



CONTENTS

STANDARDS4
AWARDS.....5

TECHNICAL GROUPS6
ANNUAL MEETING6
FEDERATION6

Busting Myths About International Ergonomics Standards

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

Globalization was a recurring theme at the 2007 HFES Annual Meeting in Baltimore. Achieving worldwide attention for human factors/ergonomics will be increasingly important for HFES in the coming years. International standards work is an activity that can enhance our worldwide reputation in the field. HFES is responsible for the U.S. mirror group (otherwise known as a Technical Advisory Group [TAG]) to the International Standards Organization Technical Committee for Ergonomics (ISO TC 159). This means that the TAG is responsible for determining the U.S. position on draft standards developed within TC 159 to ensure that the resulting standards are of high technical quality and in the best interests of the United States.

The TAG also has the opportunity to propose standardization work that it feels would be beneficial to business and industry, and to participate in the development of the standards. If we do this work well, we enhance the reputation of both the Society and the HF/E field while protecting U.S. business interests. If we fail to participate, the Society loses, the field loses, and so do U.S. business interests. Although compliance with ergonomics standards in the United States has been largely voluntary, in other countries – and particularly within the European Union – compliance is often required. Therefore, those companies wishing to do business in the European Union must follow standards.

Although the past couple of years have seen a growing interest in technical standards and best practices on the part of Society members (e.g., a standardization interest group has been started), relatively few members are involved in international standards work. My explanation for this paradox is that there are a number of “myths” about international standards work that have discouraged people from getting involved. The primary purpose of this article is to dispel those myths.

Myth #1: International Standards Work Requires Extensive Travel

Actually, this is true for only some aspects of standards work. The structure of the U.S. TAG to TC 159 is shown in the figure on page 3. It consists of four sub-TAGs that carry out the work of establishing U.S. positions, reviewing and voting on documents, and sometimes developing standards content. This work is primarily done electronically and requires little or no travel. Although

continued on next page

Stanley Nelson Roscoe: 1920–2007



Stanley Nelson Roscoe, HFES Fellow and past president, died November 18, 2007, at his home in McKinleyville, California, after a struggle with lung cancer. He was 87. He is survived by his wife, Gayle Karshner; his brother; 5 children; and 12 grandchildren. He was the last surviving member who signed the Articles of Incorporation of what was then the Human Factors Society (HFS) and was the principal author of the constitution and Bylaws. He served as the Society’s fourth president during 1960–1961.

Stan earned a B.A. in speech and English from Humboldt State College (Arcata, CA) in 1943. He served in the U.S. Army Air Corps from 1943 to 1946 as a flight instructor and transport pilot. In 1947 and 1950, respectively, he earned the M.A. and the first Ph.D. in what is now known as engineering psychology from the University of Illinois at Urbana-Champaign, specializing in aviation and exploring early forms of synthetic flight displays.

From 1952 to 1969, while at Hughes Aircraft Company, he pioneered the application of flight and simulator experiments to the design of flight displays and controls and weapon delivery systems. Stan contributed to the designs of the Northrop F-89, the Convair F-102 and F-106, and the Lockheed YF-12 airplanes as well as the manual control system for the TOW missile. Through his leadership, the Hughes group became one of the most successful and well-known human factors groups in the aerospace industry.

In 1969, Stan returned to the University of Illinois at Urbana-Champaign as associate director for research of the Institute of Aviation and as a professor of psychology, aviation, and aeronautical and astronautical engineering. He founded the institute’s Aviation Research Laboratory. Between 1970 and 1980, more than 60 graduate students earned advanced degrees in psychology, electrical engineering, aeronautical engineering, and computer science in this laboratory with support from the Office of Naval Research, the Air Force Office of Scientific Research, and the Federal Aviation Administration.

