



ETG NEWS

Education Technical Group Newsletter
Human Factors and Ergonomics Society

Number 3, 2000-2001, September 2001



HFES 45TH ANNUAL MEETING
MINNEAPOLIS/ST. PAUL
OCTOBER 8-12, 2001

Human Factors/Ergonomics: It Works!

ETG Business Meeting

Tuesday, October 9, 2001
7:00 AM Breakfast
Minneapolis/St. Paul, MN

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Message from the Chair

It is with mixed feelings that I have begun writing my last column for the newsletter. Since returning to academia six years ago I have been very actively involved in the TG, first as

the program chair and as the chair for the past two years. During that time there have been considerable changes. I'm sure you have all seen the article in the Bulletin discussing the change in our mission and change in name to Education Technical Group (ETG). In addition to the impact on our TG, this change also has very significant implications for the Society. We have designated ETG as the focal point for discussions of the use of technology in education. Given the rapid infusion of technology in education, it is now our responsibility to ensure that the use of technology in education, especially in grades K - 12, is effective. The panel session 'Educational Design and Learning - the Next Frontier for Human Factors/Ergonomics' organized by Tom Smith for the upcoming annual meeting will be a great start for this new responsibility.

Given the changes we approved, the next few years will be an exciting time in our TG and will also determine whether we are up for the change. You have the opportunity to decide how effective we will be in implementing our new charter. We are the ones who have to raise the issues related to technology in education, conduct the research that should affect policy, and come up with innovative programs at the annual meetings. When the Council of Technical Groups (COTG) and the Executive Committee were deciding whether to approve our change in mission, the major concern was whether we were the TG that should assume responsibility for this new scope. We now have to validate their decision.

The other change in the ETG is not as positive. We have had a dramatic drop in membership this year and a persistent lack of participation. One reason why the newsletter has been delayed was because we waited for the central office to recheck the membership numbers. According to what was sent to me, the membership of our TG has dropped from 196 to 136. This coincided with our elimination of dues for the past year. (Maybe no one wants a free lunch.) I still question those figures as our numbers have been pretty consistent the past 5 years. If the report is accurate, we need to understand why more than a fourth of our members elected not to affiliate with ETG this year.



The other challenge facing us is the persistent lack of participation among our members. We have had only one nominee for each of our elected positions the past two elections. We have also been unable to recruit a webmaster. Less than 40 people voted on our change in mission. There have been very few submissions of paper proposals to the annual meeting. We are barely holding on to two sessions. I hope that with our added scope, the number of proposals will increase next year. The future of the TG is based on the participation of our members.

Fortunately, Andy Freivalds agreed to chair the TG and Tracey Bernard agreed to a second term as newsletter editor. Nancy Stone was our program chair elect so we did not have to fill that position. We are still looking for a webmaster. Suzy Shapiro did a great job when she constructed the original website for the TG but it is out of date. HFES now has a web server for the TGs to use. Establishing a web presence is an important way to promote the TG.

The Education TG is not very large. If we were able to double the number of proposals sent to our program chair each year it would still be less than 40. Tracey Bernard and Carter Kerk before her have streamlined the newsletter production and given that it is distributed primarily electronically, the newsletter production is very straightforward. The TG chair position is probably the easiest of all three elected positions. We have many talented members who are always willing to help. There is still another 18 months before you are asked for nominations. Talk to our current and previous officers to see what the positions involve and nominate yourself.

I hope to see many of you in Minneapolis. Our annual business meeting will again be a Tuesday morning breakfast. Subramaniam Deivanayagam (Deivy) has put together another great program. Come see what your fellow human factors educators are doing in their classrooms. I always leave those presentations with new ideas for my classes.

Finally I want to thank the people who made being the ETG Chair incredibly easy. Tracey Bernard stepped in when we were without a newsletter editor and did a great job. A second thank you goes to Tracey for agreeing to a second term. This newsletter is a testament to her involvement. The complexities of the program for the combined IEA/HFES meeting last year were handled perfectly by Deivy. The programs he put together reflected the excellent work by our members. Tom Smith, Joe Goldberg and Barrett Caldwell volunteered to serve on the ad hoc committee responsible for evaluating the proposal to change our mission.

Gary Klatsky

Program Chair's Thanks

I would like to acknowledge and thank the following individuals for their work as reviewers of the proposals. Without their timely and careful work, I would not have been able to do my job as the Program Chair.

