

* * * *Happy Holidays from HFES* * * *

Fall 2011 ISO/TC 159 Meetings Focus on Accessibility

By Daryle Gardner-Bonneau, Chair, U.S. TAG to ISO/TC 159

Over the span of several years, accessibility has become an increasing focus of the International Standards Organization's (ISO) work in a number of areas, including ergonomics (ISO/TC 159). Additionally, both the International Electrotechnical Commission (IEC) and ISO made a commitment to revise ISO Guide 71, which is intended to assist standards developers in addressing accessibility in technical standards to make their documents more useful. ISO/TC 159 is heavily represented in the joint working group that is developing the revision of Guide 71, which met for the first time in Geneva, Switzerland, in the late summer.

Also within ISO/TC 159 are numerous standardization efforts that address accessibility. In this article, I outline the work going on in the ISO/TC 159/SC 5 (Ergonomics of the Physical Environment) working groups and in ISO/TC 159/WG 2 (Ergonomic Requirements for People with Special Needs). These groups met in November in Sapporo, Japan, in October and in Paderborn, Germany, both places that are a bit off the beaten path for many travelers. Sapporo is a lovely city. The meeting venue was Hokkaido University, a beautiful, comprehensive campus established, surprisingly, by an American in the mid-1800s. Paderborn, too, is a city full of history—it was exciting to walk in the very footsteps of Charlemagne and Pope Leo III in 799 and to visit the world's largest computer museum. It is not surprising to find the museum there, given that Heinz Nixdorf started his computer company in Paderborn in 1952. The museum also includes a wall-length display of 700 different calculators!

ISO/TC 159/SC 5

The projects of all the working groups were reviewed during the ISO/TC 159/SC 5 plenary. WG 1 (Thermal Environments) has a multitude of projects at various stages of development but has not submitted much in the way of formal drafts for vote during the past year. WG 6 (Perception of Air Quality) has only one work item, and progress has been held up because of a dispute with ISO/TC 146 (Air Quality) about potential content overlap. Thus, most of the forward momentum this past year has been in WG 4 (Integrated Environments) and WG 5 (Accessible Design).

Traditionally, SC 5 has confined its work to very basic standards on individual environmental elements such as the effects of thermal environments, lighting, and noise. In recent years there has been a move toward looking at the effects of elements in combination, and perhaps even a willingness to consider the development of more applied standards that involve domain-specific environmental design. For organizations such as HFES, where there is relatively little interest in very basic research on environmental elements, it is hoped that this trend toward more applied work in SC 5 will draw increasing participation from our ergonomists and human factors specialists, and particularly from those involved in environmental design. It is possible that both WG 4 and WG 5 can provide a "home base" for more applied projects. WG 4 is just starting on a work item on combined effects of environmental elements that will be a revision and expansion of ISO 10551 (which was limited to thermal environments).

WG 5 had a very busy schedule in Sapporo, most of which involved the resolution of a multitude of comments on ISO CD 24504 – Sound Pressure Levels of Spoken Announcements for Products and Public Address, which takes into account age-related hearing loss. WG 5, which targets the accessible design of physical environments, also held preliminary discussions on two new approved work items, one on color combination for older adults and people with disabilities, and one on the accessible design of warnings and markings for exterior walkways and walking surfaces. The latter was submitted by the United States under the leadership of Harvey Cohen.

The color combination work item is the second vision-oriented work item in WG 5, and concerns have been expressed that these vision work items really ought to be carried out in ISO/TC 159/SC 4, which has many experts in vision and visual displays. Further, there has been some concern that this work item, which takes into account the effect of aging on the perception of color, does not address the implications of color blindness, arguably far larger from the standpoint of design. Tentatively, the group decided that a standard that addresses color combination as it relates to color blindness, and then perhaps a standard that considers both color blindness and aging effects together, will be developed following the development of the current work item. Also, it was agreed to pursue a joint working group between SC 5 and SC 4, with SC 5 as the lead, to conduct the work on this item (and presumably the follow-on items as well).

The primary issue with respect to the work item on exterior walkways and walking surfaces was its breadth and the need to ensure that the particular aspects pursued by WG 5 are not already being carried out by other ISO groups (on buildings, assistive technologies, etc.). This work item is intended to result in a technical report (TR) that lays out the issues with follow-on standards to be developed in time. Although the work item was approved, only four countries are actually participating at present; more participation is definitely desirable, including from the United States. If you are interested in this accessibility-related work and are willing to participate in any capacity, please get in touch with Harvey Cohen at harvey@erroranalysis.com.

Meetings on ISO/TC 159/WG 2 and the Advisory Group on Accessible Design

These meetings were postponed until this November because of the earthquake and tsunami in Japan, which occurred a day or two before they were to start. To a great extent, the meeting of ISO/TC 159/WG 2 was a planning meeting, as work on the revision of TR 22411 – “Ergonomics data and guidelines for the application of ISO/IEC Guide 71 to products and services to address the needs of older persons and persons with disabilities” was effectively halted following the decision to revise Guide 71. Much of the meeting was spent discussing the major decisions made at the first Guide 71 revision meeting in Geneva and their implications for the TR revision. In addition, responses were crafted back to the Guide 71 revision committee.