Over the years, Stan received numerous awards from HFS for his distinguished work in the field, including contributions to the design of the Convair F-106/Hughes MA-1 aircraft and weapons control system (1973), the education of human factors scientists (1975), and the President’s Distinguished Service Award (1990).

continued on next page

Stanley Nelson Roscoe: 1920–2007

(continued from page 1)

In 1969, he was cited by the Radio Technical Commission for Aeronautics for the advancement of area navigation and vertical guidance in the National Airspace System. In 1976, he received a career award from the American Psychological Association and a fellowship in the Royal Aeronautical Society of Great Britain. In each of four consecutive decades, he won awards for the best paper in an annual volume of the journal *Human Factors*.

Stan produced more than 250 publications, including technical reports and scientific journal articles, five books in the field of aviation psychology, and numerous chapters in aviation psychology textbooks. The Aerospace Human Factors Association annually presents the Stanley N. Roscoe Award for the best doctoral dissertation written in a research area related to aerospace human factors.

Stan retired from the University of Illinois in 1979 and joined the faculty at New Mexico State University (NMSU) in Las Cruces. There he founded the Behavioral Engineering Laboratory and continued his research on displays and on the effects of visual accommodation on perceived size while continuing to mentor graduate students. In 1986, he retired from NMSU and returned to Humboldt County, California, where he continued to be active in research collaborations and research publications; he authored three books and published several stories about the history and folklore of Humboldt County, the Mattole Valley, and Kodiak, Alaska. While pursuing his life-long interests in jazz and fishing, he also continued his activity as president of ILLIANA Aviation Sciences and his work with potential pilot and controller selection and training tools, variants of which are used by numerous flight schools and airlines.

To those of us who were his students (at least six of whom are now HFES Fellows) and who followed in his footsteps, he was a significant role model who taught us not only how to do research but how to do *good* research and how to make the findings marketable. With Stan, it wasn't just what you did but how you did it. He also kept the wolves off our doorsteps on numerous occasions, kept people funded, and steadied them when they stumbled.

Stan conveyed the importance of writing and speaking effectively and understanding and embracing other engineering disciplines in our work. He was generous to a fault, welcoming people into his home on either a short- or long-term basis in their times of need. He had a strong belief in our ability to succeed and was a

great promoter of both people and science. He will be greatly missed and fondly remembered. As another student remarked, "He was the giant on whose shoulders we stood."

Those wishing to honor Stan may contribute to the Humboldt County Historical Society, P.O. Box 8000, Eureka, CA 95502, or to the Roscoe Fund at the Humboldt Area Foundation, P.O. Box 99, Bayside, CA 95524. Contributions to support the Stanley N. Roscoe Dissertation Award can be made to the University of Illinois Foundation, Aerospace Human Factors Association account at the following address: University of Illinois Foundation, Attn: Stanley N. Roscoe Award, Harker Hall, MC-386, 1305 W. Green St., Urbana, IL 61801.

— Contributions by Dennis Beringer, Robert North, and Stan Roscoe



Busting Myths...

(continued from page 1)


some sub-TAGs meet once or twice in person during the year, a number of them hold their meetings either in conjunction with the HFES Annual Meeting and/or via conference calls. Any person whose organization or company has a material interest in the subject matter addressed by a sub-TAG can request to join the sub-TAG by contacting its chair (see the figure). Although sub-TAG chairs are supposed to maintain a balance among producer, user, and government membership in the TAG, generally speaking, there is no requirement to join a sub-TAG other than to be involved in an organization that potentially would be affected by the standards developed in the relevant ISO subcommittee.

As a sub-TAG member, you would receive all the ISO subcommittee documents that are released for vote. In return, you have the responsibility to review and vote on all documents that you receive that are being balloted.

The second way in which one can participate in standards work is to be nominated as a U.S. expert to one of the TC 159 Working Groups (also listed in the figure). Simply request that the relevant sub-TAG chair nominate you, and include a copy of your CV. If the sub-TAG approves your nomination, you are then expected to attend the working group meetings, which may occur anywhere in the world, and substantively contribute to documents being developed within that group. Most working groups meet once or twice a year, but some meet more frequently. Thus, travel is required; however, the travel requirement can be shared among experts. Any country can nominate up to five experts for any working group, so not every expert must travel to every meeting. Expertise represents expertise in the domain, not necessarily the business interests of their companies.