Andris Freivalds
Kumar N. Kittusamy
Gary J. Klatsky
Susan J. Shapiro
Nancy J. Stone

Subramaniam (Deivy) Deivanayagam

ETG Sessions 2001 Annual Meeting

Abstracts for the 2001 Annual ETG panels, lectures, and poster sessions are provided below. The information below is preliminary. If you are attending the annual meeting, please check the schedule to confirm meeting dates and times. (Note: ETG appears as EP and/or Education in the preliminary program schedule at <http://www.hfes.org>.)

Educational Design and Learning: The Next Frontier for Human Factors/Ergonomics Panel Session EP1 (Tuesday 3:30-5:00 PM) Chair: Thomas Smith, U. of Minnesota Cochair: Ray Eberts, Purdue U.

Panelists:
Ray Eberts, Purdue U.
Cheryl Bennett, Lawrence Livermore Nat. Lab
Jeff K. Caird, U. of Calgary
Gary Klatsky, SUNY Oswego
Faith A. McCreary, Virginia Tech
Sam Racine, U. of Minnesota

The purpose of this panel is to: (1) introduce the field of educational ergonomics as that branch of human factors/ergonomic (HF/E) science concerned with the interaction of educational performance—learning and teaching—and educational design; (2) address the role that HF/E can play in improving the design of educational technology, interfaces, materials, task requirements, and environments to benefit the performance of students, teachers, and educational systems; and (3) offer differing perspectives on strategic options for broadening the participation of HF/E in the science and practice of education and educational design. The premise of educational ergonomics is that learning and teaching performance to a substantial degree is context specific—specialized in relation to specific educational system design factors—and that ergonomic interventions directed at design improvements therefore can benefit the educational process.



Human Factors: Teaching and Learning Lecture Session EP2 (Thursday 8:30-10:00 AM)

Chair: Nancy J. Stone, Creighton U.

Cochair: Kumar Kittusamy, Marshall U.

1. A Mentoring Program: What Do Students Want, and What Can Working Professionals Provide?

Tracey M. Bernard, Murray State U.

Mentoring programs have been experiencing a rebirth in attempts to achieve a variety of goals, one of which is career preparation. Traditional course work and laboratory training offered by universities ensure that students obtain the technical skills necessary to practice in their profession. To better assist students with career preparation, a mentoring program that matches students with practicing professionals is under consideration at one university. Students and working professionals were surveyed via questionnaires to determine their interest in and willingness to commit to participating in a mentoring program, and their ability and willingness to serve as mentors, respectively. Overall, 95% of the students surveyed indicated that they would like to participate in a mentoring program, while nearly 82% of the working professionals who returned questionnaires indicated their willingness to serve as mentors. Parameters of the proposed program, desired mentor characteristics, and expected benefits will be discussed.

2. Collaboration Effects on Distributed Student Team Performance

**Megan E. Reichert, Andrea L. Williams, and
Craig M. Harvey, Wright State U.**

Face-to-face communication has long been considered the richest medium of communication and research has found that different mediums affect engineering design team interaction. However, the question left unanswered is how the reduction or elimination of face-to-face interaction impacts team performance. The purpose of this exploratory study was to investigate distance collaboration elements that impact team performance. Using students in a distance learning engineering course (E*Course) at Wright State University, traditional face-to-face teams and distributed teams were formed. Teams were required to complete a project with three main deliverables. Preliminary results found that the organization of work was highly correlated with team performance for the distributed teams. High performing distributed teams had to also work harder at coordinating their work and adapting to their team members. This was not found to be the case for traditional teams. These results have implications to the organization of

work and team member agility as well as collaborative learning environments where the distance student is integrated into the traditional classroom.

3. Placement Opportunities for Human Factors Engineering and Ergonomics Professionals in Industry and Government/Military Positions

Scott E. Schoeling, Michael J. Goliber, William F. Moroney, U. of Dayton

During the period from October 1999 through December 2000, the Placement Service of the Human Factors and Ergonomics Society distributed announcements describing 233 new positions available for Human Factors Engineers and ergonomics professionals. This paper describes placement opportunities for HF and ergonomics professionals in industry and government/military (N=220). The attributes of the position descriptions examined include: employment sector, major field of study, degree requirements, required work experience, salary, geographic location, travel, and areas of expertise.