Feedback on the first editions of both the guide and TR 22411 has been decidedly negative—there is limited use of both documents, and their target audiences find both of them difficult to use. There are many reasons for these problems, few of which have to do with the people now involved with the revisions. I think both groups will try to maximize the usefulness of these documents in the revisions to achieve a much greater impact on standards developers—and, in the case of TR 22411, designers. TR 22411 is also in great need of good ergonomics data on the design of accessible services, environments, and systems (e.g., public transportation) to complement data already available in the document, which is heavily targeted toward products and building design. If you know of useful data sources or conceptual frameworks for considering accessible design of services, environments, or systems, I would appreciate hearing from you at jdnbonneau@charter.net.

The Advisory Group on Accessible Design (AGAD) was established by ISO/TC 159 to promote standardization on accessibility both in the TC and, at a broader level, within ISO and to establish liaison relationships with other organizations related to accessibility. The amount of accessibility work going on is staggering (in some ways a good thing), but this makes it difficult to track and, unfortunately, causes duplication of effort, along with inevi-

table contradictory guidance in some areas (bad things, obviously). Within ISO alone accessibility work is going on in TC 59 (Building Construction), TC 122 (Packaging), and TC 173 (Assistive Products). Numerous committees within IEC are also working on accessibility standards and other documents, including IEC TC 59 (Household Appliances). Finally, ISO/IEC JTC 1, which focuses on information technology, has numerous initiatives of its own, including the Special Working Group on Accessibility (SWG-A) and individual standards efforts in SC 35 and SC 17.

Most of the decisions made by AGAD related to liaison relationships with some of these groups and communications to be sent to ISO regarding (a) following up on recommendations from the 2010 Geneva ISO workshop on accessibility and (b) actions to make ISO standards and accessibility information available and/or more accessible to users with disabilities.

Most of the ISO/TC 159/SC 5 working groups will next meet in Boston in 2012 in conjunction with the HFES Annual Meeting. WG 5, specifically, will also meet in Vienna in April 2012 in conjunction with the ISO/TC 159 plenary. ISO/TC 159/WG 2's next meeting will be held in Mainz, Germany, just prior to the ISO/TC 159 plenary in Vienna.

PUBLIC POLICY MATTERS

An Uncommon Revision of the “Common Rule”

By William C. Howell, Chair, HFES Government Relations Committee

Whether those of you engaged in HF/E research realize it or not, you've been operating under a set of federal regulations for the treatment of human participants and their data that are known collectively as the “Common Rule” (for reasons that I'll get to shortly). What you may find more familiar is the fact that these regulations, and the Institutional Review Boards (IRBs) that enforce them, have created a lot of problems for researchers, ranging from seemingly irrelevant, time-consuming reporting requirements to unjustified mandates regarding the research itself and the handling of data.

Well, after two decades of complaints, the U.S. Department of Health and Human Services (HHS) and the administration's Office of Science and Technology Policy (OSTP) finally decided to undertake a revision of these regulations and, in doing so, to encourage comments from all those affected—individuals, groups, and organizations—on a draft of the proposed changes. Anyone interested in the actual draft can find it at <http://www.gpo.gov/fdsys/pkg/FR-2011-07-26/pdf/2011-18792.pdf>.

In what follows, I summarize the history of these regulations and what HFES has done in reacting to this draft and why.

Background

For more than three decades, all federally funded research has been subject to a strict set of regulations governing the conduct of research with human subjects, including the requirement that an IRB review and approve research protocols. Promulgated and adopted in the 1970s because of some widely publicized abuses, the regulations created many problems for researchers, including the fact that different agencies and IRBs interpreted and applied them differently. Consequently, 17 major funding agencies got together sometime around 1991 to reach a common understanding, with HHS taking the lead in its Title 45, Part 46, of Code of Federal Regulations, thereafter known as the “Common Rule.”

Although this resulted in significant improvements, including more clearly articulated lists of “exempted areas,” it didn't fix everything. So complaints have continued over the two decades since, hence the aforementioned announcement by HHS and OSTP inviting comments on its draft revision of the Common Rule. In view of the number of HFES members engaged in research with human subjects, the HFES Government Relations Committee (GRC) felt that the Society should respond in some manner to this opportunity and so advised the president, who agreed.

The HFES Review and Response

This document, like most federal regulations, was long and complex with a lot of “lawyer language.” Moreover, in the solicitation of comments, HHS/OSTP posed some 74 specific questions relating to various provisions in which revisions were being proposed in the draft. Also typical of federal announcements, the original deadline for response was unrealistically short. Thankfully, complaints from a number of organizations resulted in a month’s extension, enabling HFES to participate. However, based on a quick reading and consultation with other societies, it became clear to the GRC that HFES does not have the resources to do the kind of in-depth analysis that would be required for an informed set of comments. Given that other (much larger) organizations were in the process of doing this, it was decided that HFES would work with those groups rather than attempt a comprehensive review on its own.

Most important, the American Psychological Association (APA), whose research constituency is very similar to that of HFES (in fact, overlaps it to some extent), had been monitoring the whole regulation issue since the 1990s. In response to this announcement, APA had assigned several staffers full-time to the analysis of the document and appointed a committee of volunteer researchers to complement their efforts.

Similarly, the Federation of Associations in Behavioral and Brain Sciences (FABBS), of which HFES is a member and which is closely related to APA, was also investing heavily in a review. Following an all-day meeting of representatives of the 20 or so member organizations and other consortia, a committee was appointed to draft comments for the entire body. Based on the knowledge that APA and FABBS were undertaking in-depth reviews, the GRC recommended that HFES examine their comments and either sign on in support of one or both or, if there were any inconsistencies with the interests of HF/E researchers, submit a version of the comments revised in accordance with those interests. This recommendation was endorsed by the Executive Council, so the GRC proceeded accordingly.