Myth #2: U.S. Participants in International Standards Work Are "Hand-Picked," and ISO Processes Are Closed and Secretive

Absolutely not true. I hope you've already figured this out from the previous paragraphs. Any person with the appropriate knowledge and expertise can request to be nominated as a U.S. expert to a TC 159 working group, and any organization, company, or business that has a material interest in the topical area of an ISO subcommittee can request membership in its U.S. sub-TAG.



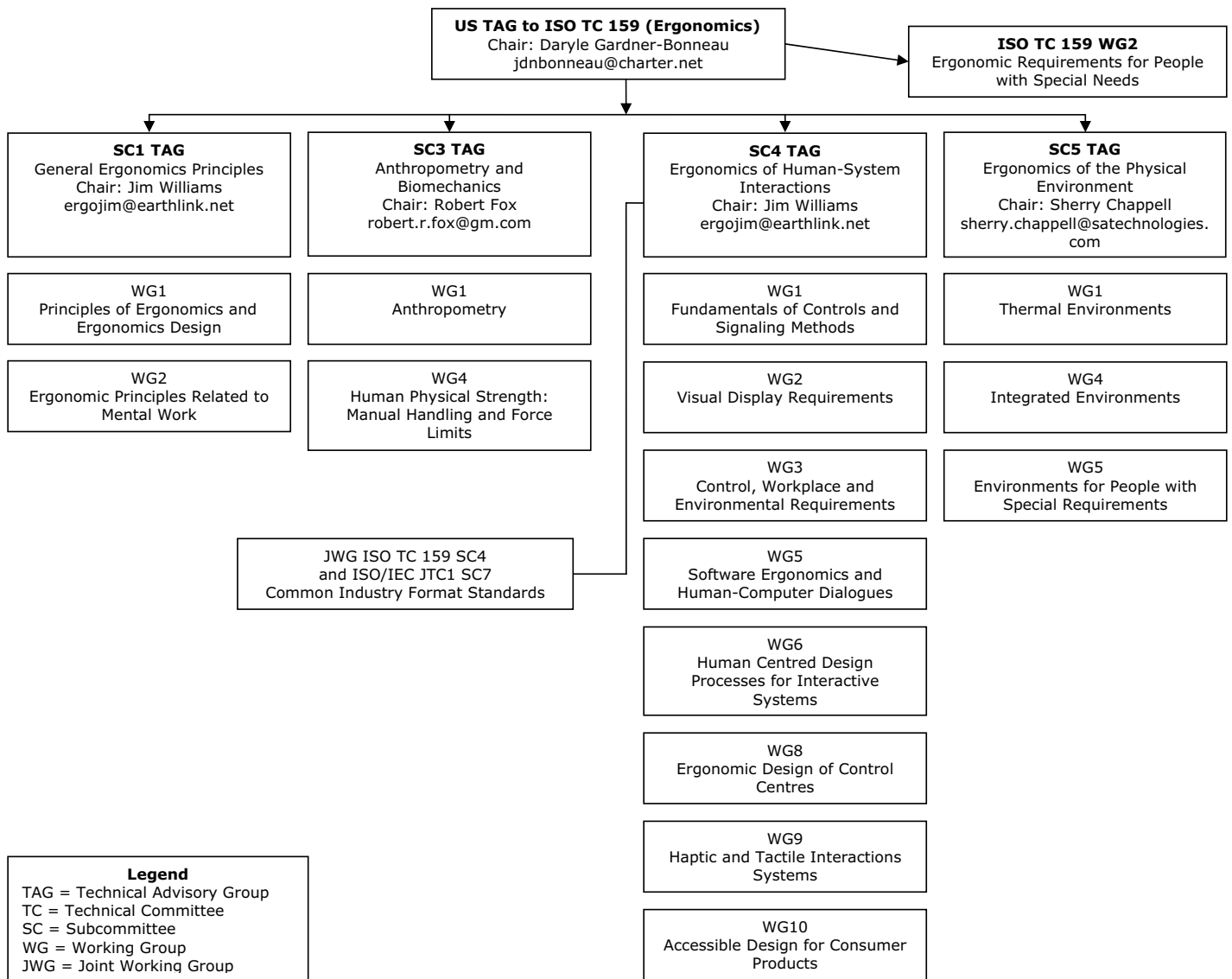
**Human Factors
and Ergonomics
Society**

