>.
- ★ **Include 2009, Inclusive Design into Innovation: Transforming Practice in Design, Research and Business**, April 5–8, 2009, London, United Kingdom. Royal College of Art Helen Hamlyn Centre, [http://www.hhc.rca.ac.uk/1345/all/1/include\\_2009\\_.aspx](http://www.hhc.rca.ac.uk/1345/all/1/include_2009_.aspx).
- ★ **5th International Driving Symposium on Human Factors in Driver Assessment, Training, and Vehicle Design**, June 22–25, 2009, Big Sky, Montana. Public Policy Center, University of Iowa, <http://ppc.uiowa.edu/driving-assessment/2009/>.

★ *Indicates new listing*

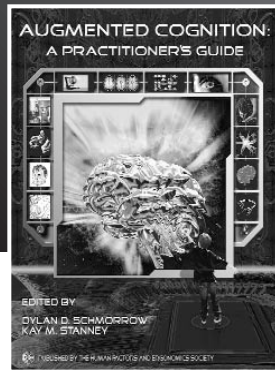


## Mark your calendar!

Human Factors and Ergonomics Society  
**53rd Annual Meeting**

October 19–23, 2009  
San Antonio, Texas USA

**Bookmark [hfes.org](http://hfes.org) for regular updates about:** exhibiting your products and services; reserving a meeting sponsorship; registering online; viewing the Preliminary Program and creating a personal meeting itinerary; and reserving a hotel room.



# NEW!

## AUGMENTED COGNITION: A PRACTITIONER'S GUIDE

Edited by Dylan D. Schmorrow  
& Kay M. Stanney

*Augmented Cognition: A Practitioner's Guide* represents the first comprehensive publication dedicated to formalizing the study and practice of augmented cognition. This guide pulls together a vast array of information into a single source and provides valuable advice on how to study and practice in this field successfully. Whether you're an engineer seeking to understand how best to select and integrate brain sensors, a psychologist designing adaptive strategies to enhance human performance, or a professor seeking to provide an overview of field practices, *Augmented Cognition: A Practitioner's Guide* offers you a comprehensive, up-to-date, practical introduction to the field of augmented cognition.

**ISBN 978-0-945289-33-3, 280 pp., 8.5 x 11", paperback**

**\$85 for HFES and IEA members, \$100 for nonmembers and institutions, plus shipping/handling, California sales tax if shipped to a CA address.**

Order online at <http://hfes.org/Publications> or contact HFES, P.O. Box 1369, Santa Monica, CA 90406-1369 USA, 310/394-1811, Fax 310/394-2410, [store@hfes.org](mailto:store@hfes.org).

## Best of Human Factors: Thirty Classic Contributions to Human Factors/ Ergonomics Science and Engineering

Edited by Nancy J. Cooke & Eduardo Salas

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# Bulletin

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