The APA response consisted of a set of general comments addressing specific sections and subsections of the revised draft, whereas FABBS submitted a white paper that, rather than following the draft outline, addressed specific issues more broadly. The GRC reviewed both documents. Not surprisingly, though differing somewhat in emphasis and coverage, the two sets of comments had no substantive points of disagreement. Moreover, the GRC could find nothing in either for which there would be any concern within the HF/E research community.

Space does not permit—nor do I expect that most readers would want—a detailed account of either the changes proposed in the draft or the APA and FABBS comments. Suffice it to say that the revisions were aimed, for the most part, at streamlining the review process, enabling more minimal-risk research to qualify for exemption or expedited review, and eliminating some unnecessary requirements (such as multiple IRB reviews for studies conducted at multiple sites).

However, as was the case with the original version, the revision was heavily tilted toward biomedical research for which risks are substantially different in some areas than those posed by the behavioral kind. For example, the proposed data security and information protection requirements, though reasonable for biomedical data, would impose an unnecessary burden on anyone doing secondary data analyses—a common practice in behavioral research. Both the APA and FABBS responses strongly opposed this one-size-fits-all provision. They also objected to a provision that would extend application of the Common Rule to *all* research being conducted at an institution that received *any* federal support, irrespective of sponsorship. (Currently only federally supported research is covered.)

Beyond these major objections, both the APA and FABBS comments dealt with a number of important details, such as the specific qualifications for expedited review and exempt classification, and the prescriptive language for the format and content of consent forms. In sum, both the proposed revisions to the Common Rule and the objections to specific provisions submitted by APA and FABBS would—if implemented—provide considerable relief for HF/E researchers. Furthermore, if the revised version were modified in accordance with

the objections raised, nothing in it would impose additional burdens or pose new problems for this community.

Therefore, the GRC recommended that HFES sign on in support of both sets of comments. With the approval of the Executive Council, the president followed through. In the case of FABBS, we were advised that—despite our being represented in its “corporate” response as one of the member organizations—it was useful to register independent support, so HFES joined the other member organizations in doing so. In the case of APA, it was simply a matter of endorsing the comments (as did several other organizations).

You might wonder what the purpose of this seeming duplication was. The simple answer is that sheer numbers matter, and also one never knows which set of comments is likely to attract the most attention where it counts. It’s not like voting multiple times; rather, it’s a matter of increasing the odds that HFES has an impact.

As I noted at the outset, I doubt that many HFES members are aware of the existence of the Common Rule, let alone the massive collection of very specific provisions it contains. But the Common Rule has had an important bearing on how they interact with subjects, conduct their research, and handle their data. If you are among those for whom the present regulations are a drag, you may find some relief soon—provided the collective input from the behavioral and social science communities gets incorporated into the final revision. And you might be pleased to know that HFES was on top of it and may have had a small part in making it happen.

INSIDE HFES

Renew Your Membership for 2012

It pays to stay connected to new developments in the field and your network of colleagues. If you haven’t done so already, please renew your membership today! (Emeritus membership does not expire. Emeritus members only need to renew the subscriptions and or Technical Groups they wish to carry for the following year)

Perhaps the most significant member benefit is free online access to the 16,000+ articles in the HFES Digital Library at SAGE Journals Online (current and past issues of *Human Factors*, *Ergonomics in Design*, HFES Annual Meeting Proceedings, *Journal of Cognitive Engineering and Decision Making*, and *Reviews of Human Factors and Ergonomics*). You may also choose to receive a printed *Directory & Yearbook* for 2012. As always, members receive access to the HFES online member directory and to our webinar series.

Renew online today by logging in at hfes.org with your username and password. If you've misplaced this information, please e-mail the Member Services Department (membership@hfes.org or call 310/394-1811).

Invited Speakers Confirmed for the 2012 Health-Care Symposium

HFES has just released the lineup of invited speakers for the 2012 Symposium on Human Factors and Ergonomics in Health Care. The speaker list—available at <http://bit.ly/s8lrMD>—includes distinguished experts from the medical device industry, government agencies, and health-care facilities, among others. The symposium will be held March 12–14 at the Baltimore Marriott Waterfront Hotel in Baltimore, Maryland.

The speakers will address a variety of topics along three tracks: Patient and Health-Care Provider Safety, Health-Care Information Technology, and Medical Device Design. Here is just a sampling of presenters in each category:

Patient and Health-Care Provider Safety Track

- Eric Ford, Johns Hopkins University, “Improving Patient Safety in Radiation Oncology: Simple Tools for a Complex Discipline”
- Arthur St. Andre, Washington Hospital Center, MedStar Health, “A Clinician’s Perspective on the Hospital Built Environment Now and in the Future”

Health-Care Information Technology Track

- Ross Koppel, Center for Clinical Epidemiology and Biostatistics, University of Pennsylvania, “Human Bodies vs. Human Factors: Why HIT Is So Hard to Get Right”
- Mary Kate Foley, User Experience, Athena Health, “Design and Usability of Health Records: Tales from the Front”

Medical Device Design Track

- Ed Matthews, Helen Hamlyn Center for Design, “Safer, Easier, Fewer Errors: Better Medical Device Design Through Human Factors, Research, and Evidence-Based Inputs”
- Edmond Israelski, Abbott Medical, “Overview of Current Medical Device Human Factors Standards”

In addition, more than 150 proposals were submitted for oral and poster presentations. Decision letters will be sent in early December, and the full program will be posted soon afterwards.