The leading type of industry seeking employees was the Internet at 33%. The most frequently specified major field of study was human factors (N=124). Fifty-three percent of the positions describe the mater's degree as the minimum requirement. The geographical areas with the most jobs were California (N=48) and the Northwest (N=23). Finally, the area of expertise most frequently requested by employers was usability testing and design (N=99) and Human Computer Interaction (N=42) was the most commonly specified job expertise/function.

4. Validating Undergraduate Human Factors Education Using Interdisciplinary Design Projects

Lawrence G. Shattuck, U.S. Military Academy

Traditional undergraduate and graduate human factors programs provide students with an excellent education in the theories, tools, and methods used by professional practitioners. However, most programs confine students to projects that can be completed in a 'pure' human factors environment. Human factors professionals rarely work in a 'pure' environment; in most cases they are part of interdisciplinary design teams. Faculty in the Engineering Psychology program at the United States Military Academy worked with other academic departments to develop four interdisciplinary design projects. Seven students in the Engineering Psychology program served as the human factors 'experts' on the design teams. They used their knowledge of human factors methods and practices to enrich the process and products of the design team.



Concurrently, they experienced the challenges of working with student-practitioners from other disciplines. All projects will be completed by mid-May 2001. Data collected through interviews and assessment of written products will determine the degree to which participation in the design teams validated the human factors education received by the Engineering Psychology students.

5. Using a Web Site in a Human Factors Course: A Case Study

Rebecca W. Boren, Arizona State U.

Why have a website when academic responsibilities already take up so much time? Do the results justify the effort? How can a novice set up a website without having to learn lots of software and programming languages? The purpose of this paper is to explain the why and the how of using a website. Setting up a website is not as hard as it may seem. No programming is necessary. The benefits to students and instructor are well worth the effort. The material taught in a human factors class will not change in the age of the Internet, nor will the Internet replace the interactions between students and instructor. The Internet will supplement and enhance the students' learning as well as provide conveniences to the students and instructor. In this paper the author will present a case study of a comprehensive introductory human factors course for seniors and graduate students in engineering. *(Excerpt from the Introduction)*

Why Do Dilbert, The Far Side, and Other Cartoons Convey Essential Truths about Human Factors and Ergonomics?

Panel Session EP3 (Thursday 1:30-3:00 PM)

Chair: Nicholas J. Ward, U. of Minnesota

Panelists:

Peter A. Hancock, U. of Central Florida

David D. Woods, Ohio State U.

Jan Davies, U. of Calgary

The purpose of this proposed panel session is to explore how cartoons have been used to teach and discuss essential truths about human factors and ergonomics. Naturally, we hope to have fun too. Human factors and ergonomics is often much too serious. Educators and non-educators alike should enjoy the material. Numerous philosophical and practical issues are likely to emerge as the session evolves. The audience, we hope, will be an active participant in the laughter and discussion.

Each panelist has been invited to open their lecture files and share their favorite cartoons about a variety of topics

such as office ergonomics (see, e.g., Dilbert), aviation displays and controls (see, e.g., The Far Side), industrial ergonomics, human-computer interaction, information design, human error, transportation human factors, medical systems, and so forth. Each panelist brings a unique research and experiential perspective to the panel. For example, a variety of nationalities including the U.K., Canada, New Zealand, and the U.S. are represented.

In addition, panelists will be invited to comment on a number of deeper issues. Why do we laugh (or cry) at cartoons that succinctly capture poor design in human factors and ergonomics? Is there a best way to introduce or use a cartoon in a lecture? Can the sting of a poor design evaluation be moderated by the use of humor? Can a quiet class be roused from their slumber by the use of visual humor? Are cartoons a useful teaching tool?

Posters

Poster Session POS4 (Thursday 1:30-5:00 PM)

Chair: Ron Boring, Carlton U.

Cochair: Kenya Freeman, North Carolina State U.

3. Quick Tips for Finding a Human Factors/Ergonomics Job in Industry

**Karen R. Young, North Carolina State U.; Ronald
G. Shapiro, IBM Corp.; Arnold M. Lund, Sapient**

Abstract unavailable.

New IEA Technical Committee

A new educational technical committee has been formed that may be of interest to ETG members. Ergonomics for Children and Educational Environments (ECEE) was established by the International Ergonomics Association (IEA) this Summer 2001. The purpose of the ECEE is to provide a forum for the international exchange of scientific and technical ergonomics information related to children and educational environments. The new group will be meeting at the Minneapolis HFES Conference at Noon on Tuesday (byo lunch) and is hoping that interested ETG members will join them.

