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Enhancing Strategic Studies for Homeland Defense

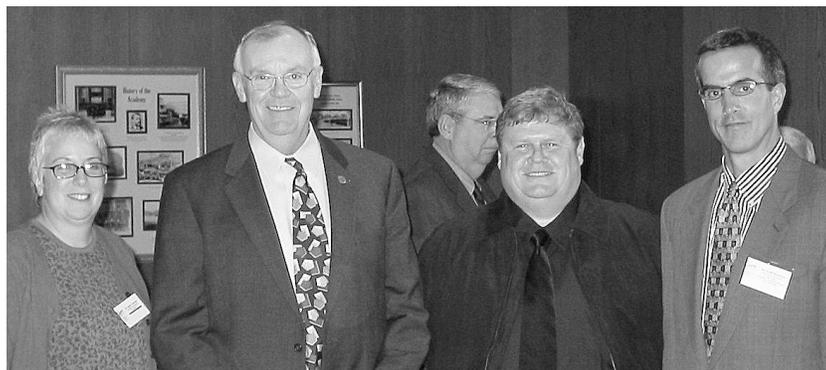
By P. A. Hancock

In the rolling hills of Mystic, Connecticut, and the enviable environs of the U.S. Coast Guard Academy, individuals from government, military, industry, and academia gathered November 16–18, 2004, to examine the viability of pedagogical efforts to address strategic studies for homeland security.

Acknowledging the many short-term technical efforts that are now directed to this issue, attendees also used the conference as a forum for discussing the changes in the security environment and how best to address these changes with curriculum and policy research programs that will prepare military and civilian leaders to make effective decisions on the optimal courses of action to follow when the country is faced with terrorist threats and infrastructure disruptions. In addition, the conference was designed to provide a framework for the direction of strategic studies for senior decision makers from all sectors.

Society of Military Psychologists) and Human Factors and Ergonomics Society (HFES; myself, among others) was to ensure that human factors and wider behavioral and psychological research issues were included as central elements of these curricula. Given the collective agreement and emphasis on the importance of risk and its various forms of measurement and assessment, this objective was achieved.

The first day was dedicated to overview presentations and panels. The initial speaker was Admiral Thomas Collins, commandant of the U.S. Coast Guard. His introductory remarks framed the core issues of the conference. He trenchantly observed – and, from our perspective, most appositely – that “informed, critical thinking is the basis of risk mitigation.” He also advocated strong interdisciplinary collaboration as the basis for pedagogical programs in homeland defense.



Admiral James Loy, deputy secretary of homeland defense, meets with representatives of the behavioral sciences at the recent conference “Charting a Course for Homeland Security Strategic Studies” at the U.S. Coast Guard Academy, New London, Connecticut. From left, Dr. Janice Laurence of the Society of Military Psychologists, Admiral Loy, Professor Peter Hancock, representing the APA and HFES, and Dr. Geoffrey Mumford, director of science policy of the APA. In the background (between Admiral Loy and Professor Hancock) is Alan McCurry, chief operating officer of the American Red Cross.

The outcome of the conference was a list of recommendations concerning educational curricula for strategic studies that were reported to Deputy Secretary of Homeland Defense Admiral James Loy, who attended on the last day of the meeting. One goal of the representatives of the American Psychological Association (APA; Geoff Mumford, director of science policy; Janice Laurence,

Of all the invited and panel speakers of the first day, each of whom did an admirable job of articulating his or her position, perhaps the most memorable observations came from Ambassador Prudence Bushnell, who was in charge of the American Embassy in Nairobi, Kenya, when it was attacked by Al-Qaeda. She was vehement in her advocacy of resilience, a characteristic that, she opined, Americans have in abundance. As a personal target of Osama Bin Laden (being a woman in a powerful position), she radiated the resilience of which she spoke, claiming that by wearing bright colors, terrorists would know she was still here. This remark brought spontaneous applause, and indeed, there was a collective sense of both gravity and pride in many attendees who rightfully view this as critical work for the nation.