Register at <http://bit.ly/ubcIft>. A significant percentage of the room block at the Baltimore Marriott Waterfront has already filled, so book your room at <http://bit.ly/pjwpp>.

Bookmark <http://bit.ly/qCKNXJ> for updates on the program and other details.

Letters From Readers

When I received my November *HFES Bulletin*, I read Immediate Past President Anthony D. Andre’s article, which was an excerpt from his presidential address at the 2011 Annual Meeting. I was not able to attend this year, so I was happy to get a chance to read what he said, especially the following:

We must approach this like any other human factors problem. Who are the users? What are their needs? What are the metrics? What is the desired impact? What will yield success and satisfaction? Simply stated, we should not aim to grow our membership if we are happy with who is in this room. But we shouldn’t resist growth if our end goals are better achieved by having others join us.

Before I address that statement, here is some of my background. I have a bachelor’s degree in mechanical engineering from the University of Washington and have been working on human interfaces for aerospace hardware and software for the last 22 of my 27-year career. During that time, I have been exposed to many attitudes regarding who is or is not a “real human factors person.” I’ve known those who think the only true human factors person is one who deals with anthropometrics, because that’s dealing with real-world interfaces and not just “psycho-babble.” I’ve known others who believe the only real human factors person is one who has an understanding of the psychological aspects of the human user and who conducts basic research on how users perceive the world around them. Those human factors people have little regard for the “physical education majors” who do anthropometrics. Generally, the one thing the two groups agree on is that engineers are the enemy and exist only to stand in the way of good user interfaces.

My own opinion has been formed through my direct experience with what makes for an effective human factors organization, but also through my observations of other organizations that deal with vehicle interfaces. I have observed how the most effective of those groups are organized, as well as the backgrounds of the people within them. For instance, I was part of an advanced design group for half of my career. In that capacity I often worked

with groups that design aircraft from a clean sheet of paper. The design of an airplane is dictated by the interfaces. Once it is sized (which is often strongly dependent on the crew complement), the airplane designer works around how the craft will interact with the air around it. It is an interface problem. The airplane needs to fly, but fly as economically as possible within the operational parameters desired.

To design a successful airplane, the engineer deals directly and continuously with experts on air flow, engine design, landing gear design, and aircraft structure. What makes one happy often makes the other unhappy, but the engineer who designs an excellent airplane accommodates the concerns of all experts. A successful design comes from experts on different sides of the interface who work well as a team. No one kind of expertise is considered to be more important than the other, and the common experience base of all of those who make up this team is their experience in integrating their expertise into an aircraft.

Large aircraft manufacturers almost never build major subsystems such as engines, yet all aircraft need engines to fly. Thus these manufacturers employ a large group of propulsion engineers to design the interface so the engine will be integrated in a way that best contributes to the success of the aircraft's mission. The modern jet engine interface requires diversity in the areas of expertise needed for engine integration, and a typical propulsion group will be made up of experts in engine design, pneumatics, hydraulics, electrical power, digital data, and mechanical structures. All these experts work as a team to integrate the engine into the airplane in such a way that each of these interfaces is important. The thing that all these experts have in common is their experience in integrating jet engines into aircraft.

The programs I have worked on that do the best job designing human interfaces for aerospace vehicles have always followed this same model. Typically, an effective human interface design organization consists of experts in both the cognitive and physical aspects of humans working alongside experts in the design of physical accommodations and electronic displays and controls. Often, because the aerospace operational environment is not one with which the average person is familiar, the organization will also have some subject matter experts who have "been there and done that." All these experts share a common expertise of accommodating humans in aircraft.

Ultimately, this is what HF/E is about. It is not solely about research, although research is a tool that is used in the development of those interfaces. It is not about designing the user accommodations that are easiest or cheapest for the structural engineer, avionics engineer, or software developer. It is about creating an interface that best integrates humans for their role in the mission of the aircraft. No single aspect is most important. The focus is on the whole.

It is time for those of us who are members of HFES to remember our mission. HFES does not advocate for humans. There are plenty of other organizations to do that—the American Medical Association and the American Psychological Association, for example; these organizations focus on humans exclusively and advocate for their health and well being. HFES is an advocate for good human interfaces to something. That "something" is important, be it software, machinery, simple combinations of the two, or broader systems consisting of many elements. It is an organization that should not be about one area of expertise or another. We need to be about the whole. Interfaces are best designed when experts from all sides cooperate and work together.

One thing I find very peculiar is the fact that in the other interface design organizations in aerospace, I have never seen one faction seek to split off from the others. I have never heard a pneumatics expert from an engine design group say that he or she would be better off if everyone in the propulsion group was a pneumatics expert. The fact that the pneumatics interface is pointless when the engine departs the aircraft is certainly not lost on them. We in HFES seem to be alone in having lost sight of our goal, and thus have split off into these different warring camps of "real human factors people" as if it matters that an airplane have a fantastic display of attitude data on a display that the operator can't see because the control wheel is in the way.