Job Search Tip Booklet for Students

The Human Factors and Ergonomics Society has just published a new eight page pamphlet "Quick Tips For Finding A Human Factors/Ergonomics Job in Industry." Karen R. Young (a graduate student at North Carolina State University (NCSU) * and I (IBM) wrote it. We received contributions from Arnie Lund (Sapient), Melroy D'Souza (Gateway), Anthony Andre



(Interface Analysis), Kelly Spain (IBM), Jennifer Trich Kremer (University of Cincinnati/currently at Trilogy), Brian Moroney (IBM), Melanie Diez (George Mason University), and Kristen Gilbert (Montevallo State University). Lois Smith (HFES) provided editorial support.

Because HFES believes that this booklet will be of real benefit to students who are currently thinking about (or actively seeking) a career in industry, they are currently making a limited number of paper copies available at no charge. Later, the booklet will be available on the HFES web site (<http://www.hfes.org>).

If you are currently a Human Factors/Ergonomics student and would like a copy of this booklet, please send a note to lois@hfes.org including your name, mailing address, and the school you attend, degree and year you plan to graduate.

* Affiliations are indicated for reference purposes only. Contributions are that of the individual and do not necessarily represent their employers' points of view.

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Display Your Educational Materials

During the 45th Annual Meeting, representatives of graduate and undergraduate programs in human factors/ergonomics are invited to display information about their programs. Brochures, applications, and other program material may be displayed at no charge at Booths 103-105 in the Exhibit Hall at the Minneapolis Convention Center. The exhibit, hosted by the HFES Education Technical Group and HFES Student Affairs Committee, opens on Tuesday, October 9, at 3:00 PM. Simply bring 200 copies of your materials to the booths at that time. If you would like to retrieve any leftover materials, be sure to pick them up before 3:30 PM on Thursday.

Calendar of Events

SELF-ACE 2001: Ergonomics for Changing Work, October 3-5, 2001, Montreal, Canada. Association of Canadian Ergonomists, 505, boul. de Maisonneuve Ouest, 10th Floor, Montreal, Québec, Canada H3A 3C; 514/288-1551, fax 514/288-7446; self-ace2001@irsst.qc.ca
<http://www.ergonomie-self.org> or
<http://www.ace-ergocanada.ca>.

45th Annual Meeting of the Human Factors and Ergonomics Society, October 8-12, 2001, Minneapolis, MN. Hosted by the Upper Midwest Chapter. HFES, P.O. Box 1369, Santa Monica, CA 90406-1369; 310/394-1811, fax 310/394-2410; lois@hfes.org, <http://hfes.org>.

Who's Working Tomorrow? (The Aging Workforce), October 15-16, 2001, Loughborough, U.K. The Ergonomics Society, Devonshire House, Devonshire Square, Loughborough, LE11 3DW, U.K.; +44 1509 234904, fax +44 1509 235666; ergsoc@ergonomics.org.uk or c.greenwood@ergonomics.org.uk, <http://www.ergonomics.org.uk/>.

Work in the Global Village: International Conference for Work Life in the 21st Century, October 15-17, 2001, Helsinki, Finland. Conference Secretariat, Work in the Global Village, Finnish Institute of Occupational Health, Taina Pääkkönen, Topeliuksenkatu 41 a A, FIN-00250 Helsinki; +358 9 4747 2910, fax +358 9 2413 804; taina.paakkonen@occuphealth.fi, <http://occuphealth.fi/e/project/globalwork/>.

Integrating Differences: An International Symposium Exploring Usable Design for All, October 18-20, 2001, New York. Fashion Institute of Technology, State University of New York, Seventh Ave. at 27th St., Room C913, New York, NY 10001-5992; 410/275-2329, fax 410/275-8936; fitsuny@dol.net, <http://www.fitnyc.suny.edu/universaldesign>.

Universal Design Symposium 2001, October 19-20, 2001, New York, NY. Fashion Institute of Technology, Teaching Institute, C 913, Seventh Avenue at 27th St., New York, NY 1001-5992; 212/217-7087, fax 212/217-7910; <http://www.fitnyc.suny.edu>.

5th International Symposium on Computer Methods in Biomechanics and Biomedical Engineering, October 31-November 3, 2001, Rome, Italy. John Middleton, Biomechanics Research Unit, Cardiff Medicentre, Heath Park, Cardiff CF14 4UJ Wales, U.K.; +44 29 20 682161; middletonj2@cardiff.ac.uk, <http://uwcm.ac.uk/biorome/>.