Following these scene-setting presentations, conference attendees were divided into seven individual working groups. Hancock, Laurence, and Mumford attended the academic, research institution, and think tanks working group. All groups addressed certain common questions from their own unique perspectives:

1. What competencies are required of senior homeland security leaders? What combination of knowledge, performance, and multiple-domain awareness competencies is needed? Are there

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Nominations for HFES Awards

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 members for six of these awards, and technical groups are especially encouraged to nominate exceptional colleagues. Nominees are not required to be HFES members.

Submissions are due by or before *March 30, 2005*. This deadline is necessary to allow time for (a) subcommittee review and decision, (b) Executive Council action, and (c) HFES President Wendy Rogers to inform the winners and invite them to participate in the awards ceremony at the 49th Annual Meeting in Orlando. Students are encouraged to compete for the Alphonse Chapanis Student Paper Award by submitting a paper for the meeting with an award application form, available in the Author's Kit mailed to accepted authors in May.

To submit a nomination for one of the awards, the nominating party must

- submit a 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.

Nominations are sought for the following awards:

Distinguished International Colleague Award. The award recognizes a non-U.S. citizen who has made outstanding contributions to the human factors/ergonomics field. Gathering supporting information on individuals who live abroad may be slow and difficult, so early attention by potential sponsors is suggested.

Paul M. Fitts Education Award. The award identifies a person who has made exceptional contributions to the education and training of human factors specialists. Candidates considered for this award should include persons currently or previously engaged

in college or university teaching of human factors material and/or those who have written significant textbooks in the human factors field. The principal criteria for evaluation should be the influence that the candidate has had on students and/or how extensively the candidate's work has been used by educators in general. In addition to the above nomination requirements, if the criterion for the award is student influence, not more than five testimonials from current or previous students may be submitted.

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

Alexander C. Williams, Jr., Design Award. The 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 design principles. In addition to the above nomination requirements, other evidence of the success of the design, such as testimonials from users' performance evaluations or evidence such as papers or reports indicating the extent to which it is based on experimentally derived human factors design principles, will be accepted.

Jack A. Kraft Innovator Award. The award honors a person for significant efforts to extend or diversify the application of human factors principles and methods to new areas of endeavor.

O. Keith Hansen Outreach Award. The O. Keith Hansen Outreach Award was established in 2004 to recognize 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. ☒

HUMAN FACTORS

Human Factors Team in Transition

By Nancy Cooke, Editor

This month, the *Human Factors* editorial team led by Eduardo Salas passes the baton to a new editorial team (led by me). We expect a smooth transition, thanks to the terrific efforts of Eduardo's team, as well as the ongoing support of Communications Director Lois Smith and Journal Administrator Andrea Tomcsanyi. Our new team is fortunate to inherit such a well-oiled machine and will benefit from all the hard work of previous editorial teams. The new team extends its gratitude to them all. We hope that we can continue to move the journal along this positive trajectory.

I have asked Wayne Gray (Rensselaer Polytechnic University), John Lee (University of Iowa), William Marras (Ohio State University), Wendy Rogers (Georgia Tech), and Eduardo Salas (University of Central Florida) to be my associate editors. I hope you agree that this is an energetic team with broad expertise. There will be some familiar and some not-so-familiar faces on



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the new editorial board. This periodic replacement of some editorial board positions helps us to inject a healthy dose of diversity and new perspectives into the board, while preserving the wisdom of some of the most seasoned board members. However, we can always use more review help from interested and energetic individuals. If you would like to serve as a reviewer for *Human Factors*, please send a letter and current CV to journal@hfes.org.

Although we have inherited a journal in very good shape, there is always room for improvement. You will notice a few changes in the editorial process over the next few months. We will try to tighten the review cycle by enforcing review deadlines and by taking advantage of our new automated system, Manuscript Central, to follow up with reminders, prompts, and queries to reviewers. Also, in the interest of generating objective, kind, and constructive reviews, we will encourage reviewers to take ownership of their reviews by revealing their identity to the author and other reviewers. Finally, in order to practice what we preach, we plan to solicit usability feedback on the Manuscript Central system and the editorial process and explore ways to improve the system.