We need to remember what human factors is about. It is about the design of good user interfaces. In order to design good user interfaces, we need people who have demonstrated expertise with all aspects of the interface. No good user interface has ever been developed

that accommodates the needs of the human without addressing the needs of the vehicle. It is obviously foolish to think that would ever happen. Yet foolish things happen when you lose sight of your goals. So to answer Dr. Andre's question, "what will yield success and satisfaction?" I think the answer is obvious. We need to be more rather than less inclusive. We need to focus on the whole interface, not on a particular part of it. Our common bond is that we all have experience in developing good user interfaces. This is the mission of HFES. This is what we are about.

—David Hansen

David Hansen has a BSME from the University of Washington. He has worked at The Boeing Company and is now at Lockheed Martin's Advanced Design organization in Marietta, Georgia. He was involved in the design and prototyping of the primary flight display for the C-5 Avionics Modernization Program and the engine display for the C-5 Reliability Enhancement program and currently does display and crew station modification work on the C-130J program.

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One of the many benefits for HFES members is free online access to *Human Factors*, *Ergonomics in Design*, *Journal of Cognitive Engineering and Decision Making*, *Reviews of Human Factors and Ergonomics*, and Annual Meeting proceedings. It's easy to access and search for articles of interest. Here's how.

Member Login Is the Key

In order to download, print, or save free full-text articles, you must first log in at hfes.org with your member username and password. (Forgot your login ID? Contact the Member Services Department at membership@hfes.org or 310/394-1811.)

On the Welcome page, go to the "Access Member Benefits" section. The third item in the list of benefits provides links to each publication on SAGE Journals Online (SJO).

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There are two search windows on each publication's main page:

At the upper-left side of the page, you'll find a window to search all the journals on SAGE Journals Online, which includes all five HFES titles (and more besides!):



Below the journal's horizontal banner there is a search field on the right, where you can enter search terms to find papers just within that journal:



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HFES and SAGE are pleased to announce the launch of mobile sites for each of our publications. To access the mobile sites for these publications from your iPhone or Android or Blackberry device, simply log in at hfes.org and navigate to the title of interest from the

“Access Member Benefits” area on the Welcome page. Subscribing university libraries with wifi and IP recognition have made the sites available for students and faculty on campus.

Reminder: Fellow Nominations Due February 1

The Fellows Selection Committee invites nominations for Fellows to be elected in 2012. “Fellow” is a special class of Society membership, as established in the Bylaws, Article I, Section 4. Individuals may apply for Fellow status on their own behalf, or they may submit a nomination on behalf of another.

The Fellow Nomination Package—including instructions, nomination and recommendation forms, and supporting information—may be obtained from the Fellows page (<http://bit.ly/tVZTbM>). You may also contact HFES Director of Member Services Carlos de Falla at carlos@hfes.org. The completed package (nomination form, recommendation form, candidate’s vitae or résumé, and supporting documentation) must be received at the HFES Central Office on or before **February 1, 2012**.

ANNUAL MEETING

2012 Annual Meeting Call for Proposals Opens in January

Human Factors and
Ergonomics Society
56th Annual Meeting



Beginning January 14, members and nonmembers may access the Call for Proposals for the 56th Annual Meeting, which will take place October 22–26 at the Westin Boston Waterfront Hotel in Boston. Case studies, debates, demonstrations, competitive product designs, new methodologies, on-site experiments, and posters are welcome.

Please bookmark the meeting Web page at <http://bit.ly/uk0MF0> for complete submission information. The deadline for submitting any type of proposal is **March 19, 2012**.

Papers that have been published previously or presented at another professional meeting may not be submitted. All research and analyses described in a proposal must be complete when the proposal is submitted. Program chairs may reject, with or without review, papers that do not present completed work. The sole exception to this policy is for student work submitted for consideration in the Student Forum track, in which case the proposer may report on work in progress.

Note that for all accepted submissions, one of the authors must attend the meeting to present the work. All presenters are required to pay the meeting registration fee.

For questions on the submission process, please contact Lois Smith (lois@hfes.org, 310/394-1811).

Interviewing for Success

By Ariana Kiken



Trying to find a job in industry and academia is often a daunting experience. The interview process especially can be a step where many applicants miss the mark and hurt their employment opportunities. This article is a brief summary of a panel discussion that took place at the 55th Annual Meeting in Las Vegas, Nevada.

Part of Student Career and Professional Development Day, the panel, “Interviews: The Do’s and Don’ts,” was chaired by Kim-Phuong L. Vu, California State University, Long Beach, and chair of the HFES Student Affairs Committee. It was cochaired by Sandra K. Garrett, Clemson University. Panel members included Frank C. Lacson, Pacific Science & Engineering Group; Linsey M. Barker Steege, University of Missouri; Vernol Battiste, San

Jose State University Foundation/NASA Ames Research Center; and Thomas Ferris, Texas A&M University.

Résumés

Tailor your résumé for the job you are applying for to ensure that you are providing your potential employer with only the most relevant information. Your résumé should reflect your accomplishments, skills, and progression over time. It is your first opportunity to make a good impression on a prospective employer.

Interviews in Industry

Preparing for an interview is perhaps as important as performing well during the interview itself. Learn as much as you can about the organization you will be interviewing with and the people who work there. It is beneficial to understand the organization's goals and objectives, current work, collaborations, and reputation within the industry.