Bulletin

Volume 51, Number 1 January 2008

The *HFES Bulletin* (ISSN 1527-3660) is published 12 times a year by the Human Factors and Ergonomics Society, 1124 Montana Ave., Suite B, Santa Monica, CA 90403 USA, <http://hfes.org>. Address inquiries and address changes to HFES, P.O. Box 1369, Santa Monica, CA 90406-1369 USA, 310/394-1811, fax 310/394-2410, <http://hfes.org>.

Copyright © 2008 by the Human Factors and Ergonomics Society. Printed in the USA. The *HFES Bulletin* is provided to members of the Society (\$10 of annual dues covers member subscriptions); nonmembers may subscribe for \$42/year. Periodicals postage paid at Santa Monica, CA, and additional mailing offices. USPS #018-206.



US TAG Structure for ISO TC 159 (Ergonomics)

Also note that it is not in the TAG's best interest to turn away qualified people who want to be involved, nor is it permissible, under the ANSI rules by which the TAG operates, to do so. We need good communication and active participation to do the best job possible.

It is true that draft documents produced by working groups are not to be circulated outside those groups, because ISO relies on sales of standards to maintain its operations. Thus, receiving draft documents requires membership in a sub-TAG or participation as a U.S. expert in a working group.

Myth #3: Academicians Don't Do Standards

Also not true. I serve on a number of national and international standards committees and working groups, and nearly all of them have participants from traditional academic institutions as well as research institutes. The knowledge and expertise of academicians is both needed and highly valued. On a personal note, I spent 8 years as a faculty member in traditional academic institutions, and I must say that standards work is some of the most pro-

fessional, challenging, and fulfilling work I have ever done. It is challenging on several levels and requires (a) the ability to communicate effectively and comfortably with people from around the world, (b) the ability to think on one's feet and synthesize information quickly, and (c) the diplomatic skills and worldview to know what's worth arguing for (or not) and why.

There are also many wonderful experiences in store for people who serve as experts in working groups. For example, while in Berlin working on a standard about the accessibility of products, services, and systems for people with disabilities, our German hosts arranged for us to have dinner at a restaurant called Nocti Vagus (translated: Dark Restaurant). What started out as a German government-sponsored program to aid the blind has become a successful gourmet dining concern – owned and operated by the blind. As diners, we were blind, too. Our meals were served in a pitch-black environment in which we couldn't see our hands in front of our faces! What a challenge it was for all of us working group members, and what an experience overall in experiencing accessibility issues first-hand!

continued on next page

Current Needs of the U.S. TAG to TC 159

Our sub-TAGs have been operating gamely for some time with very small numbers. All the sub-TAGs, however, could benefit from additional members and more U.S. expert participation in their working groups. The need for sub-TAG members is perhaps greatest in SC5 (Ergonomics of Physical Environments). This area concerns all aspects of the physical environment (e.g., noise, air quality, thermal conditions, lighting). In addition, several documents being developed within SC5 relate to noise and thermal conditions in vehicular environments, for which we would especially welcome more subject matter expertise. Please contact Sherry Chappell (sherry.chappell@satechnologies.com) regarding opportunities that are available in SC5.

In the ISO process, unless a country has nominated an expert for a working group, it will receive little or no information about what is going on in that group, other than being notified of upcoming meetings and receiving the documents that are distributed to the sub-TAG for vote. Thus, an important goal for me, as the U.S. TAG chair, is to solicit at least one expert to serve in each TC 159 working group so we will never be in the dark about what is going on in ergonomics standards work in any area. Right now, we have U.S. experts in many working groups but by no means all of them, and, as noted previously, we are permitted to have multiple experts. So, if you are interested in joining any working group, please contact the relevant sub-TAG chair for more information.