One of the issues that has motivated me over the last few years is human factors outreach – or lack of it. I believe that the field does a pretty poor job of marketing itself to everyone: customers, funding agencies, users, congressional representatives, and even our parents or the person in the next airplane seat. I was pleased to see that outreach is being promoted so heavily within HFES now, and I see *Human Factors* as a prime vehicle for pursuing this goal. How better to communicate to the public what we do than through our journal. Oh, yes – I can hear it now – gasps, sighs, and grunts of disbelief. “It will never work,” you say. But it DOES work in other areas, such as medicine. Why not *Human Factors*?

Our journal’s impact factor has been hovering around .7 for the last few years. Now, this is not the bottom of the barrel, but it is definitely not the top (e.g., the *Journal of Experimental Psychology: Applied* was at 1.17 in 2003). There is much room for improvement. But how can we improve impact? I plan to investigate this. The transition to an on-line journal with wider access should have some effect. Another idea is to publish, with every article that appears in *Human Factors*, a very short press release–like blurb that reports to the general public the significance of the published work. Perhaps some of these will even be of interest to the press. This will not be easy, but it is worth a try.

I have other ideas as well but would really like to solicit your input on this. Please e-mail me (humanfactors@asu.edu) with your ideas for increasing the impact of the journal and for using it as a vehicle for outreach. I look forward to your comments on this and any other input you have on improving *Human Factors*.

Last but not least, the new editorial team of *Human Factors* would like to extend a warm welcome to the *Cognitive Engineering and Decision Making* journal, the newest HFES publication. It is exciting that there will now be an additional venue for work in this growing area. The HFES year is off to an excellent start!

Nancy Cooke is professor of applied psychology at Arizona State University East and acting science director of the Cognitive Engineering

Research Institute in Mesa, AZ. She may be reached at humanfactors@asu.edu.

Human Factors: Print or Electronic?

Have you selected your delivery preference for *Human Factors* for 2005 yet? If you’re one of the nearly 900 members who have opted for on-line access, you already know the benefits – access to the content from anywhere at any time, and the ability to follow reference links to their original sources, to set up contents alerting, and to e-mail *Human Factors* article links to colleagues. Google Scholar now crawls *Human Factors* on-line content. In addition, at the end of each volume, you receive all the article PDFs on a CD-ROM.

If you don’t already take *Human Factors* on line, consider changing your preference. In 2005, we will post not only the current volume but also an additional back volume, so you’ll be able to view issues from 2002, 2003, and 2004, as well as 2005 issues as they become available in spring, summer, fall, and winter. HFES will soon have a new vendor, and one improvement will be reference links embedded in the PDF files rather than in a separate list disconnected from the rest of the content.

To change your delivery preference from print to on line, fill in the appropriate space on your dues renewal form or send a message to the Member Services Department (membership@hfes.org). ☒

HFES 50TH

HFES 50th Anniversary

The 50th year of the Society will start with the 50th Annual Meeting in San Francisco, California, October 16–20, 2006, and end with the 51st Annual Meeting in Baltimore, Maryland, October 1–5, 2007. Anticipating that the membership may wish to engage in some special events during this milestone year, the Executive Council has established a group, headed by Doug Harris, to stimulate, coordinate, and support these events. Other members of the core group are Richard Hornick, Andrew Imada, and Michelle Robertson. Ex-officio members are the following officers, directors, and chairs of the Society: Barrett Caldwell, Marvin Dainoff, Carlos de Falla, Pat Delucia, Kristen Gilbert, Peter Hancock, Hal Hendrick, Ron Laughery, Don Lassiter, Wendy Rogers, Mark Scerbo, Ron Shapiro, Lois Smith, Lynn Strother, and Carol Stuart-Buttle.

The purpose of this note is to solicit ideas for activities, events, and/or products that relate in some way to our 50th anniversary and that also are likely to be of interest and benefit to Society members. These might be associated with the 50th and/or 51st Annual Meetings, or take place during the period in between. To share an idea, please contact Doug Harris (dharris@anacapasciences.com). ☒

2004 NEM Action Plan Winners

The National Ergonomics Month (NEM) Committee is pleased to report that there were several submissions to the three different student NEM Action Plan Contests this year. The winners and runners-up are as follows.