Keep these points in mind when researching an organization:

- *Organizational fit:* How well would you fit in a small company? In a large company?
- *Technical fit:* What type of work do you want to do? Communicate your small passions—the things that absorb you so much that you lose track of time.
- *Personal fit:* What is your work style? What is your style of collaboration? What complementary skills do you possess? What is your meeting style? Are any of these work styles compatible with the styles at the company that is interviewing you?

It might be helpful to organize and present your thoughts on these three “fit” categories to a friend or acquaintance for feedback.

Before an interview, search for your name online so that you are ready to speak about what your prospective employer may have found in your Facebook or LinkedIn page or your university's Web site. Prepare a list of questions for the interviewer.

During the interview, represent the best version of yourself, starting with your appearance. Your prior research about the organization should help you choose your interview attire; it's best to err on the side of formality. Arrive early for the interview to make a good impression. This shows that you are dependable, excited about the job, and respectful of the interviewers' schedules.

The interview is not just an opportunity for the employer to evaluate you, it's “a reduction in uncertainty” for you as well. Show how your skills and experiences bring value to the organization. Asking about the typical path of progression in the organization is a good way to assess whether you and the company would make a good fit. Although it may be tempting to ask questions about salary and benefits during the interview, negotiation of salary and benefits typically occurs once an offer has been made. It may be appropriate, though, to discuss schedule constraints.

Before leaving, ask for a business card from each person who interviewed you so you can follow up with a thank-you note or to provide additional details he or she requested.

Interviews in Academia

Before embarking on the academic interview process, it is also critical to do background research, keeping in mind a good fit with the university, the department, and the faculty. These three aspects are also important to be aware of during the interview. Apply early so you have time to practice your interviewing skills, and start thinking like a member of the faculty rather than as a student. To get a sense of what occurs during a typical faculty interview, request to attend interviews with faculty candidates being considered by your university. Additionally, ask current faculty members for advice based on their experiences of interviewing and being interviewed.

Interviews for academic positions are typically lengthy and can take place over the course of several days, which means that you must be “on” at all times. Think about the interview as consisting of two parts: the job talk and individual meetings. For the job talk,

practice what you will say so you can convey confidence in describing your skills and indicating your future direction.

Prior to individual meetings, request a schedule so that you'll know with whom you will be meeting. Search online for information about those people in advance of your meeting. In addition, find out whether the university places an emphasis on teaching or research, which classes currently need instructors, and what collaborations the department engages in. As with interviews in industry, most negotiations about benefits and salary usually occur after a job offer has been made; however, your interviewers may discuss a start-up package with you. Be prepared to lay out some terms if asked. Flexibility and funding sources that you bring to the table are a couple of topics that would be appropriate to discuss prior to receiving a job offer. Once you know the terms of a job offer, consider the complete package, not just salary.

Phone Interviews

Phone interviews are a common practice for many companies in the early stages of evaluating candidates or when candidates are too distant to interview in person. Despite their convenience, phone interviews present some unique challenges. Phone interviews lack non-verbal cues, and maintaining reliable communication throughout the interview may sometimes be a challenge.

To ensure that a phone interview goes smoothly, (a) use a landline rather than a cell phone to ensure a clear connection and be familiar with the functions of the phone before the interview, especially the location of the mute button; (b) have your notes handy, or be connected to the Internet in case you need to reference something; and (c) remember to be descriptive in order to get your message across in the absence of nonverbal cues.

Conclusion

Whether you're interviewing for a position in academia or in industry, being prepared for an interview is critical in securing a position. Thoroughly researching and understanding an organization prior to the interview allows you to envision how well you will fit and how you can bring value to that organization. Preparation helps you confidently represent yourself in the best possible light.

Ariana Kiken is a student in the MSHF program at California State University, Long Beach. She is working on her thesis, which examines training methods for NextGen tools for air traffic control students. She expects to complete her degree in Spring 2012.

OTHER NEWS

Call for Submissions: 2012 IEHF Ergonomics Design Award

The Institute of Ergonomics & Human Factors (IEHF) has established an Ergonomics Design Award to recognize and acknowledge excellence in the application of ergonomics. The award is open to all designers and ergonomists who can demonstrate the application of ergonomics to the highest standard in a product or design. Applications are welcome from both individuals and teams. The deadline for submissions is **February 1, 2012**.

For more information and an application form, go to <http://www.ergonomics.org.uk>.

Proposals Sought for IADIS International Conference

The IADIS International Conference, to be held in Lisbon, Portugal, on July 21–23, addresses the effects of information and communication technologies (ICT) on human beings as well as the interaction among ICT, individuals, and society. All types of research strategies are encouraged, especially cross-disciplinary and multidisciplinary broad empirical field

studies, theoretical analyses, cross-cultural studies, scenarios, ethnographic studies, and epistemological analyses.

Visit the conference Web site for more details: <http://www.ict-conf.org/2012>.

2010 FINANCIAL REPORT

2010 HFES Financial Report

The Human Factors and Ergonomics Society's 2010 audited financial report, received by Secretary-Treasurer Valerie J. Rice in November 2011, was prepared by Castillo & West Accountancy Corporation. The firm audited the following statement of assets and liabilities – cash basis – of the Human Factors and Ergonomics Society, Inc. (a nonprofit organization) at December 31, 2010, and the related statements of revenues and expenses – cash basis, and of changes in fund balance – cash basis, for the 12 months then ended. These financial statements are the responsibility of the Human Factors and Ergonomics Society's management. The firm's responsibility is to express an opinion on these financial statements based on its audit.