Finally, we have an opening for a vice-chair of SC5. Ideally, this should be someone who has expertise in at least one of the subject matter areas covered by the working group. The responsibilities of the vice-chair are to serve on the sub-TAG as a member, to fill in for the chair during periods when she may be traveling or otherwise unavailable, and to document comments and votes that are due to be collected and compiled.

Again, if interested, contact Sherry Chappell.

Highlighting Ergonomics of the Physical Environment in 2008

At the recent SC5 Plenary Meeting in Bangkok, Thailand, an informal invitation was extended for SC5 to hold its plenary during the HFES Annual Meeting. Plans are under way to do just that for the 53rd Annual Meeting in San Antonio, Texas. A formal invitation through ANSI will soon be issued. When this comes to fruition, it will be a rare opportunity for HFES. Delegates from all over the world will be there and will have a chance to see the work of our nation's premier HF/E organization while they carry out their SC5 agenda.

I welcome your input with respect to improving both communication and participation in international standards work in HF/E, as well as your inquiries with regard to the subcommittees and their work. The more we network, the richer the experience will be for all of us. In this regard, look for changes in the HFES Web site Standards page in the coming months. We hope to make more use of the Web site in providing timely standards-related information, including meeting announcements, calls for U.S. experts, and notices of new work item proposals. ☉

ANSI Approves HFES Workstation Standard

By Tom Albin, Chair, ANSI/HFES 100 Committee

It is a distinct pleasure to inform you that the American National Standards Institute (ANSI) has approved *ANSI/HFES 100-2007, Human Factors Engineering of Computer Workstations*, as a new American National Standard. The formal announcement was published in *Standards Action* on November 16, 2007. This is a major milestone in HFES's standards development efforts and is the culmination of a 20-year process that began with the approval of the preceding document, ANSI/HFS 100, in 1988.

HFES is accredited by ANSI to use the canvass committee method of standards development. Public and committee comments are gathered and a committee vote (or votes) is taken regarding approval of the proposed standard's content. In the case of ANSI/HFES 100-2007, the initial vote established a strong consensus for approval of the canvass draft. A second vote was conducted after a number of substantive changes were made in response to the comments received. The document was submitted to ANSI after the second vote of the canvass committee.

What's New in the 2007 Approved Standard

The content and breadth of coverage of the new standard have been expanded to address changes in the arenas of workstation and computer design. The number and types of input devices have increased to include computer mice and other pointing devices, and the displays chapter has been expanded to cover color devices. The furniture chapter now provides four working postures for reference by designers. This reflects the dynamic nature of computer workplaces; additionally, it seeks to correct the misunderstanding that the 90° posture used in ANSI/HFS 100-1988 was "the" correct working posture. Finally, the integration chapter offers guidance regarding how individual elements that are ergonomically well designed can be integrated into a workplace system that is also ergonomically appropriate.

Any standard is subject to becoming dated because it reflects what is standard knowledge and practice at the time it is developed. Work performed with computers, the content area of the 100 standard, is far from static. Standards bodies' procedures in general, and ANSI's process specifically, require periodic review and update of technical standards to ensure that they remain current and salient with regard to the state of knowledge and practice in the field. The development of ANSI/HFES 100-2007 began in observance of that requirement for periodic review.

Timely review of the content of the 2007 standard will be addressed through a series of workshops covering the content areas of the standard. These reviews will be used to maintain a running commentary on the standard. In turn, this commentary, which we hope will capture areas requiring changes as well as new content areas to be considered in future versions, will be used in the process of updating the standard at the required intervals.

ANSI/HFES 100-2007 Reflects the Efforts of Many

ANSI/HFES 100-2007 would have been impossible without the efforts of a number of individuals who generously donated time and resources to its development. More than 50 individuals participated in the original drafting committee's work, sacrificing many weekends to hammer out the original draft. Since the early development days, numerous small working groups have made many contributions to the organization and content of the draft document. I would like to express my thanks and appreciation to each individual participant for his or her contribution during this process. I am particularly grateful to Committee Vice-Chair Marvin Dainoff; Cynthia Purvis and Carolyn Sommerich, who organized a review of the content of the input devices chapter; and Walt Makous and Doug Kokot, who organized reviews of the displays chapter and the furniture and integration chapters, respectively.