2004 Student Chapter Action Plan Awards

The winner is the HFES Virginia Tech Student Chapter for its plan to educate several different audiences in the region about human factors and ergonomics (HF/E) via mechanisms such as high school career days, campus e-mail lists, and radio spots. The runner-up is the HFES University of Central Florida Student Chapter for its plan to increase local awareness of HF/E via a city proclamation of NEM, a temporary science museum display, and presentations to several audiences.

2004 Individual Action Plan Awards

The winner is Julia A. Kalish of Purdue University for her plan to increase awareness of HF/E by modifying her undergraduate courses to include hands-on HF/E activities for students. The runners-up are Di Meng and Eric Wienke of the University of South Dakota for their plan to design a mobile truck to educate people about H/FE.

2003 Best Action Plan Implementation Award

The award went to the HFES Old Dominion University Student Chapter for the execution of its plan. Students participated in a campus safety slogan contest, worked in a Habitat for Humanity project, and gave presentations to high school students. The runner-up for the award is the HFES Georgia Tech Student Chapter for executing its 2003 plan to bring HF/E to elementary school, high school, and university students via a series of interactive talks and presentations.

To learn more about NEM and to help you prepare for 2005 NEM activities, visit the NEM Web site (<http://hfesnem.org>), or look for updates in upcoming issues of the *HFES Bulletin*. ☒

CHAPTERS

New England Chapter Holds Conference

By Emily Wiese, HFES NEC Program Chair, and Fayona Meyerovitz, HFES NEC President

The HFES New England Chapter's 2nd Annual Student Conference was held on November 12, 2004, hosted by Tufts University and organized by Brad Helies. New England human factors professionals and students came together for a day of information sharing and professional development.

Local university students were given the opportunity to display cutting-edge research to human factors professionals through a series of presentations. Eighteen students presented on a variety

of topics, including the design of decision aids for the operating room, ergonomic exposure assessment methods, traffic sign design, hazard analysis, compressive forces on the lumbar spine, on-line information layout, instant messaging, and new methods for improving distance learning. There was consensus among the professional members that the research standards were extremely high and the content worthwhile. Two sponsors later commented that they could not distinguish the student presentations from those of the professionals. Universities represented included Tufts, the Massachusetts Institute of Technology, and the University of Massachusetts at both Amherst and Lowell.

Mary Cummings, director of the Humans and Automation Laboratory at MIT, gave an engaging keynote address entitled "Automation in Aviation: Are We Heading Towards Life in the Matrix?"

Networking opportunities throughout the day provided an opportunity for students to learn more about the practice of human factors in the real world. Of particular value was a session run by Ron Shapiro of IBM that focused on human factors from an industry perspective. Professional attendees also participated in "speed networking," a concept inspired by speed dating that allows everyone to quickly meet or interact with everyone else.

Booths set up by the conference sponsors (see below) enabled attendees to learn more about companies performing human factors work in New England. Sponsors also put together informative presentations about their companies. Importantly, all sponsors wanted to recruit students for employment positions, which enhanced the value of the conference for all participants.

The conference concluded with a reception in which two awards were presented for the best student presentations. The Aptima Best Student Presentation Award acknowledges the student whose research best demonstrates exceptional contributions to human-centered engineering. The award was presented to Jonathan Histon of MIT for his presentation, "Standard Flow Abstractions as Mechanisms Reducing Perceived ATC Problem Dimensionality." Charles River Analytics hosted a best presentation award for research that represents a significant technical contribution and demonstrates the effective application of human factors and ergonomics principles and practices. Daniel Moralis of MIT received this award for his presentation, "Control Methods for Unmanned Aerial Vehicles Providing Support for Manned Tactical Aircraft."

The HFES New England Chapter thanks the conference's primary sponsors for their support: Aptima, Inc., and Charles River Analytics, Inc. Thanks are also given to User Interface Engineering, Bose, and Raytheon for their generous sponsorship.