In addition to the regular Society funds, the firm reviewed the A. Chapanis Award funds. These funds had a balance of \$25,399 at January 1, 2010; at December 31, 2010 the balance was \$27,493.

The firm conducted its audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that the firm plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statement. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. The firm believes that its audit provides a reasonable basis for its opinion.

As described in Note 1, these financial statements were prepared on the basis of cash receipts and disbursements, which is a comprehensive basis of accounting other than generally accepted accounting principles.

In the firm's opinion, the financial statements referred to above present fairly, in all material respects, the assets, liabilities, and fund balances of the Human Factors and Ergonomics Society, Inc. as of December 31, 2010, and its revenue, expenses, and the changes in its fund balances for the 12 months then ended, in conformity with the basis of accounting described in Note 1.

Statement of Assets and Liabilities – Cash Basis December 31, 2010

Assets	
Cash on deposit	
Checking/savings	\$205,780
Total cash on deposit	\$205,780
Investments	
Charles Schwab,	
at market value (Note 7)	\$710,175
Vanguard STAR Fund,	
at market value (Note 7)	\$130,530
Total assets	\$1,046,485
Liabilities and Fund Balance	
Liabilities	
Reserve for current payable (Note 3)	\$12,000
Other current liabilities	\$14,396
Due to TG	\$692
Payroll liabilities	\$1,086
IEA donations	\$1,684
Total liabilities	\$29,858
Fund balance	\$1,016,627
Total liabilities and fund balance	\$1,046,485

Statement of Changes in Fund Balance – Cash Basis for the 12 Months Ended December 31, 2010

Balance - January 1, 2010	\$970,584
Add: Excess of revenues over expenses	\$46,043
Balance - December 31, 2010	\$1,016,627

Statement of Revenues and Expenses – Cash Basis for the 12 Months Ended December 31, 2010

Revenues	
Individual memberships	\$617,577
Sustaining memberships	\$6,700
Publications	\$407,426
HFES Institute	\$24,777
Annual Meeting	\$350,584
Placement	\$60,264
Net unrealized gain on investments	\$10,013
Miscellaneous	\$17,153
Total revenues	\$1,494,494

Expenses

Publication Expense:	
<i>HFES Bulletin</i>	\$1,075
<i>Human Factors Journal</i>	\$30,518
<i>Directory and Yearbook</i>	\$25,649
<i>Ergonomics in Design</i>	\$66,053
Books	\$15,525
Digital Library	\$34,767
Marketing	\$12,968
Other publication expense	\$12,997
Salary and administrative costs	\$302,939
Total publication expense	\$502,491

Member Services:

Mailings expenses	\$10,259
Placement service	\$27,012
Committee and other (Note 4)	\$142,656
Annual Meeting	\$89,483
Computer, Web site, and related expenses	\$40,873
Interorganizational	\$40,134
Salary and administrative costs	\$342,574
Total Member Services	\$692,991

General and Administrative Expense:

Salary and administrative costs	\$252,969
Total General and Administrative Expense	\$252,969
Total Expenses	\$1,448,451
Excess of revenue over expenses	\$46,043

Note 1 – Summary of Significant Accounting Policies

This summary of significant accounting policies of Human Factors and Ergonomics Society (the organization) is presented to assist in understanding the organization's financial statements. The financial statements and notes are representations of the organization, which is responsible for their integrity and objectivity.

Activity. The organization is a nonprofit entity. The organization is an interdisciplinary organization of professional workers concerned with the role of humans in complex systems, the design of equipment and facilities for human use, and the development of environments for comfort and safety. The membership is composed of psychologists, engineers, physiologists, and other scientists from the United States and around the world.

Human Factors and Ergonomics Society promotes research and the application of human factors in the design, development, use, and evaluation of machines, systems, environments, and devices.

Basis of accounting. The organization's policy is to prepare its financial statements on the cash basis of accounting; consequently, certain revenues are recognized when received rather than when earned, and certain expenses and purchases of assets are recognized when cash is disbursed rather than when the obligation is incurred.

Note 2 – Property and Equipment

It is the organization's policy to expense all capital assets purchased throughout the year.

Note 3 – Reserve for Current Payable

This represents a segregation of surplus for bills due at December 31, 2010. This represents \$12,000 for miscellaneous payables.

Note 4 – Committee and Other

IEA Representatives	\$4,858
Awards	\$4,256
Diversity	\$121
Government Relations	\$5,000
Outreach Advisory	\$31,295
Student Affairs	\$6,707
Miscellaneous	\$3,770
HFES Institute	\$39,175
Executive Council	\$47,474
Total	\$142,656

Note 5 – Concentrations of Credit Risk

The organization maintains its cash balances at several financial institutions located in Santa Monica, California. Accounts at each institution are insured by the Federal Deposit Insurance Corporation up to \$250,000. At December 31, 2010, there was an uninsured cash balance of \$0.

Note 6 – Pension Plan

The organization has a tax-deferred annuity plan using Teachers Insurance and Annuity Association—College Retirement Equities Fund (TIAA-CREF) Annuities that meet the requirements of section 403(b)(1) of the Internal Revenue Code.

Benefits are provided by individually insured contracts issued by TIAA-CREF to each participant. The guaranteed rate basis for premiums applied to TIAA Retirement Annuity contracts is in accordance with the terms of the participant's individual annuity contract.