The canvass committee consisted of 19 individuals. These intrepid colleagues volunteered substantial time to review and comment on the content of the entire draft standard during the consensus voting process. They provided many useful suggestions and comments that have improved the document.

Finally, the support of the HFES central office staff was essential in producing and circulating the various draft versions and providing advice and general moral support.

HFES Perspective in Standards Development

It is important for HFES to maintain its involvement in standards activities at both the national and international levels. Our knowledge of the human-machine system is – or should be – a critical element in these standards. Consider the current worldwide emphasis on mandating, through regulation, that devices and systems be designed to be accessible for aged and disabled users. Our knowledge of human capabilities is critical in producing devices and systems that accommodate the widest range of users.

I encourage you to participate in the future development of ANSI/HFES 100 and in the other standards activities with which HFES is involved. It is a unique opportunity that offers many challenges as well as opportunities to learn about specialties different from those with which we are accustomed and to develop a deeper understanding of our profession. ☒

AWARDS**Awards Nominations Invited**

Each year during the HFES Annual Meeting, the Society honors outstanding persons who have made significant contributions to the human factors/ergonomics discipline. Nominations are requested from HFES Full Members for six of these awards. Nominees are not required to be HFES Members. Submissions are due on or before **March 31, 2008**.

To submit a nomination for one of the awards described below, the nominating Full Member must

- submit the candidate's résumé or curriculum vitae, a nominating letter, and at least two and not more than three letters of support from individuals who know the candidate well enough to assess his or her candidacy in terms of the award's criteria; and
- send all nomination packages to HFES, c/o Lynn Strother, P.O. Box 1369, Santa Monica, CA 90406-1369, or lynn@hfes.org. E-mail submissions are strongly preferred; please submit the package as a single file in PDF format.

Nominations are sought for the following awards:

Distinguished International Colleague Award. This award recognizes a non-U.S. citizen who has made outstanding contributions to the human factors/ergonomics field.

Paul M. Fitts Education Award. This award recognizes a person who has made exceptional contributions to the education and training of HF/E specialists. Candidates should either be currently or previously engaged in college or university teaching of HF/E material or should have written significant textbooks in the field. The principal criteria for evaluation are the influence that the candidate has had on students and/or how extensively the candidate's work has been used by educators in general. If the criterion for the award is student influence, as many as five testimonials from current or previous students may be submitted in addition to the curriculum vitae and letters of recommendation.

A. R. Lauer Safety Award. This award recognizes a person for outstanding contributions to human factors aspects in the broad area of safety. This includes HF/E work that has led to reduced accidents and injuries in such areas as industry, aviation, surface transportation, and consumer products.

Alexander C. Williams, Jr., Design Award. This award is intended to recognize those who have made outstanding contributions to the conception or design of any product, service, or system that has had a significant impact on users and exemplifies the excellent use of empirical human factors/ergonomics design principles. In addition to the curriculum vitae or résumé and letters of support, other evidence of the success of the design will be accepted, such as testimonials from users' performance evaluations or papers or reports that substantiate the extent to which the submission is based on experimentally derived HF/E design principles.

Jack A. Kraft Innovator Award. This award honors a person for significant efforts to extend or diversify the application of HF/E principles and methods to new areas of endeavor.

O. Keith Hansen Outreach Award. This award recognizes members and nonmembers who engage in significant activities that broaden awareness of the existence of the human factors/ergonomics profession and the benefits it brings to humankind.

Students are encouraged to compete for the **Alphonse Chapanis Student Paper Award** by submitting a paper for the annual meeting with an award application form, available to accepted authors in April. ☒

Erratum

In the December issue, an incorrect URL was published for the Educational Resources Web site. The correct link is <http://www.hfes.org/web/EducationalResources/educresourcesmain.html>.