Finally, we are grateful to the students and faculty who made the presentations and to the New England chapter members who worked so hard to make the conference a success. ☒

IN THE NEWS

Alan Hedge, a psychologist at Cornell University, was featured in a November 1, 2004, article in the *Los Angeles Times* about worker performance, "Chilly Offices May Lower Productivity." The article highlighted the effect of extreme working conditions on worker performance and productivity, especially the effects of reduced office temperatures.

Aaron Marcus was quoted in a November 10, 2004, *New York Times* article about the search for an improved user interface for a mobile dispatch system for police officers in San Jose, California. Marcus, president of Aaron Marcus & Associates, a user-interface design consulting firm in Berkeley, California, described the problems of the new interface system, including the fact that police officers were not consulted during the design process. 

STUDENT VIEWS

Preparing the Dissertation Proposal

By Haydee M. Cuevas

The dissertation proposal preparation process is one of the most challenging tasks a doctoral student will ever face. Often, students have more questions than answers on how to prepare for this important step toward completing their degree. Please allow me to share a few lessons learned during my dissertation process.

Keep it simple. There is no need to make your study's design so complex that the results are impossible to interpret. Imagine how challenging it will be to attempt to explain a five-way interaction! How would you translate that into a concrete, useful human factors design guideline? Many significant contributions to our field have been made with straightforward one-way or two-way designs (e.g., Jentsch, 1997).

Don't try to save the world. Your dissertation should be unique and make a substantial contribution to the scientific literature. But it must also be realistic, practical, and feasible. Save those multifaceted, multiyear research questions for when you are a Ph.D. and are busy writing proposals for grants or funding.

Remember that this is your dissertation. Heed the advice of your committee, but remember that ultimately you must feel comfortable with your dissertation. If you disagree with a suggested change to your dissertation proposal, be prepared to defend why you think that change is not appropriate. Justify why you wish to take a different approach, and support it with theoretically driven, empirically based arguments.

Carefully select your committee. As you begin thinking about whom to ask, consider not only their expertise but also their personalities. It is critical that your committee members have personalities that complement, rather than compete, with each other. Imagine trying to incorporate four completely opposing views into your dissertation! I carefully selected my members, with feedback from my chairs, and the group dynamics worked very well. All my committee members were supportive, but more important, they all got along well.

Format from the start. As you begin preparing your manuscript, follow the dissertation guidelines required by your university. This will save you much time and effort.

Enjoy the process. Although this is easier said than done, keep in mind that your dissertation is the culmination of many years of preparation and hard work. Classes are done! Comprehensive exams are over! Here is your first real opportunity to do something that you want to do. You have control over your research topic

and the direction you will take. Remember, success is a journey, not a destination.

Don't be afraid to ask for help. You are not in this alone. Seek assistance from your committee members and your fellow students. Take full advantage of their knowledge and experience. We students are all in this together, and together we will all succeed.

I wish you luck as you embark on your personal journey to completing your dissertation. And, as always, please do not hesitate to contact me if you have any questions or if I may ever be of any assistance.

Reference

Jentsch, F. G. M. (1997). *Metacognitive training for junior team members: Solving the copilot's catch-22*. Doctoral dissertation, University of Central Florida.

The views herein are those of the author and do not necessarily reflect those of the organization with which she is affiliated. Haydee successfully defended her dissertation and received a Ph.D. in applied experimental and human factors psychology from the University of Central Florida in December 2004. She may be contacted via e-mail at ha651622@ucf.edu. 

NEWS

Entries Invited for 2005 IDEA

The Industrial Designers Society of America invites submissions for the 2005 Industrial Design Excellence Awards, which are sponsored by *BusinessWeek* magazine. The goal of the awards is to foster "business and public understanding of the importance of industrial design excellence to the quality of life and the economy." The deadline for submissions (on line only) is *February 11, 2005*. Additional details, including eligibility, entry fees, judging criteria, categories, and tips, may be found at <http://www.idsa.org/webmodules/articles/anmviewer.asp?a=104&z=48>.