HFES Europe Chapter Annual Meeting, November 7-9, 2001, Turin, Italy. Dick de Waard, d.de.waard@ision.nl, <http://www.ision.nl/users/hfesecc/conf.htm>.

6th Annual International Conference on Industrial Engineering Theory, Applications, and Practice, November 18-20, 2001, San Francisco, CA. Jeff Fernandez, Conference Chair, 703/518-0289; jfernandez@exponent.com.

37th Annual Conference of the Ergonomics Society of Australia, November 28-30, 2001, Sydney, Australia. Conference Organiser, 25 Birdwood St., Sylvania, NSW 2224 Australia; +61 9544 9134, fax +61 9522 4447; ergonomics@iceaustralia.com, <http://esa.conf.au/main.htm>.

International Congress on Humanizing Work and Work Environment, December 11-14, 2001, Mumbai, India. Gaur G. Ray, Secretary General HWWE, Industrial Design Centre, Indian Institute of Technology Bombay, Powai, Mumbai 400 076, India; +91 22 576 7821, fax +91 22 576 7803; ggray@idc.iitb.ac.in, <http://ergoasia.virtualave.net>.

National Ergonomics Conference and Exposition, December 11-13, 2001, Las Vegas, NV. Continental Exhibitions, 370 Lexington Ave., Suite 1401, New York, NY 10017; 212/370-5005, fax 212/370-5699; contexhib@aol.com, <http://www.ergoexpo.com>.



Computer Support for Collaborative Learning 2002,
January 7-11, 2002, Boulder, CO. Gerhard Fischer, Conference
Chair, gerhard@cs.colorado.edu; <http://www.cscl2002.org/>.

IIE Applied Ergonomics Conference 2002, March
12-14, 2002, Baltimore, MD. Institute of Industrial Engineers,
25 Technology Park, Norcross, GA 30092; 800/494-0460, fax
770/441-3295; <http://www.appliedergo.org/>.

The Ergonomics Society 2002 Annual Conference,
April 3-5, 2002, Cambridge, England. Annual Conference
Programme Secretary, the Ergonomics Society, Devonshire
House, Devonshire Square, Loughborough, Leicestershire LE11
3DW U.K.; +44 1509 234904, fax +44 1509 235666;
ergsoc@ergonomics.org.uk, <http://www.ergonomics.org.uk>.

Web Corner

Carolyn Sommerich submitted a website for Occupational
Biomechanics (IE544). This course is an introductory course
for graduate students at North Carolina State University taught
by Dr. Sommerich and Dr. Gary Mirka
http://www.eos.ncsu.edu/eos/info/ie/ie764_info/.

The ETG is still interested in collecting a listing of course
web addresses. If you have course information for your students
on the web, send tracey.bernard@murraystate.edu your web
address so that others in the ETG can take a look!

Editor's Comments

The September edition of the ETG newsletter focuses on
our newly revamped group and the upcoming 45th Annual
HFES Meeting. I look forward to seeing you all again Tuesday
morning at our business meeting and hope you will turn up in
support of your fellow ETG members at their
panel/poster/lecture sessions!

Reminder ~ Feel free to send me information that you'd
like to see distributed to ETG members. I expect to distribute
the next ETG newsletter in December 2001/January 2002. Send
me your job announcements, course web addresses, updates on
yourselves and your programs (courses you're teaching, recent
changes to your courses or programs, research you or your
students are doing), ideas for newsletter articles, feedback on
the newsletter, etc. Information you'd like to have in the next
newsletter can be emailed, faxed, or snail mailed to me by early
December.

And finally, as always, if you received this newsletter via
snail mail but prefer email, please supply HFES with your
correct email address. If you prefer to receive this newsletter
via snail mail, let me know.

Tracey Bernard

ETG Officers

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Education Technical Group

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Application for Membership

Education Technical Group, Human Factors & Ergonomics Society

Membership in the ETG does not require membership in the Human Factors and Ergonomics Society. ETG dues are currently suspended; ETG membership is free at this time. Please print.

Name: _____

Title: _____

University/Organization: _____

Address: _____

Phone: _____

Fax: _____

Email: _____

Are you a full time student? yes no Are you a member of HFES? yes no

Please mail this application to:

Human Factors and Ergonomics Society, PO Box 1369, Santa Monica, CA 90406-1369 USA