The plan is a defined contribution plan, which covers all full-time employees with two years of service. The plan calls for contributions of 10% of compensation for participants for the first three years in the plan and 12.5% of compensation thereafter, except for employees earning in excess of \$100,000 then contribution is capped at 10% of compensation.


Note 7 – Investments

The organization has the following funds with the Vanguard Group and Charles Schwab:

	<u>Cost</u>	<u>Fair Market Value</u>
6,841.172 shares of Vanguard STAR Fund	\$133,253	\$130,530
Charles Schwab	\$710,553	\$710,175



Note 8 – Income Tax Status

The organization is exempt from federal income tax under Section 501(c)(3) of the Internal Revenue Code. However, income from certain activities not directly related to the organization's tax-exempt purpose is subject to taxation as unrelated business income. For 2010, the organization had no tax on unrelated business income. In addition, the organization qualifies for the charitable contribution deduction under Section 170(b)(1)(A) and has been classified as an organization other than a private foundation under Section 509(a)(2).



WISCONSIN INSTITUTES FOR
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The Wisconsin Institute for Discovery (WID) at the University of Wisconsin-Madison (www.discovery.wisc.edu) invites applications for faculty positions at all levels in the Living Environments Laboratory (LEL). We seek candidates with research focus on innovations in computing in everyday living, with an emphasis on home health, adaptive technologies, sensory and cognition and design. Individuals may also have research experience in related areas such as aging, human-computer interaction, and universal design. The successful candidate will have access to a state-of-the-art facility including a six sided virtual reality CAVE™ and will have a tenure track appointment in a department commensurate with their academic field. This is an exciting opportunity for creative applicants to work in a multi-disciplinary environment while pursuing independent research. WID is the public half of a private-public pair of Institutes that promote basic research and facilitate the translation of new discoveries to practice. The LEL theme aims to accelerate the design and development of personal care technologies. The successful candidate will display an understanding of the issues related to the applications of innovative computing, tracking human behavior in every day circumstances, a history of publication commensurate with experience level, grantsmanship, and demonstrated tolerance for and success in risk taking. Applications must be received by January 31, 2012. Go to http://www.ohr.wisc.edu/pvl/pv_064306.html.

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PLAN TO ATTEND!



2012

Symposium on Human Factors and Ergonomics in Health Care: B R I D G I N G T H E G A P

March 12–14, 2012
Baltimore Marriott Waterfront Hotel
Baltimore, Maryland

The Human Factors and Ergonomics Society invites you to attend the 2012 Symposium on Human Factors and Ergonomics in Health Care, to be held March 12–14 at the Baltimore Marriott Waterfront Hotel in Baltimore, Maryland. Mark your calendars!

The objective of the symposium is to bring together professionals and other stakeholders in both the scientific and practice realms of the health-care community and to bridge knowledge gaps among them. HF/E professionals will present the latest research, best practices, and case histories.

Unique to this symposium is the inclusion of manufacturers, health-care providers (physicians, nurses, administrators, etc.), and policy makers, who will discuss their experiences in using HF/E processes and principles. The symposium will also enable them to communicate their need for additional collaboration with the HF/E community.

Presentations will address three topical tracks:

- Patient and Health-Care Provider Safety
- Health-Care Information Technology
- Medical Device Design

Lucian L. Leape, MD, kicks off the symposium with the opening plenary address on Monday, March 12. Leape was a founder of the National Patient Safety Foundation. The closing session, on March 14, features a panel presentation by the FDA Human Factors Group.

The symposium will conclude on Wednesday, March 14 with the Food and Drug Administration Human Factors Group as the closing plenary panel.

General information
<http://bit.ly/omoeTV>

Register
<http://bit.ly/pFn3D0>

Book your room
<http://bit.ly/qLmMhb>

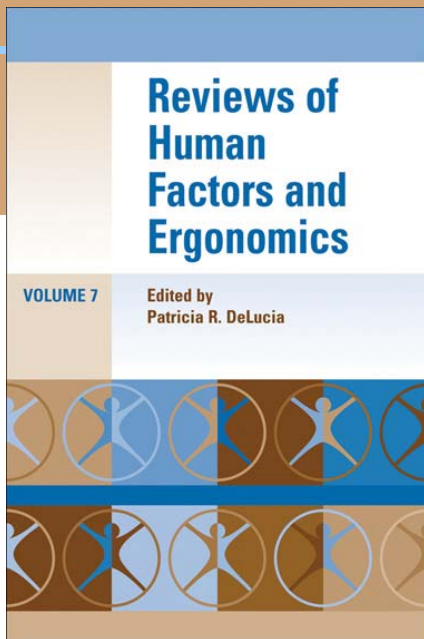
NOW AVAILABLE!

Reviews of Human Factors and Ergonomics

Volume 7

Published by SAGE for the Human Factors and Ergonomics Society

Edited by Patricia R. DeLucia



The contents of *Reviews of Human Factors and Ergonomics*, Volume 7, is simultaneously international, collaborative, interdisciplinary, and evidence-based. The authors draw on knowledge about processes that occur within people (vision, audition, haptics, cognitive, physical, emotional), across people (social, cultural) and between people and organizations. The book exemplifies the human factors/ergonomics field as, in the editor's words, "a critical component of the solutions to past, present, and future sociotechnical problems." The Reviews series is a primary reference for an overview summary and status review of central HF/E topics—one that is important to students, researchers, practitioners, and the informed public.

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