2005 Human and Social Dynamics Grants

The National Science Foundation (NSF) has announced the 2005 FY Human and Social Dynamics (HSD) grant competition. The 2005 competition will include three emphasis areas (agents of change, dynamics of human behavior, and decision making, risk, and uncertainty).

The HSD priority area fosters breakthroughs in understanding the dynamics of human action and development, as well as knowledge about organizational, cultural, and societal adaptation and change. Grant support will be provided for full research projects and for shorter-term exploratory research and HSD research community development projects. Between 45 and 55 awards will be granted.

The deadline for full research proposals is *February 9, 2005*; exploratory research and HSD research community development proposals are due *February 23, 2005*. For more information, go to <http://www.nsf.gov/pubsys/ods/getpub.cfm?nsf05520>. 

Enhancing Strategic Studies for Homeland Defense

(continued from page 1)

positions/assignments within homeland security that should require formal education via a strategic studies program?

2. Who currently operates homeland security programs? Who is the target audience? What are the intended outcomes? What are the applications (in terms of knowledge, performance, and domain awareness)?

3. What is the best framework in which to include both institutional models and study programs for the development of short-term and long-term strategic studies programs?

Group reports (which inevitably contained some degree of overlap) were presented orally to Admiral Loy, who was observed taking copious notes. The subsequent purpose of the organizers was to collate these summaries into a single, final report.

Although this document has yet to be finalized, essential identified competencies include capabilities such as critical thinking, strategic planning, human factors, judgment and decision-making capacities, and awareness of psychological issues (both in working personnel and affected members of the public). Such higher-level officials are also expected to be facile with change management, networking, coordination skills, systems analysis, risk assessment, and network communications.

This model (which is based on the currently accepted personnel-driven hierarchical structure) assumes that there will be a single, common node of understanding – the executives themselves. The challenge to this conception is the very real problem of information overload, especially in times of emergency, when such individuals will be most heavily tasked. However, strategic studies as an existing area seems to be unable to go beyond the conception of the executive as the focus. Discussion of any other form of organization, such as mission-based or holarchically based systems, were quickly dismissed, perhaps in part because the linear hierarchy of past military structure still dominates thinking in this arena. As a result, discussions of what target skills and capabilities are needed concentrate solely on individual executive characteristics and capabilities, not on information flow. In many ways, this is understandable since there was a pervasive sense of urgency concerning all such pedagogical efforts. As American Red Cross Chief Operating Officer Alan McCurry observed, he has to worry about today. In the event of an attack in the coming days, he can't wait for long-term programs offering advanced degrees to mature – he needs informed managers and executives now!

There was consensus about the content skills needed and even agreement about the methods of instruction. As might be expected, various institutions vied for primacy in being *the* place where such instruction is to be delivered. But as the problem is certainly national and in effect international, it is evident that the instruction infrastructure has to be as well. Much emphasis was thus naturally placed on various forms of e-learning and 24/7/365 availability of instructional resources. Champions of the behavioral sciences argued for the centrality of such issues, and this position found, if not unanimous acceptance, at least a tolerant and sympathetic hearing.

As we move forward in educating and training the vital personnel who will defend the security of the homeland, in my opinion it is essential that they fully understand that the fundamental battle is for the minds and attitudes of the public. This battle is fundamentally a psychological one, and thus our scientists and practitioners need to be at the forefront of these efforts. Getting such issues front and center with regard to essential curricula will allow our indispensable message to be heard.

Although there is no current direct Web site, interested individuals may want to access the following for further information: <http://www.apa.org/ppo/issues/strategicconf04.html>.

P. A. Hancock is Provost Distinguished Professor of Psychology at the University of Central Florida, Orlando, FL. He can be reached at phancock@pegasus.cc.ucf.edu. ☒

OTHER SOCIETIES

HFES Cosponsors Applied Ergonomics Conference

HFES will be a cosponsor of this year's Applied Ergonomics Conference, March 21–24, at the Hyatt Regency Superdome in New Orleans. The meeting focuses on solutions to everyday ergonomics problems and challenges in the workplace and draws attendees who are practitioners of ergonomics and related occupational health and safety professions.

Staff and members of HFES will be on hand to promote membership in the Society through an exhibit, workshops, and the HFES On-Site Career Center. Employers offering jobs are invited to reserve a booth and post their positions on the HFES Online Placement Center. Registered attendees will be encouraged to post their résumés, to schedule interviews at the conference, and to take advantage of a free, limited-time trial membership in the service.

For more information on the Placement Center, contact Carlos de Falla in the HFES Member Services Department (310/394-1811, carlos@hfes.org). For more information on the conference, visit <http://www.appliedergo.org/conference>. ☒

CALENDAR

Announcement deadlines: 1st day of the month prior to the desired issue; for events or deadlines within the first 3 weeks of a month, send information at least 2 months in advance. Items are published according to space availability.

★ **2005 AAAS Annual Meeting**, February 17–21, 2005, Washington, D.C. American Association of for the Advancement of Science, 202/326-6450, aaasmeeting@aaas.org, http://www.aaas.org/meetings/Annual_Meeting/.

★ **APA Division 21 Annual Symposium on Applied Experimental Research**, March 3–4, 2005, Fairfax, VA. Michael D. Matthews, Dept. of Behavioral Sciences and Leadership, U.S. Military Academy, West Point, NY 10996, 845/938-3696, fax 845/938-2236, mike.matthews@usma.edu.

- ★ **2005 ASA-NCOA Joint Conference**, March 10–13, 2005, Philadelphia, PA. American Society on Aging and National Council on Aging Joint Conference, 833 Market St., Ste. 511, San Francisco, CA 94103-1824, <http://www.agingconference.org/jc05/index.cfm>.
- ★ **8th Annual Applied Ergonomics Conference**, March 21–24, 2005, New Orleans, Louisiana. aenc@iinet.org, <http://www.appliedergo.org/conference/>.
- ★ **17th Biennial Symposium in Visibility and Traffic Control Devices**, April 4–6, 2005, Washington, D.C. Frank Schieber, Heimstran Human Factors Laboratories, University of South Dakota, 414 E. Clark St., Vermilion, SD 57069, 605/677-5295, schieber@usd.edu, <http://www.trb.org/Conferences/2005-Visibility.pdf>.
- ★ **3rd International Conference on Inclusive Design**, April 5–8, 2005, London. John Bound, Helen Hamlyn Research Ctr., Royal College of Art, Kensington Gore, London SW7 2EU, UK. +44-020-7590-4242, fax +44-020-7590-4244, <http://www.bhrc.rca.ac.uk/programmes/include/2005/index.html>.
- ★ **2005 SAE World Congress**, April 11–14, 2005, Detroit, MI. Society of Automotive Engineers World Headquarters, 400 Commonwealth Dr., Warrendale, PA 15096-0001, 724/776-4841, <http://www.sae.org/congress>.
- ★ **13th International Symposium on Aviation Psychology**, April 18–21, 2005, Oklahoma City, OK. FAA Civil Aerospace Medical Institute, http://www.cami.jcabi.gov/aam-500/ISAP_Page.html.
- ★ **2005 Annual Meeting of the Inter-Society Color Council**, April 24–27, 2005, Cleveland, OH. Robert T. Marcus, Datacolor International, 5 Princess Rd., Lawrenceville, NJ 08648, 609/895-7426, fax 609/895-7438, rmarcus@datacolor.com, <http://www.iscc.org>.
- ★ **American Occupational Therapy Association 85th Annual Conference and Expo**, May 12–15, 2004, Long Beach, CA. AOTA, 4720 Montgomery Ln., Bethesda, MD 20814-3425, 301/652-6611 x 2715, fax 301/652-3218, <http://www.aota.org>.
- ★ **149th Meeting of the Acoustical Society of America**, May 16–20, 2005, Vancouver, BC, Canada. Acoustical Society of America, asa@aip.org, <http://asa.aip.org/meetings.html>.
- ★ **Society for Information Display International Symposium**, May 22–27, 2005, Boston, MA. Bill Klein, Society for Information Display, 610 S. 2nd St., San Jose, CA 95112, 212/460-8090x204, wklein@pcm411.com, <http://www.sid.org/conf/sid2005/sid2005.html>.
- ★ **8th South East Asian Ergonomics Society Conference and 12th Indonesian Physiological Society Congress**, May 23–25, 2005, Sanur, Bali, Indonesia. SEAS + IPS 2005 Secretariat, I. G. N. Susila and P. G. Adiatmika, Dept. of Physiology, Udayana U., Medical School, Jalan PB Sudirman, Denpasar 80323, Bali, Indonesia, +62-361-226132, fax +62-361-226132, iaifibali@yahoo.com.
- ★ **American Industrial Hygiene Conference and Expo**, May 23–25, 2005, Anaheim, CA. AIHA, 2700 Prosperity Ave., Suite 250, Fairfax, VA 22031, 703/849-8888, fax 703/207-3561, <http://www.aiha.org/aihce05/aihce.htm>.
- ★ **International Conference on Computer-Aided Ergonomics, Human Factors, and Safety**, May 25–28, 2005, Košice, Slovakia. <http://www.tuke.sk/caes/>.
- ★ **Warship 2005: Naval Submarines 8**, June 22–23, 2005, London. Royal Institution of Naval Architects, Conference Department, 10 Upper Belgrave St., London SW1X 8BQ UK, conference@rina.org.uk, <http://www.rina.org.uk/showarticle.pl?id=7679&n=406>.
- ★ **Organizational Design and Management Symposium**, June 22–25, 2005, Maui, HI. odam2005@cqpi.engr.wisc.edu, <http://cqpi2.engr.wisc.edu/odam2005/>.
- ★ **XIX Annual International Occupational Ergonomics and Safety Conference 2005**, June 26–29, 2005, Las Vegas, NV. <http://www.iso.es.info>.
- ★ **3rd International Driving Symposium on Human Factors in Driver Assessment**, June 27–30, 2005, Rockport, ME. Kathy Holeton, U. of Iowa/PPC, 223 South Quadrangle, Iowa City, IA 52242, 319/335-6804, fax 319/335-6801, kathy-holeton@uiowa.edu, <http://ppc.uiowa.edu/driving%2Dassessment/>.
- ★ **6th Australian Industrial and Organisational Conference**, June 30–July 3, 2005, Gold Coast, Queensland, Australia. Anna Bolkas, +61-3-8662-3300, a.bolkas@psychsociety.com.au, <http://www.iopconference.com.au>.
- ★ **Human Aspects of Advanced Manufacturing: Agility and Hybrid Automation 2005 and 3rd International Conference on Ergonomics and Safety for Global Business Quality and Productivity-Ergon-Axia 2005**, July 18–21, 2005, San Diego, CA. <http://www.baamaba.org>.
- ★ **HCI International 2005: 11th International Conference on Human-Computer Interaction**, July 22–27, 2005, Las Vegas, NV. HCI International 2005, School of Engineering, Purdue U., Grissom Hall, 315 N. Grant St., West Lafayette, IN 47907-2023, hci2005@ecn.purdue.edu, <http://www.hci-international.org/>.
- ★ **1st International Conference on Augmented Cognition**, July 22–27, 2005, Las Vegas, NV. Strategic Analysis, One Virginia Sq., 3601 Wilson Blvd., Ste. 500, Arlington, VA 22201, <http://www.augmentedcognition.org>.
- ★ **Human Factors and Ergonomics Society 49th Annual Meeting**, September 26–30, 2005, Orlando, FL. info@hfes.org, <http://hfes.org/Meetings/05annualmeeting.html>. Proposal due date: February 8, 2005.

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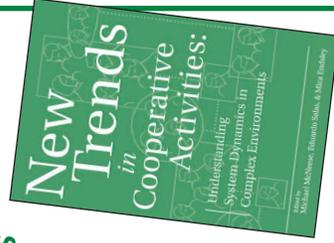
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